

Preliminary Environmental Information Report Volume 2

Appendix 9.2 Ground Investigation Data

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GEOTECHNICS

BUILD ON CONFIDENCE

Ground Investigation

at

Lionlink - Cable Route Section D

Project No:	PC248770
Client:	National Grid Ventures
Engineer:	BakerHicks
Date:	January 2025

Factual Report

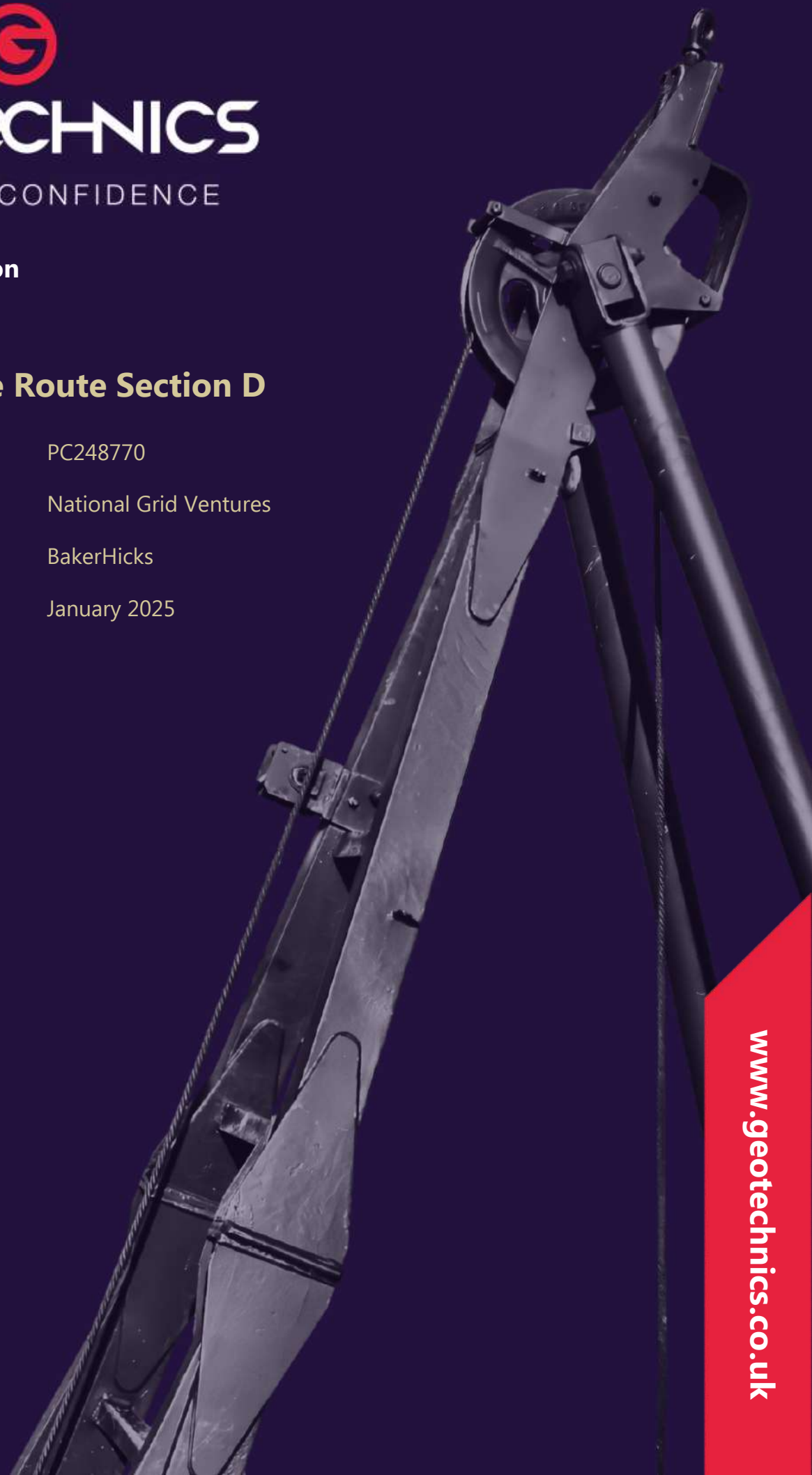
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1.0 INTRODUCTION

A geotechnical and geoenvironmental investigation was undertaken by Geotechnics Limited at the site of a proposed HVDC cable route to form part of a future interconnection between Great Britian and mainland Europe near Saxmundham, Suffolk. The investigation was carried out to the instructions of the Engineer, BakerHicks on behalf of the Client, National Grid Ventures. This report describes the work undertaken and presents the data obtained.

2.0 OBJECT AND SCOPE OF THE INVESTIGATION

The object of the investigation was to obtain information on the ground and groundwater conditions relating to the design of the proposed works within the limitations posed by exploratory hole numbers, locations, depths, methods adopted and the scope of approved in situ and laboratory testing. The investigation comprised cable percussive boreholes, trial pits, in situ and laboratory testing and reporting. A Factual Report was also commissioned.

An extract of the Brief for the project is included in Appendix 1. Due to land access restrictions, it was not possible to access the land to undertake one borehole (numbered BHD01) and one trial pit (TPD01). Time restraints linked to the "Lionlink Report to Inform a Habitats Regulations Assessment for Ground Investigation Works" dated July 2024, also meant it was only possible to complete the inspection pit at borehole locations BHD03 and BHD04 before being instructed to leave the area, so as not to have an adverse effect on wintering birds.

3.0 PRESENTATION

A description of the site and a summary of the procedures followed during the investigation process are presented in Sections 4 to 6. The factual data so obtained are presented in Appendices 2 to 13 of this report. Attention is drawn to the General Notes and Investigation Procedures presented in Appendix 14 to aid an understanding of the procedures followed and the context in which the report should be read.

The report is presented in electronic PDF format with the data presented in electronic format in accordance with "The Electronic Transfer of Geotechnical Data from Ground Investigations" published by the AGS (the AGS Format) are presented separately as a digital file.

4.0 THE SITE

4.1 Location

The western end of the route for Section D starts in fields to the south of the B1387 near Water Tower Farm, roughly 1km south of the village of Blythburgh. It then travels in the east-northeasterly direction for approximately 2km, passing about 250m to the south of Suffolk Coast National Nature Reserve before ending in fields on the south western edge of Walberswick, 400m north east of Hoist Covert woods.

The approximate Ordnance Survey National Grid Reference for the western end of the route is TM 450 741 whilst the eastern end is at TM 491 743. An extract from the relevant 1:50,000 Scale O.S. Map (Sheet No. 156) is included as Appendix 2.

4.2 Description

The route crosses multiple farmer's fields most of which had been recently harvested or freshly drilled. The route crosses the north-south trending Dunwich Road and further east a north-south trending farmers track before bearing to the south, crossing the east-west trending Lodge Road. During the works ground conditions in this area were good, with the ground at most of the investigation points being dry through the works period.

Photographs of the site taken during the fieldwork are presented in Appendix 3.

4.3 Site Geology

The British Geological Survey website, https://geologyviewer.bgs.ac.uk/, accessed on 17th December 2024, shows the site to be underlain by the Crag Group comprising of sands of Neogene to Quaternary age. The overlying superficial deposits are shown to comprise the Lowestoft Formation comprising sand and gravel over the eastern half of the routeand, except for the eastern end of the route where no superficial deposits are mapped and an outcrop of the Lowestoft Formation comprising Diamicton towards the centre of this eastern half of the route. Belowthe western half of the site, the Superficial Deposits comprising the Lowestoft Formation is shown.

4.4 Hydrogeology

The MAGIC MAPS website, https://magic.defra.gov.uk/MagicMap.aspx , accessed on 17th December 2024, shows the Crag Group to be a Principal Aquifer. The Lowestoft Formation (Sand and Gravel) is shown as a Secondary (Undifferentiated) aquifer while the Lowestoft Formation (Diamicton) is shown as a Secondary A aquifer.

5.0 PROCEDURE

5.1 Commissioning

The work was awarded following submission of a tender for work designed by the Engineer for a ground investigation of the site in accordance with the Client's requirements (see Appendix 1).

5.2 General

The procedures followed in this site investigation are based on BS 5930: 2015+A1:2020 – Code of Practice for Site Investigations and BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites. The soils and rocks encountered have been described in accordance with BS5930:2015+A1:2020, BS EN ISO 14688-1:2018 and BS EN ISO 14689:2018. The Cable Percussive Borehole and Trial Pit Records are included in Appendices 4 and 5 and their approximate positions are shown on the Exploratory Hole Location Plan in Appendix 6.

The Exploratory Hole locations were specified by the Engineer. The co-ordinates and levels shown on the Exploratory Hole Records were measured using a Leica GPS survey device. The depths quoted on the exploratory hole records are in metres below ground level (bgl).

To prevent activities onsite affecting breeding and non-breeding bird species nesting in the Minsmere-Walberswick SAC, SPA and Ramsar site as outlined in the "Lionlink Report to Inform a Habitats Regulations Assessment for Ground Investigation Works" dated July 2024, mitigation measures involved erecting 2m high temporary noise barriers around

the works areas around boreholes BHD03 to BHD06, with only one high decibel causing activity, such as SPT testing, to be undertaken at any one time to help reduced the combined noise levels.

5.3 Archaeology

Before the works were undertaken a Written Schemes of Investigation (WSI) was produced by Cotswold Archaeology and approved by Suffolk County Council Archaeological Service (SCCAS) to detail the methodology for geoarchaeological works. During the excavation of the trial pits and inspection pits of specified boreholes in sensitive areas, a trained archaeologist undertook a watching brief to check for anything of archaeological importance. Any finds were processed and quantified and are detailed in the Archaeological report in Appendix 14 before being deposited with SCCAS. Furthermore, a geoarchaeological deposit model has been created from information recovered from the boreholes and trial pits.

5.4 Boreholes

Three (3 No.) boreholes (numbered BHD02 and BHD05-BHD06), up to 200mm diameter, were sunk by Cable Percussion Tool techniques to depths varying between 15.40m and 20.45m bgl. The work was carried out between the 21st and 31st October 2024. Due to time restraints, it was only possible to undertake the Archaeological Inspection Pits of boreholes BHD03 and BHD04 to depths of between 0.60m and 0.50m bgl respectively.

At each exploratory hole location an inspection pit was excavated using hand tools to a depth of 1.50m bgl to check for the presence of underground services and clear an irrigation system. Prior to and on completion of the excavation, the location was scanned using a cable avoidance tool (CAT). The inspection pit for boreholes BHD03 and BHD04 were expanded around the boreholes to clear a 1.00mx1.00m area of any archaeological finds, however, due to time restraints it was not possible to complete the boreholes. These pits were supervised by a trained Archaeologist.

Aquifer protection measures were employed when drilling the boreholes in order to preclude the creation of a pathway for contamination to migrate down towards the underlying aquifer. These protection measures comprised using 200mm diameter casing and tools to drill to the top of the bedrock, then by installing a 1.00m thick bentonite plug, prior to reducing to 150mm diameter casing and tools and re-commencing drilling.

Representative disturbed (D and B) samples of the soils encountered were obtained at regular intervals. Additional samples for Agricultural Analysis (AG) were obtained where specified by the Engineer at the depths indicated on the Borehole Records. Standard Penetration Tests (SPTs) were undertaken at the depths indicated on the borehole records in accordance with BS EN ISO 22476-3:2005+A1:2011 to obtain a measure of the engineering properties of the proved strata. In addition, environmental soil samples (ES) were recovered at the depths indicated on the Borehole Records.

No defined groundwater strikes were encountered in most of the boreholes, most likely due to the addition of water to the borehole as part of the drilling process. Where water was added it has been noted on the Borehole Records.

On completion, standpipes were installed in all boreholes with a protective fence erected (see Section 5.10). The two inspection pits were backfilled with arisings.

5.5 Trial Pits

Seventeen (17 No.) Trial Pits (numbered TPD02-TPD18) were excavated to a depth of 3.00m bgl using a wheeled excavator between the 11th and 13th September and again on the 21st October 2024 before switching to a tracked machine between the 28th and 31st October 2024. This work was supervised on site by a geotechnical engineer and trained Archaeologist.

Part way through the works the Engineer instructed the separation of the topsoil from the subsoils to prevent cross contamination. A 3.00x3.00m pit was opened at surface at the locations of TPD02-07 and TPD09-TPD13. Topsoil was stored to the side of the pit. Once below the level of the topsoil, the pit was continued at a width of between 0.59m to 0.60m to allow full depth of trial pit to be achieved. The arisings from soils below the topsoil were then stored within the 3.00x3.00m footprint.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Representative samples were taken, where appropriate, for laboratory examination and analysis and in addition, Environmental samples (ES) were recovered at the depths indicated on the Trial Pit Records. Samples were taken directly from excavated materials deposited at the surface. Groundwater observations and trench stability notes are included on the Trial Pit Records. Photographs of the pits are presented in Appendix 5.

5.6 PID Meter Readings

Photo-ionisation detection (PID) tests were undertaken during the drilling of the boreholes and the excavation of the trial pits by testing the headspace of the recovered ES soil samples. The tests were carried out using a suitably calibrated MiniRAE 2000 PID Meter fitted with a 10.6eV UV lamp. The results of the PID tests are presented on the Exploratory Hole Records with the readings reported as Volatile Organic Compounds (VOCs) recorded in parts per million.

5.7 Hand Vane Tests

Hand vane tests were carried out to obtain a measure of the undrained shear strength of cohesive soils within the trial pits and borehole inspection pits at the depths indicated on the Exploratory Hole Records. In the trial pits and inspection pits tests were taken in the sides of the pit where it was possible to reach from surface, otherwise they were carried out on intact blocks of the excavated soil deposited at the surface. Typically, each test comprised three measurements of the undrained shear strength with the mean value being reported. The hand vane tests were carried out using an EDECO Pilcon Hand Vane in accordance with the manufacturer's instructions and the results reported in kN/m^2.

5.8 Dynamic Cone Penetration Tests

Seventeen (17 No.) Dynamic Cone Penetration (DCP) Tests were carried out adjacent to all the Trial Pits. The tests were commenced from Ground Level and were performed to give an indication of CBR values at shallow depths to aid pavement design. The test comprises the measurement of increments of penetration of a 60° cone driven into the ground using an 8kg hammer falling a distance of 575mm. The CBR is obtained from the relationship between the CBR and the DCP readings.

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{mm/blow})$$

as defined in the Design Manual for Roads and Bridges Document CS229 Revision 0, March 2020, published by Highways England. The test results are presented in Appendix 7.

5.9 Thermal Resistivity Tests

Thermal Resistivity Testing was undertaken by Geotechnics Ltd within all Trial Pits at depths of 0.60m in both long faces of the pit and at 1.50m in the base of the pit. Testing was undertaken using a TEMPOS Thermal Properties Meter utilising a TR-3 probe sensor following the method and requirements of IEEE 442-2017 'Guide for Thermal Resistivity Measurements of Soils and Backfill Materials'.

The results of the Thermal Resistivity Tests are presented in Appendix 8.

5.10 Instrumentation and Monitoring

Long-term monitoring of the gas and groundwater levels was made possible by the installation of standpipes as follows:

Exploratory Hole	Standpipe Slotted Pipe & Filter Zone (m)
BHD02	2.00 to 15.00
BHD05	7.00 to 20.00
BHD06	2.00 to 10.00

On each of the monitoring visits a record of the groundwater level in the standpipes was obtained. During the week commencing 20th January 2025 where water was recorded, samples were obtained following purging of water in the standpipes. The following parameters were recorded using a multi-parameter flow cell during purging which continued until such time as the parameters reached a steady level.

- Temperature (°C)
- Electrical Conductivity (µS/cm)
- Dissolved Oxygen Concentration (%)
- pH
- Redox Potential (mV)

In addition to the groundwater levels, the following parameters were measured and recorded using a GFM435 Gas Analyser:-

- Concentrations (% Vol) of CH4, O2, CO2, CH4 and (ppm) H2S, CO
- Flow Rate
- Differential Pressure
- Barometric Pressure
- Air Temperature

The results of the monitoring are presented in Appendix 9. At the end of the monitoring period all boreholes were decommissioned on either the 12th March or 8th April 2025. For full decommissioning records see Appendix 10.

6.0 LABORATORY TESTING

6.1 Geotechnical

The laboratory testing schedule was specified by the Engineer in order to relate to the proposed development. Unless otherwise stated, the tests were carried out in Geotechnics Limited's UKAS accredited Laboratory (Testing No. 1365) and were undertaken in accordance with the appropriate Standards as indicated below and on the Laboratory Test Certificate in Appendix 11. Any descriptions, opinions and interpretations are outside the scope of UKAS accreditation.

The tests undertaken can be summarised as follows:-

Standard	Test Description	Quantity
BS EN ISO 17892-1:2014	Water Content Determination	18
BS EN ISO 17892-3:2015	Particle Density Determination – Fluid Pycnometer	7
BS EN ISO 17892-4:2016	Particle Size Distribution Determination – Sieving Method	26
	Particle Size Distribution Determination – Pipette Method	6
BS EN ISO 17892-12:2018	Determination of Liquid and Plastic Limits	17
BS 1377:1990 Part 4: 3.3	Dry Density/Moisture Content relationship determination. Compaction Test - British Standard (2.5 kg Hammer)	8
BS 1377:1990 Part 4: 7	California Bearing Ratio (CBR) Measurement - recompacted - Soaked	9
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	17
	Shear Strength by Hand Vane	1

The following testing was carried out at the laboratories of Normec DETS Limited (UKAS Accredited Laboratory, Number 2139).

Test Description	Quantity
BRE Special Digest 1 Suite comprising:- Soluble Sulphate pH	11
pH	17
Organic Matter	4

6.2 Contamination

Selected samples of soil and groundwater were tested at the laboratories of Normec DETS Limited for a number of determinands in order to check on potential site contamination. The determinands were specified by the Engineer and are detailed on the results sheets in Appendices 12 and 13 together with the test result as well as the test method, accreditation and detection limit.

In addition, a number of leachate samples were also prepared from selected soil samples in accordance with the NRA Leachate Protocol and analysed for the determinants detailed on the results sheets in Appendix 12.

Waste Acceptance Criteria (WAC) analyses were also carried out on selected samples including tests on solid waste and two stage leaching tests on eluates. The determinands tested for are detailed on the results sheets in Appendix 12.

The tests undertaken can be summarised as follows:-

Test Description	Quantity
Suite E1 (Soil Samples)	24
Suite E2 (Standard Leachate Analyses)	7
Suite J (Inert Waste Landfill)	5
Pesticides and Herbicides	10
Suite F (Water Samples)	1

Signed for and on behalf of Geotechnics Limited.

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APPENDIX 1

The Brief

APPENDIX 1

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GROUND INVESTIGATION SPECIFICATION: CABLE SECTION D

NG Onshore Civil Design - LionLink

REFERENCE: **30002884-BHK-01-DC-SP-C-0002**

Prepared for:

National Grid Ventures

24 July 2024

BakerHicks.

Schedule 1: Introduction and site specific requirements

S1.1 Name of Contract

The Contract is called LionLink: Cable Section D.

S1.2 Investigation Supervisor

The Investigation Supervisor and Principal Contractor shall be BakerHicks, 5th Floor, Anchorage 2, Salford Quays, Manchester, M50 3YW.

The Investigation Supervisor is to be consulted before any hole is moved, if unexpected conditions are encountered or if holes are terminated at depths shallower than planned.

S1.3 Description of site

The entire proposed LionLink cable route is approximately 40km in length, trending generally north-south connecting landfalls on the Suffolk coast to converter station and substation sites around Friston, Suffolk. The proposed route has been split up into six sections A to F, with Section A being the most southerly and F being the most northerly. This ground investigation (GI) specification is solely for Section D of the LionLink cable route. Sections A, B, C, E and F of the cable route, the landfalls and convertor station sites are considered in separate specifications.

The proposed Section D cable route is approximately 4.3km in length running between Walberswick Landfall in the east (nearest postcode IP18 6UH), and Water Tower Farm in the west (nearest postcode IP19 9NA), south of the village of Blythburgh. An approximate grid reference for the eastern end of the route is E:649408, N:274458, and for the western end of the route is E:645188, N:274021. The proposed cable route is outlined in Figure 1, with Walberswick Landfall outlined in red and Water Tower Farm represented by the blue rectangle.

The proposed cable route currently crosses through several agricultural fields with trees and shrubs along hedgerows. The cable route crosses two roads indicated by yellow stars and one gravel track indicated by a white star on Figure 1 below. The cable route is bound directly by agricultural fields. The B1387 runs between 120m and 350m north, parallel to the whole route. In the east of the route, residential properties in Walberswick are located 50m north from the cable route.

The Dunwich River runs 330m south-east of the east of the route, flowing from the Dingle Great Hill Nature Reserve towards the sea, displayed in Figure 1. The land north of the B1387 and south of the River Blyth is identified as Suffolk Coast Nature Reserve described as a wildlife refuge. A man-made surface water feature 300m by 220m, is present 300m south of the centre of the route.



Figure 1: Site location plan

S1.4 Main works proposed and purpose of this contract

National Grid Ventures (NGV) has appointed BakerHicks to complete a Front-End Engineering and Design (FEED) study, the aim of which is to consider an HVAC/HVDC cable route and associated new landfall sites. The works form part of a future interconnection between Great Britain and mainland Europe. The onshore development also forms part of National Grid's future electricity network and 2050 net zero carbon goals.

LionLink is a proposed HVDC Offshore Hybrid Asset (OHA) project to connect the GB network with the Netherlands with a connection agreement in the Sizewell area.

This document specifies the GI requirements for Section D of the cable route. The GI specifications for Sections A, B, C, E and F of the cable route are in separate documents.

The proposed GI for this scheme is presented in Schedule 2. The Bill of Quantities for the proposed works is included in this document.

The cable is proposed to be constructed via Open Trench and Horizontal Directional Drilling (HDD), expected to be at maximum depths of 2m and 10m respectively.

S1.5 Objective and Scope of the Investigation

This ground investigation has been designed to support a FEED Study to understand the ground risks at the site. It has not been designed to undertake detailed design and is not considered robust enough to undertake such designs. When the scheme design progresses, it is envisaged and recommended that further investigations are undertaken to support such designs.

This specification outlines the geotechnical investigation requirements in support of the continuation of the optioneering and FEED design process.

The aim of this ground investigation is shown below:

- To obtain geotechnical information along the proposed cable route;
- To investigate the nature and depth of any superficial deposits and bedrock geology;
- To collect samples for geotechnical testing to provide material properties of the strata at the site;
- To collect samples for geo-environmental testing to determine the presence and level of contamination at the site;
- To collect samples for agricultural land classification;
- To understand the thermal resistivity and pH of the ground;
- To provide information on the groundwater conditions of the site;
- To obtain California Bearing Ratio (CBR) values;
- To provide information to inform the drilling method / excavation method;
- To classify materials for reuse in earthworks.

A site plan showing the proposed GI locations is included in Appendix A. The scope of the investigation is as detailed below:

- 6 No. cable percussive boreholes to depths of 15m and 20m.
- Standard Penetration Testing / UT100 sampling in boreholes.
- 18 No. machine excavated trial pits to a maximum depth of 3m.
- Dynamic Cone Penetrometer (DCP) tests at all trial pit locations to obtain California Bearing Ratio (CBR)
- In situ hand shear vanes in all trial pits and inspection pits.
- 3 No. In situ soil thermal resistivity tests in each trial pit, with 2 No. along the sides of the pit at a depth of 0.6m and 1 No. in the centre of the pit at a depth of 1.5m.
- Geotechnical Sampling and Testing.
- Geo-environmental Sampling and Testing.
- Surveying of all the exploratory hole locations.
- Groundwater and ground gas monitoring.
- Factual Ground Investigation Reporting.
- AGS data.

S1.6 Geology and ground conditions

The cable route crosses several lithologies through the section. The following sources of information have been reviewed and discussed below.

- British Geological Survey, 1:50,000 New Series, Sheet 191 Saxmundham, Solid and Drift, 1996
- British Geological Survey, 1:10,000 Series, Sheet TM47NE, Solid and Drift, 1994
- British Geological Survey, 1:10,000 Series, Sheet TM47SE, Solid and Drift, 1992
- BGS Geoindex (Onshore)

Artificial geology: The BGS Geoindex shows artificial ground on the cable route between E: 645562, N: 274088 and E: 645706, N: 274084 described as infilled ground. The BGS Geoindex also records additional six areas of artificial ground described as infilled ground, located within 500m of the cable route.

The BGS 1:10,000 Sheet TM47SE map shows an additional area of artificial ground from E: 647118, N:274409 to E: 647163, N: 274452, and an additional two areas of artificial ground within 50m of the cable route located between E: 646617, N: 274299 and E: 646691, N: 274341, and between E:648028, N: 274561 and E: 648102, N: 274585.

Superficial deposits: The 1:50,000 BGS mapping indicates that the site location comprises Lowestoft Diamicton (Till) described as grey silty CLAY with clasts of flint and chalk, and Lowestoft Formation (Sand and Gravels) described as outwash sands and gravels.

Bedrock geology: The 1:50,000 BGS mapping indicates that the site location comprises Crag Group – Sand, described as sands, gravels, silts and clays. The sands are characteristically dark green from glauconite but weather bright orange with haematite iron pans.

S1.7 Schedule of drawing(s) and documents

The following elements are included in this document:

- Bill of Quantities for Ground Investigation;
- Appendix A: Ground Investigation Plan.

A Desk Study for Section D was undertaken by BakerHicks. The desk study report includes a review of Envirocheck report for the section. The Desk Study re referred to in this document with the following reference:

- 30002884-BHK-01-DC-RP-C-0003 - Geotechnical Desk Study: Cable Section D

S1.8 General requirements (Specification Section 3) Particular restrictions/relaxations

The Contractor is required to attend a pre-start meeting on site, prior to the commencement of site operations, with the Investigation Supervisor and National Grid Ventures Lands Team to agree access locations, exploratory hole locations, position of compounds and any other items that require discussion.

S1.8.1 Data Management Plan (Clause 3.2)

A Data Management Plan shall be developed by the ground investigation contractor in accordance with BS 8574:2014 and provided to the Investigation Supervisor not less than 2 weeks prior to commencing work on site.

S1.8.2 Quality management system (Clause 3.3)

All work shall be carried out in accordance with quality management systems established in accordance with:

- BS EN ISO 9001:2015
- BS EN ISO 14001:2015
- BS EN ISO 45001:2023

Name of contract LionLink: Cable Section D
Anticipated drift geology Lowestoft Formation – Diamicton; Lowestoft Formation – Sand and Gravel;
Anticipated solid geology Crag Group
BDA Category of site Green
UXO Risk category Low

Schedule 2

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
BHD01	CP	15	645268	274021	SPT / UT100 PID	50mm Standpipe and gas tap	
BHD02	CP	15	645366	274042	SPT / UT100 PID	50mm Standpipe and gas tap	
BHD03	CP	15	647327	274460	SPT / UT100 PID	50mm Standpipe and gas tap	
BHD04	CP	20	647521	274499	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHD05	CP	20	648020	274595	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHD06	CP	15	648312	274653	SPT / UT100 PID	50mm Standpipe and gas tap	
TPD01	TP	3	645110	273999	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD02	TP	3	645480	274066	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD03	TP	3	645585	274088	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Historical pit, possible infilled material
TPD04	TP	3	645653	274103	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Historical pit, possible infilled material
TPD05	TP	3	645773	274128	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPD06	TP	3	645869	274149	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPD07	TP	3	646066	274190	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD08	TP	3	646263	274232	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPD09	TP	3	646458	274275	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD10	TP	3	646556	274296	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPD11	TP	3	646749	274338	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD12	TP	3	646945	274381	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPD13	TP	3	647140	274423	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historical pit, possible infilled material
TPD14	TP	3	648541	274527	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD15	TP	3	648698	274419	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD16	TP	3	648897	274396	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPD17	TP	3	648997	274381	Thermal resistivity DCP for CBR Hand vanes PID	N/A	

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPD18	TP	3	649132	274403	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

*Approximate only. To be confirmed by the Investigation Supervisor during the fieldwork



Health & Safety
CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.
2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.



Section_D_SHE_Hazards

Section_D_Boreholes_20240529

Section_D_Trial_Pits_20240529

Revision					
P02	SECOND ISSUE - Updated cable route alignment.	NA	2/07/2024	HG	PDH
P01	FIRST ISSUE	NA	08/04/2024	HG	PDH
	Description	Drawn	Date	Checked	Approved

Revisions

FOR INFORMATION

nationalgrid ventures

Project: NGV Onshore Civil Design

Title: LIONLINK
CABLE ROUTE SECTION D - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 1 OF 04

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 08/04/2024	Date 08/04/2024	Date 08/04/2024

ArcGIS Ref 30002884 - NG Onshore Civil Design \Lot 1 - Lionlink\GIS\Outputs

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Project number	Drawing number	Revision
30002884	30002884-BHK-01-DC-SP-C-0002	P02



Health & Safety
CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.
2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.



Section_D_SHE_Hazards

Section_D_Boreholes_20240529

Section_D_Trial_Pits_20240529

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	23/07/2024	HG	PDH
P01	FIRST ISSUE	NA	08/04/2024	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project

NGV Onshore Civil Design

Title

LIONLINK
CABLE ROUTE SECTION D - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 2 OF 04

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 08/04/2024	Date 08/04/2024	Date 08/04/2024

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Health & Safety
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Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.
2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.
5. Site of Special Scientific Interest



Section_D_SHE_Hazards

Section_D_Boreholes_20240529

Section_D_Trial_Pits_20240529

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	12/07/2024	HG	PDH
P01	FIRST ISSUE	NA	08/04/2024	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project: NGV Onshore Civil Design

Title: LIONLINK
CABLE ROUTE SECTION D - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 3 OF 04

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 08/04/2024	Date 08/04/2024	Date 08/04/2024

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Project number	Drawing number	Revision
30002884	30002884-BHK-01-DC-SP-C-0002	P02



Health & Safety
CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.



Section_D_SHE_Hazards

Section_D_Boreholes_20240529

Section_D_Trial_Pits_20240529

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	23/07/2024	HG	PDH
P01	FIRST ISSUE	NA	08/04/2024	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project
NGV Onshore Civil Design

Title
LIONLINK
CABLE ROUTE SECTION D - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 4 OF 04

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 08/04/2024	Date 08/04/2024	Date 08/04/2024

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Project number	Drawing number	Revision
30002884	30002884-BHK-01-DC-SP-C-0002	P02

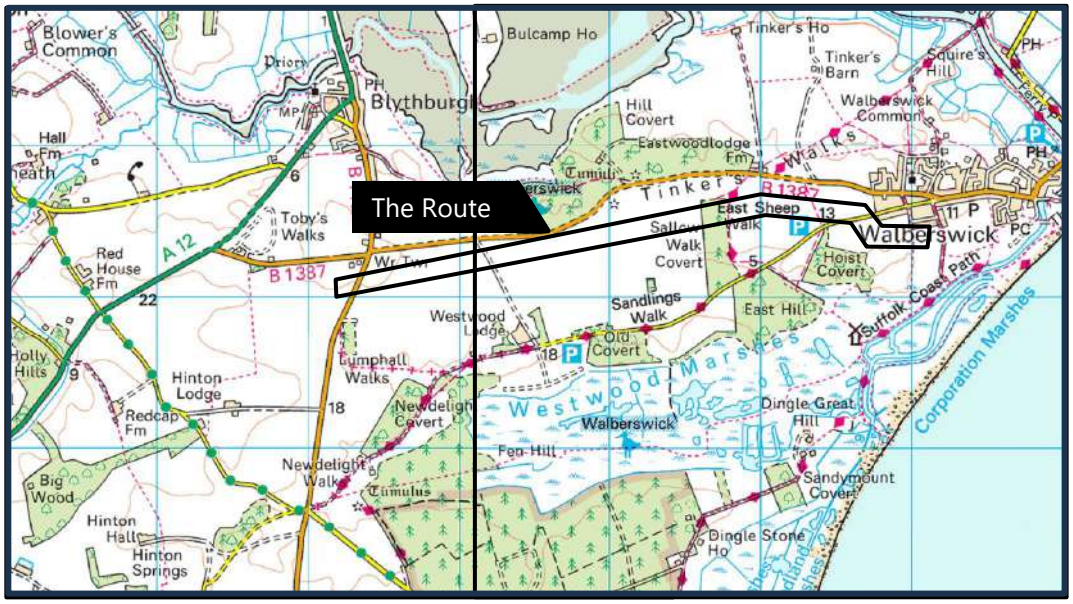
APPENDIX 2

Site Location Plan

APPENDIX 2

GEOTECHNICS
BUILD ON CONFIDENCE

Site Location Plan



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APPENDIX 3

Site Photographs

Looking N up track towards BHD06



Looking SW from TPD06



Looking S from TPD07



Looking N towards TPD09



Looking S from TPD11



Looking SE at entrance to TPD15



Looking E along fenceline towards TPD16



APPENDIX 4

Borehole Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



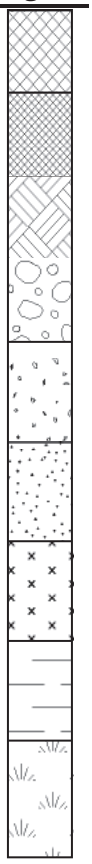
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

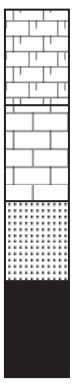
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



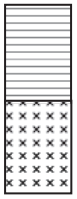
Chalk

Limestone

Sandstone

Coal

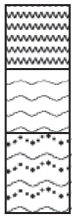
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

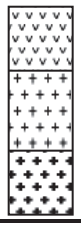


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD02
Client	National Grid Ventures	**National Grid Coordinates**	645365.8 E 274041.9 N	**Ground Level**	19.16 m OD

Sampling			Properties	Strata			Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B				TOPSOIL: Brown gravelly silty sand with occasional roots (up to 10mm in diameter) and rootlets. Gravel is angular to rounded fine to coarse flint and quartzite.			
0.00 - 0.40	D							
0.30	ES					0.40		18.76
0.30			PID: 1.1 ppm		Firm brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
0.40 - 1.20	B		w: 11 %					
1.00	ES							
1.00 - 1.20	D							
1.00			PID: 1.5 ppm					
1.50 - 1.95	UT	1.50 (DRY)	42 blows w: 13 %					
1.80 - 2.50	B					1.80		17.36
2.00 - 2.45		1.50 (1.90)		S27	Medium dense brown, locally orangish brown, slightly gravelly silty fine to medium SAND. Gravel is angular to subangualr fine to coarse flint.			
2.00 - 2.45	D							
2.50 - 3.00	B							
3.00 - 3.45		3.00 (2.20)		S33	Below 3.00m, dense.			
3.00 - 3.45	D							
3.00 - 3.50	B							
3.50 - 4.00	D							
						3.80		15.36
4.00 - 4.31		4.00 (3.60)		S50/ 160mm	Very dense brown, locally orangish brown, slightly gravelly silty fine to medium SAND with rare pockets (up to 35mm in size) of very soft brown clay. Gravel is angular to subangular fine to coarse flint. Between 3.80-4.00m, driller notes clay pockets.			
4.00 - 4.31	D							
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.26		5.00 (4.80)		S50/ 115mm				
5.00 - 5.26	D							
5.00 - 5.50	B							
5.50 - 6.00	D							
6.00 - 6.45		6.00 (6.00)		S30	Below 6.00m, gravel is absent. Between 6.00-8.00m, dense.			
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.45		7.00 (6.60)		S38				
7.00 - 7.45	D							
7.00 - 7.50	B							
7.50 - 8.00	D							
8.00 - 8.44		8.00 (7.00)		S50/ 290mm				
8.00 - 8.44	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.26		9.00 (8.30)		S50/ 115mm				
9.00 - 9.26	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (8.80)		S51		10.00		9.16

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	LC/BB
2.00	0.20	Cable Percussion	LC/BB
15.40	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			23/10/24	08:00
15.40	15.00	14.80	23/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.50m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 2.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 2.00m.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 2.00m to 15.00m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
29/01/2025

GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD02
Client	National Grid Ventures	**National Grid Coordinates**	645365.8 E 274041.9 N	**Ground Level**	19.16 m OD

Scale 1:50

Sampling			Properties		Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D				Very dense brown slightly gravelly slightly silty SAND with rare pockets (up to 45mm in size) of soft brown clay. Gravel is angular to rounded fine to coarse flints.			
10.00 - 10.50	B							
10.50 - 12.00	D							
12.00 - 12.15		12.00 (11.50)		S50/ 45mm				
12.00 - 12.65	D							
12.00 - 13.00	B							
13.00 - 13.50	D							
13.50 - 13.86		13.50 (13.00)		S60/ 210mm				
13.50 - 13.86	D							
13.50 - 15.00	B							
14.00 - 15.00	B							
14.50 - 15.00	D							
15.00 - 15.40		15.00 (14.80)		S50/ 245mm				
15.00	D							
15.00 - 15.40	D				End of Borehole	15.39		3.77

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: gravel filter up to 2.00m, bentonite seal up to 0.20m, concrete up to ground level.

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
29/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Inspection pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	BHD03
Client	National Grid Ventures	**National Grid Coordinates**	647327.0 E 274459.8 N	**Ground Level**	16.50 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.60	B			TOPSOIL: Brown slightly gravelly slightly clayey fine to medium sand. Gravel is angular to subrounded fine to coarse flint.			
0.00 - 0.60	D						
0.10	ES						
0.10			PID: <0.1 ppm				
				End of Excavation	0.60		15.90

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	1.00
Date	31/10/2024	**Length (C)**	1.00
Shoring	None.	**Date Backfilled**	31/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks Inspection pit excavated to 0.60m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

Logged by RA
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Inspection pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	BHD04
Client	National Grid Ventures	**National Grid Coordinates**	647521.0 E 274499.0 N	**Ground Level**	15.89 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Brown slightly gravelly sand. Gravel is subangular to subrounded fine to coarse flint.			
0.00 - 0.50	D						
0.10	ES						
0.10			PID: <0.1 ppm	End of Excavation	0.50		15.39

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	1.00
Date	31/10/2024	**Length (C)**	1.00
Shoring	None.	**Date Backfilled**	31/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks Inspection pit excavated to 0.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

Logged by RA
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD05
Client	National Grid Ventures	**National Grid Coordinates**	648020.0 E 274595.0 N	**Ground Level**	14.07 m OD

Scale 1:50

Sampling Depth	Sample Type	Depth Cased & (to Water)	Properties Results	SPT N	Strata Description	Depth	Legend	Level (m OD)
0.10	AG				TOPSOIL: Dark brown slightly gravelly slightly clayey sand with occasional rootlets. Gravel is angular to rounded fine to coarse flint, quartzite and quartz.			
0.10	D							
0.10	ES					0.40		13.67
0.10 - 0.40	B				Firm brown, locally mottled orangish brown or brownish grey, slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse flint, quartzite and quartz.			
0.10			PID: <0.1 ppm					
0.50	AG							
0.50	D							
0.50	ES							
0.50 - 0.80	B					1.30		12.77
0.50			PID: <0.1 ppm		Medium dense light brown gravelly slightly clayey SAND. Gravel is angular to rounded fine to coarse flint and quartzite.			
1.00	AG				Below 1.50m, with rare pockets (up to 40mm in size) of very soft brown mottled light grey clay.			
1.00	D		w: 9 %					
1.00	ES							
1.00			PID: <0.1 ppm		Below 2.00m, dense.			
1.30 - 1.50	B							
1.40	AG							
1.40	D							
1.50 - 1.95		1.50 (DRY)		S18				
1.50 - 1.90	D					3.00		11.07
1.50 - 1.95	B				Dense light brown, locally orangish brown, very gravelly slightly clayey SAND with rare pockets (up to 30mm in size) of very soft brown mottled light grey clay. Gravel is angular to rounded fine to coarse flint, quartzite and quartz.			
1.50 - 1.95	D							
2.00 - 2.45		2.00 (1.50)		S48				
2.00 - 2.45	B							
2.00 - 2.45	D							
2.50	D							
3.00 - 3.45		3.00 (2.50)		S44				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45		4.00 (3.50)		S31				
4.00 - 4.45	B							
4.00 - 4.45	D							
4.50	D							
5.00 - 5.45		5.00 (4.00)		S38				
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D							
6.00 - 6.45		6.00 (5.00)		S41				
6.00 - 6.45	B					6.50		7.57
6.00 - 6.45	D				Dense brown gravelly slightly clayey SAND with rare pockets (up to 30mm in size) of firm orangish brown mottled light grey clay and a low cobble content of subrounded quartzite. Gravel is angular to rounded fine to coarse flint, quartzite and quartz.			
6.50	D							
7.00 - 7.34		7.00 (5.50)		S50/ 195mm	Between 7.00-8.00m, very dense.			
7.00 - 7.34	D							
7.00 - 7.45	B							
7.50	D							
8.00 - 8.45		8.00 (7.00)		S56				
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
9.00 - 9.45		9.00 (8.00)		S34				
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (8.50)		S28				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	BS/KS
3.00	0.20	Cable Percussion	BS/KS
20.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			21/10/24	08:00
3.00	3.00	DRY	21/10/24	18:00
3.00	3.00	DRY	22/10/24	08:00
15.00	15.00	14.50	22/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.50m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring between 1.20m and 15.00m.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 3.00m depth and reducing casing diameter to 150mm.
A 50mm standpipe was installed to 20.00m with a geowrapped slotted section from 7.00m to 20.00m with a up-standing cover and
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
Figure Sheet 1 of 3
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD05
Client	National Grid Ventures	**National Grid Coordinates**	648020.0 E 274595.0 N	**Ground Level**	14.07 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B				At 10.00m, medium dense.			
10.00 - 10.45	D							
						10.50		3.57
10.70	D				Very dense orangish brown slightly gravelly slightly clayey fine and medium SAND with rare pockets (up to 30mm in size) of very soft orangish brown mottled light grey clay. Gravel is subangular fine to medium flint.			
11.50 - 11.95		11.50 (10.00)		S52				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (10.00)		S36	Below 13.00m, dense.			
13.00 - 13.45	B							
13.00 - 13.45	D							
13.70	D							
14.50 - 14.95		14.50 (13.00)		S41				
14.50 - 14.95	B							
14.50 - 14.95	D							
15.20	D							
16.00 - 16.45		16.00 (15.00)		S49				
16.00 - 16.45	B							
16.00 - 16.45	D							
16.70	D							
17.50 - 17.95		17.50 (16.00)		S38	Below 17.50m, gravel is absent.			
17.50 - 17.95	B							
17.50 - 17.95	D							
18.20	D							
19.00 - 19.45		17.50 (17.00)		S49				
19.00 - 19.45	B							
19.00 - 19.45	D							
19.50	D							
20.00 - 20.45		17.50 (18.00)		S43				

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
15.00	15.00	14.00	23/10/24	08:00
20.45	17.50	18.00	23/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

protective fence installed.
Backfill details from base of hole: gravel filter up to 7.00m, bentonite seal up to 0.20m, concrete up to ground level.

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Figure
Sheet 2 of 3
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD05
Client	National Grid Ventures	**National Grid Coordinates**	648020.0 E 274595.0 N	**Ground Level**	14.07 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
20.00 - 20.45	D				End of Borehole	20.45		-6.38

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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Figure Sheet 3 of 3
29/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD06
Client	National Grid Ventures	**National Grid Coordinates**	648311.9 E 274652.9 N	**Ground Level**	12.69 m OD

Sampling			Properties	Strata			Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 1.00	B				Dark brown gravelly silty SAND with occasional rootlets. Gravel is angular to rounded fine to coarse flint, quartzite and quartz.			
0.00 - 1.00	D							
0.60	ES							
1.00 - 1.20	B					1.00		11.69
1.00 - 1.20	D				Orangish brown and dark brown gravelly silty fine to medium SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.			
1.00 - 1.20	ES							
1.00			PID: <0.1 ppm					
1.20			PID: <0.1 ppm		Below 1.50m, medium dense.			
1.50 - 1.95		1.50 (DRY)		S25				
1.50 - 1.95	D							
2.00 - 2.45		2.00 (1.80)		S29				
2.00 - 2.45	D							
2.00 - 2.50	B							
2.50 - 3.00	D							
3.00 - 3.24		3.00 (2.80)		S50/ 85mm	Very dense brown gravelly slightly clayey SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.	3.00		9.69
3.00 - 3.24	D							
3.00 - 3.50	B							
3.50 - 4.00	D							
4.00 - 4.19		4.00 (3.00)		S50/ 115mm	Very dense brown, locally light brown, slightly gravelly fine to medium SAND with occasional pockets (up to 25mm in size) of very soft brown mottled light grey clay. Gravel is subangular to rounded fine to coarse flints and quartzite.	4.00		8.69
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.20		5.00 (3.90)		S60/ 95mm				
5.00 - 5.20	D							
5.00 - 5.50	B							
5.00 - 6.00	D							
6.00 - 6.45		6.00 (4.50)		S57				
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.34		7.00 (6.40)		S50/ 190mm	Very dense brown slightly gravelly silty fine to medium SAND with occasional pockets (up to 40mm in size) of very soft brown clay. Gravel is subangular to rounded fine to coarse flint and quartzite.	7.00		5.69
7.00 - 7.34	D							
7.00 - 7.50	B							
7.50 - 8.00	D							
8.00 - 8.45		8.00 (8.00)		S45	At 8.00m, dense.			
8.00 - 8.45	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.40		9.00 (8.10)		S50/ 245mm				
9.00 - 9.40	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (9.80)		S25				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	LC/BB
15.45	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			21/10/24	08:00
5.00	5.00	3.90	21/10/24	13:02
5.00	5.00	DRY	22/10/24	13:03
15.45	15.00	14.20	22/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

AGS

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring below 2.00m.
A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 2.00m to 10.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 10.00m, gravel filter up to 2.00m, bentonite seal up to 0.20m, concrete up to

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHD06
Client	National Grid Ventures	**National Grid Coordinates**	648311.9 E 274652.9 N	**Ground Level**	12.69 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D				Below 10.00m, medium dense.			
10.00 - 10.50	B							
10.50 - 12.00	D							
12.00 - 12.45		12.00 (11.00)		S31	At 12.00m, dense and gravelly.			
12.00 - 12.45	D							
12.00 - 12.50	B							
12.50 - 13.50	D							
13.50 - 13.95		13.50 (13.00)		S28				
13.50 - 14.00	B							
14.00 - 15.00	B							
14.00 - 15.00	D							
15.00 - 15.45		15.00 (14.20)		S30				
15.00 - 15.45	D							
					End of Borehole	15.45		-2.76

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
29/01/2025

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Section D **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHD02	2.00	17.16	S		4	6	6	7	6	8	27	
BHD02	3.00	16.16	S		2	3	7	9	9	8	33	
BHD02	4.00	15.16	S		2	10	18	29	3/10		50/160	
BHD02	5.00	14.16	S		8	16	28	22/40			50/115	
BHD02	6.00	13.16	S		3	4	6	7	7	10	30	
BHD02	7.00	12.16	S		4	5	5	7	12	14	38	
BHD02	8.00	11.16	S		1	5	10	10	18	12/65	50/290	
BHD02	9.00	10.16	S		2	5	25	25/40			50/115	
BHD02	10.00	9.16	S		3	6	7	10	16	18	51	
BHD02	12.00	7.16	S		10	15/30	50/45				50/45	
BHD02	13.50	5.66	S		3	8	18	23	19/60		60/210	
BHD02	15.00	4.16	S		4	7	10	13	21	6/20	50/245	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Section D **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHD05	1.50	12.57	S		4	5	2	4	5	7	18	
BHD05	2.00	12.07	S		8	8	10	12	12	14	48	
BHD05	3.00	11.07	S		8	9	9	11	11	13	44	
BHD05	4.00	10.07	S		4	5	5	7	8	11	31	
BHD05	5.00	9.07	S		6	8	8	9	9	12	38	
BHD05	6.00	8.07	S		6	8	8	10	11	12	41	
BHD05	7.00	7.07	S		8	13	15	20	15/45		50/195	
BHD05	8.00	6.07	S		7	13	13	14	14	15	56	
BHD05	9.00	5.07	S		6	8	8	8	9	9	34	
BHD05	10.00	4.07	S		4	5	5	6	8	9	28	
BHD05	11.50	2.57	S		8	11	11	12	14	15	52	
BHD05	13.00	1.07	S		6	7	7	7	10	12	36	
BHD05	14.50	-0.43	S		4	7	9	10	10	12	41	
BHD05	16.00	-1.93	S		8	10	10	11	13	15	49	
BHD05	17.50	-3.43	S		4	7	7	9	11	11	38	
BHD05	19.00	-4.93	S		5	9	11	11	13	14	49	
BHD05	20.00	-5.93	S		5	7	9	10	11	13	43	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Section D **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHD06	1.50	11.19	S		3	3	5	5	6	9	25	
BHD06	2.00	10.69	S		3	5	8	8	6	7	29	
BHD06	3.00	9.69	S		6	10	44	6/10			50/85	
BHD06	4.00	8.69	S		25		28	22/40			50/115	
BHD06	5.00	7.69	S		10	15/30	29	31/20			60/95	
BHD06	6.00	6.69	S		3	6	8	10	17	22	57	
BHD06	7.00	5.69	S		1	6	12	18	20/40		50/190	
BHD06	8.00	4.69	S		3	5	10	10	15	10	45	
BHD06	9.00	3.69	S		4	8	12	17	15	6/20	50/245	
BHD06	10.00	2.69	S		1	2	3	3	3	16	25	
BHD06	12.00	0.69	S		3	2	7	7	7	10	31	
BHD06	13.50	-0.81	S		3	4	7	7	7	7	28	
BHD06	15.00	-2.31	S		2	4	4	6	10	10	30	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

1. BHD02



2. BHD03



3. BHD03 Side



4. BHD04



5. BHD04 Side



6. BHD05



7. BHD06


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
PC248770
HOLE ID
BHD 06
DATE
NOTES
0.00 - 1.50

APPENDIX 5

Trial Pit Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



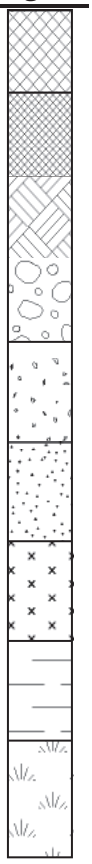
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

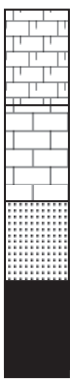
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



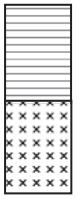
Chalk

Limestone

Sandstone

Coal

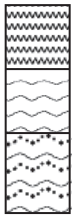
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

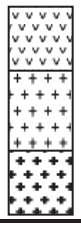


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD02
Client	National Grid Ventures	**National Grid Coordinates**	645480.0 E 274066.1 N	**Ground Level**	19.60 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Brown gravelly slightly clayey sand with rare rootlets. Gravel is angular to subrounded fine to coarse quartzite and flint.			
0.10	AG						
0.10	D				0.40		19.20
0.10	ES			Firm light orangish brown mottled brown slightly gravelly sandy CLAY with occasional pockets (up to 15mm in size) of calcareous silt and many pockets (up to 300mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.10			PID: <0.1 ppm				
0.40 - 1.20	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D						
1.20 - 2.10	B						
1.50	AG				2.10		17.50
1.50	D		w: 12 %	Light yellowish brown gravelly slightly clayey SAND with rare pockets (up to 50mm in size) of brown sandy clay. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.			
2.00	D						
2.10 - 3.00	B						
2.50	D						
3.00	D			End of Excavation	3.00		16.60

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	21/10/2024	**Length (C)**	2.51
Shoring	None.	**Orientation (degrees)**	348
		Date Backfilled	21/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD03
Client	National Grid Ventures	**National Grid Coordinates**	645584.9 E 274088.1 N	**Ground Level**	18.52 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Brown gravelly slightly clayey sand with rare rootlets. Gravel is angular to subrounded fine to coarse quartzite and flint.			
0.10	D				0.30		18.22
0.10	ES			Orangish brown slightly gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.10			PID: <0.1 ppm		0.70		17.82
0.30 - 0.70	B			Firm light orangish brown mottled brown slightly gravelly sandy CLAY with occasional pockets (up to 45mm in size) of calcareous silt and many pockets (up to 100mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.70 - 1.70	B						
1.00	D						
1.00	HV		35/43/48 kPa R: 12/17/19 kPa				
1.50	D						
1.70 - 3.00	B						
2.00	D						
2.50	D						
3.00	D		w: 12 %	End of Excavation	3.00		15.52

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	21/10/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	240
		Date Backfilled	21/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD04
Client	National Grid Ventures	**National Grid Coordinates**	645653.0 E 274103.1 N	**Ground Level**	18.42 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Brown gravelly slightly clayey sand with rare rootlets. Gravel is angular to subrounded fine to coarse quartzite and flint.			
0.10	D				0.30		18.11
0.10	ES			Firm orangish brown mottled light grey slightly gravelly sandy CLAY with occasional pockets (up to 35mm in size) of calcareous silt and many pockets (up to 100mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.10			PID: <0.1 ppm				
0.30 - 1.30	B						
0.50	D		w: 12 %				
0.50	ES						
0.50	HV		33/38/48 kPa R: 21/14/12 kPa				
0.60			PID: <0.1 ppm				
1.00	D						
1.30 - 2.00	B						
1.50	D						
2.00	D						
2.00 - 3.00	B						
2.50	D						
3.00	D			End of Excavation	3.00		15.42

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	21/10/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	082
		Date Backfilled	21/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD05
Client	National Grid Ventures	**National Grid Coordinates**	645773.1 E 274128.0 N	**Ground Level**	18.66 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint and quartzite.			
0.00 - 0.40	D						
0.10	AG				0.40		18.26
0.10	D			Firm orangish brown slightly gravelly sandy CLAY with occasional pockets (up to 35mm in size) of calcareous silt and many pockets (up to 150mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.10	ES						
0.10			PID: <0.1 ppm				
0.40 - 1.40	B						
0.40 - 1.40	D						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D		w: 10 %				
1.00	HV		56/50/54 kPa R: 11/21/12 kPa				
1.40 - 2.40	B			Below 2.40m, becoming sandy.			
1.50	AG						
1.50	D						
2.00	D						
2.40 - 3.00	B			End of Excavation	3.00		15.66
2.50	D						
3.00	D						

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	28/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	021
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD06
Client	National Grid Ventures	**National Grid Coordinates**	645868.9 E 274149.0 N	**Ground Level**	18.92 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	D						
0.10	ES				0.40		18.52
0.10			PID: <0.1 ppm	Firm orangish brown slightly gravelly sandy CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 200mm in size) of reddish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.40 - 1.50	B						
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm				
1.00	D						
1.00	HV		50/51/54 kPa R: 11/15/12 kPa				
1.50	D		w: 11 %				
1.50 - 2.40	B						
2.00	D						
2.40 - 3.00	B				2.40		16.52
2.50	D			Light brown gravelly very clayey SAND. Gravel is subangular to subrounded fine to coarse flint, chalk, sandstone, mudstone and quartzite.			
3.00	D			End of Excavation	3.00		15.92

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	29/10/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	140
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD07
Client	National Grid Ventures	**National Grid Coordinates**	646065.9 E 274190.0 N	**Ground Level**	18.31 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		17.81
0.10			PID: <0.1 ppm	Firm orangish brown mottled grey slightly gravelly sandy CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 50mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.50 - 1.50	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D						
1.00	HV		30/37/42 kPa R: 13/11/10 kPa				
1.50	AG						
1.50	D						
1.50 - 2.50	B						
2.00	D		w: 13 %				
2.50	D						
2.50 - 3.00	B						
3.00	D			End of Excavation	3.00		15.31

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	29/10/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	250
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD08
Client	National Grid Ventures	**National Grid Coordinates**	646262.9 E 274231.9 N	**Ground Level**	18.58 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.20	D						
0.20	ES				0.40		18.18
0.40 - 1.10	B			Orangish brown gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint, quartzite and sandstone.			
0.60	D						
0.60	ES						
1.10 - 1.70	B				1.10		17.48
				Firm to stiff orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartzite.			
1.50	D		w: 21 %	Below 1.50m, gravel is absent.			
1.70 - 3.00	B				1.70		16.88
				Orangish brown gravelly clayey SAND. Gravel is angular to subrounded fine to coarse flint, quartzite and sandstone.			
2.50	D						
				End of Excavation	3.00		15.58

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	13/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	340
		Date Backfilled	13/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD09
Client	National Grid Ventures	**National Grid Coordinates**	646457.9 E 274275.1 N	**Ground Level**	19.27 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		18.77
0.10			PID: <0.1 ppm	Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 100mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.50 - 1.50	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm		1.50		17.77
1.00	AG			Light yellowish brown mottled orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
1.00	D		w: 15 %				
1.00	HV		51/56/48 kPa R: 20/22/17 kPa				
1.50	AG						
1.50	D						
1.50 - 2.50	B						
2.00	D						
2.50	D						
2.50 - 3.00	B						
3.00	D			End of Excavation	3.00		16.27

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	29/10/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	190
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD10
Client	National Grid Ventures	**National Grid Coordinates**	646556.0 E 274296.1 N	**Ground Level**	19.39 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	D						
0.10	ES				0.40		18.99
0.10			PID: <0.1 ppm	Orangish brown gravelly slightly clayey SAND with occasional pockets (up to 100mm in size) of brown mottled grey clay. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
0.40 - 1.60	B						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	D						
1.50	D						
1.60 - 2.50	B				1.60		17.79
				Light yellowish brown gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
2.00	D						
2.50	D						
2.50 - 3.00	B						
3.00	D				3.00		16.39
				End of Excavation			

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	30/10/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	234
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD11
Client	National Grid Ventures	**National Grid Coordinates**	646749.1 E 274337.9 N	**Ground Level**	18.84 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	AG						
0.10	D				0.40		18.44
0.10	ES			Orangish brown gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
0.10			PID: <0.1 ppm				
0.40 - 1.50	B						
0.50	AG						
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm				
1.00	AG				1.50		17.34
1.00	D			Light yellowish brown mottled orangish brown gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
1.50	AG						
1.50	D						
1.50 - 2.50	B						
2.00	D						
2.50	D						
2.50 - 3.00	B						
3.00	D			End of Excavation	3.00		15.84

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	30/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	230
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD12
Client	National Grid Ventures	**National Grid Coordinates**	646944.9 E 274380.9 N	**Ground Level**	18.35 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	D						
0.10	ES				0.40		17.95
0.10			PID: <0.1 ppm	Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone and sandstone.			
0.40 - 1.00	B						
0.50	D		w: 8 %				
0.50	ES						
0.50			PID: <0.1 ppm				
1.00	D						
1.00 - 2.00	B						
1.50	D						
2.00	D				2.00		16.35
2.00 - 3.00	B			Light yellowish brown mottled orangish brown slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
2.50	D						
3.00	D			End of Excavation	3.00		15.35

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	30/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	100
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
Checked by TNH
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD13
Client	National Grid Ventures	**National Grid Coordinates**	647140.1 E 274423.1 N	**Ground Level**	17.10 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse chalk, flint, sandstone and quartzite.			
0.10	AG						
0.10	D				0.40		16.70
0.10	ES			Firm brown mottled orangish brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint, quartzite and sandstone.			
0.10			PID: <0.1 ppm				
0.40 - 1.10	B						
0.50	AG						
0.50	D		w: 10 %		1.10		16.00
0.50	ES			Orangish brown slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse flint, sandstone and quartzite.			
0.50			PID: <0.1 ppm				
1.00	AG						
1.00	D						
1.00	HV		43/37/38 kPa R: 18/21/11 kPa				
				Below 2.00m light yellowish brown mottled orangish brown.			
1.10 - 2.00	B						
1.50	AG						
1.50	D						
2.00	D						
2.00 - 3.00	B						
2.50	D						
3.00	D			End of Excavation	3.00		14.10

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.59
Date	31/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	070
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD14
Client	National Grid Ventures	**National Grid Coordinates**	648541.5 E 274527.1 N	**Ground Level**	12.74 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown gravelly slightly clayey sand with occasional rootlets. Gravel is subangular to rounded fine to coarse quartzite and flint.			
0.25	AG						
0.25	D						
0.25	ES				0.50		12.24
0.50 - 0.70	B			Dark orangish brown gravelly slightly clayey SAND with occasional pockets (up to 100mm in size) of black sand. Gravel is subangular to rounded fine to coarse quartzite and flint.	0.70		12.04
0.60	AG						
0.60	D			Light orangish brown gravelly slightly clayey SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.			
0.60	ES						
0.70 - 1.50	B						
1.20	AG			Below 1.50m, becoming gravelly and slightly clayey.			
1.20	D						
1.50 - 2.80	B						
2.50	D						
2.80 - 3.00	B				2.80		9.94
2.90	D		w: 37 %	Firm orangish brown mottled light grey slightly sandy slightly gravelly highly micaceous CLAY. Gravel is subangular to rounded fine to coarse flint and quartzite.	3.00		9.74
				End of Excavation			

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	12/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	03
		Date Backfilled	12/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD15
Client	National Grid Ventures	**National Grid Coordinates**	648694.3 E 274418.6 N	**Ground Level**	11.96 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.15	B			TOPSOIL: Brown very gravelly slightly clayey sand with occasional rootlets. Gravel is subangular to subrounded fine to coarse quartzite and flint.	0.15		11.81
0.10	AG			Light brown very gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse quartzite and flint.	0.50		11.46
0.10	D			Dark reddish brown gravelly slightly clayey SAND with occasional pockets (up to 55mm in size) of black sand. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.10	ES						
0.15 - 0.50	B						
0.30	AG						
0.30	D						
0.30	ES						
0.50 - 1.50	B						
1.20	AG				1.50		10.46
1.20	D			Light orangish brown slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
1.20	ES						
1.50	D						
1.50 - 2.00	B						
2.00 - 3.00	B						
2.50	D						
				End of Excavation	3.00		8.96

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	11/09/2024	**Length (C)**	2.40
Shoring	None.	**Orientation (degrees)**	092
		Date Backfilled	11/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD16
Client	National Grid Ventures	**National Grid Coordinates**	648897.0 E 274396.0 N	**Ground Level**	9.21 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.45	B			TOPSOIL: Brown gravelly slightly clayey sand with occasional rootlets and with rare pockets (up to 10mm in size) of calcareous silt. Gravel is subangular to rounded fine to coarse quartzite, flint and chalk.			
0.20	AG						
0.20	D						
0.20	ES				0.45		8.76
0.45 - 0.75	B			Light orangish brown gravelly slightly clayey SAND. Gravel is subangular to rounded fine to coarse quartzite and flint.			
0.50	AG				0.75		8.46
0.50	D			Orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to rounded fine to coarse quartzite and flint.			
0.50	ES						
0.75 - 1.50	B						
1.20	AG						
1.20	D				1.60		7.61
1.60 - 2.50	B			Stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse flint and quartzite.			
2.00	D						
2.50 - 3.00	B			Below 2.50m, with occasional organic layers (up to 10mm thick). Gravel is absent.			
2.75	D		w: 26 %				
				End of Excavation	3.00		6.21

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	12/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	105
		Date Backfilled	12/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD17
Client	National Grid Ventures	**National Grid Coordinates**	648997.8 E 274380.4 N	**Ground Level**	8.55 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.45	B			TOPSOIL: Brown gravelly slightly clayey sand with occasional rootlets. Gravel is subangular to rounded fine to coarse quartzite and flint.			
0.20	D						
0.20	ES						
0.45 - 1.50	B			Light orangish brown slightly clayey SAND.	0.45		8.10
0.60	D						
0.60	ES						
1.50	D		w: 12 %	Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartzite.	1.50		7.05
1.50 - 2.20	B						
2.20 - 3.00	B			Light orangish brown slightly gravelly slightly clayey SAND with occasional pockets (up to 250mm in size) of orangish brown mottled light grey sandy organic clay. Gravel is subangular to subrounded fine to coarse flint and quartzite.	2.20		6.35
2.80	D						
				End of Excavation	3.00		5.55

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	12/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	094
		Date Backfilled	12/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Section D	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPD18
Client	National Grid Ventures	**National Grid Coordinates**	649131.9 E 274402.8 N	**Ground Level**	8.94 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Brown gravelly slightly clayey sand with occasional rootlets. Gravel is subangular to rounded fine to coarse quartzite, flint and brick.			
0.20	AG						
0.20	D				0.40		8.54
0.20	ES			Light orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.40 - 1.50	B						
0.60	AG						
0.60	D						
0.60	ES						
1.20	ES						
1.50 - 1.70	B				1.50		7.44
1.60	D		w: 20 %	Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartzite.	1.70		7.24
1.70 - 2.60	B			Light orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
2.00	D						
2.70	D		w: 26 %	Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartzite.	2.60		6.34
2.80 - 3.00	B				2.80		6.14
2.90	D			Light orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.	3.00		5.94
				End of Excavation			

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	12/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	098
		Date Backfilled	12/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
29/01/2025

GEOTECHNICS

1. TPD02



2. TPD02 Side



3. TPD02 Topsoil



4. TPD02 Spoil



5. TPD03



6. TPD03 Side



7. TPD03 Topsoil



8. TPD03 Spoil



9. TPD04



10. TPD04 Side



11. TPD04 Topsoil



12. TPD04 Spoil



13. TPD05



14. TPD05 Side



15. TPD05 Topsoil



16. TPD05 Spoil



17. TPD06



18. TPD06 Side



19. TPD06 Topsoil



20. TPD06 Spoil



21. TPD07



22. TPD07 Side



23. TPD07 Topsoil



24. TPD07 Spoil



25. TPD08



26. TPD08 Side



27. TPD08 Topsoil



28. TPD08 Spoil



29. TPD09



30. TPD09 Side



31. TPD09 Topsoil



32. TPD09 Spoil



33. TPD10



34. TPD10 Side



35. TPD10 Topsoil



36. TPD10 Spoil



37. TPD11



38. TPD11 Side



39. TPD11 Topsoil



40. TPD11 Spoil



41. TPD12



42. TPD12 Side



43. TPD12 Topsoil



44. TPD12 Spoil



45. TPD13



46. TPD13 Side



47. TPD13 Topsoil



48. TPD13 Spoil



49. TPD14



50. TPD14 Side



51. TPD14 Topsoil



52. TPD14 Spoil



53. TPD15



54. TPD15 Side



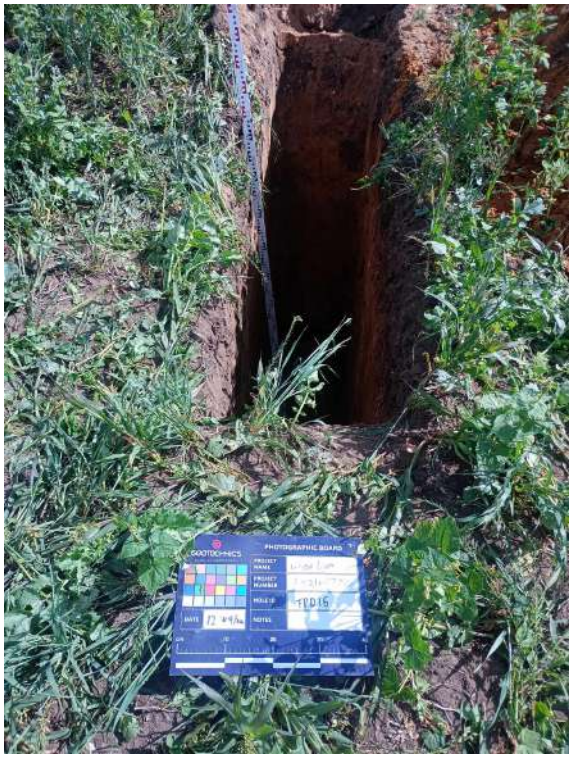
55. TPD15 Topsoil



56. TPD15 Spoil



57. TPD16



58. TPD16 Side



59. TPD16 Topsoil



60. TPD16 Spoil



61. TPD17



62. TPD17 Side



63. TPD17 Topsoil



64. TPD17 Spoil



65. TPD18



66. TPD18 Side



67. TPD18 Topsoil



68. TPD18 Spoil



APPENDIX 6

Exploratory Hole Location Plan



N

GEOTECHNICS

203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
www.geotechnics.co.uk

Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Section D

Drawing Title:
Exploratory Hole Location Base Plan

Scale:	Date:
1:15000 at A3	**17/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Base Plan**



N

Legend

- Cable Percussion Borehole
- Inspection Pit
- Trial Pit

GEOTECHNICS

203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
www.geotechnics.co.uk

Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Section D

Drawing Title:
Exploratory Hole Location Plan D1

Scale:	Date:
1:5000 at A3	**17/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan D1**



N

Legend

- Cable Percussion Borehole
- Inspection Pit
- Trial Pit

GEOTECHNICS

203 Torrington Avenue
Tile Hill
Coventry
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Phone: 024 7669 4664
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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Section D

Drawing Title:
Exploratory Hole Location Plan D2

Scale:	Date:
1:5000 at A3	**17/12/2024**

Project No.:	
PC248770	**Exploratory Hole Location Plan D2**



N

Legend

- Cable Percussion Borehole
- Inspection Pit
- Trial Pit

GEOTECHNICS

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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Section D

Drawing Title:
Exploratory Hole Location Plan D3

Scale:	Date:
1:5000 at A3	**17/12/2024**

Project No.:	
PC248770	**Exploratory Hole Location Plan D3**

APPENDIX 7

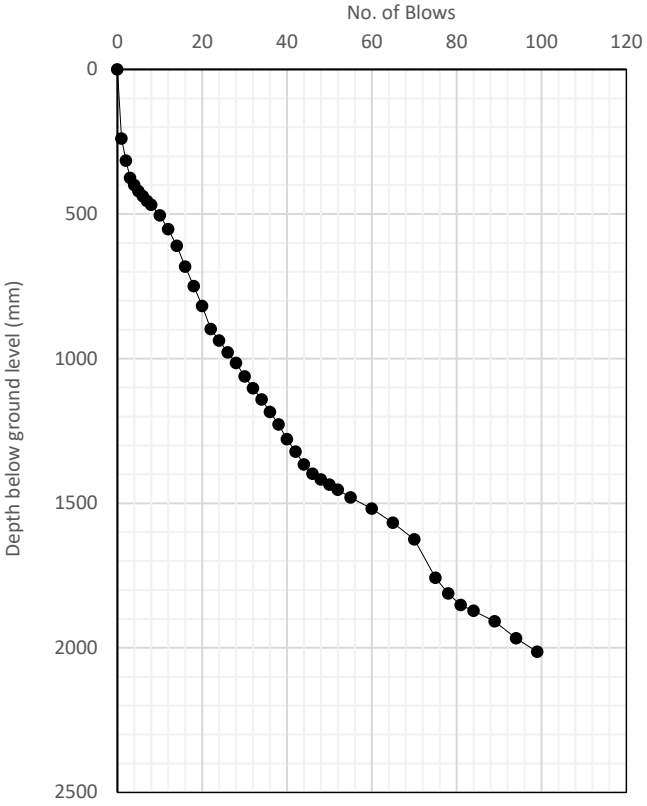
Dynamic Cone Penetration Test Results

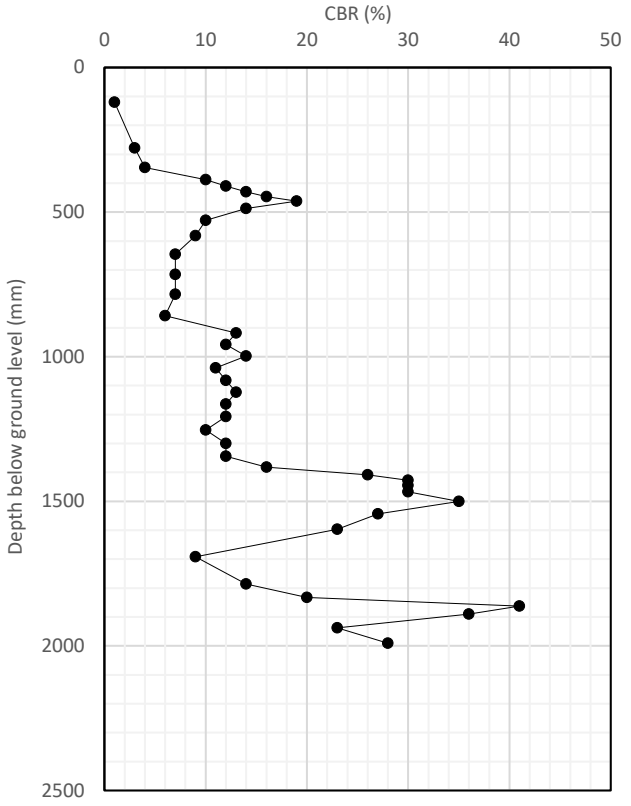
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD02
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	645480.0 E, 274066.1 N	**Ground Level**	19.60 m OD	**Test Date**	21/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	2	32	1235	1103	5	94	2099	1967
1	1	372	240	2	34	1274	1142	5	99	2146	2014
1	2	448	316	2	36	1317	1185				
1	3	508	376	2	38	1360	1228				
1	4	532	400	2	40	1411	1279				
1	5	553	421	2	42	1454	1322				
1	6	571	439	2	44	1498	1366				
1	7	587	455	2	46	1530	1398				
1	8	601	469	2	48	1550	1418				
2	10	637	505	2	50	1568	1436				
2	12	685	553	2	52	1586	1454				
2	14	742	610	3	55	1613	1481				
2	16	814	682	5	60	1651	1519				
2	18	882	750	5	65	1700	1568				
2	20	950	818	5	70	1758	1626				
2	22	1030	898	5	75	1890	1758				
2	24	1070	938	3	78	1945	1813				
2	26	1111	979	3	81	1984	1852				
2	28	1148	1016	3	84	2004	1872				
2	30	1194	1062	5	89	2041	1909				





Remarks

Fell under own weight 173mm.

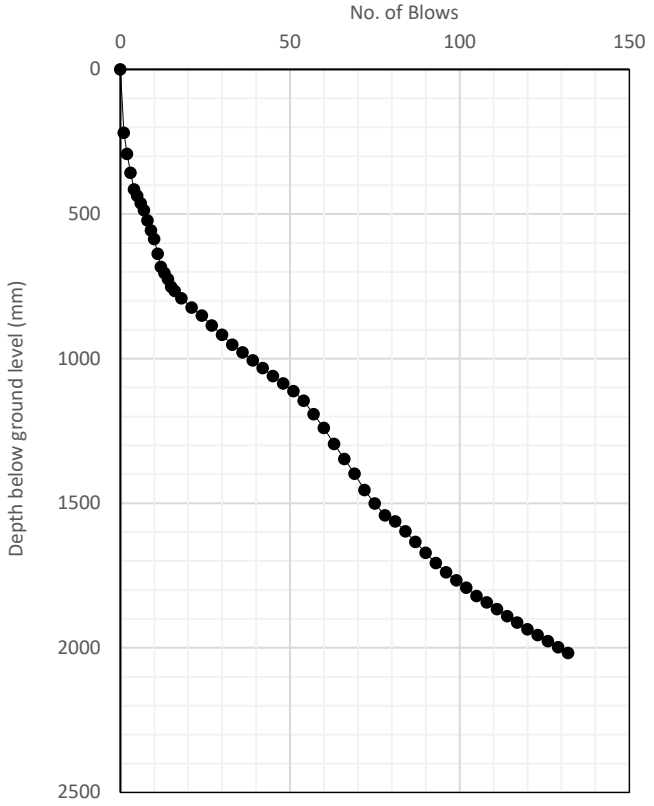
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

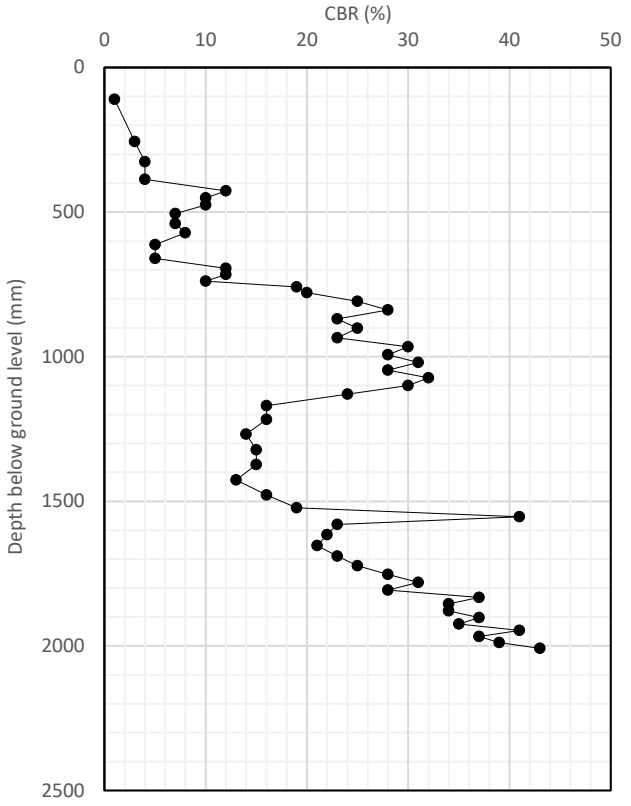
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD03
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	645584.9 E, 274088.1 N **Ground Level** 18.52 m OD	**Test Date**	21/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	127	0	3	27	1013	886	3	87	1761	1634
1	1	347	220	3	30	1045	918	3	90	1799	1672
1	2	420	293	3	33	1079	952	3	93	1834	1707
1	3	485	358	3	36	1106	979	3	96	1866	1739
1	4	543	416	3	39	1134	1007	3	99	1894	1767
1	5	565	438	3	42	1160	1033	3	102	1920	1793
1	6	590	463	3	45	1188	1061	3	105	1948	1821
1	7	615	488	3	48	1213	1086	3	108	1970	1843
1	8	650	523	3	51	1240	1113	3	111	1994	1867
1	9	684	557	3	54	1273	1146	3	114	2018	1891
1	10	714	587	3	57	1320	1193	3	117	2040	1913
1	11	765	638	3	60	1367	1240	3	120	2063	1936
1	12	810	683	3	63	1423	1296	3	123	2083	1956
1	13	832	705	3	66	1475	1348	3	126	2105	1978
1	14	853	726	3	69	1525	1398	3	129	2126	1999
1	15	879	752	3	72	1582	1455	3	132	2145	2018
1	16	893	766	3	75	1629	1502				
2	18	919	792	3	78	1670	1543				
3	21	951	824	3	81	1690	1563				
3	24	979	852	3	84	1725	1598				





Remarks

Fell under own weight 32mm.

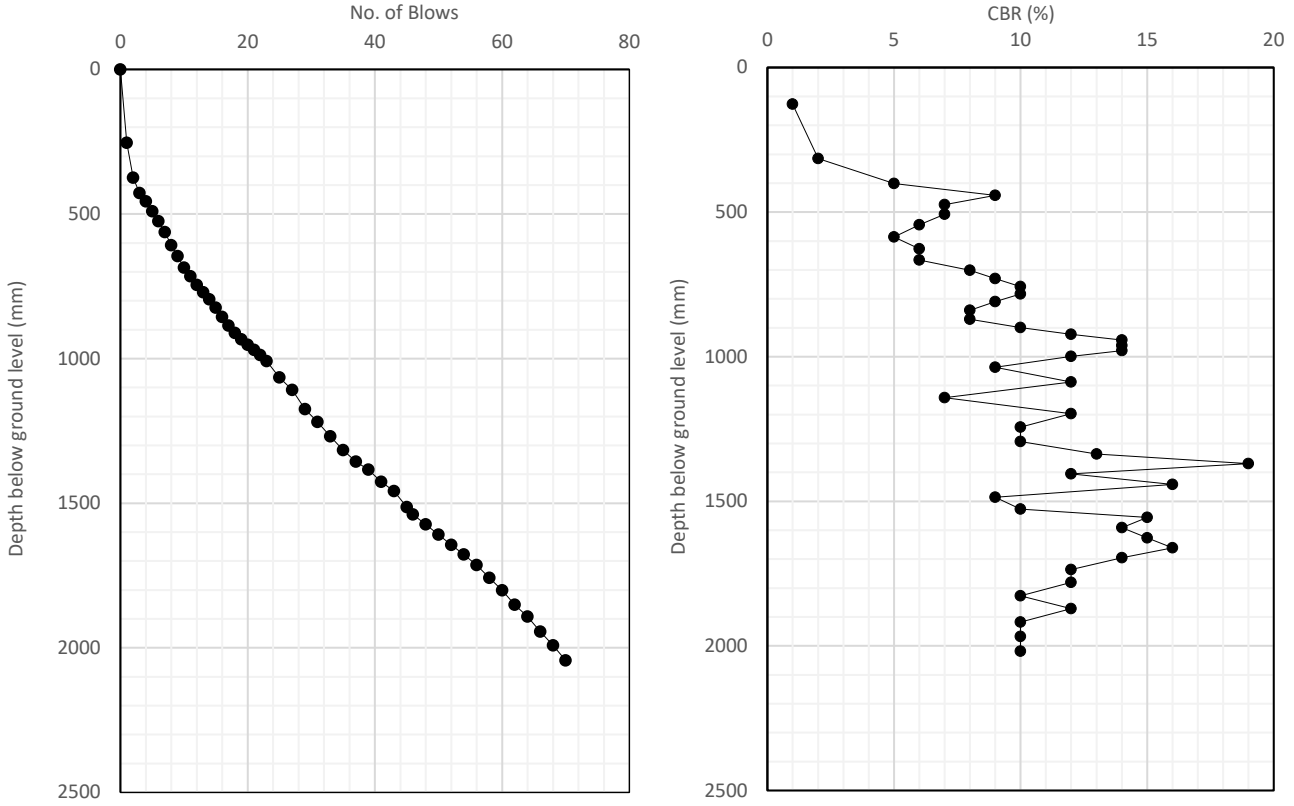
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD04
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	645653.0 E, 274103.1 N **Ground Level** 18.42 m OD	**Test Date**	21/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	127	0	1	20	1079	952	2	56	1841	1714
1	1	381	254	1	21	1097	970	2	58	1885	1758
1	2	502	375	1	22	1115	988	2	60	1929	1802
1	3	555	428	1	23	1136	1009	2	62	1978	1851
1	4	584	457	2	25	1192	1065	2	64	2019	1892
1	5	618	491	2	27	1236	1109	2	66	2071	1944
1	6	652	525	2	29	1302	1175	2	68	2119	1992
1	7	690	563	2	31	1346	1219	2	70	2171	2044
1	8	735	608	2	33	1396	1269				
1	9	773	646	2	35	1444	1317				
1	10	813	686	2	37	1483	1356				
1	11	843	716	2	39	1511	1384				
1	12	872	745	2	41	1553	1426				
1	13	898	771	2	43	1585	1458				
1	14	922	795	2	45	1641	1514				
1	15	951	824	1	46	1666	1539				
1	16	983	856	2	48	1700	1573				
1	17	1013	886	2	50	1736	1609				
1	18	1039	912	2	52	1771	1644				
1	19	1061	934	2	54	1804	1677				



Remarks

Fell under own weight 30mm.

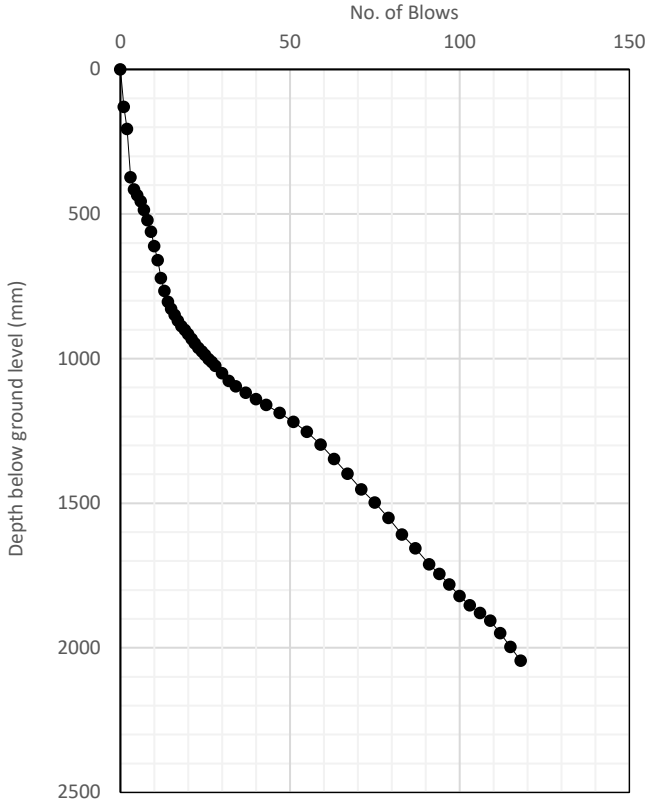
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

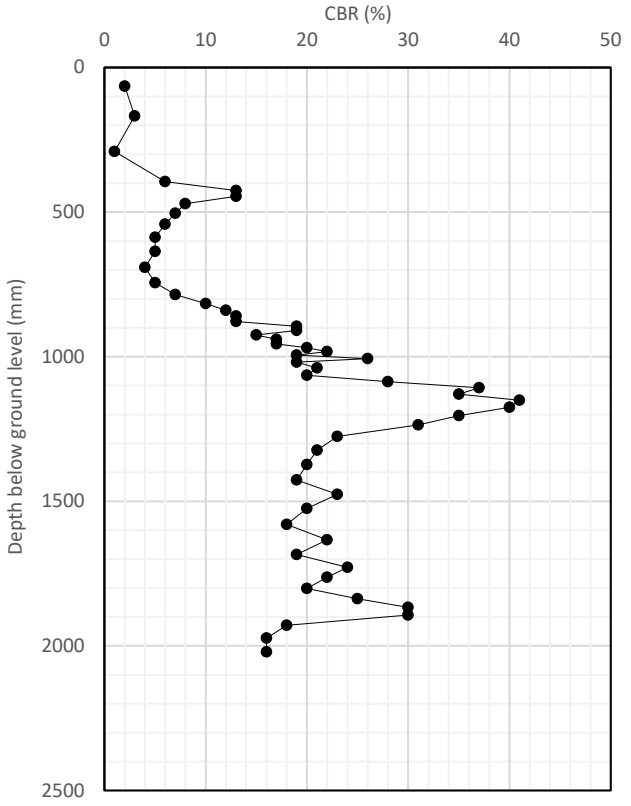
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD05
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	645773.1 E, 274128.0 N	**Ground Level**	18.66 m OD	**Test Date**	28/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	1	20	1047	916	4	67	1530	1399
1	1	261	130	1	21	1064	933	4	71	1584	1453
1	2	337	206	1	22	1079	948	4	75	1629	1498
1	3	505	374	1	23	1094	963	4	79	1682	1551
1	4	547	416	1	24	1107	976	4	83	1740	1609
1	5	567	436	1	25	1119	988	4	87	1788	1657
1	6	587	456	1	26	1133	1002	4	91	1843	1712
1	7	617	486	1	27	1143	1012	3	94	1876	1745
1	8	653	522	1	28	1157	1026	3	97	1912	1781
1	9	693	562	2	30	1182	1051	3	100	1952	1821
1	10	743	612	2	32	1208	1077	3	103	1984	1853
1	11	791	660	2	34	1227	1096	3	106	2011	1880
1	12	853	722	3	37	1249	1118	3	109	2038	1907
1	13	898	767	3	40	1272	1141	3	112	2081	1950
1	14	935	804	3	43	1292	1161	3	115	2128	1997
1	15	959	828	4	47	1319	1188	3	118	2176	2045
1	16	981	850	4	51	1350	1219				
1	17	1000	869	4	55	1384	1253				
1	18	1019	888	4	59	1429	1298				
1	19	1033	902	4	63	1479	1348				





Remarks

Fell under own weight 36mm.

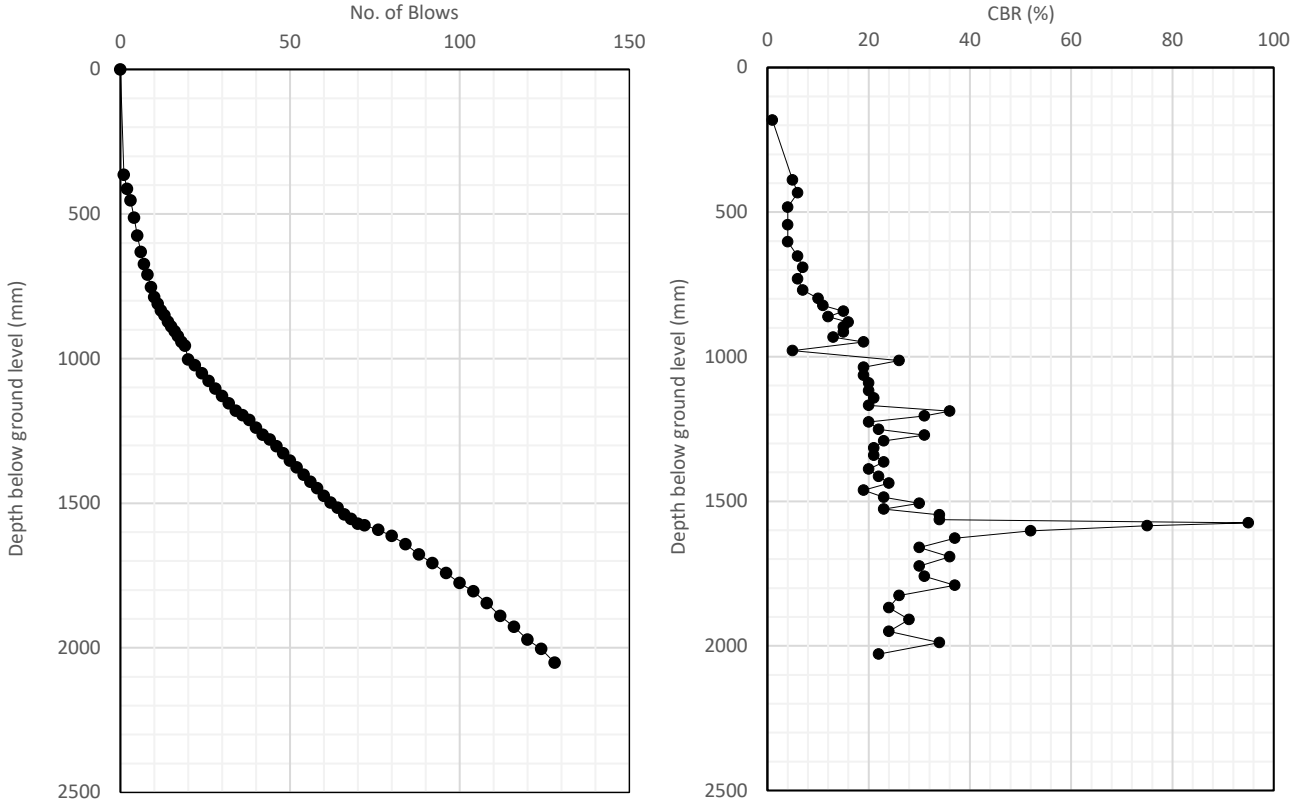
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD06
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	645868.9 E, 274149.0 N	**Ground Level**	18.92 m OD	**Test Date**	29/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	1	20	1135	1003	2	60	1607	1475
1	1	497	365	2	22	1155	1023	2	62	1630	1498
1	2	545	413	2	24	1183	1051	2	64	1648	1516
1	3	585	453	2	26	1210	1078	2	66	1671	1539
1	4	645	513	2	28	1236	1104	2	68	1687	1555
1	5	707	575	2	30	1262	1130	2	70	1703	1571
1	6	763	631	2	32	1287	1155	2	72	1709	1577
1	7	805	673	2	34	1313	1181	4	76	1724	1592
1	8	842	710	2	36	1328	1196	4	80	1745	1613
1	9	885	753	2	38	1345	1213	4	84	1774	1642
1	10	919	787	2	40	1371	1239	4	88	1809	1677
1	11	943	811	2	42	1395	1263	4	92	1839	1707
1	12	966	834	2	44	1412	1280	4	96	1874	1742
1	13	983	851	2	46	1435	1303	4	100	1908	1776
1	14	1005	873	2	48	1460	1328	4	104	1937	1805
1	15	1021	889	2	50	1485	1353	4	108	1978	1846
1	16	1038	906	2	52	1508	1376	4	112	2022	1890
1	17	1055	923	2	54	1534	1402	4	116	2060	1928
1	18	1074	942	2	56	1558	1426	4	120	2104	1972
1	19	1088	956	2	58	1580	1448	4	124	2136	2004



Remarks

Fell under own weight 27mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD06
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	645868.9 E, 274149.0 N	**Ground Level**	18.92 m OD	**Test Date**	29/10/2024

Test started at	0.00m bgl

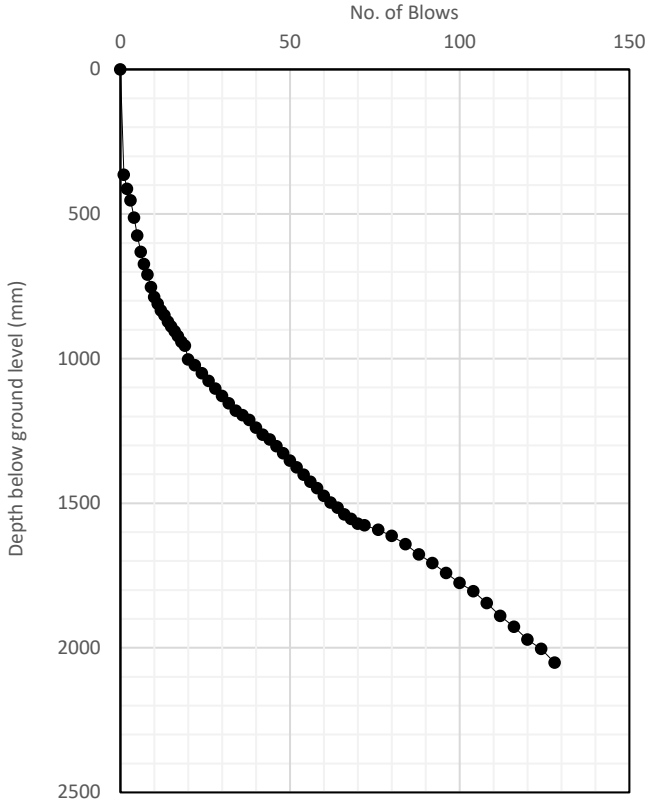
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
4	128	2184	2052

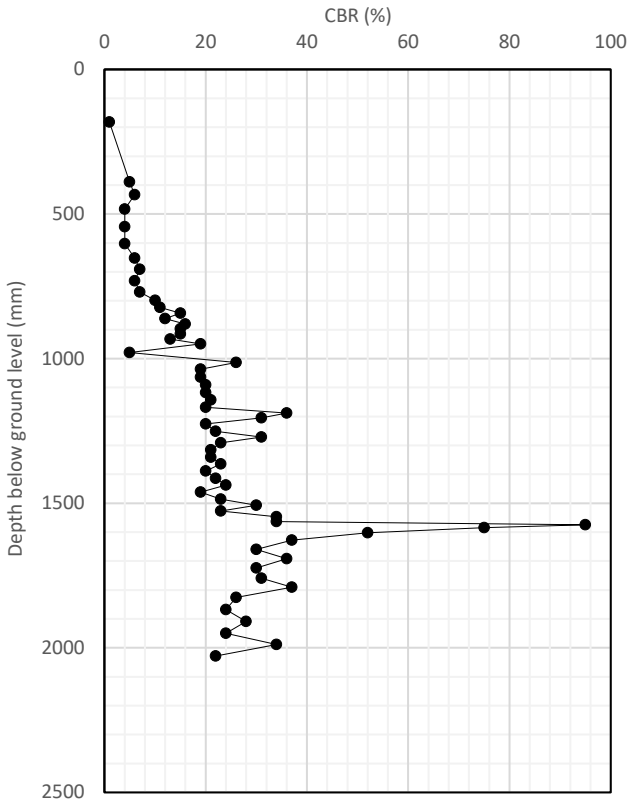
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 27mm.

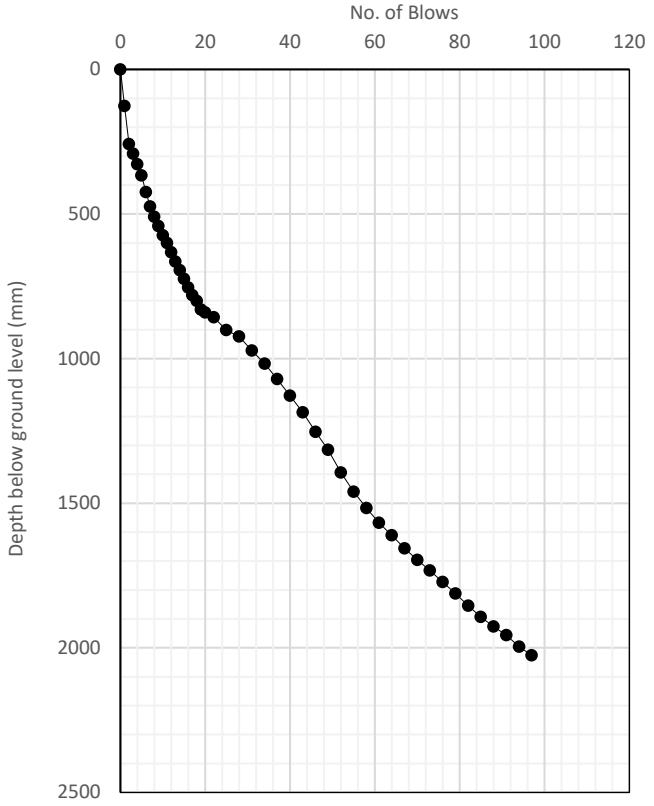
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

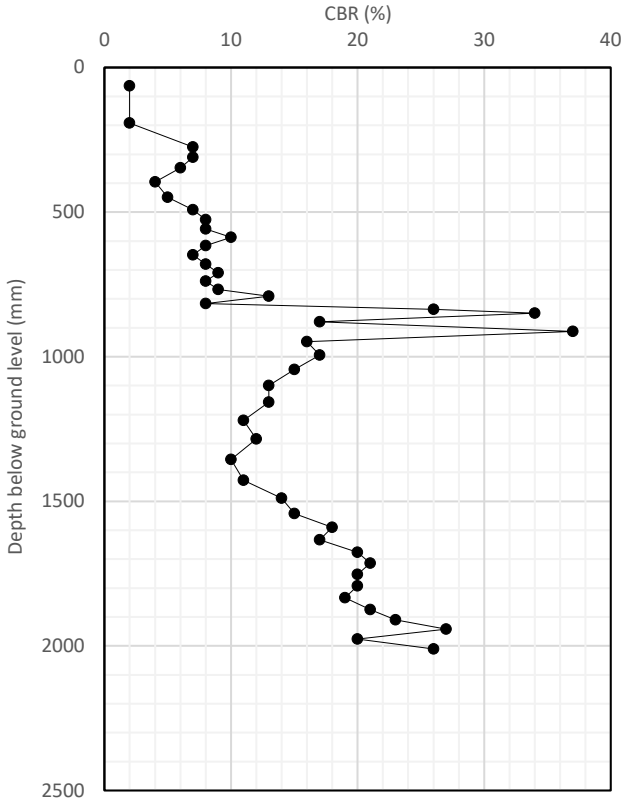
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD07
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	646065.9 E, 274190.0 N	**Ground Level**	18.31 m OD	**Test Date**	29/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	143	0	1	20	984	841	3	79	1956	1813
1	1	270	127	2	22	1000	857	3	82	1998	1855
1	2	401	258	3	25	1045	902	3	85	2036	1893
1	3	435	292	3	28	1067	924	3	88	2070	1927
1	4	471	328	3	31	1115	972	3	91	2099	1956
1	5	510	367	3	34	1161	1018	3	94	2139	1996
1	6	567	424	3	37	1214	1071	3	97	2169	2026
1	7	617	474	3	40	1271	1128				
1	8	653	510	3	43	1329	1186				
1	9	685	542	3	46	1397	1254				
1	10	717	574	3	49	1459	1316				
1	11	743	600	3	52	1537	1394				
1	12	775	632	3	55	1604	1461				
1	13	808	665	3	58	1660	1517				
1	14	838	695	3	61	1711	1568				
1	15	867	724	3	64	1754	1611				
1	16	897	754	3	67	1799	1656				
1	17	924	781	3	70	1839	1696				
1	18	944	801	3	73	1876	1733				
1	19	974	831	3	76	1916	1773				





Remarks

Fell under own weight 44mm.

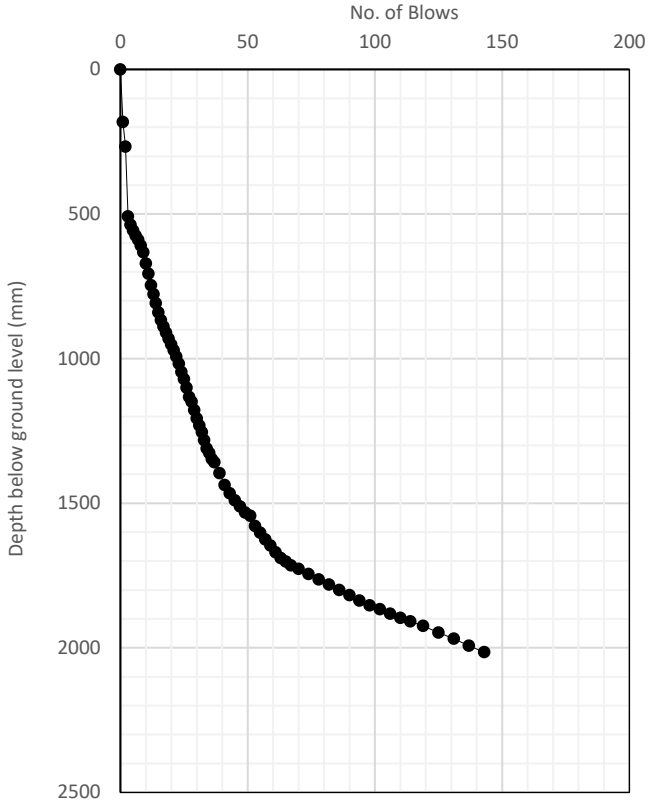
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

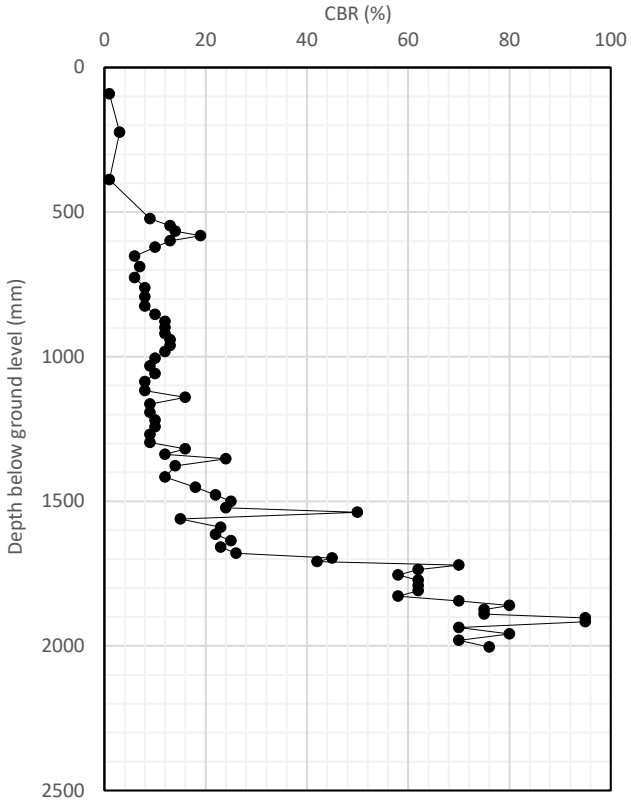
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD08
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	646262.9 E, 274231.9 N **Ground Level** 18.58 m OD	**Test Date**	13/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	123	0	1	20	1074	951	2	43	1589	1466
1	1	305	182	1	21	1094	971	2	45	1613	1490
1	2	390	267	1	22	1116	993	2	47	1634	1511
1	3	632	509	1	23	1141	1018	2	49	1656	1533
1	4	660	537	1	24	1169	1046	2	51	1667	1544
1	5	680	557	1	25	1194	1071	2	53	1702	1579
1	6	698	575	1	26	1224	1101	2	55	1725	1602
1	7	712	589	1	27	1256	1133	2	57	1749	1626
1	8	732	609	1	28	1272	1149	2	59	1770	1647
1	9	756	633	1	29	1301	1178	2	61	1793	1670
1	10	794	671	1	30	1330	1207	2	63	1813	1690
1	11	830	707	1	31	1354	1231	2	65	1825	1702
1	12	870	747	1	32	1378	1255	2	67	1838	1715
1	13	901	778	1	33	1405	1282	3	70	1850	1727
1	14	932	809	1	34	1434	1311	4	74	1868	1745
1	15	964	841	1	35	1450	1327	4	78	1887	1764
1	16	990	867	1	36	1471	1348	4	82	1905	1782
1	17	1012	889	1	37	1482	1359	4	86	1923	1800
1	18	1033	910	2	39	1519	1396	4	90	1941	1818
1	19	1054	931	2	41	1560	1437	4	94	1960	1837





Remarks

Fell under own weight 38mm.

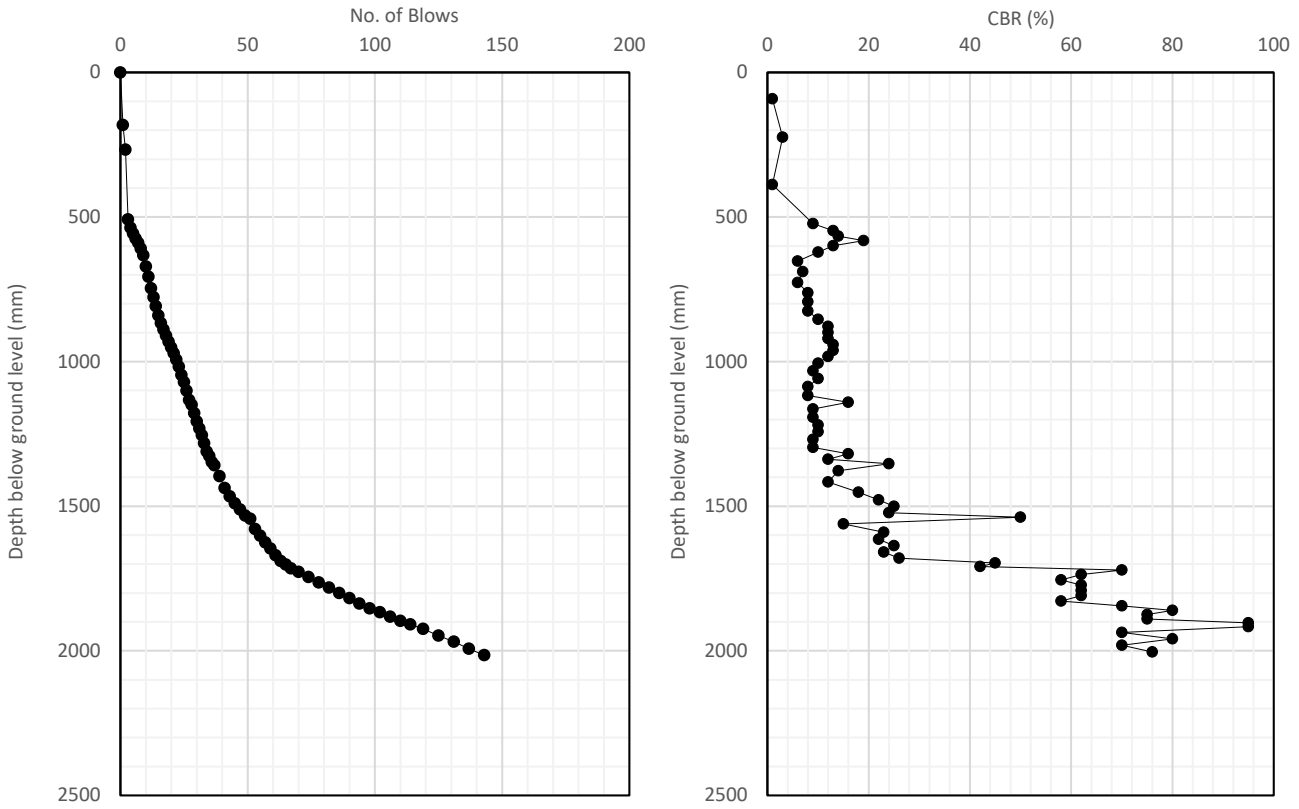
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD08
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	646262.9 E, 274231.9 N	**Ground Level**	18.58 m OD	**Test Date**	13/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	98	1976	1853								
4	102	1990	1867								
4	106	2005	1882								
4	110	2020	1897								
4	114	2032	1909								
5	119	2047	1924								
6	125	2071	1948								
6	131	2092	1969								
6	137	2116	1993								
6	143	2138	2015								



Remarks

Fell under own weight 38mm.

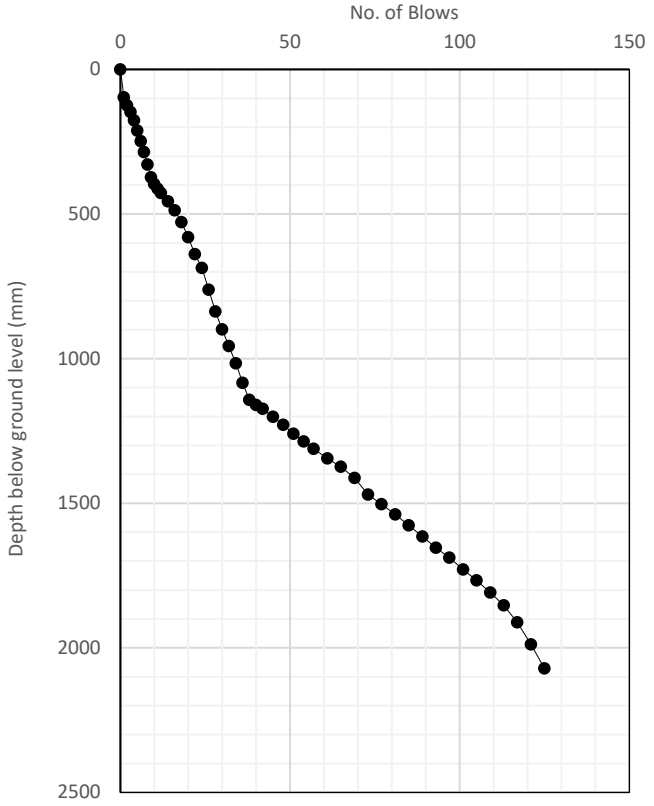
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

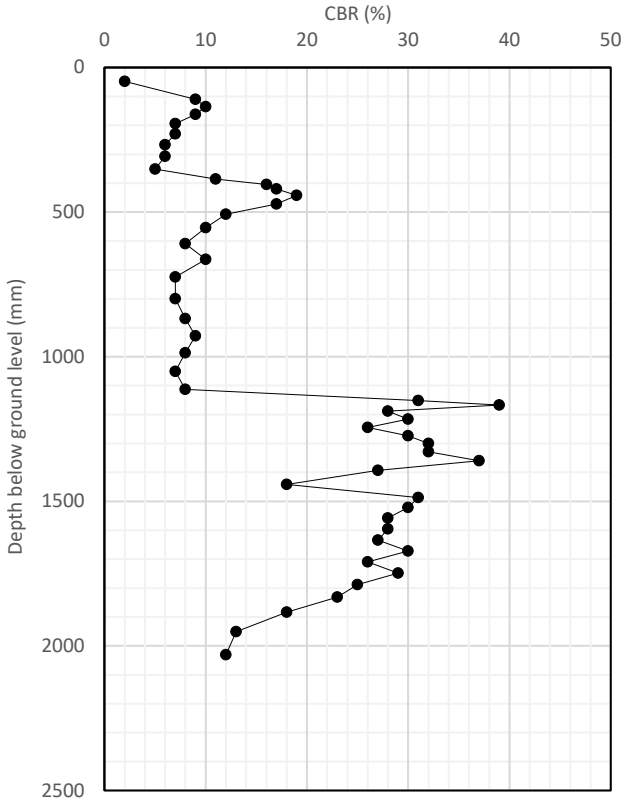
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD09
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	646457.9 E, 274275.1 N **Ground Level** 19.27 m OD	**Test Date**	29/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	128	0	2	28	965	837	4	89	1743	1615
1	1	225	97	2	30	1027	899	4	93	1782	1654
1	2	252	124	2	32	1085	957	4	97	1817	1689
1	3	276	148	2	34	1145	1017	4	101	1858	1730
1	4	304	176	2	36	1212	1084	4	105	1895	1767
1	5	340	212	2	38	1271	1143	4	109	1937	1809
1	6	376	248	2	40	1288	1160	4	113	1982	1854
1	7	414	286	2	42	1302	1174	4	117	2040	1912
1	8	457	329	3	45	1330	1202	4	121	2117	1989
1	9	502	374	3	48	1357	1229	4	125	2200	2072
1	10	525	397	3	51	1388	1260				
1	11	541	413	3	54	1415	1287				
1	12	556	428	3	57	1440	1312				
2	14	584	456	4	61	1473	1345				
2	16	615	487	4	65	1502	1374				
2	18	657	529	4	69	1541	1413				
2	20	708	580	4	73	1598	1470				
2	22	767	639	4	77	1632	1504				
2	24	815	687	4	81	1667	1539				
2	26	890	762	4	85	1705	1577				





Remarks

Fell under own weight 33mm.

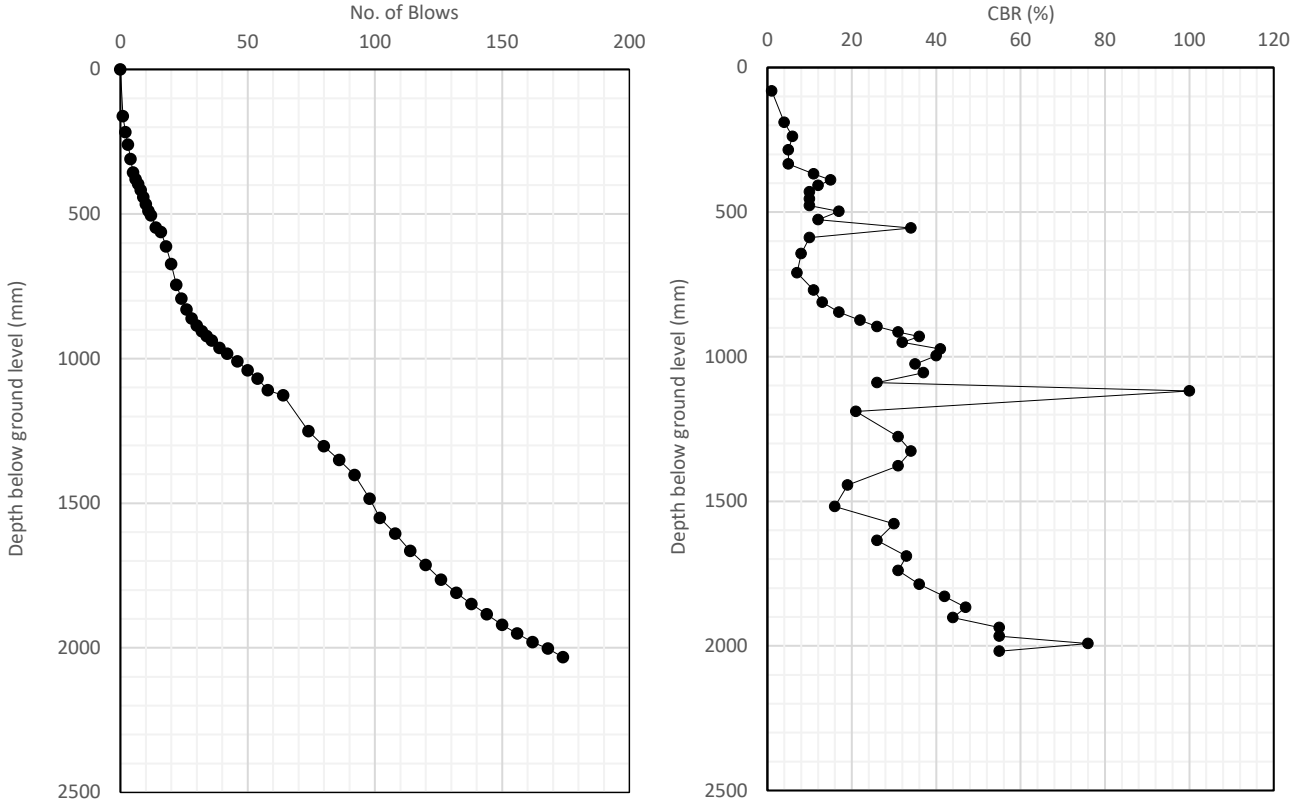
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD10
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	646556.0 E, 274296.1 N	**Ground Level**	19.39 m OD	**Test Date**	30/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	130	0	2	28	992	862	6	120	1844	1714
1	1	292	162	2	30	1016	886	6	126	1895	1765
1	2	347	217	2	32	1036	906	6	132	1940	1810
1	3	391	261	2	34	1053	923	6	138	1979	1849
1	4	440	310	2	36	1068	938	6	144	2014	1884
1	5	487	357	3	39	1093	963	6	150	2051	1921
1	6	510	380	3	42	1113	983	6	156	2081	1951
1	7	527	397	4	46	1140	1010	6	162	2111	1981
1	8	548	418	4	50	1171	1041	6	168	2133	2003
1	9	572	442	4	54	1200	1070	6	174	2163	2033
1	10	596	466	4	58	1240	1110				
1	11	620	490	6	64	1257	1127				
1	12	635	505	10	74	1381	1251				
2	14	677	547	6	80	1433	1303				
2	16	693	563	6	86	1481	1351				
2	18	743	613	6	92	1533	1403				
2	20	804	674	6	98	1615	1485				
2	22	876	746	4	102	1681	1551				
2	24	923	793	6	108	1735	1605				
2	26	961	831	6	114	1795	1665				



Remarks

Fell under own weight 53mm.

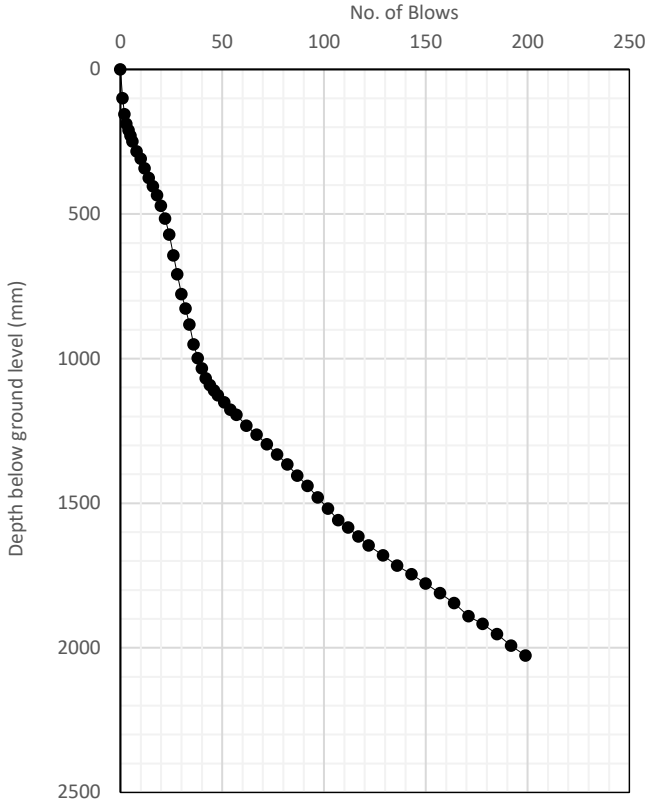
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

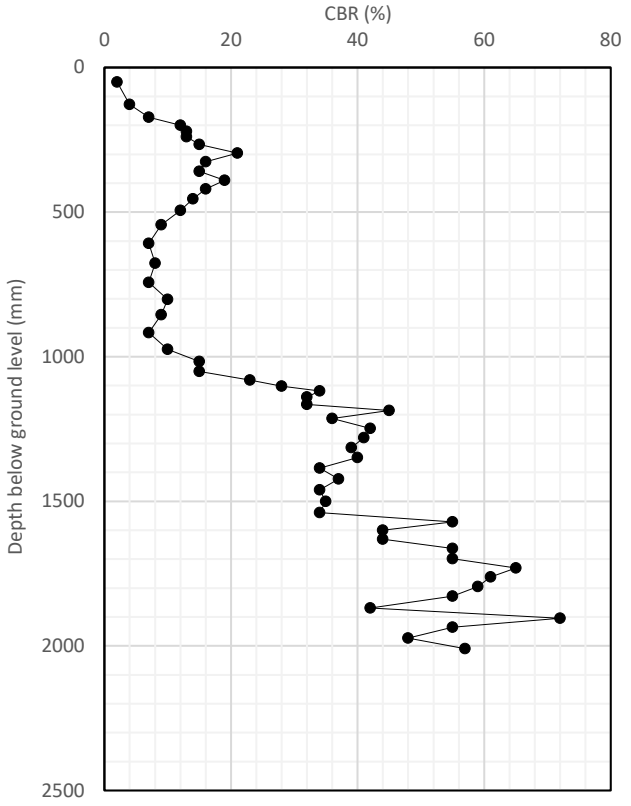
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD11
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	646749.1 E, 274337.9 N **Ground Level** 18.84 m OD	**Test Date**	30/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	2	34	1014	883	5	107	1690	1559
1	1	231	100	2	36	1082	951	5	112	1715	1584
1	2	286	155	2	38	1130	999	5	117	1746	1615
1	3	320	189	2	40	1165	1034	5	122	1777	1646
1	4	342	211	2	42	1200	1069	7	129	1812	1681
1	5	361	230	2	44	1223	1092	7	136	1847	1716
1	6	380	249	2	46	1242	1111	7	143	1877	1746
2	8	415	284	2	48	1258	1127	7	150	1909	1778
2	10	440	309	3	51	1283	1152	7	157	1942	1811
2	12	473	342	3	54	1308	1177	7	164	1977	1846
2	14	507	376	3	57	1326	1195	7	171	2022	1891
2	16	535	404	5	62	1363	1232	7	178	2049	1918
2	18	567	436	5	67	1395	1264	7	185	2084	1953
2	20	603	472	5	72	1428	1297	7	192	2124	1993
2	22	647	516	5	77	1463	1332	7	199	2158	2027
2	24	703	572	5	82	1497	1366				
2	26	775	644	5	87	1536	1405				
2	28	840	709	5	92	1572	1441				
2	30	908	777	5	97	1612	1481				
2	32	958	827	5	102	1650	1519				





Remarks

Fell under own weight 25mm.

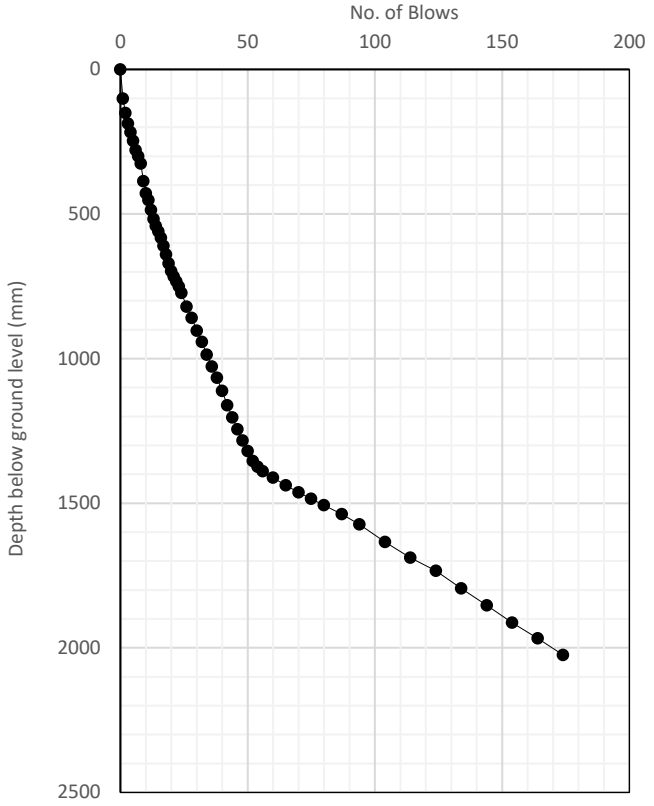
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

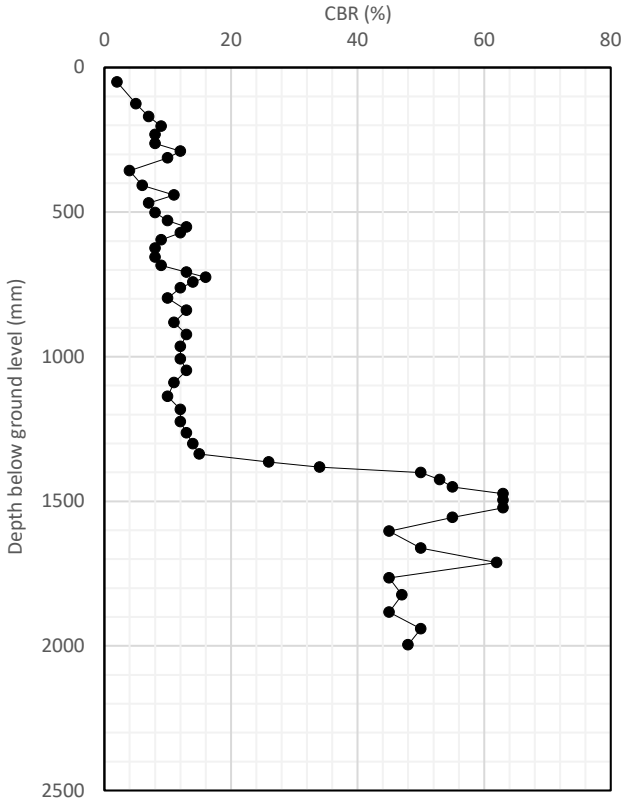
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD12
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	646944.9 E, 274380.9 N **Ground Level** 18.35 m OD	**Test Date**	30/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	121	0	1	20	819	698	2	56	1511	1390
1	1	222	101	1	21	838	717	4	60	1533	1412
1	2	272	151	1	22	854	733	5	65	1559	1438
1	3	309	188	1	23	872	751	5	70	1584	1463
1	4	338	217	1	24	894	773	5	75	1606	1485
1	5	368	247	2	26	942	821	5	80	1628	1507
1	6	400	279	2	28	980	859	7	87	1659	1538
1	7	421	300	2	30	1025	904	7	94	1694	1573
1	8	447	326	2	32	1064	943	10	104	1755	1634
1	9	508	387	2	34	1108	987	10	114	1810	1689
1	10	550	429	2	36	1149	1028	10	124	1855	1734
1	11	573	452	2	38	1188	1067	10	134	1916	1795
1	12	607	486	2	40	1233	1112	10	144	1974	1853
1	13	638	517	2	42	1283	1162	10	154	2034	1913
1	14	663	542	2	44	1325	1204	10	164	2089	1968
1	15	682	561	2	46	1366	1245	10	174	2146	2025
1	16	704	583	2	48	1404	1283				
1	17	731	610	2	50	1441	1320				
1	18	761	640	2	52	1475	1354				
1	19	792	671	2	54	1495	1374				





Remarks

Fell under own weight 29mm.

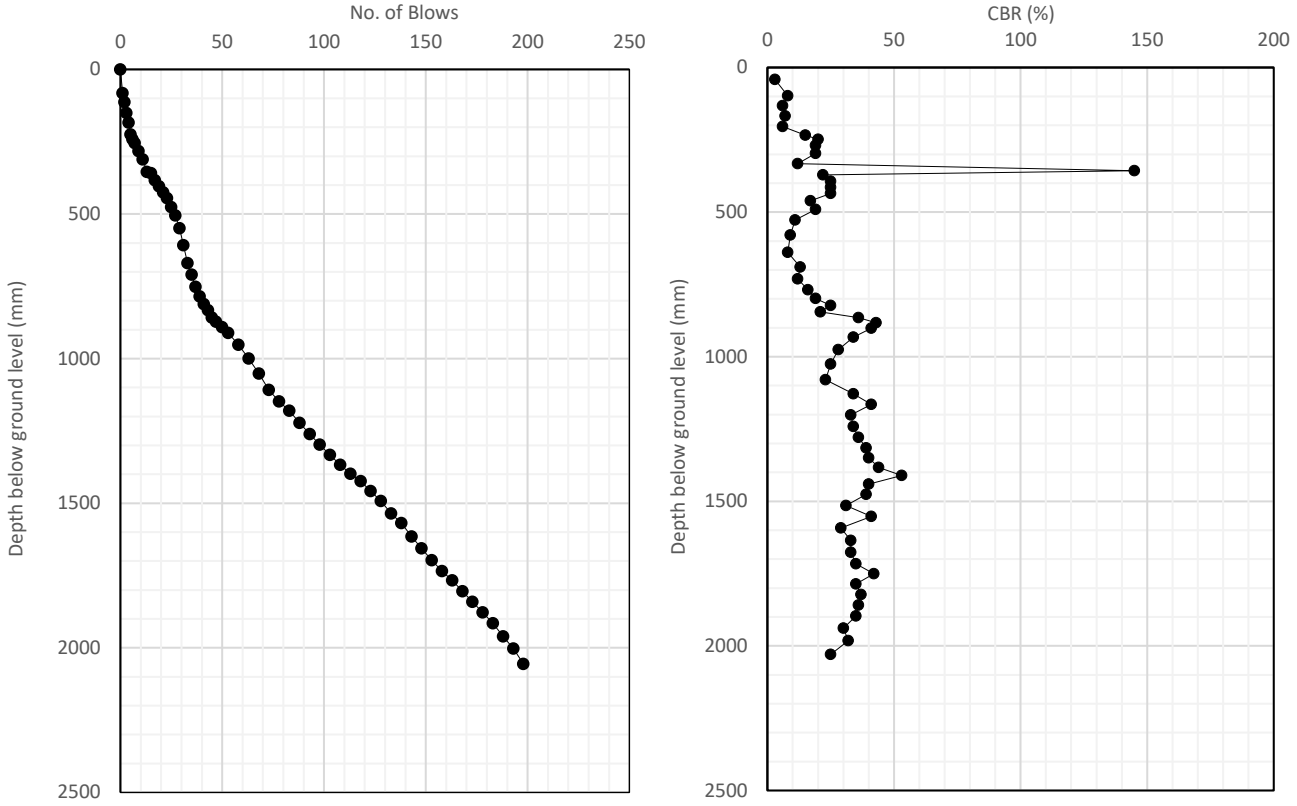
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD13
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	647140.1 E, 274423.1 N **Ground Level** 17.10 m OD	**Test Date**	31/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	2	33	802	670	5	108	1499	1367
1	1	214	82	2	35	842	710	5	113	1530	1398
1	2	245	113	2	37	884	752	5	118	1556	1424
1	3	283	151	2	39	917	785	5	123	1590	1458
1	4	316	184	2	41	944	812	5	128	1625	1493
1	5	357	225	2	43	965	833	5	133	1668	1536
1	6	374	242	2	45	990	858	5	138	1701	1569
1	7	387	255	2	47	1005	873	5	143	1747	1615
2	9	415	283	3	50	1024	892	5	148	1788	1656
2	11	443	311	3	53	1044	912	5	153	1829	1697
2	13	487	355	5	58	1084	952	5	158	1867	1735
2	15	491	359	5	63	1132	1000	5	163	1899	1767
2	17	515	383	5	68	1184	1052	5	168	1937	1805
2	19	536	404	5	73	1240	1108	5	173	1973	1841
2	21	557	425	5	78	1280	1148	5	178	2010	1878
2	23	578	446	5	83	1313	1181	5	183	2048	1916
2	25	609	477	5	88	1354	1222	5	188	2093	1961
2	27	637	505	5	93	1393	1261	5	193	2135	2003
2	29	682	550	5	98	1430	1298	5	198	2188	2056
2	31	740	608	5	103	1465	1333				



Remarks

Fell under own weight 26mm.

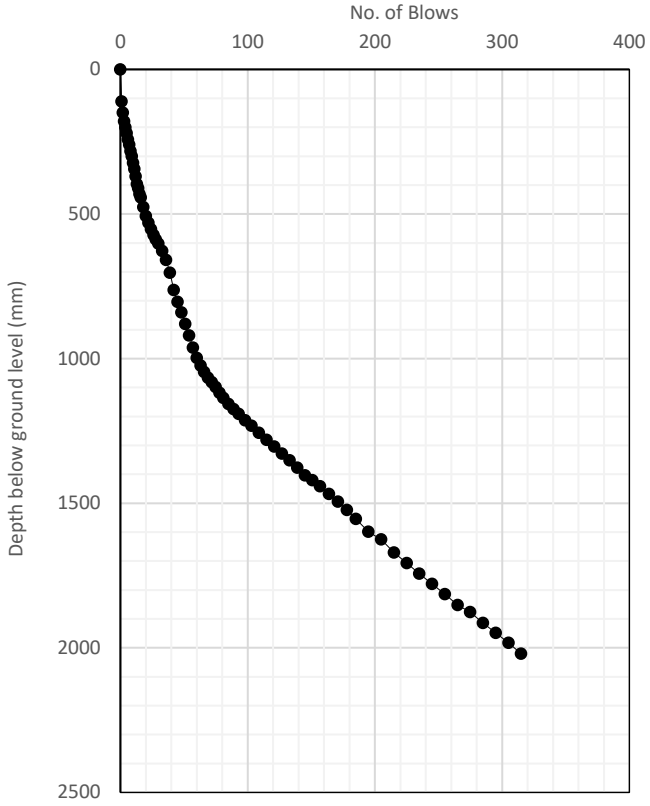
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

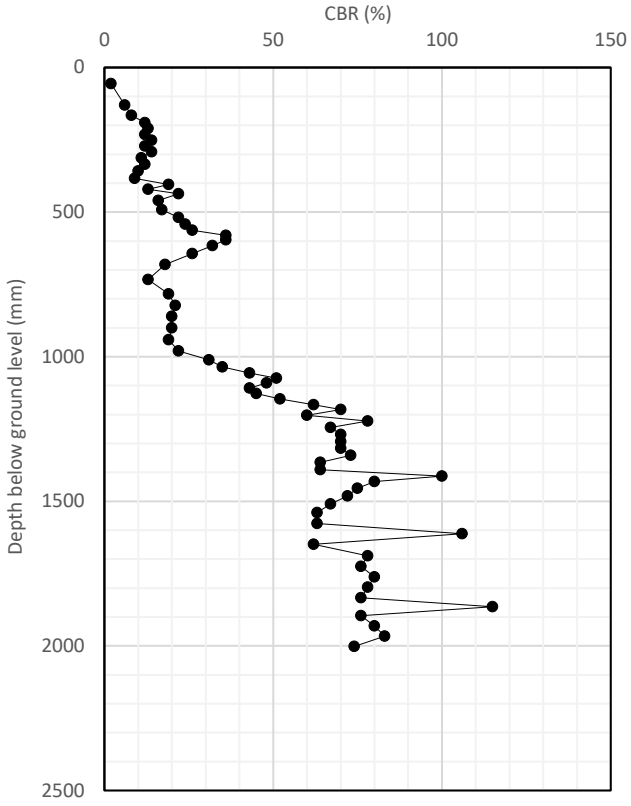
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD14
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	648541.5 E, 274527.1 N **Ground Level** 12.74 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	2	24	684	553	3	81	1267	1136
1	1	242	111	2	26	704	573	4	85	1288	1157
1	2	281	150	2	28	719	588	4	89	1306	1175
1	3	311	180	2	30	734	603	4	93	1322	1191
1	4	332	201	3	33	759	628	5	98	1345	1214
1	5	352	221	3	36	790	659	5	103	1363	1232
1	6	374	243	3	39	834	703	6	109	1388	1257
1	7	392	261	3	42	894	763	6	115	1412	1281
1	8	414	283	3	45	935	804	6	121	1436	1305
1	9	432	301	3	48	972	841	6	127	1460	1329
1	10	455	324	3	51	1011	880	6	133	1483	1352
1	11	476	345	3	54	1051	920	6	139	1509	1378
1	12	501	370	3	57	1093	962	6	145	1535	1404
1	13	528	397	3	60	1129	998	6	151	1552	1421
1	14	542	411	3	63	1155	1024	6	157	1573	1442
1	15	562	431	3	66	1178	1047	7	164	1599	1468
1	16	574	443	3	69	1197	1066	7	171	1626	1495
2	18	607	476	3	72	1213	1082	7	178	1655	1524
2	20	638	507	3	75	1230	1099	7	185	1686	1555
2	22	662	531	3	78	1249	1118	10	195	1730	1599





Remarks

Fell under own weight 21mm.

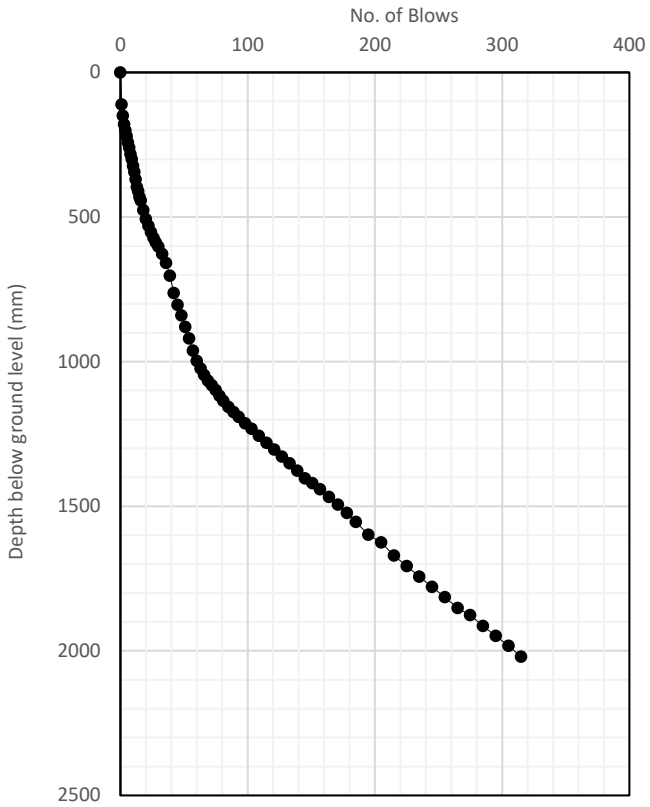
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

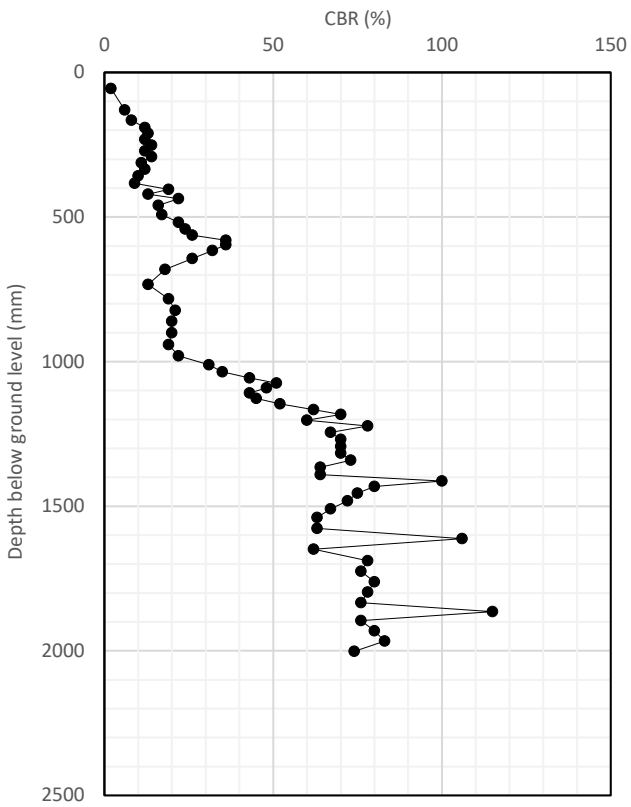
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD14
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	648541.5 E, 274527.1 N	**Ground Level**	12.74 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
10	205	1757	1626								
10	215	1802	1671								
10	225	1838	1707								
10	235	1875	1744								
10	245	1910	1779								
10	255	1946	1815								
10	265	1983	1852								
10	275	2008	1877								
10	285	2045	1914								
10	295	2080	1949								
10	305	2114	1983								
10	315	2152	2021								





Remarks

Fell under own weight 21mm.

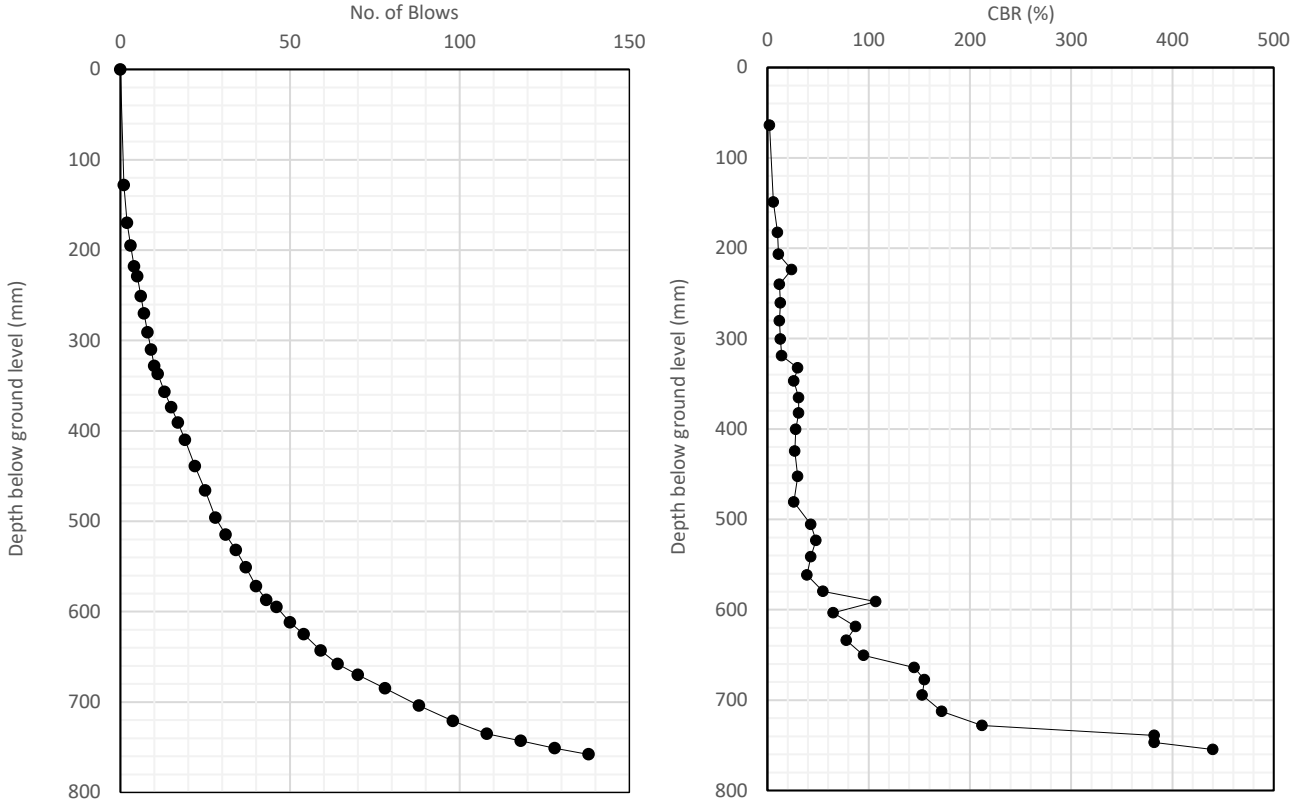
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD15
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	648694.3 E, 274418.6 N **Ground Level** 11.96 m OD	**Test Date**	11/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	3	34	663	532				
1	1	259	128	3	37	682	551				
1	2	301	170	3	40	703	572				
1	3	326	195	3	43	718	587				
1	4	349	218	3	46	726	595				
1	5	360	229	4	50	743	612				
1	6	382	251	4	54	756	625				
1	7	401	270	5	59	774	643				
1	8	422	291	5	64	789	658				
1	9	441	310	6	70	801	670				
1	10	459	328	8	78	816	685				
1	11	468	337	10	88	835	704				
2	13	488	357	10	98	852	721				
2	15	505	374	10	108	866	735				
2	17	522	391	10	118	874	743				
2	19	541	410	10	128	882	751				
3	22	570	439	10	138	889	758				
3	25	597	466								
3	28	627	496								
3	31	646	515								



Remarks

Fell under own weight 42mm. Refused at 0.76m bgl.

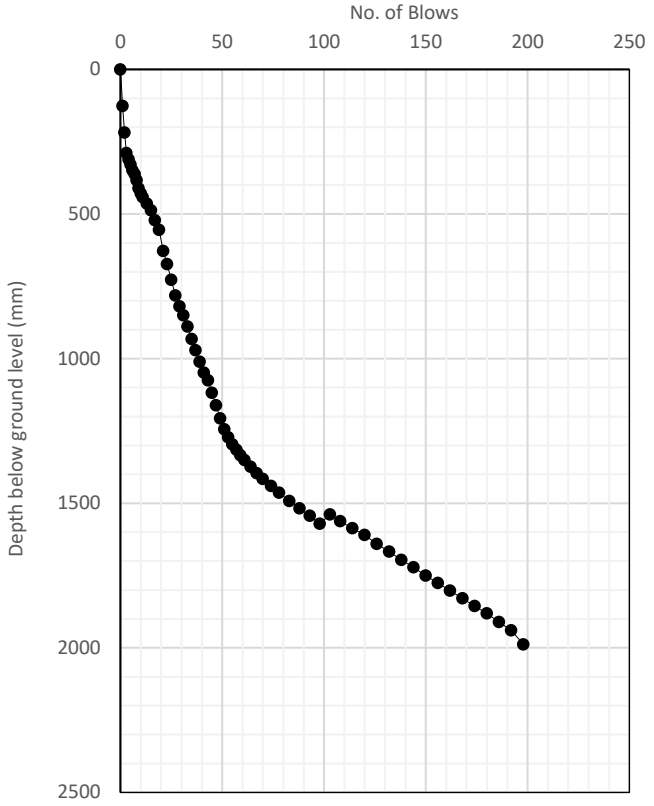
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

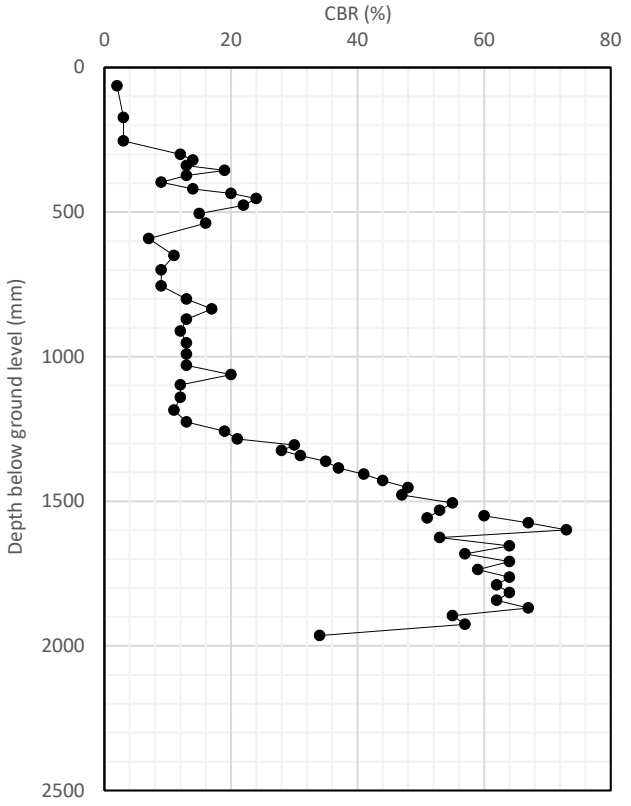
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD16
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	648897.0 E, 274396.0 N **Ground Level** 9.21 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	2	29	952	820	4	74	1573	1441
1	1	259	127	2	31	983	851	4	78	1596	1464
1	2	351	219	2	33	1021	889	5	83	1625	1493
1	3	421	289	2	35	1065	933	5	88	1650	1518
1	4	443	311	2	37	1103	971	5	93	1676	1544
1	5	461	329	2	39	1143	1011	5	98	1703	1571
1	6	481	349	2	41	1181	1049	5	103	1671	1539
1	7	495	363	2	43	1207	1075	5	108	1694	1562
1	8	515	383	2	45	1251	1119	6	114	1719	1587
1	9	543	411	2	47	1294	1162	6	120	1742	1610
1	10	561	429	2	49	1339	1207	6	126	1773	1641
1	11	574	442	2	51	1377	1245	6	132	1799	1667
2	13	596	464	2	53	1404	1272	6	138	1828	1696
2	15	620	488	2	55	1429	1297	6	144	1854	1722
2	17	654	522	2	57	1447	1315	6	150	1882	1750
2	19	687	555	2	59	1466	1334	6	156	1908	1776
2	21	760	628	2	61	1483	1351	6	162	1935	1803
2	23	805	673	3	64	1506	1374	6	168	1961	1829
2	25	860	728	3	67	1528	1396	6	174	1988	1856
2	27	914	782	3	70	1548	1416	6	180	2013	1881





Remarks

Fell under own weight 51mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD16
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	648897.0 E, 274396.0 N	**Ground Level**	9.21 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl

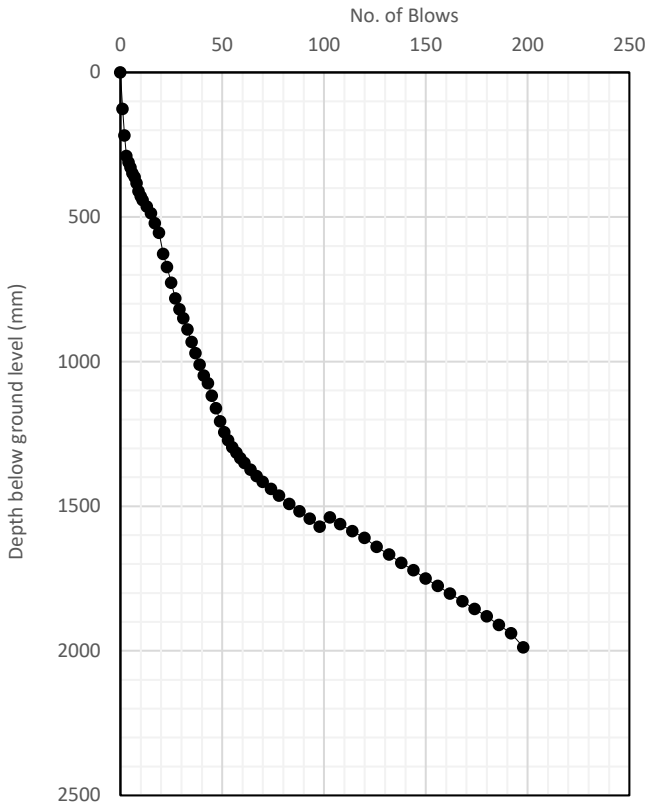
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
6	186	2043	1911
6	192	2072	1940
6	198	2120	1988

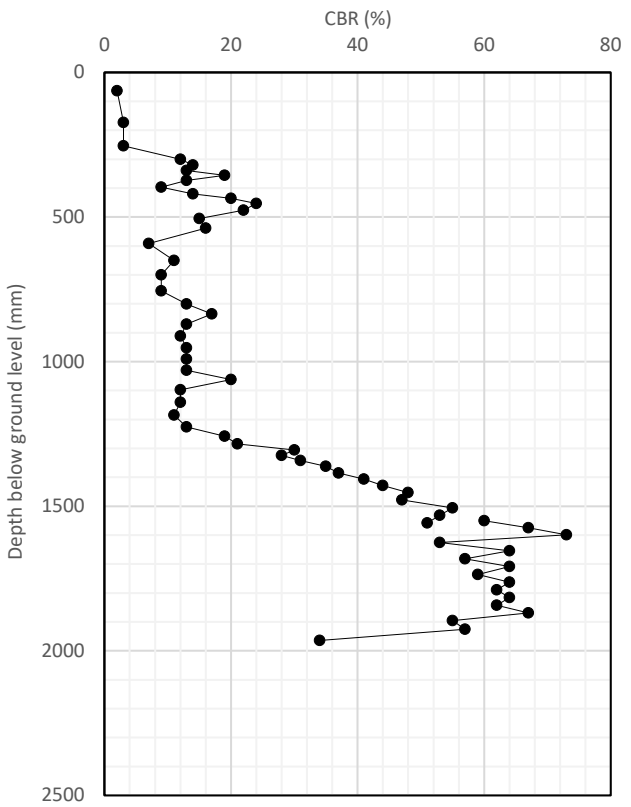
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 51mm.

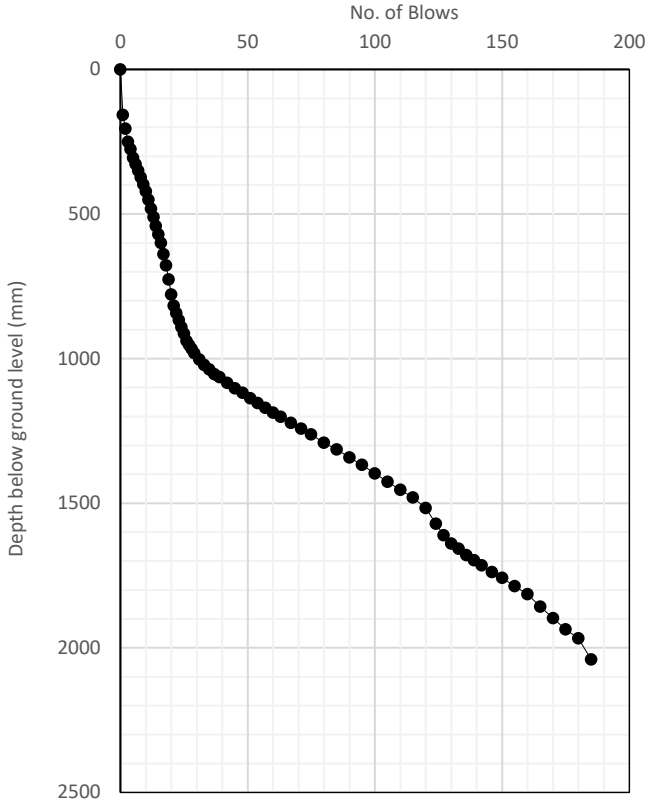
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

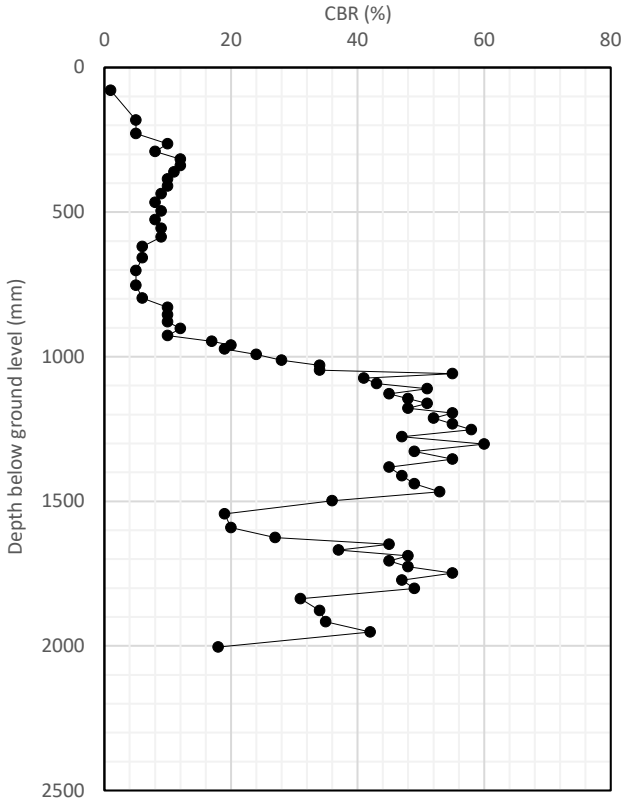
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD17
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	648997.8 E, 274380.4 N	**Ground Level**	8.55 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	136	0	1	20	915	779	3	57	1306	1170
1	1	294	158	1	21	953	817	3	60	1323	1187
1	2	341	205	1	22	979	843	3	63	1338	1202
1	3	387	251	1	23	1003	867	4	67	1359	1223
1	4	412	276	1	24	1028	892	4	71	1379	1243
1	5	442	306	1	25	1050	914	4	75	1398	1262
1	6	464	328	1	26	1075	939	5	80	1427	1291
1	7	486	350	1	27	1090	954	5	85	1450	1314
1	8	509	373	1	28	1103	967	5	90	1478	1342
1	9	534	398	1	29	1117	981	5	95	1503	1367
1	10	558	422	2	31	1139	1003	5	100	1533	1397
1	11	587	451	2	33	1158	1022	5	105	1562	1426
1	12	618	482	2	35	1174	1038	5	110	1590	1454
1	13	647	511	2	37	1190	1054	5	115	1616	1480
1	14	678	542	2	39	1200	1064	5	120	1653	1517
1	15	707	571	3	42	1220	1084	4	124	1707	1571
1	16	736	600	3	45	1239	1103	3	127	1747	1611
1	17	775	639	3	48	1255	1119	3	130	1776	1640
1	18	814	678	3	51	1273	1137	3	133	1794	1658
1	19	863	727	3	54	1290	1154	3	136	1816	1680





Remarks

Fell under own weight 45mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD17
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	648997.8 E, 274380.4 N	**Ground Level**	8.55 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl

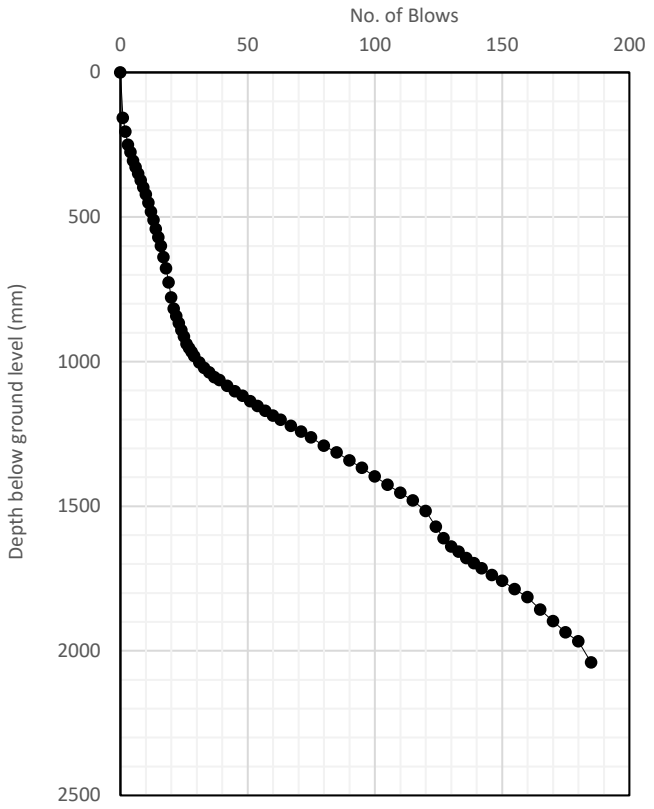
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
3	139	1833	1697
3	142	1851	1715
4	146	1874	1738
4	150	1894	1758
5	155	1923	1787
5	160	1951	1815
5	165	1994	1858
5	170	2034	1898
5	175	2072	1936
5	180	2104	1968
5	185	2177	2041

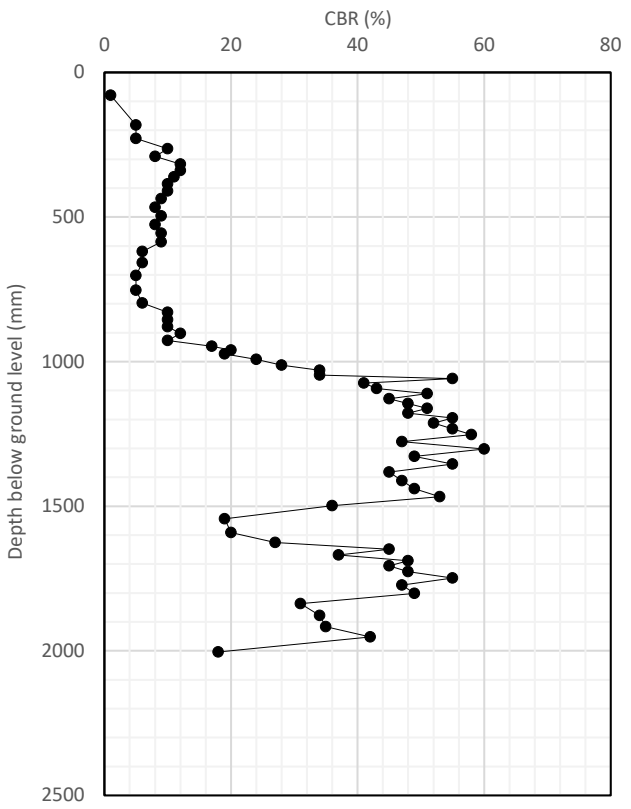
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 45mm.

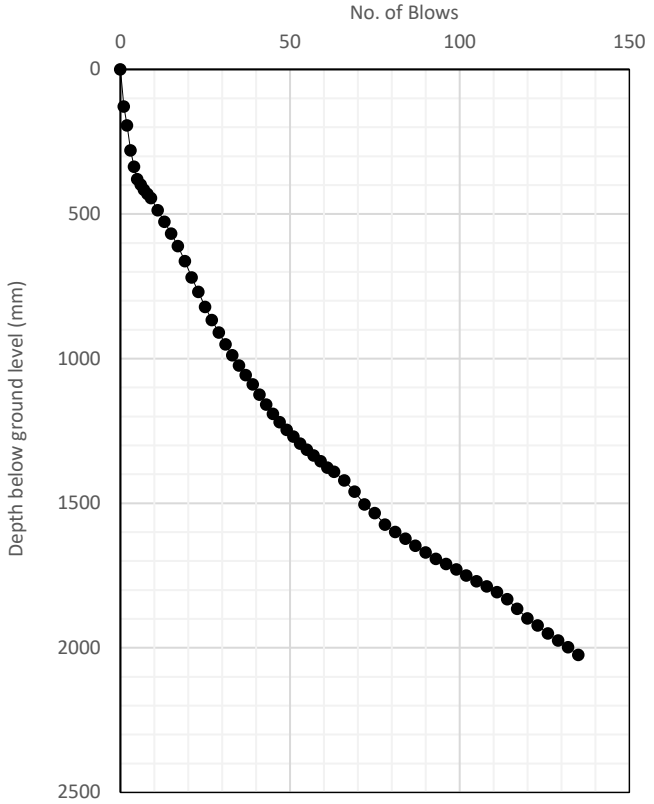
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

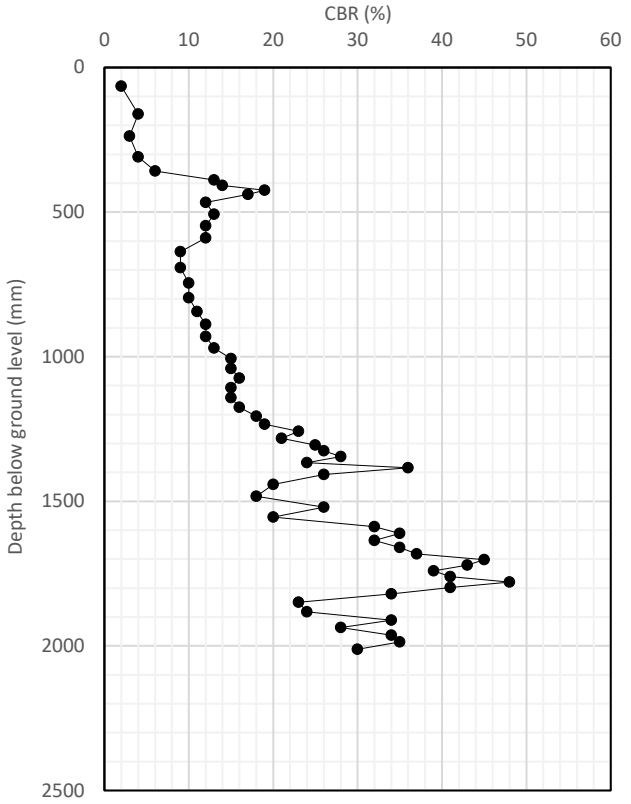
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D	**Location No.**	TPD18
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	649131.9 E, 274402.8 N **Ground Level** 8.94 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	143	0	2	31	1094	951	3	75	1678	1535
1	1	272	129	2	33	1132	989	3	78	1718	1575
1	2	337	194	2	35	1167	1024	3	81	1743	1600
1	3	424	281	2	37	1201	1058	3	84	1766	1623
1	4	480	337	2	39	1233	1090	3	87	1791	1648
1	5	523	380	2	41	1268	1125	3	90	1814	1671
1	6	542	399	2	43	1302	1159	3	93	1836	1693
1	7	560	417	2	45	1334	1191	3	96	1854	1711
1	8	574	431	2	47	1363	1220	3	99	1873	1730
1	9	589	446	2	49	1390	1247	3	102	1894	1751
2	11	630	487	2	51	1413	1270	3	105	1914	1771
2	13	670	527	2	53	1438	1295	3	108	1931	1788
2	15	711	568	2	55	1459	1316	3	111	1951	1808
2	17	754	611	2	57	1479	1336	3	114	1975	1832
2	19	807	664	2	59	1498	1355	3	117	2009	1866
2	21	863	720	2	61	1520	1377	3	120	2042	1899
2	23	913	770	2	63	1535	1392	3	123	2066	1923
2	25	965	822	3	66	1565	1422	3	126	2094	1951
2	27	1010	867	3	69	1604	1461	3	129	2118	1975
2	29	1053	910	3	72	1648	1505	3	132	2141	1998





Remarks

Fell under own weight 28mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Section D			**Location No.**	TPD18
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	649131.9 E, 274402.8 N	**Ground Level**	8.94 m OD	**Test Date**	12/09/2024

Test started at	0.00m bgl

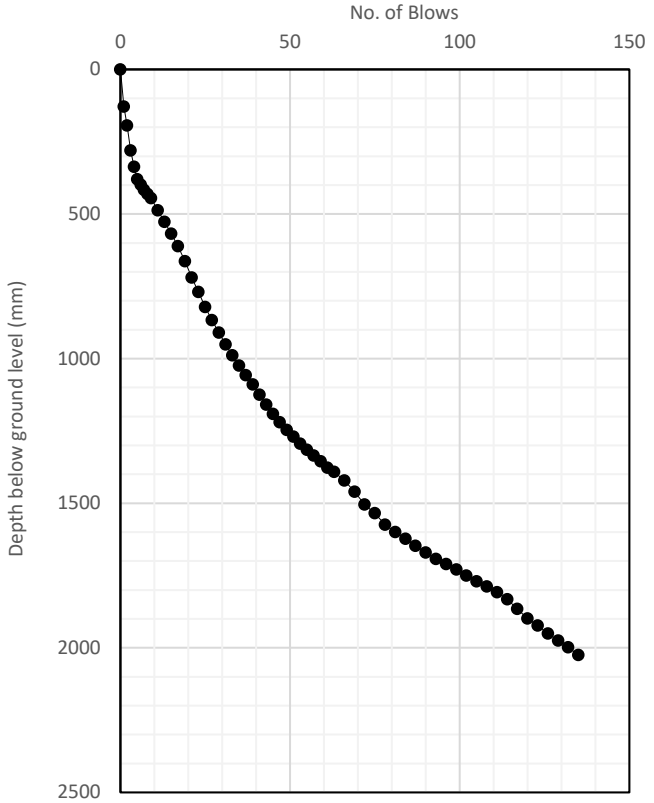
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	135	2168	2025

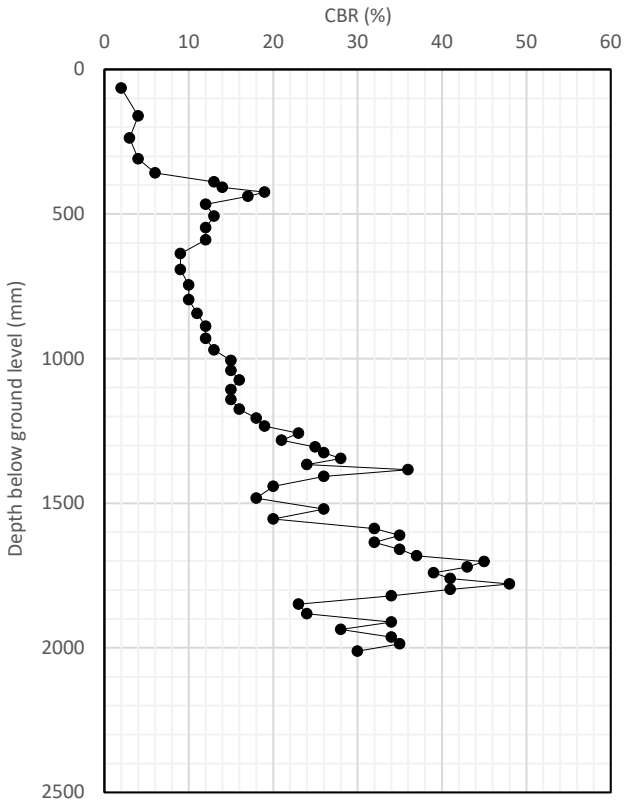
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 28mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

APPENDIX 8

Thermal Resistivity Test Results

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Section D

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPD02	0.60	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.7	**1.82**	**0.55**
	0.60	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.7	**1.42**	**0.70**
	1.50	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.3	**1.72**	**0.58**
TPD03	0.60	21/10/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.3	**1.53**	**0.65**
	0.60	21/10/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.24**	**0.81**
	1.50	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.2	**1.49**	**0.67**
TPD04	0.60	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.69**	**0.59**
	0.60	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.40**	**0.71**
	1.50	21/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.2	**1.34**	**0.75**
TPD05	0.60	28/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.5	**0.95**	**1.05**
	0.60	28/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.6	**1.01**	**0.99**
	1.50	28/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.3	**0.90**	**1.11**
TPD06	0.60	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.25**	**0.80**
	0.60	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.46**	**0.68**
	1.50	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.3	**0.75**	**1.33**
TPD07	0.60	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.8	**0.95**	**1.05**
	0.60	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.61**	**0.62**
	1.50	29/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.5	**1.41**	**0.71**
TPD08	0.60	13/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.59**	**0.63**
	0.60	13/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.5	**1.93**	**0.52**
	1.50	13/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.2	**1.73**	**0.58**
TPD09	0.60	29/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.71**	**0.59**
	0.60	29/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.8	**1.71**	**0.59**
	1.50	29/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.3	**0.92**	**1.08**

GEOTECHNICS
BUILD ON CONFIDENCE

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Section D

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m³)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPD10	0.60	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.97**	**0.51**
	0.60	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.33**	**0.75**
	1.50	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.4	**1.41**	**0.71**
TPD11	0.60	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.1	**2.62**	**0.38**
	0.60	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.0	**1.26**	**0.79**
	1.50	30/10/2024	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.1	**1.44**	**0.69**
TPD12	0.60	30/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.8	**1.14**	**0.88**
	0.60	30/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.9	**0.72**	**1.39**
	1.50	30/10/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.90**	**0.53**
TPD13	0.60	31/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.7	**2.75**	**0.36**
	0.60	31/10/2024	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.7	**2.83**	**0.35**
	1.50	31/10/2024	JC	Slightly gravelly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.82**	**0.55**
TPD14	0.60	12/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**1.63**	**0.61**
	0.60	12/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**0.96**	**1.04**
	1.50	12/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.5	**1.35**	**0.74**
TPD15	0.60	11/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.6	**0.84**	**1.20**
	0.60	11/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.0	**1.00**	**1.00**
	1.50	11/09/2024	JC	Slightly gravelly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.3	**1.94**	**0.51**
TPD16	0.60	12/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.07**	**0.93**
	0.60	12/09/2024	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.8	**0.80**	**1.26**
	1.50	12/09/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.6	**1.22**	**0.82**
TPD17	0.60	12/09/2024	JC	Slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.0	**1.59**	**0.63**
	0.60	12/09/2024	JC	Slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.1	**1.41**	**0.71**
	1.50	12/09/2024	JC	Slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.9	**1.61**	**0.62**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Section D

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPD18	0.60	12/09/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.6	**1.04**	**0.96**
	0.60	12/09/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**1.00**	**1.00**
	1.50	12/09/2024	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.0	**1.66**	**0.60**

APPENDIX 9

Monitoring Results

FIELDWORK - *Water Level Monitoring*

Project Lionlink - Cable Route Section D **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 1

Location ID		**BHD02**		**BHD05**		**BHD06**							
Instrument diameter		50 mm		50 mm		50 mm							
Depth to base (m bgl)		15.00		20.00		10.00							
Filter zone (m bgl)		2.00 - 15.40		7.00 - 20.45		2.00 - 10.00							
Level (m OD)		19.16		14.07		12.69							
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)						
21 Nov 2024		DRY		12.16	1.91	DRY							
02 Dec 2024		DRY		12.17	1.90	DRY							
13 Jan 2025		DRY		12.21	1.86	DRY							
21 Jan 2025		DRY				DRY							
30 Jan 2025				12.27	1.80								
13 Feb 2025		DRY		12.25	1.82	DRY							

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Section D	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHD02	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	2.00 - 15.40	**Cover Type**	Upright lockable
Date Installed	24/10/2024	**Ground Level (m OD)**	19.16

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		0.2	<0.1	<0.1	<0.1	2.4	2.4	18.1	18.1	1	<1		-2.0	998	1	Gas Data GFM435	Frozen	Still	Cloudy	None	Falling	DRY	14.13	
02/12/2024		-6.4	-6.2	<0.1	<0.1	0.2	0.2	20.3	20.3	<1	<1		7.0	1008	-49	Gas Data GFM435	Moist	Light	Cloudy	None	Rising	DRY	14.46	
13/01/2025		7.2	6.4	<0.1	<0.1	2.1	2.1	17.5	17.5	<1	<1		5.0	1032	60	Gas Data GFM436	Dry	Light	Cloudy	None	Steady	DRY	14.38	
21/01/2025		-2.6	-2.5	<0.1	<0.1	0.7	0.7	18.2	18.2	<1	<1		4.0	1012	-12	Gas Data GFM436	Moist	Light	Overcast	None	Falling	DRY	14.39	
13/02/2025		-6.1	-6.0	<0.1	<0.1	<0.1	<0.1	18.8	18.8	2	<1		5.0	1020	-47	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	DRY	14.38	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Section D	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHD05	**Installation Type**	Standpipe
Depth to Base (m bgl)	20.00	**Diameter**	50mm
Filter Zone	7.00 - 20.45	**Cover Type**	Upright lockable
Date Installed	23/10/2024	**Ground Level (m OD)**	14.07

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		<0.1	<0.1	<0.1	<0.1	1.2	1.2	18.3	18.3	1	<1		-1.0	997	<1	Gas Data GFM435	Frozen	Still	Cloudy	None	Falling	12.16	17.97	
02/12/2024		-0.2	<0.1	<0.1	<0.1	1.9	1.9	18.0	18.0	<1	<1		7.0	1008	<1	Gas Data GFM435	Moist	Light	Cloudy	None	Rising	12.17	18.38	
13/01/2025		<0.1	<0.1	<0.1	<0.1	2.3	2.2	16.8	16.8	<1	<1		5.0	1032	<1	Gas Data GFM436	Dry	Light	Cloudy	None	Steady	12.21	17.99	
30/01/2025		-1.7	-1.7	<0.1	<0.1	0.2	<0.1	17.4	17.4	1	<1		5.0	1019	-8	Gas Data GFM436	Moist	Still	None	None	Rising	12.27	17.48	
13/02/2025		-1.2	-1.2	<0.1	<0.1	0.8	0.8	17.9	17.9	<1	<1		5.0	1020	-4	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	12.25	17.21	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Section D	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHD06	**Installation Type**	Standpipe
Depth to Base (m bgl)	10.00	**Diameter**	50mm
Filter Zone	2.00 - 10.00	**Cover Type**	Upright lockable
Date Installed	22/10/2024	**Ground Level (m OD)**	12.69

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		<0.1	<0.1	<0.1	<0.1	0.9	0.9	19.3	19.3	1	<1		-2.0	997	<1	Gas Data GFM435	Frozen	Still	Cloudy	None	Falling	DRY	9.90	
02/12/2024		<0.1	<0.1	<0.1	<0.1	0.7	0.7	19.8	19.8	<1	<1		7.0	1009	<1	Gas Data GFM435	Moist	Light	Cloudy	None	Rising	DRY	9.94	
13/01/2025		1.5	1.2	<0.1	<0.1	0.6	0.6	18.7	18.7	<1	<1		5.0	1032	7	Gas Data GFM436	Dry	Light	Cloudy	None	Steady	DRY	9.89	
21/01/2025		-1.5	-1.5	<0.1	<0.1	0.7	0.6	18.2	18.2	<1	<1		4.0	1013	-7	Gas Data GFM436	Moist	Light	Overcast	None	Falling	DRY	9.89	
13/02/2025		-3.6	-3.6	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		5.0	1021	-20	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	DRY	9.91	

Project	Lionlink - Cable Route Section D	**Client**	National Grid Ventures	**Project No.**	PC248770
		Instrument used	Gas Data GFM436		

Meteorological Conditions:

Location ID	Pipe Ref.	Installation Diameter (mm)	Date of Reading	pH	Temperature (°C)	Electrical Conductivity (µs/cm)	Electrical Resistivity (MΩ-cm)	DO Sat. (%)	DO Conc. (mg/l)	ORP (mV)	Salinity (PSU)	Turbidity (FNU)	Total Dissolved Solids (ppm)	Odour	Colour	Sheen	LNAPL (mm)	DNAPL (mm)	Depth to Water (m bgl)	Depth to Base (m)	Remarks
BHD02	1	50	13/02/2025																DRY	14.38	
BHD05	1	50	30/01/2025	11.5	10.14	919			8.38	-76									12.27	17.48	
BHD06	1	50	13/02/2025																DRY	9.91	

APPENDIX 10

Decommissioning Records

DECOMMISSIONING RECORD

Project: Lionlink - Cable Route Section D

Project Number: PC248770

Client: National Grid Ventures

Hole ID	Date	Depth to Water (m bgl)	Depth to Base (m bgl)	Response Zone (m bgl)	Cover Type	Pipe Diameter (mm)	Volume of Bentonite pelets used to fill instalation (Litres)	Pit Dimensions (m)	Pit Depth (m)	Level Pipe Cut (m)	Backfill details	Cover and fencing removed	Remarks	Operatives Name
BHD02	12/03/2025	DRY	14.42	2.00-15.40	Raised	50	17	0.5x0.5	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHD05	08/04/2025	12.33	17.49	7.00-20.45	Raised	50	20	0.5x0.5	1.20	3.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHD06	08/04/2025	DRY	9.96	2.00-10.00	Raised	50	14	0.4x0.4	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE

APPENDIX 11

Laboratory Test Results - Geotechnical

APPENDIX 11

DATA SHEET - Laboratory Test Symbols

Classification and Strength

Symbol	**C - Clay** **M - Silt** (0 - containing organic matter)
	Plasticity L - Low I - Intermediate H - High V - Very High E - Extremely High
Ip	Plasticity Index
%	% retained on 425 µm sieve, shown under Ip value
w_L	Liquid Limit
w_P	Plastic Limit
NP	Non-Plastic
NAT	Sample tested in natural state
w	Water Content
P_d	Particle Density
Test	**Quick undrained triaxial tests** SS Single stage - 102mm diameter. S3 Single stage - set of 3 38mm diameter. MS Multistage - 102mm diameter. D Drained Test HV Hand Vane PP Pocket Penetrometer (kg/cm²) NST Not suitable for test
γ_b	Bulk Density
σ_3	Triaxial Cell Pressure
$\sigma_1 - \sigma_3$	Deviator Stress
##	Excessive Strain
c_u	Undrained Cohesion
c	Cohesion Intercept
ϕ	Angle of Shearing Resistance
Linear Shrink	Linear Shrinkage
Stab add-	Stabiliser which is added

Consolidation

m_v	Coefficient of Volume Compressibility
c_{v50}	Coefficient of Consolidation - Log t
c_{v90}	Coefficient of Consolidation - $\sqrt{t}$

Rock

UF	Unacceptable Failure

Chemical Analysis

Acid Soluble	Total sulphate in specimen, expressed as SO_3 %, value in brackets expressed as SO_4 %
Water Soluble	Soluble sulphate in 2:1 water : soil extract, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
In Water	Sulphate content of groundwater, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
pH	pH value
Organic content	Organic content expressed as a percentage of dry weight
Chloride	Chloride Ion content expressed as a percentage of dry weight

MCV, Compaction, CBR

MCV	Moisture Condition Value at natural water content
MCC	Moisture Condition Calibration
CCV	Chalk Crushing Value
Compaction	
Type	2.5 = 2.5 kg Rammer 4.5 = 4.5 kg Rammer V = Vibrating Hammer
γ_b	Bulk Density
γ_d	Dry Density
CBR California Bearing Ratio	
Type	2.5 = Test on Specimen Recompacted using 2.5 kg Rammer 4.5 = As above but using 4.5 kg Rammer V = As above but using Vibrating Hammer M = Test on open drive mould specimen cut in field S = Soaked Specimen
Top	CBR at top of mould
Bottom	CBR at bottom of mould
ND	None Detected
*	In the Sample Description denotes a laboratory only description

Laboratory Test Certificate

Issued from:	Geotechnics Ltd The Geotechnical Centre 203 Torrington Avenue Tile Hill Coventry, CV4 9AP	**Date of issue**	24/01/2025
		Issue No.	1
		Client Ref. No.	N/A
		Samples / Material Source	
		Samples Recv'd	02/10/2024
Testing Start Date	24/10/2024	Sample State	As received
Testing Complete	22/01/2025	Sampled by	Geotechnics Limited
Comments	*Specimen descriptions, opinions or interpretations are outside the scope of UKAS accreditation.* *The results within this report(s) relate only to the samples tested as received from the customer.* *The reports shall not be reproduced, except in full, without approval of the laboratory.*		
Project No	PC248770		
Project Name	LionLink - Cable Route Section D		

Summary of Tests

Standard	Test Description	Test Quantity	UKAS
BS EN ISO 17892-1:2014	Water Content	18	Yes
BS EN ISO 17892-12:2018 Cl. 5.3 & 5.5	Liquid Limit and Plastic Limit (4 Points Method)	17	Yes
BS EN ISO 17892-4:2016 Cl. 5.2	Particle Size Distribution by Sieving Method	26	Yes
BS EN ISO 17892-4:2016 Cl. 5.4	Particle Size Distribution by Pipette Method	6	Yes
BS 1377-4:1990 Cl. 7.2	California Bearing Ratio (CBR) 4.5kg	9	Yes
BS 1377-4:1990 Cl. 7.3	e/o California Bearing Ratio - for soaking and/or swelling measurement	6	No
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	17	No
BS 1377-4:1990 Cl. 3.3	2.5 kg Rammer Dry Density/Moisture Content Relationship (Compaction)	8	Yes
BS 1377-4:1990 Cl. 3.5	e/o 2.5 or 4.5kg Compaction for use of CBR mould	3	Yes
BS EN ISO 17892-3:2015 Cl. 5.1	Particle Density by Fluid Pycnometer	7	Yes
Non BS1377 Test	Shear Strength by Hand Vane	1	No

UKAS TESTING

1365

Test Results checked and approved for issue.
Signed for, and on behalf of Geotechnics Limited

Paul Smart (Laboratory Manager)



GEOTECHNICS

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Summary of Classification Test Results

Project Number: PC248770

Project Name: LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
BHD02		0.40	1.20	B	Brown slightly gravelly sandy CLAY.	11.1	73	32 4pt	14	18		
BHD02		1.50	1.95	UT	Brown slightly gravelly sandy CLAY.	13.0						WC - Hand Vane = 24 kPa
BHD02		14.00	15.00	B	Brown slightly gravelly slightly silty SAND.						2.63-sp	
BHD05		1.00		D	Brown slightly gravelly CLAY with sand pockets.	8.8	28	25 4pt	14	11		
BHD06		3.00	3.50	B	Brown gravelly slightly silty SAND.						2.61-sp	
TPD02		1.50		D	Brown slightly gravelly sandy CLAY.	12.3	62	34 4pt	14	20		
TPD03		3.00		D	Brown slightly gravelly sandy CLAY.	12.4	67	26 4pt	11	15		
TPD04		0.50		D	Brown slightly gravelly sandy CLAY.	11.6	70	23 4pt	12	11		
TPD05		1.00		D	Brown slightly gravelly sandy CLAY	9.7	40	25 4pt	12	13		
TPD06		1.50		D	Brown slightly gravelly sandy CLAY	11.0	57	26 4pt	12	14		
TPD07		2.00		D	Light brown slightly gravelly sandy CLAY	12.7	71	26 4pt	11	15		
TPD08		1.50		D	Orangish brown mottled grey slightly sandy CLAY.	21.3	95	26 4pt	13	13		
TPD09		1.00		D	Brown slightly sandy slightly gravelly CLAY	15.4	83	42 4pt	16	26		
TPD12		0.50		D	Brown slightly sandy slightly gravelly CLAY	8.3	56	24 4pt	12	12		
TPD13		0.50		D	Brown slightly gravelly sandy CLAY	9.9	56	20 4pt	12	8		
TPD14		2.90		D	Orangish brown mottled grey slightly sandy slightly gravelly CLAY.	36.7	88	52 4pt	20	32		
TPD16		2.75		D	Orangish brown mottled grey slightly sandy CLAY.	25.5	91	52 4pt	24	28		
TPD17		1.50		D	Brown slightly sandy slightly gravelly CLAY.	12.3	79	34 4pt	13	21		
TPD18		1.60		D	Orangish brown mottled light grey slightly sandy slightly gravelly CLAY.	20.3	72	46 4pt	20	26		
TPD18		2.70		D	Orangish brown mottled light grey slightly gravelly slightly sandy CLAY.	25.6	94	42 4pt	20	22		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit

80g / 30deg fall cone with increasing water content unless specified otherwise

Sample washed through 0.425mm sieve unless specified otherwise

1pt - single point test (including factor)

* BS1377 method

Particle density

sp - small pycno

gj - gas jar BS1377

Plastic Limit

NP - Non Plastic

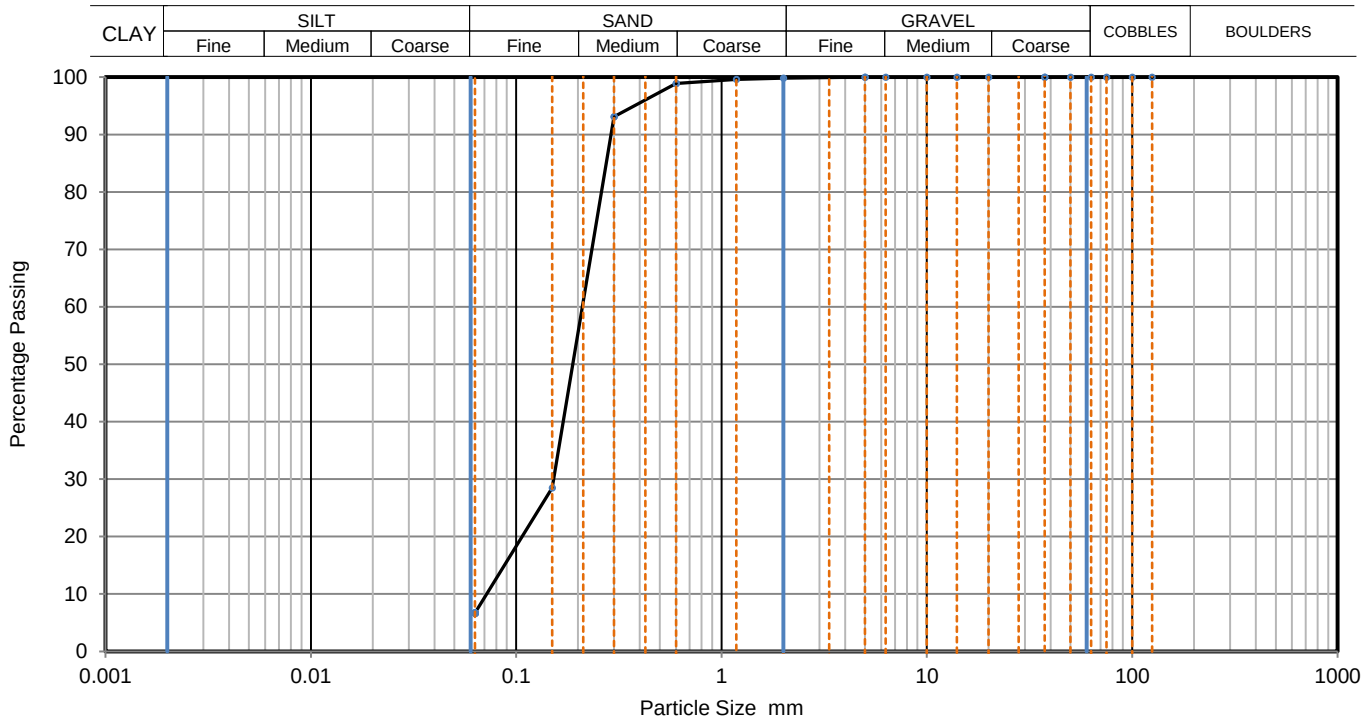
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD02
		Sample No.	
Project Number:	PC248770	Depth m	6.00 - 6.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	93		
0.15	29		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	5
D60	mm	0.21
D30	mm	0.152
D10	mm	0.0719
Uniformity Coefficient		2.9

Remarks

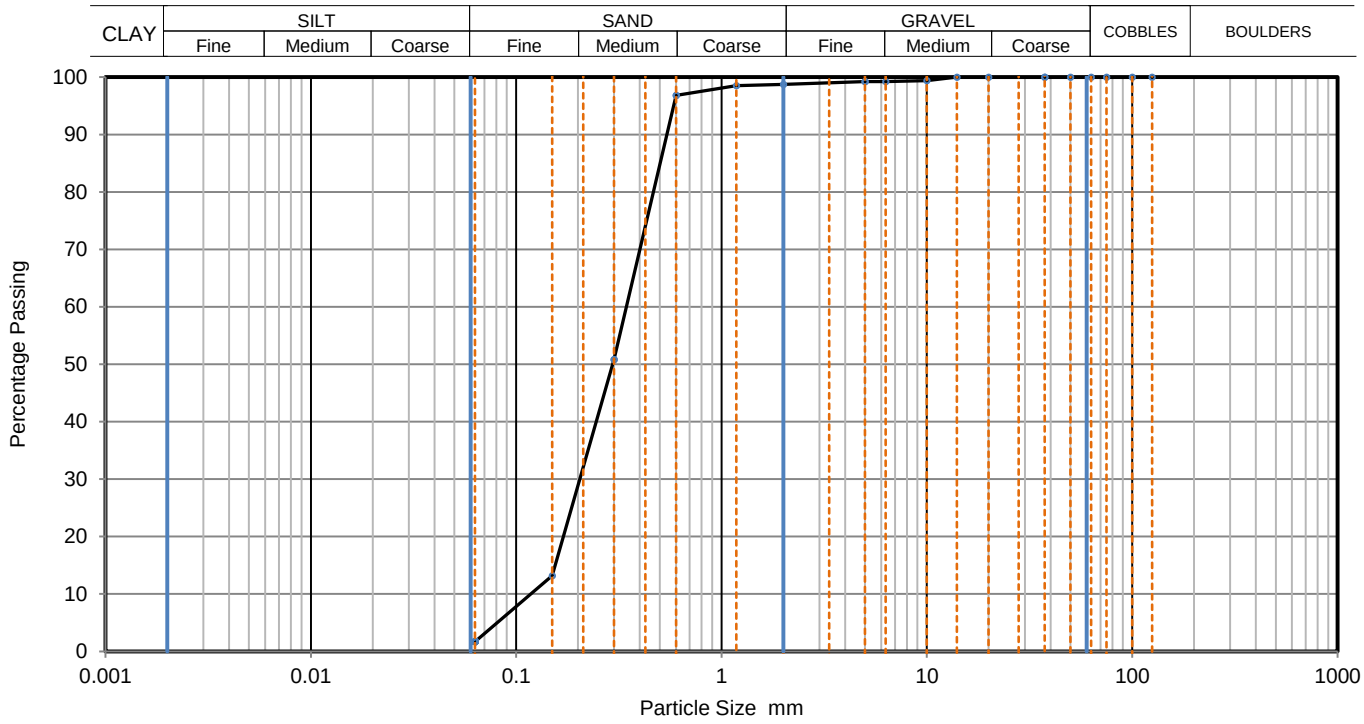
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD02
		Sample No.	
Project Number:	PC248770	Depth m	14.00 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
2	99		
1.18	99		
0.6	97		
0.3	51		
0.15	13		
0.063	2		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	97
Fines <0.063mm	2

Grading Analysis		
D100	mm	14
D60	mm	0.345
D30	mm	0.205
D10	mm	0.118
Uniformity Coefficient		2.9

Remarks

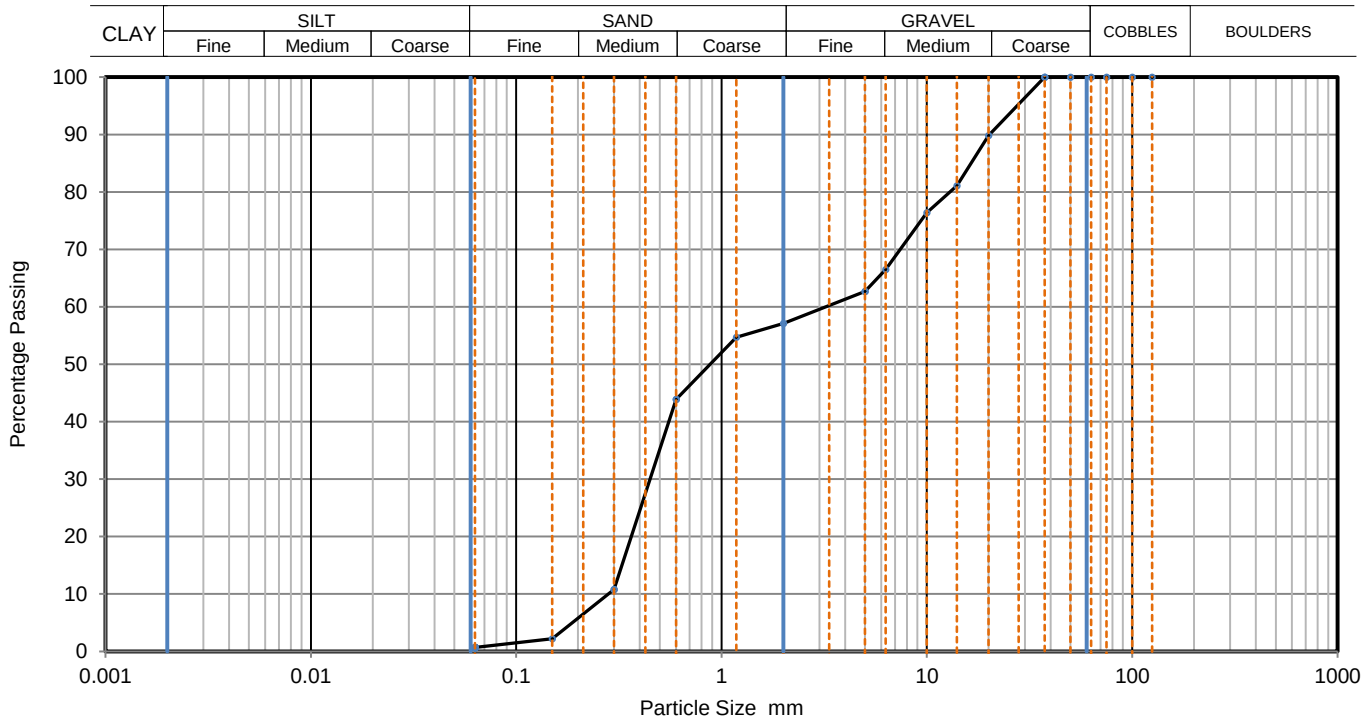
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD05
		Sample No.	
Project Number:	PC248770	Depth m	3.00 - 3.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown very gravelly slightly silty SAND	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	90		
14	81		
10	76		
6.3	67		
5	63		
2	57		
1.18	55		
0.6	44		
0.3	11		
0.15	2		
0.063	1		

Sample Proportions	% dry mass
Cobbles	0
Gravel	43
Sand	56
Fines <0.063mm	1

Grading Analysis		
D100	mm	37.5
D60	mm	3.22
D30	mm	0.448
D10	mm	0.28
Uniformity Coefficient		12

Remarks

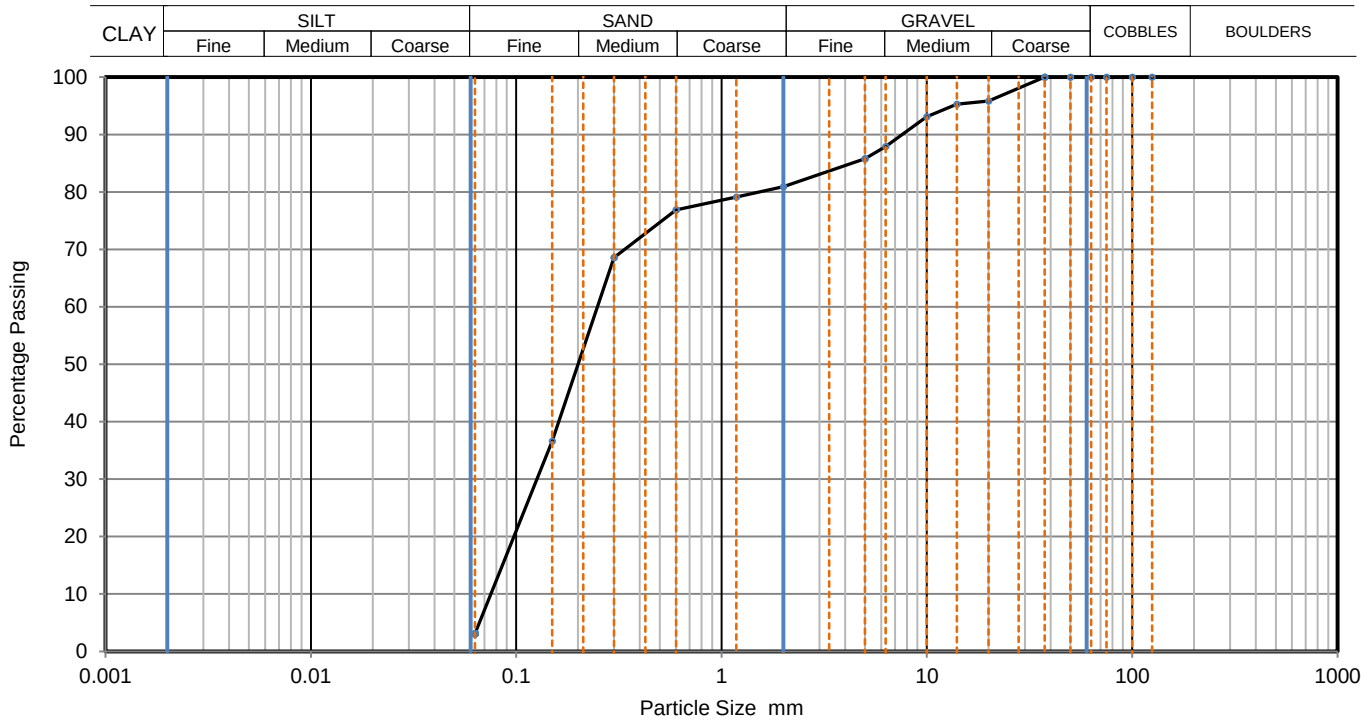
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD05
		Sample No.	
Project Number:	PC248770	Depth m	8.00 - 8.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	96		
14	95		
10	93		
6.3	88		
5	86		
2	81		
1.18	79		
0.6	77		
0.3	69		
0.15	37		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	19
Sand	78
Fines <0.063mm	3

Grading Analysis		
D100	mm	37.5
D60	mm	0.249
D30	mm	0.126
D10	mm	0.0752
Uniformity Coefficient		3.3

Remarks

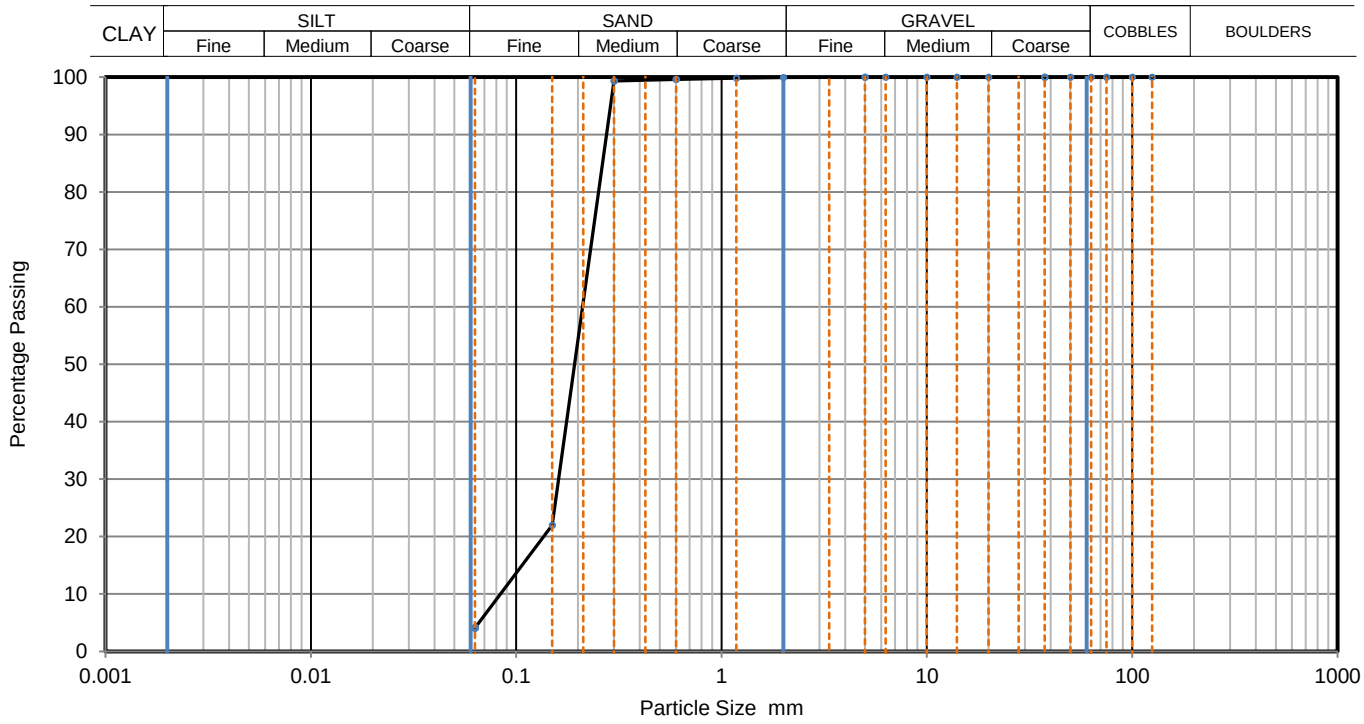
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD05
		Sample No.	
Project Number:	PC248770	Depth m	17.50 - 17.95
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	99		
0.15	22		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	96
Fines <0.063mm	4

Grading Analysis		
D100	mm	5
D60	mm	0.211
D30	mm	0.161
D10	mm	0.0839
Uniformity Coefficient		2.5

Remarks

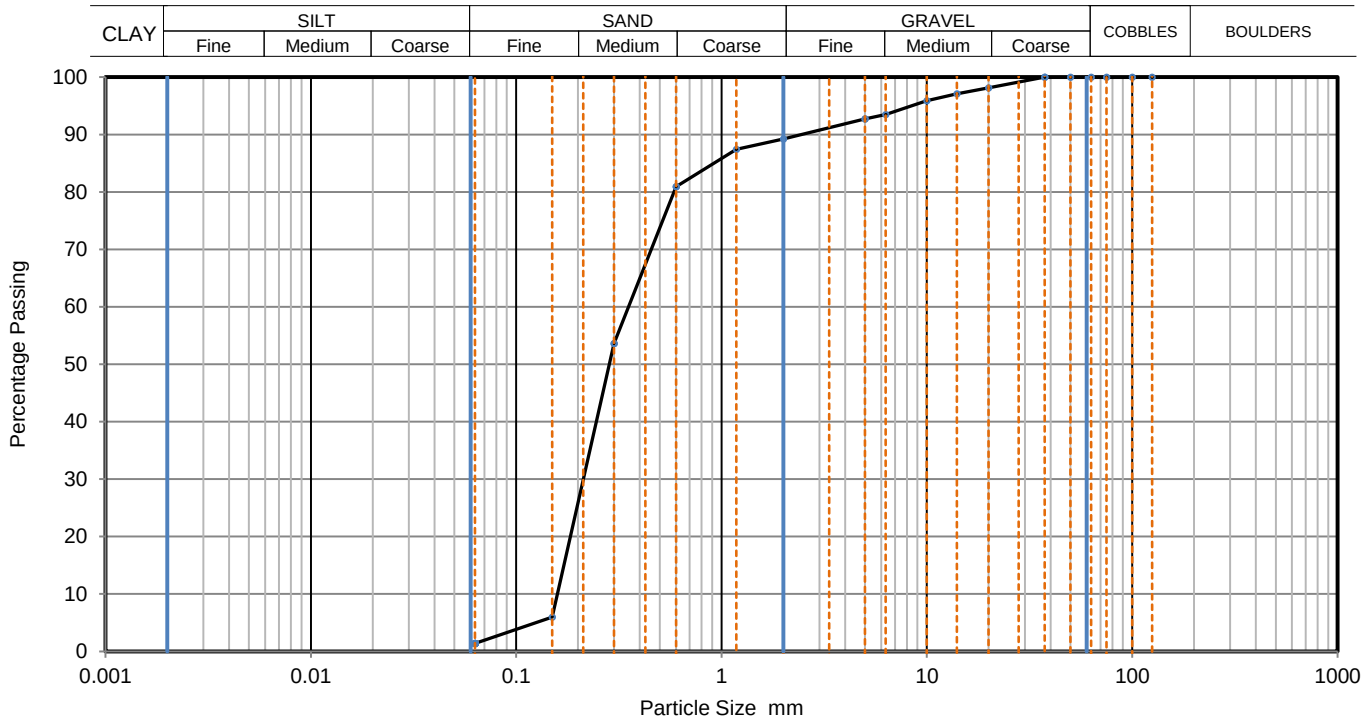
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD06
		Sample No.	
Project Number:	PC248770	Depth m	3.00 - 3.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	98		
14	97		
10	96		
6.3	94		
5	93		
2	89		
1.18	87		
0.6	81		
0.3	54		
0.15	6		
0.063	1		

Sample Proportions	% dry mass
Cobbles	0
Gravel	11
Sand	88
Fines <0.063mm	1

Grading Analysis		
D100	mm	37.5
D60	mm	0.353
D30	mm	0.213
D10	mm	0.159
Uniformity Coefficient		2.2

Remarks

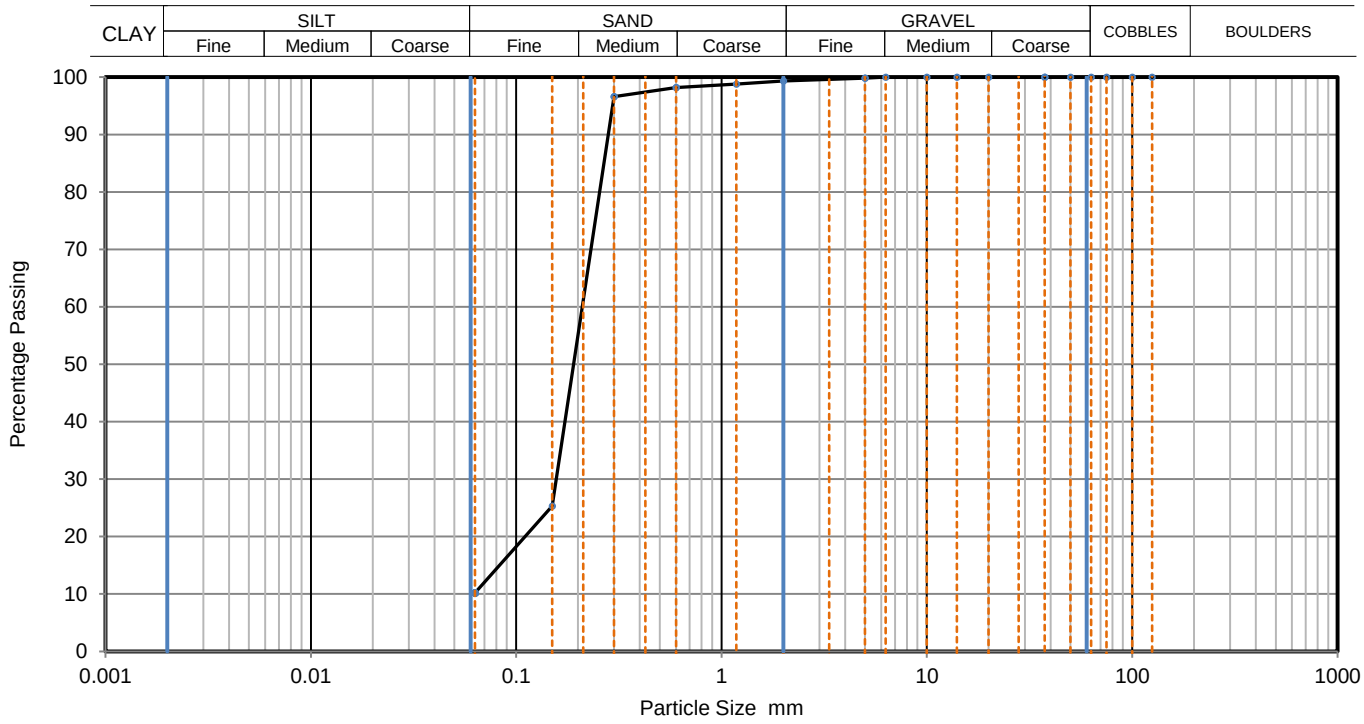
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD06
		Sample No.	
Project Number:	PC248770	Depth m	8.00 - 8.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	97		
0.15	25		
0.063	10		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	89
Fines <0.063mm	10

Grading Analysis		
D100	mm	6.3
D60	mm	0.21
D30	mm	0.157
D10	mm	
Uniformity Coefficient		

Remarks

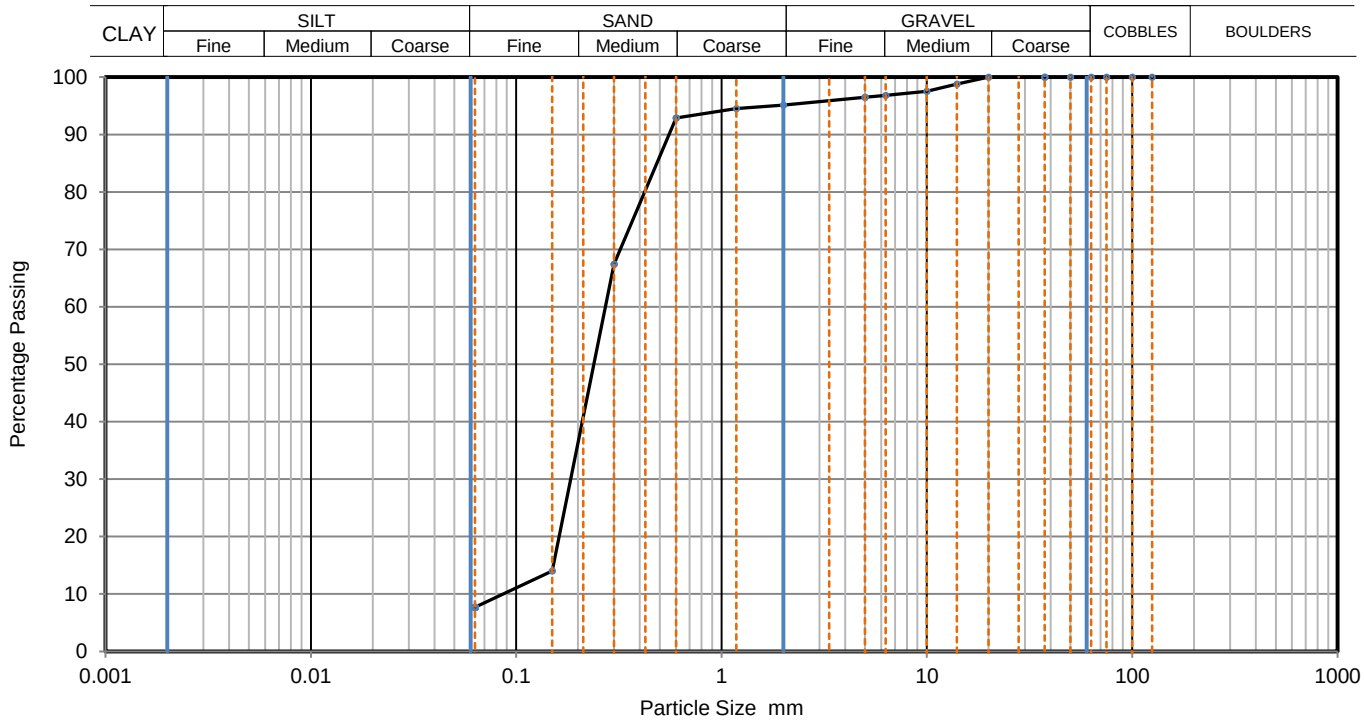
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHD06
		Sample No.	
Project Number:	PC248770	Depth m	14.00 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	95		
1.18	95		
0.6	93		
0.3	67		
0.15	14		
0.063	8		

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	87
Fines <0.063mm	8

Grading Analysis		
D100	mm	20
D60	mm	0.272
D30	mm	0.185
D10	mm	0.0865
Uniformity Coefficient		3.2

Remarks

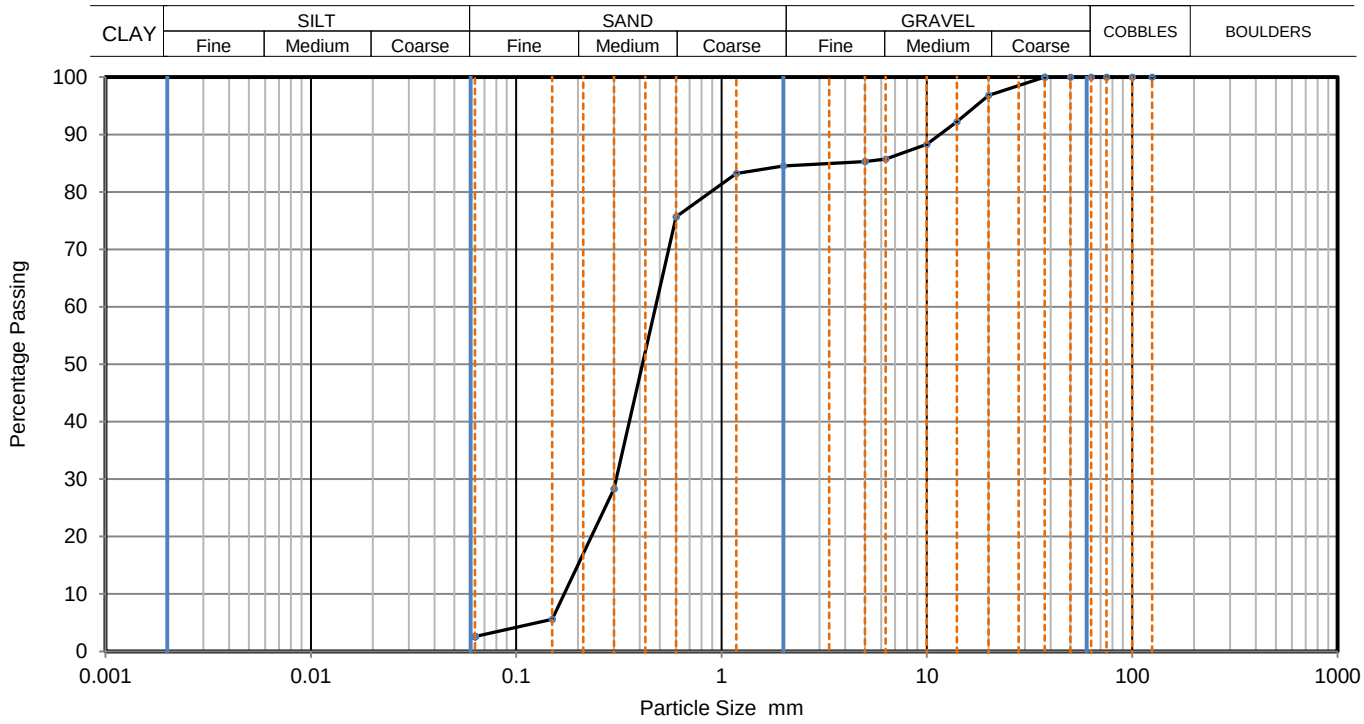
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD02
		Sample No.	
Project Number:	PC248770	Depth m	2.10 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	97		
14	92		
10	88		
6.3	86		
5	85		
2	85		
1.18	83		
0.6	76		
0.3	28		
0.15	6		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	15
Sand	82
Fines <0.063mm	3

Grading Analysis		
D100	mm	37.5
D60	mm	0.477
D30	mm	0.308
D10	mm	0.172
Uniformity Coefficient		2.8

Remarks

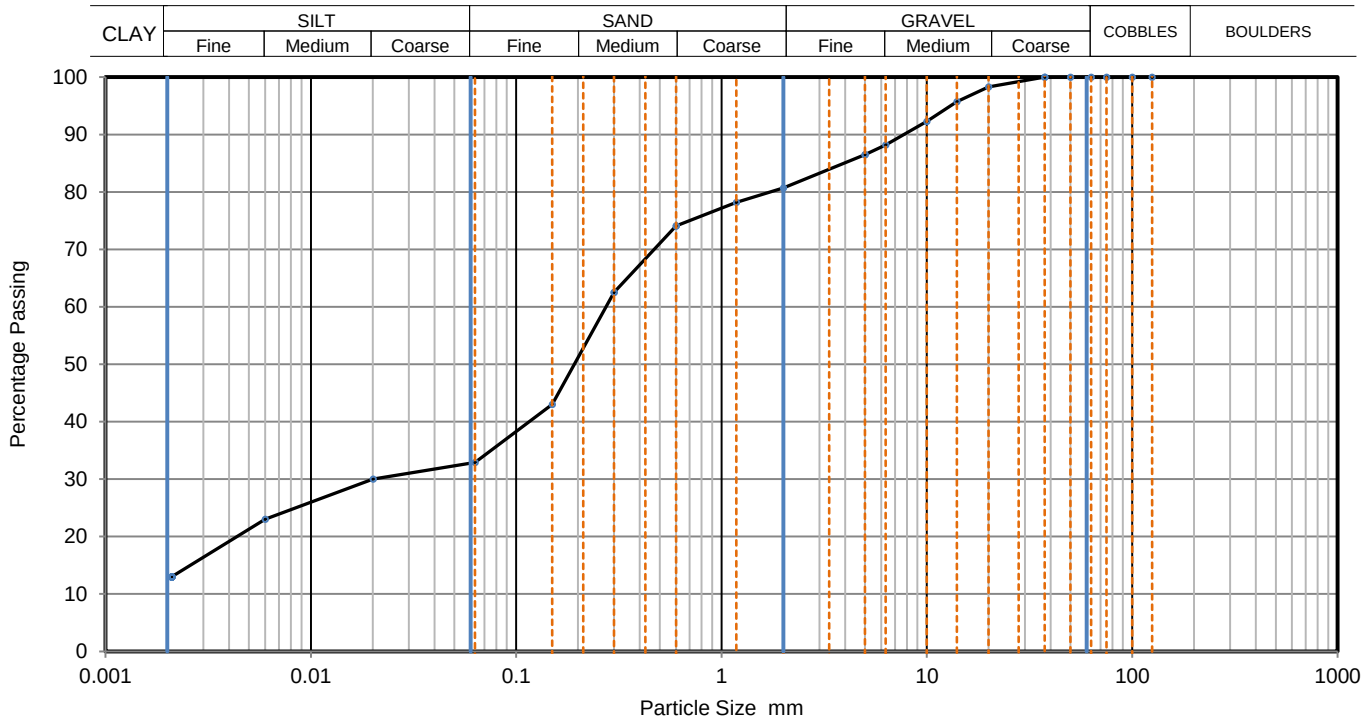
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GEOTECHNICS	**PARTICLE SIZE DISTRIBUTION**	Hole No.	TPD03
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	30
100	100	0.006	23
75	100	0.002	13
63	100		
50	100		
37.5	100		
20	98		
14	96		
10	92		
6.3	88		
5	87		
2	81		
1.18	78		
0.6	74		
0.3	63		
0.15	43	Particle density	(assumed)
0.063	33	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	19
Sand	48
Silt	20
Clay	13

Grading Analysis		
D100	mm	37.5
D60	mm	0.275
D30	mm	0.0225
D10	mm	
Uniformity Coefficient		

Remarks

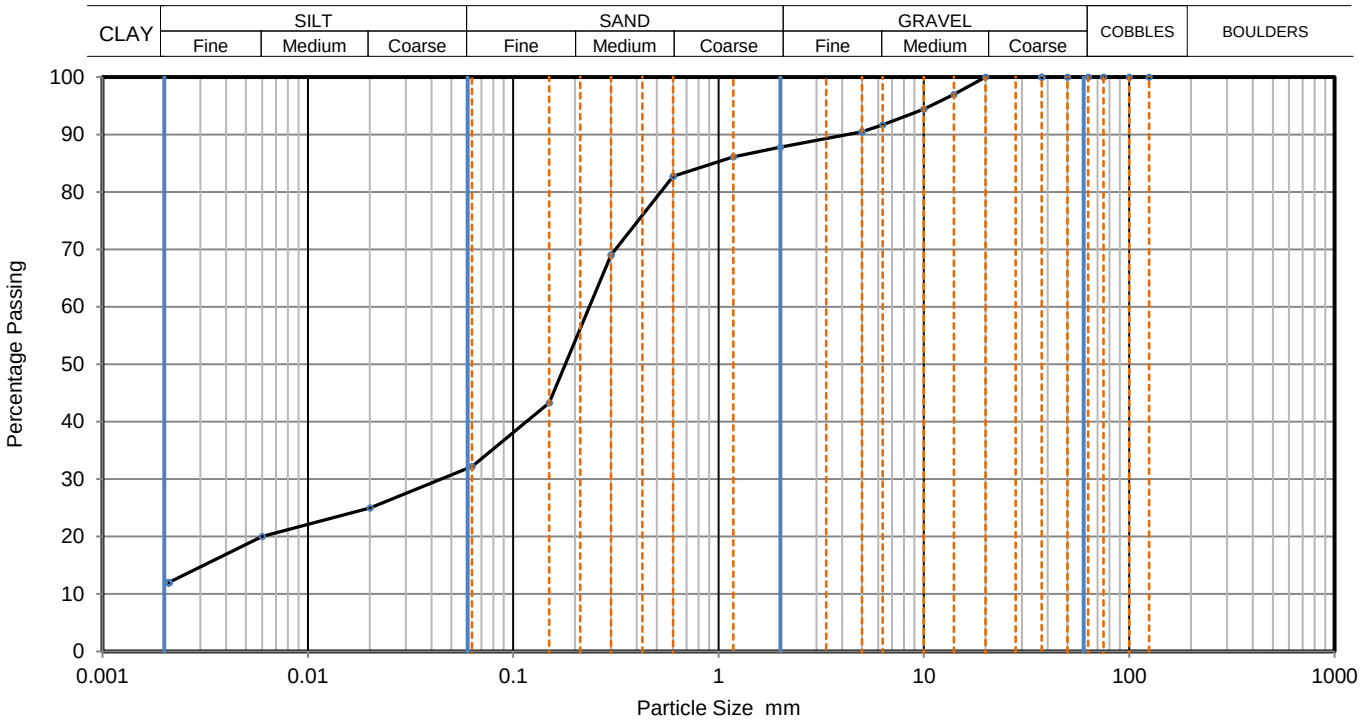
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD04
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	25
100	100	0.006	20
75	100	0.002	12
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	94		
6.3	92		
5	91		
2	88		
1.18	86		
0.6	83		
0.3	69		
0.15	43	Particle density (assumed)	
0.063	32	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	56
Silt	20
Clay	12

Grading Analysis		
D100	mm	20
D60	mm	0.235
D30	mm	0.0446
D10	mm	
Uniformity Coefficient		

Remarks

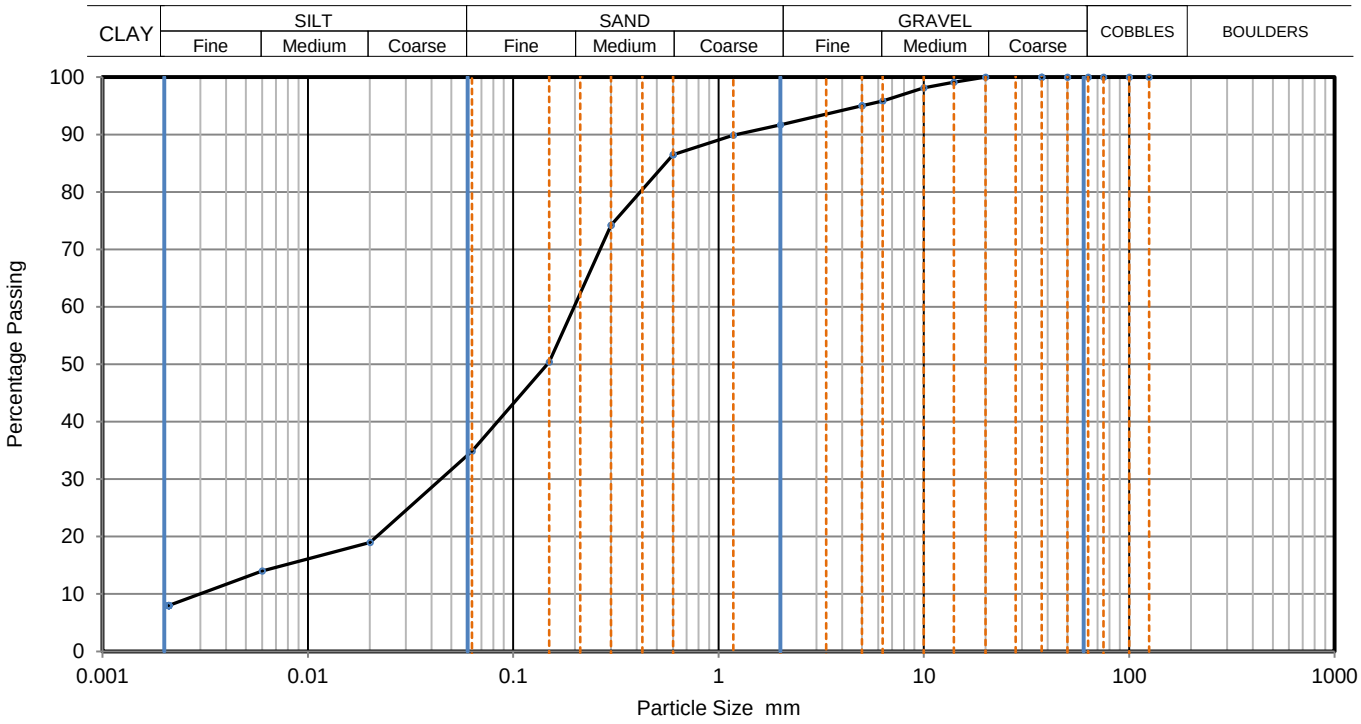
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD05
		Sample No.	
Project Number:	PC248770	Depth m	2.40 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	19
100	100	0.006	14
75	100	0.002	8
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	96		
5	95		
2	92		
1.18	90		
0.6	87		
0.3	74		
0.15	50	Particle density	(assumed)
0.063	35	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	57
Silt	27
Clay	8

Grading Analysis		
D100	mm	20
D60	mm	0.198
D30	mm	0.0443
D10	mm	0.00284
Uniformity Coefficient		70

Remarks

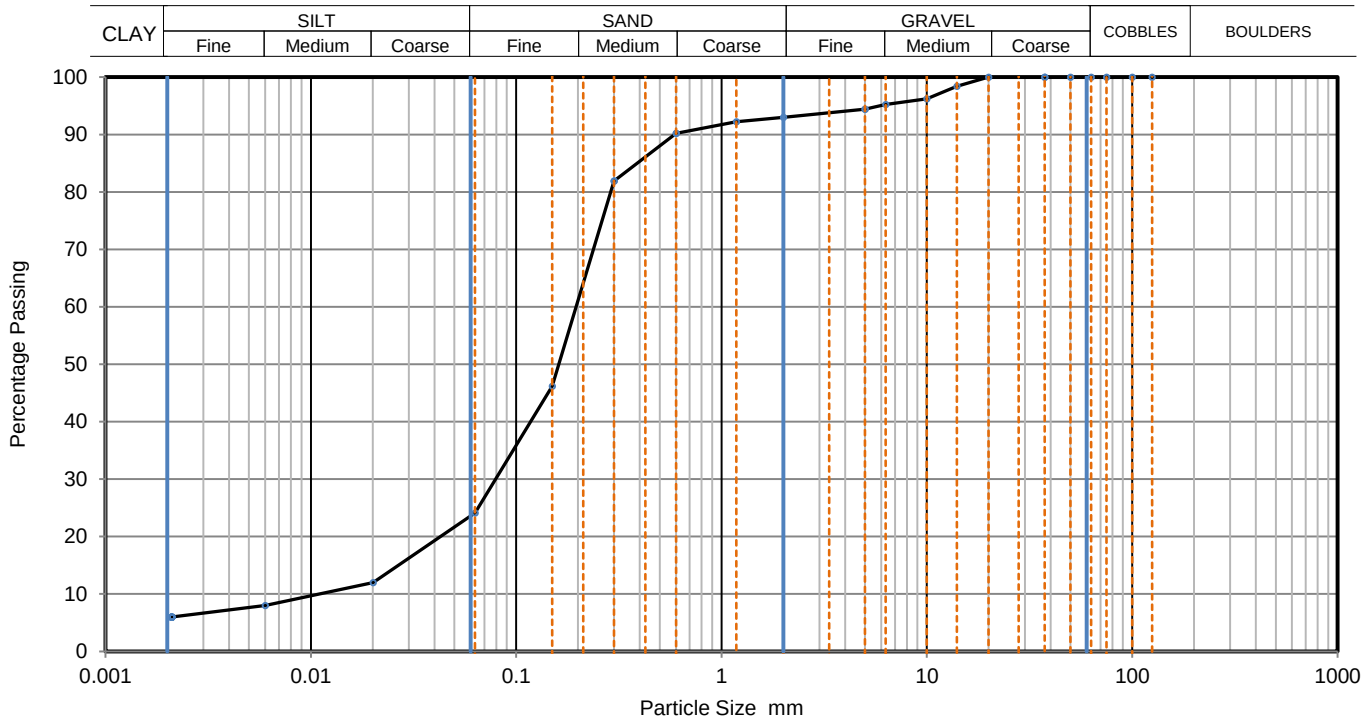
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD06
		Sample No.	
Project Number:	PC248770	Depth m	2.40 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	12
100	100	0.006	8
75	100	0.002	6
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	96		
6.3	95		
5	94		
2	93		
1.18	92		
0.6	90		
0.3	82		
0.15	46	Particle density	(assumed)
0.063	24	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	69
Silt	18
Clay	6

Grading Analysis		
D100	mm	20
D60	mm	0.196
D30	mm	0.0795
D10	mm	0.0106
Uniformity Coefficient		18

Remarks

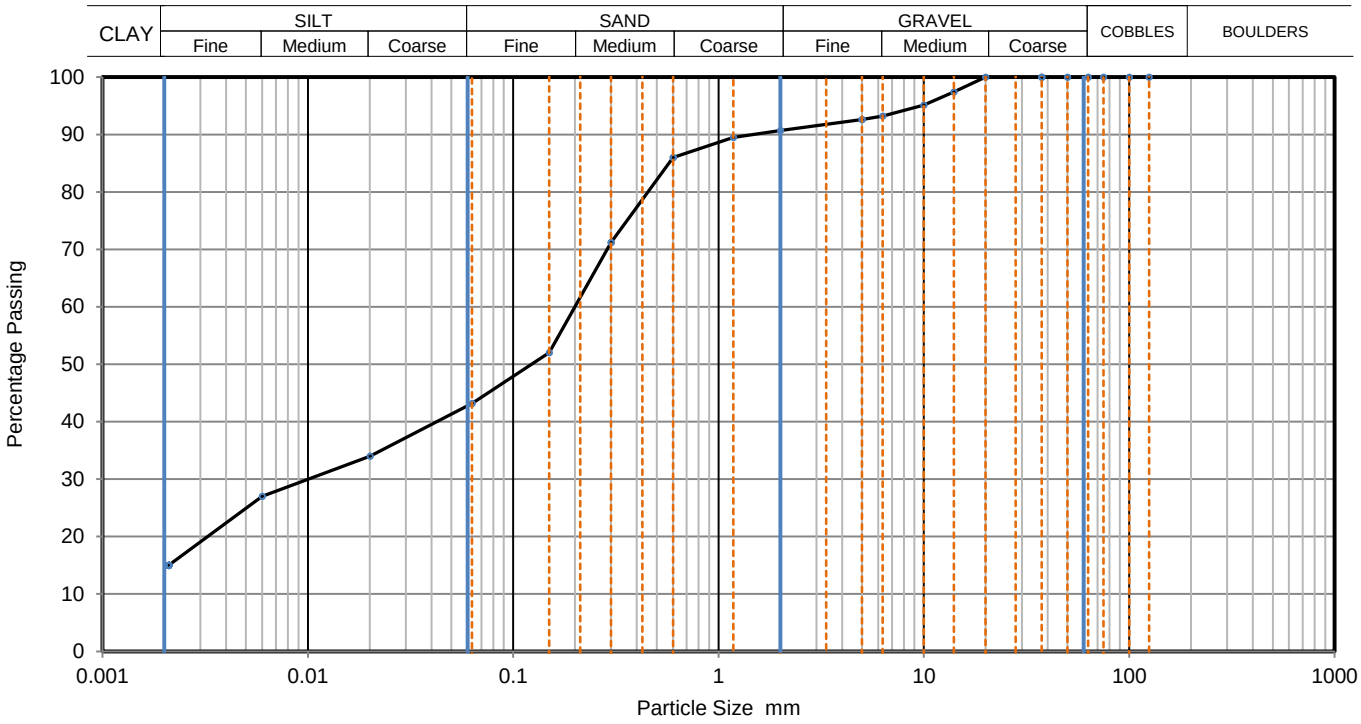
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD07
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	34
100	100	0.006	27
75	100	0.002	15
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	95		
6.3	93		
5	93		
2	91		
1.18	90		
0.6	86		
0.3	71		
0.15	52	Particle density (assumed)	
0.063	43	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	48
Silt	28
Clay	15

Grading Analysis		
D100	mm	20
D60	mm	0.201
D30	mm	0.0106
D10	mm	
Uniformity Coefficient		

Remarks

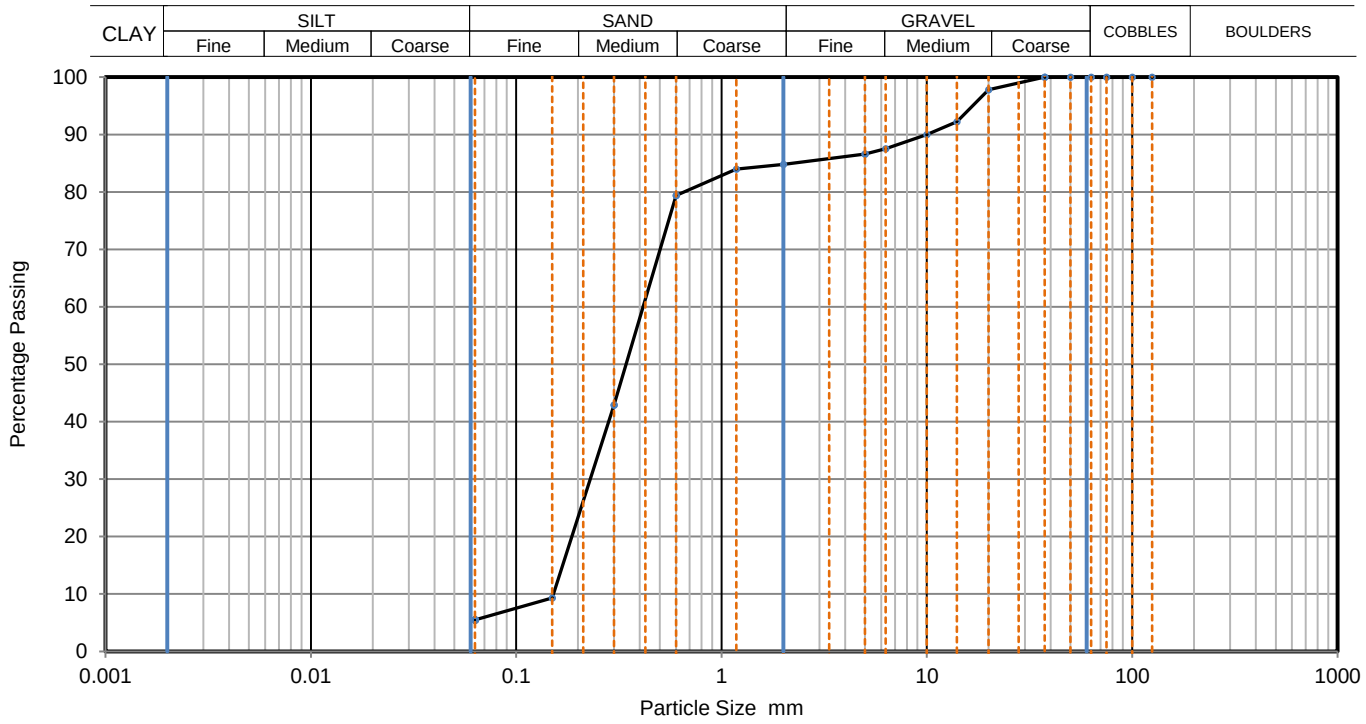
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD08
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	98		
14	92		
10	90		
6.3	88		
5	87		
2	85		
1.18	84		
0.6	79		
0.3	43		
0.15	9		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	15
Sand	80
Fines <0.063mm	5

Grading Analysis		
D100	mm	37.5
D60	mm	0.415
D30	mm	0.23
D10	mm	0.152
Uniformity Coefficient		2.7

Remarks

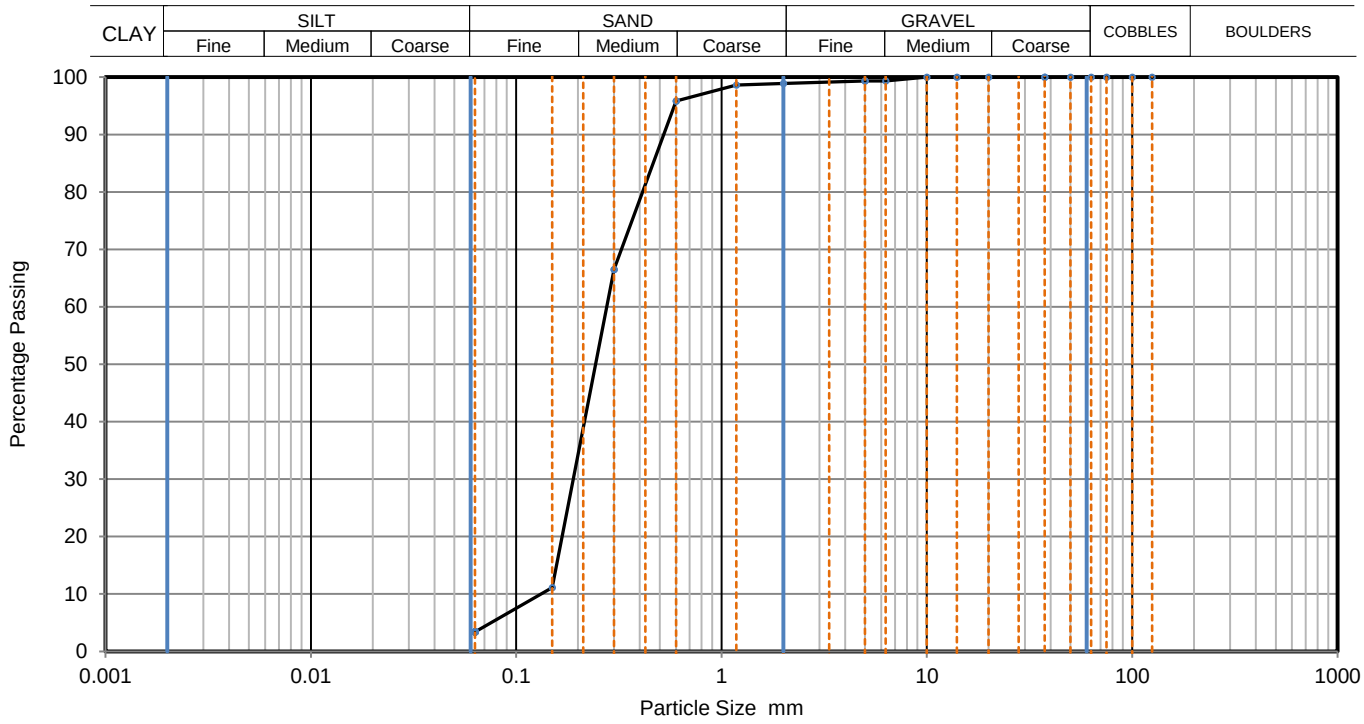
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD09
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	99		
1.18	99		
0.6	96		
0.3	67		
0.15	11		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	96
Fines <0.063mm	3

Grading Analysis		
D100	mm	10
D60	mm	0.277
D30	mm	0.19
D10	mm	0.133
Uniformity Coefficient		2.1

Remarks

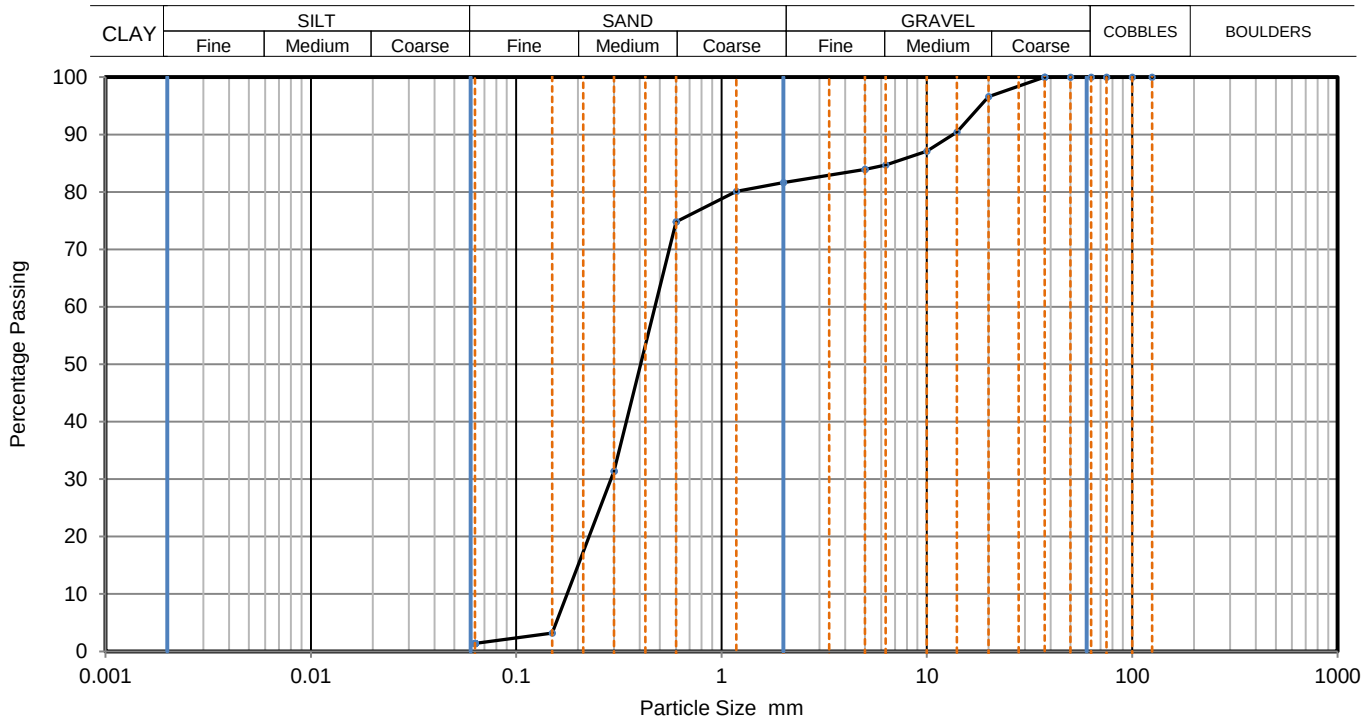
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD10
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	97		
14	90		
10	87		
6.3	85		
5	84		
2	82		
1.18	80		
0.6	75		
0.3	31		
0.15	3		
0.063	1		

Sample Proportions	% dry mass
Cobbles	0
Gravel	18
Sand	81
Fines <0.063mm	1

Grading Analysis		
D100	mm	37.5
D60	mm	0.474
D30	mm	0.29
D10	mm	0.177
Uniformity Coefficient		2.7

Remarks

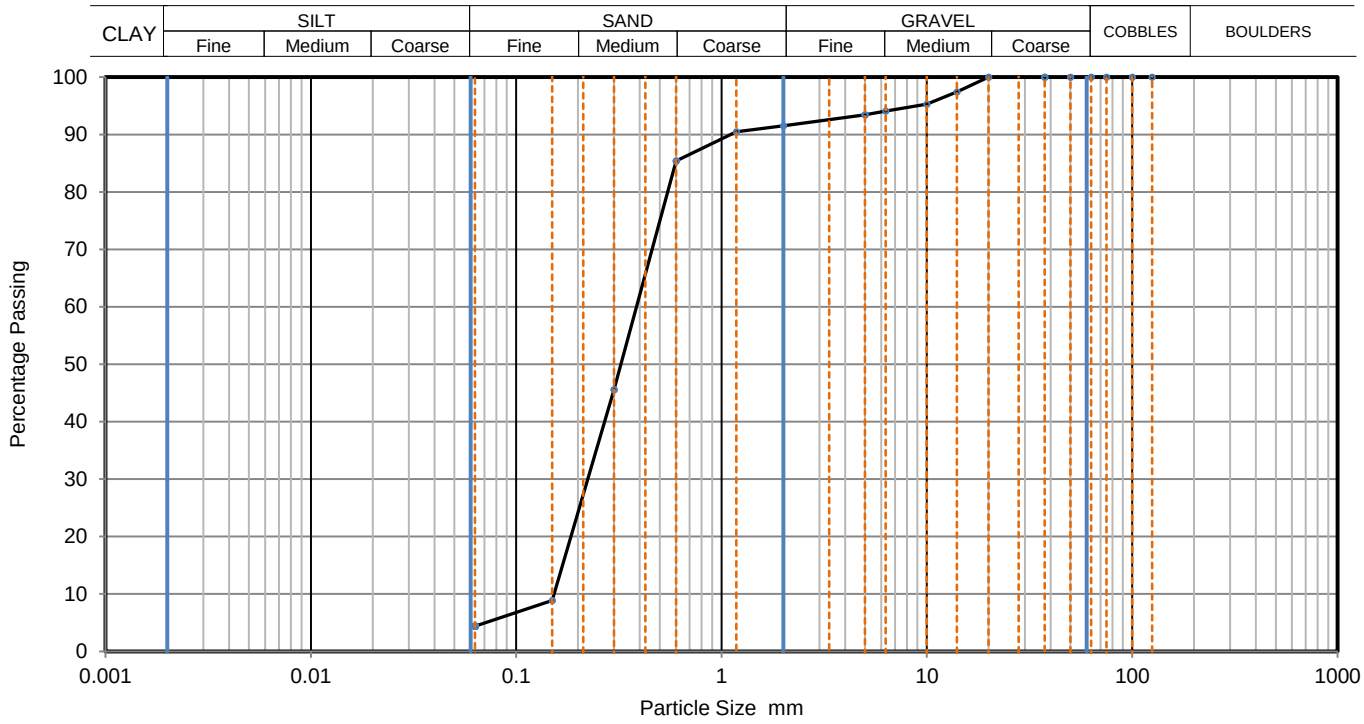
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD11
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	95		
6.3	94		
5	93		
2	92		
1.18	91		
0.6	85		
0.3	46		
0.15	9		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	88
Fines <0.063mm	4

Grading Analysis		
D100	mm	20
D60	mm	0.385
D30	mm	0.223
D10	mm	0.153
Uniformity Coefficient		2.5

Remarks

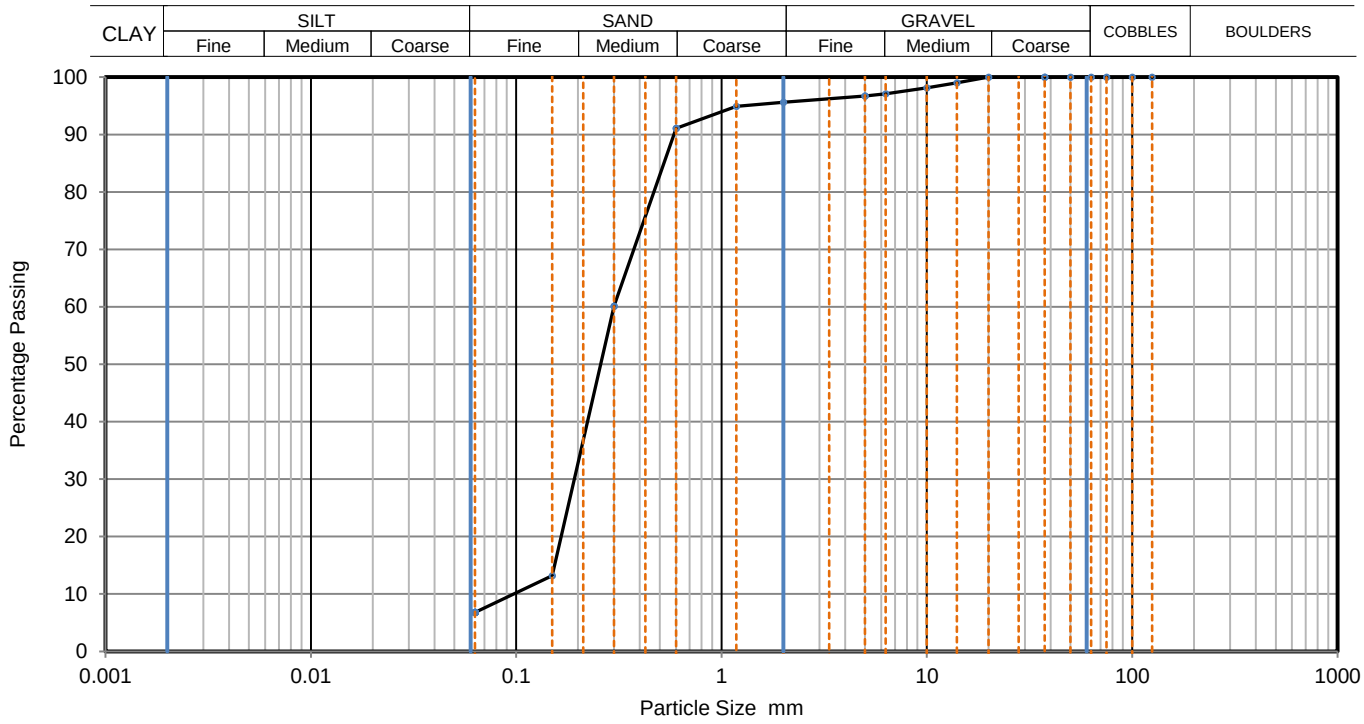
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD12
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	96		
1.18	95		
0.6	91		
0.3	60		
0.15	13		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	89
Fines <0.063mm	7

Grading Analysis		
D100	mm	20
D60	mm	0.3
D30	mm	0.192
D10	mm	0.0967
Uniformity Coefficient		3.1

Remarks

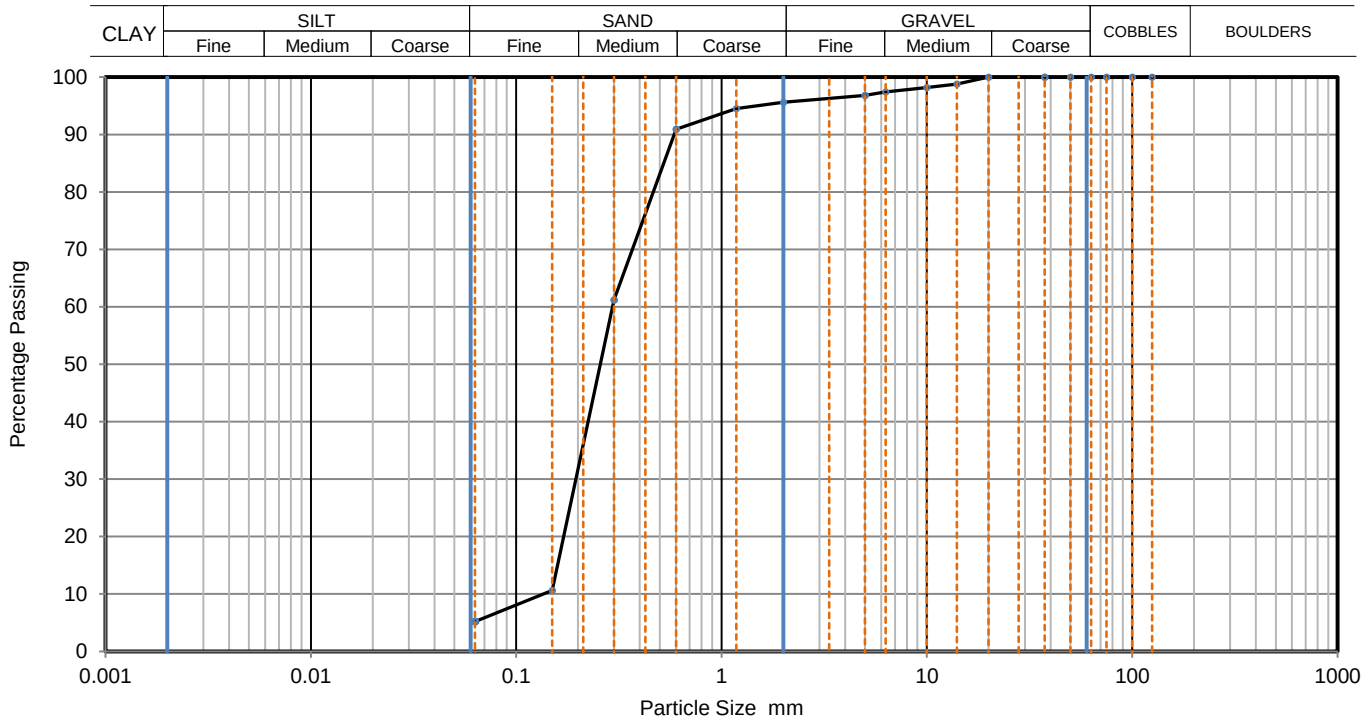
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD13
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	96		
1.18	95		
0.6	91		
0.3	61		
0.15	11		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	91
Fines <0.063mm	5

Grading Analysis		
D100	mm	20
D60	mm	0.295
D30	mm	0.196
D10	mm	0.136
Uniformity Coefficient		2.2

Remarks

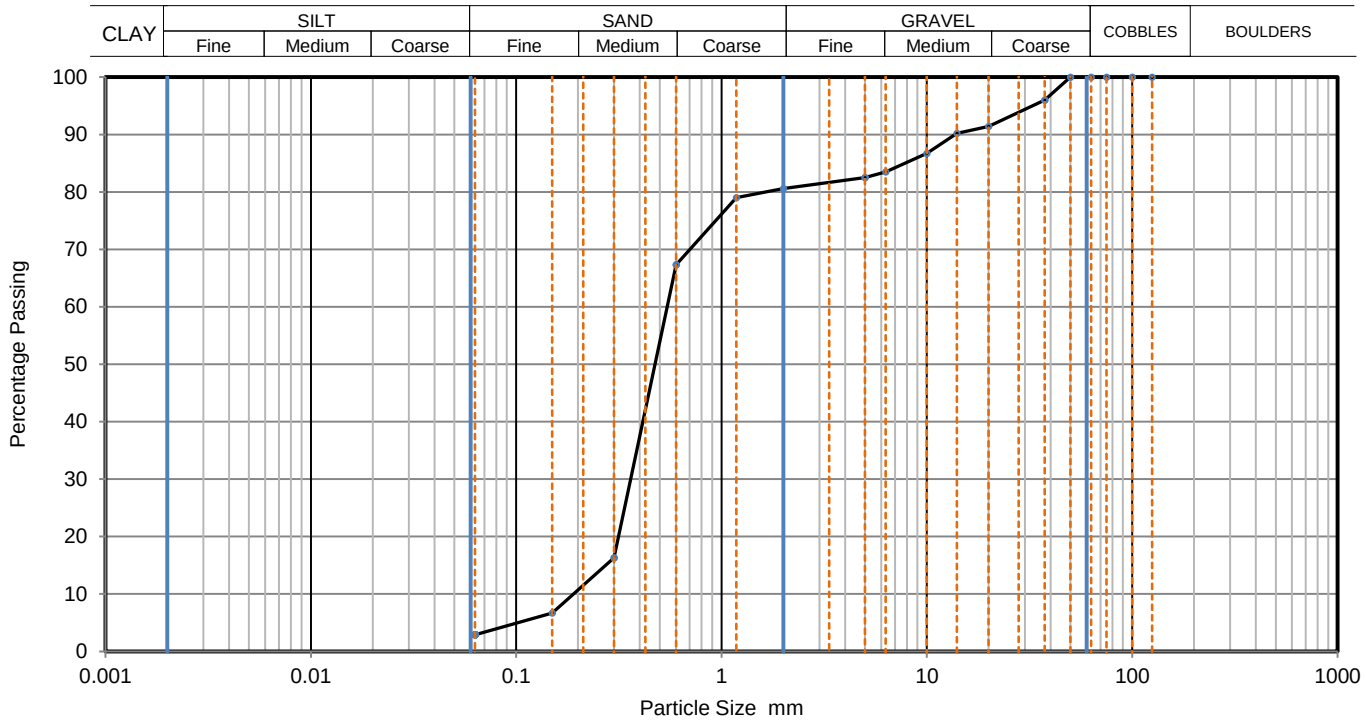
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD14
		Sample No.	
Project Number:	PC248770	Depth m	1.50 - 2.80
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	96		
20	91		
14	90		
10	87		
6.3	84		
5	83		
2	81		
1.18	79		
0.6	67		
0.3	16		
0.15	7		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	19
Sand	78
Fines <0.063mm	3

Grading Analysis		
D100	mm	50
D60	mm	0.543
D30	mm	0.361
D10	mm	0.191
Uniformity Coefficient		2.8

Remarks

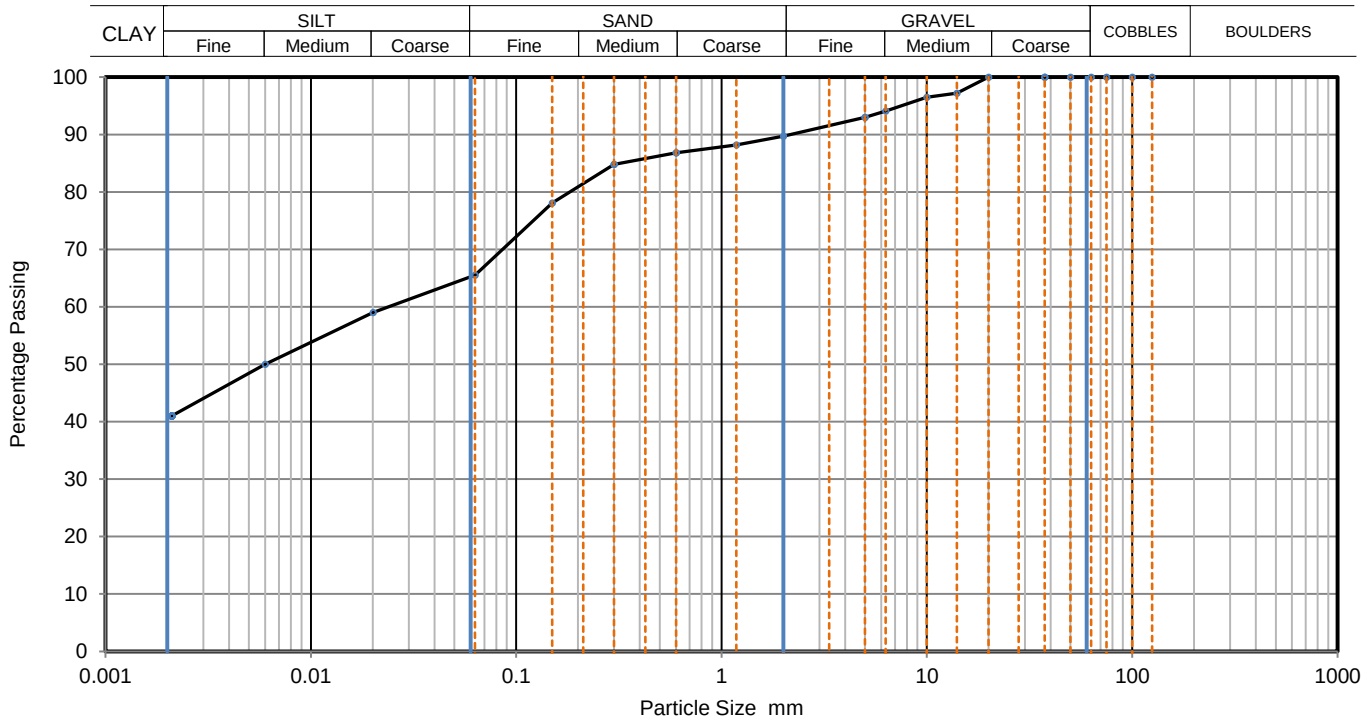
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD14
		Sample No.	
Project Number:	PC248770	Depth m	2.80 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Orangish brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	59
100	100	0.006	50
75	100	0.002	41
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	97		
6.3	94		
5	93		
2	90		
1.18	88		
0.6	87		
0.3	85		
0.15	78	Particle density (assumed)	
0.063	66	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	10
Sand	24
Silt	25
Clay	41

Grading Analysis		
D100	mm	20
D60	mm	0.0231
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

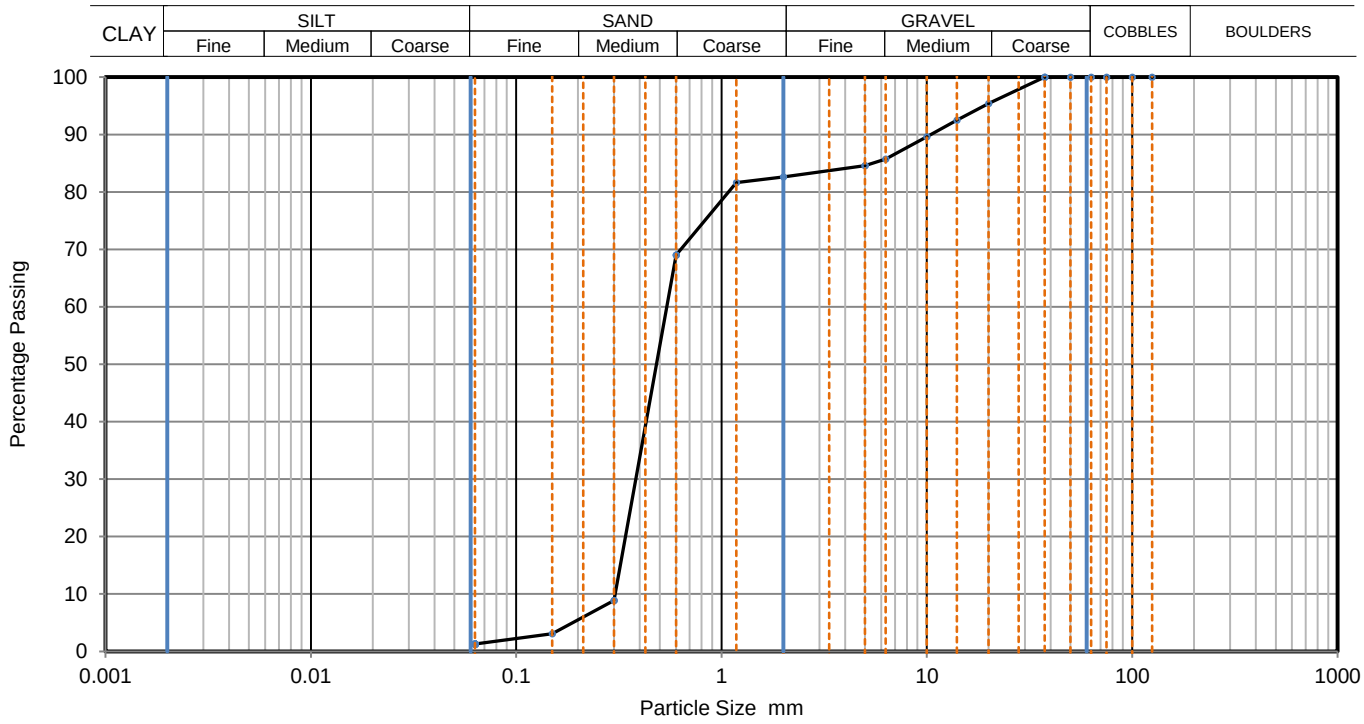
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD15
		Sample No.	
Project Number:	PC248770	Depth m	0.50 - 1.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark brown gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	95		
14	93		
10	90		
6.3	86		
5	85		
2	83		
1.18	82		
0.6	69		
0.3	9		
0.15	3		
0.063	1		

Sample Proportions	% dry mass
Cobbles	0
Gravel	17
Sand	82
Fines <0.063mm	1

Grading Analysis		
D100	mm	37.5
D60	mm	0.541
D30	mm	0.383
D10	mm	0.304
Uniformity Coefficient		1.8

Remarks

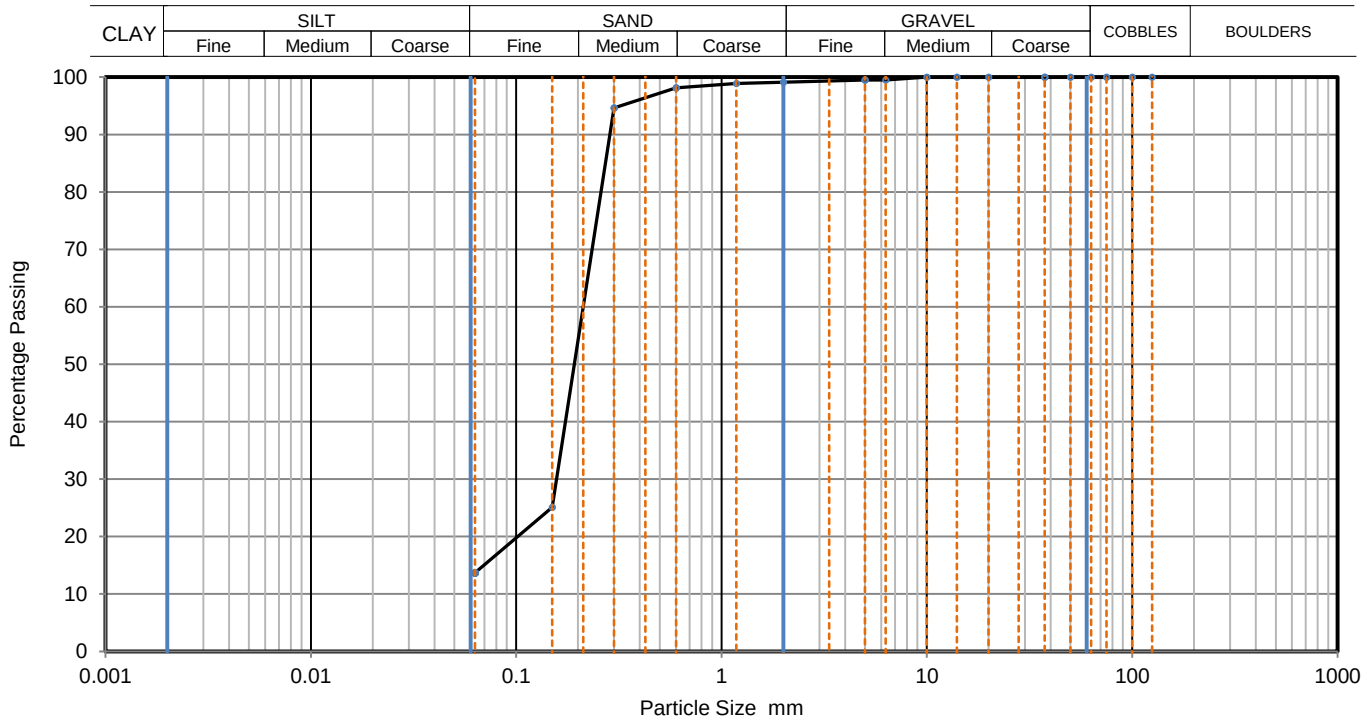
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23/01/2025

UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD15
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Orangish brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	95		
0.15	25		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	85
Fines <0.063mm	14

Grading Analysis		
D100	mm	10
D60	mm	0.212
D30	mm	0.158
D10	mm	
Uniformity Coefficient		

Remarks

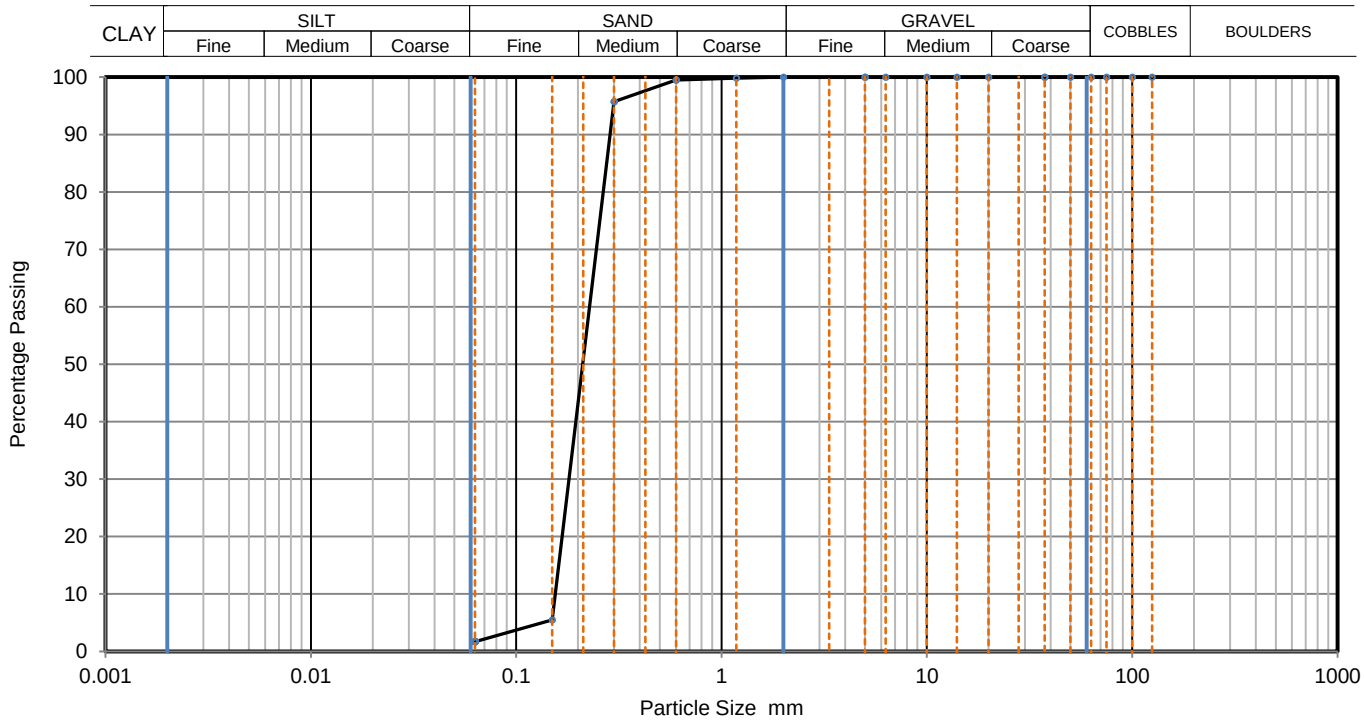
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD17
		Sample No.	
Project Number:	PC248770	Depth m	0.45 - 1.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Orangish brown slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	96		
0.15	6		
0.063	2		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	98
Fines <0.063mm	2

Grading Analysis		
D100	mm	5
D60	mm	0.228
D30	mm	0.181
D10	mm	0.155
Uniformity Coefficient		1.5

Remarks

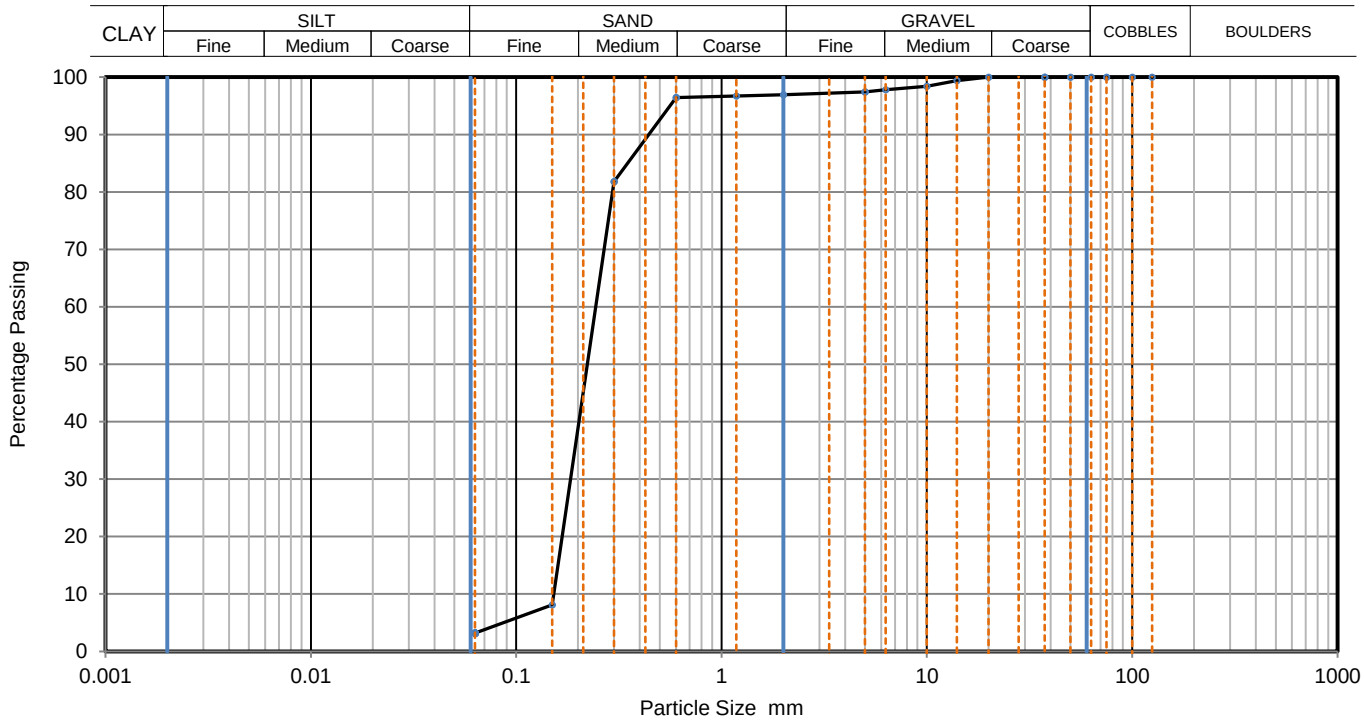
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPD18
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 2.60
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Orangish brown slightly gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	98		
5	97		
2	97		
1.18	97		
0.6	96		
0.3	82		
0.15	8		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	94
Fines <0.063mm	3

Grading Analysis		
D100	mm	20
D60	mm	0.244
D30	mm	0.184
D10	mm	0.153
Uniformity Coefficient		1.6

Remarks

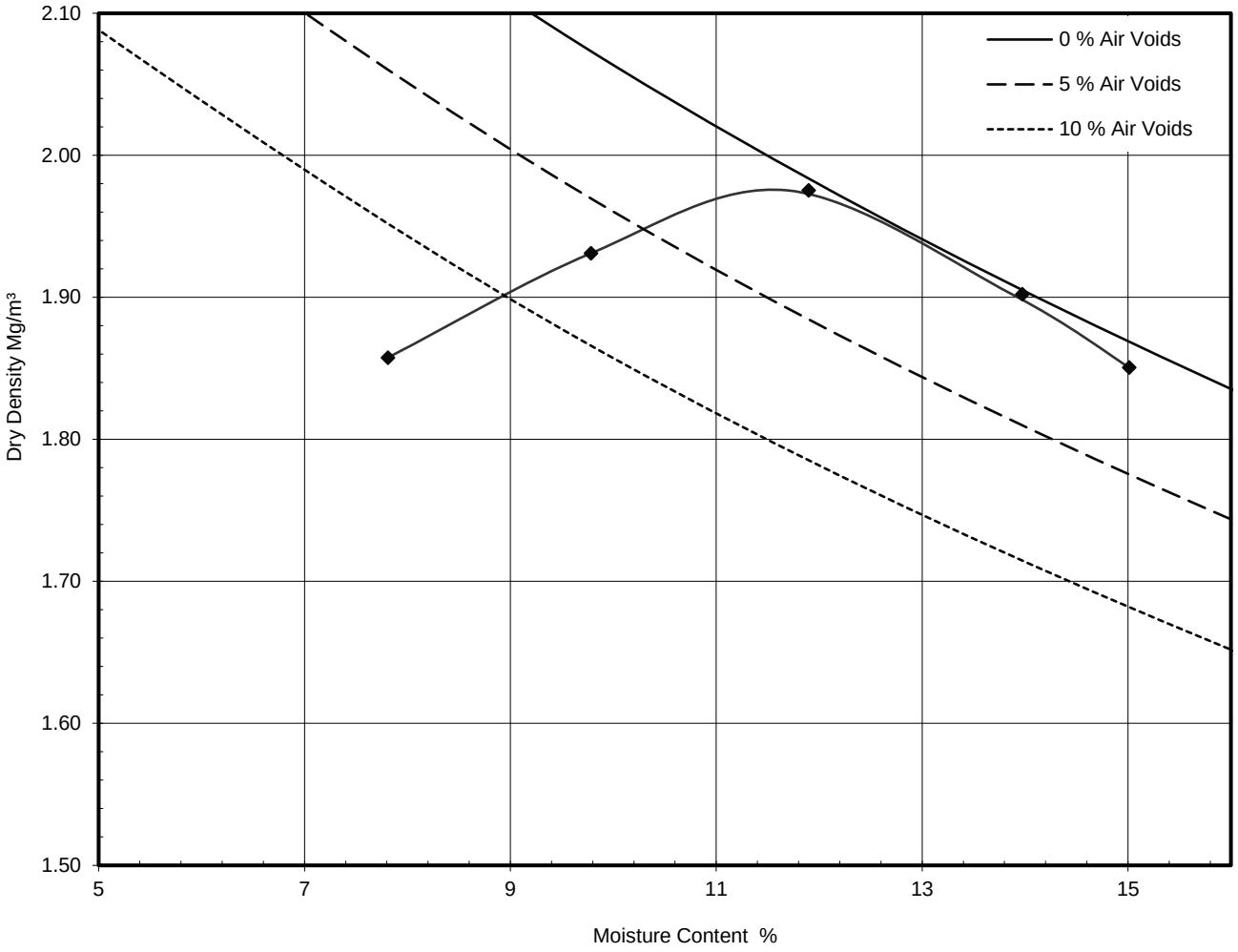
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UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD02
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly gravelly sandy CLAY	Depth m	1.20 - 2.10
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B

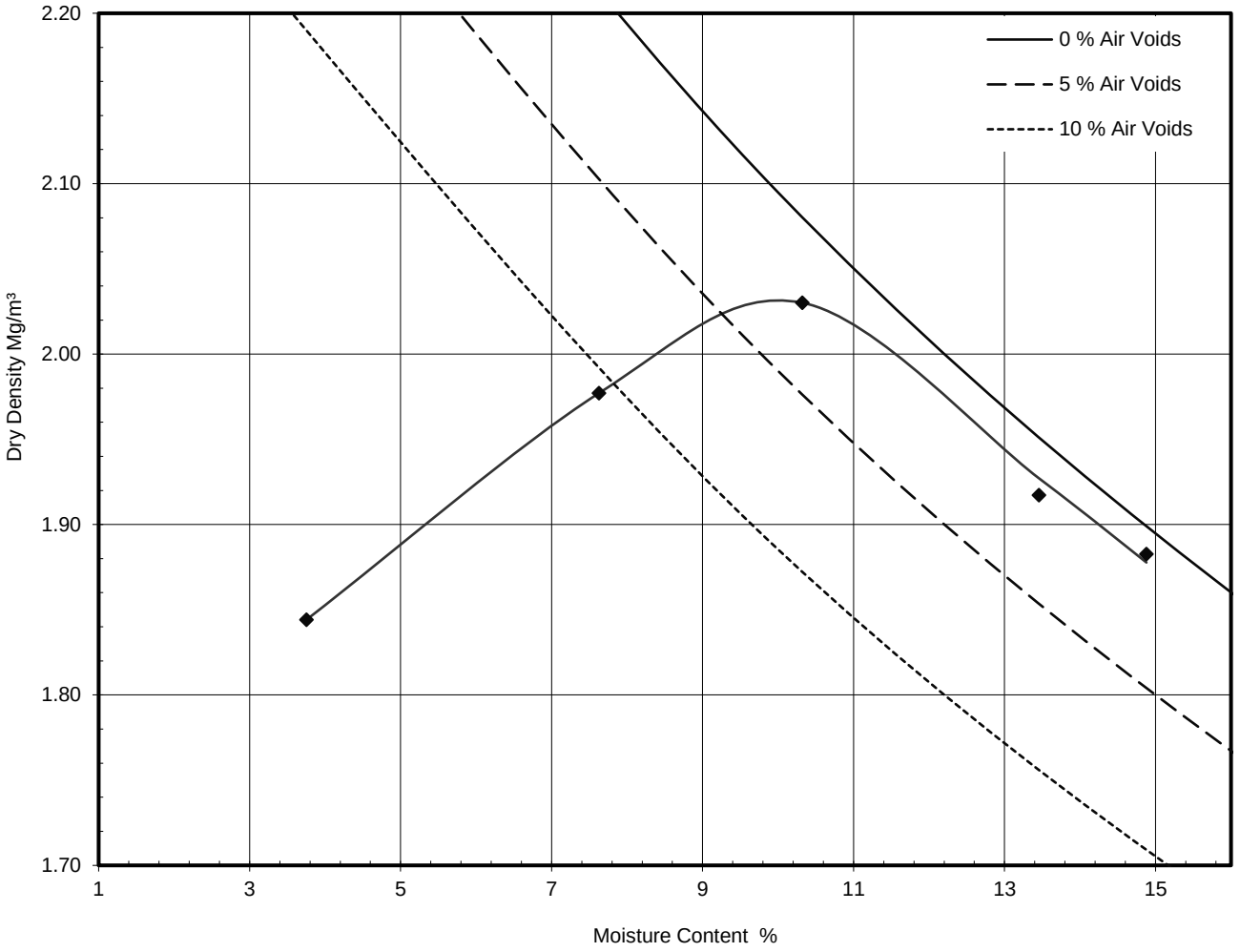


Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	3
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.98**
Optimum Moisture Content	%	**12**

Remarks	Printed	
NMC = 12%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD04
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly gravelly sandy CLAY	Depth m	1.30 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer	Sample Type	B

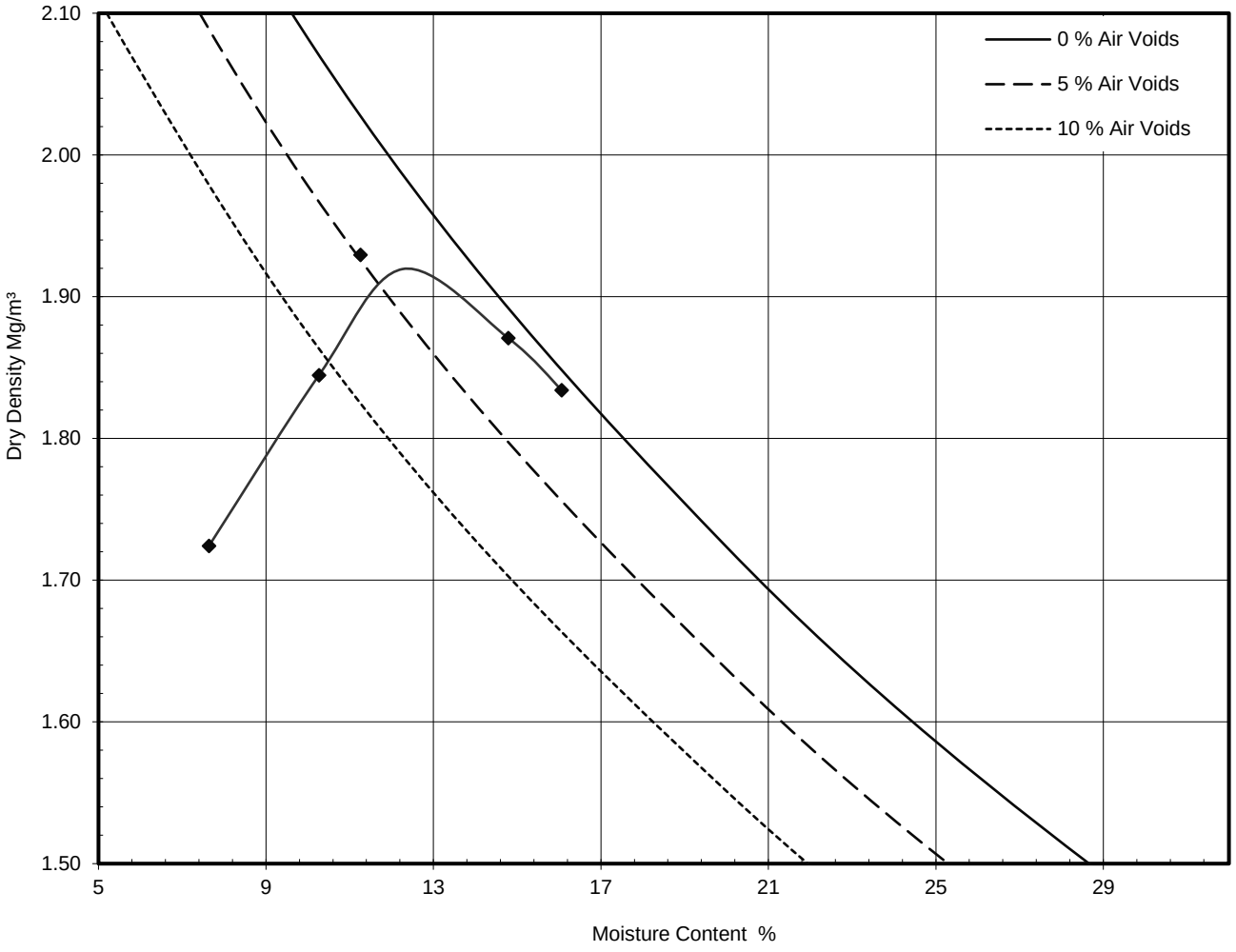


Preparation		Material used was natural
Mould Type		CBR
Samples Used		Separate specimens tested.
Material Retained on 37.5 mm Sieve	%	6
Material Retained on 20.0 mm Sieve	%	8
Particle Density - Measured using small pyknometer	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**2.03**
Optimum Moisture Content	%	**10**

Remarks	Printed	
NMC = 10%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD06
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light brown slightly gravelly sandy CLAY	Depth m	0.40 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B

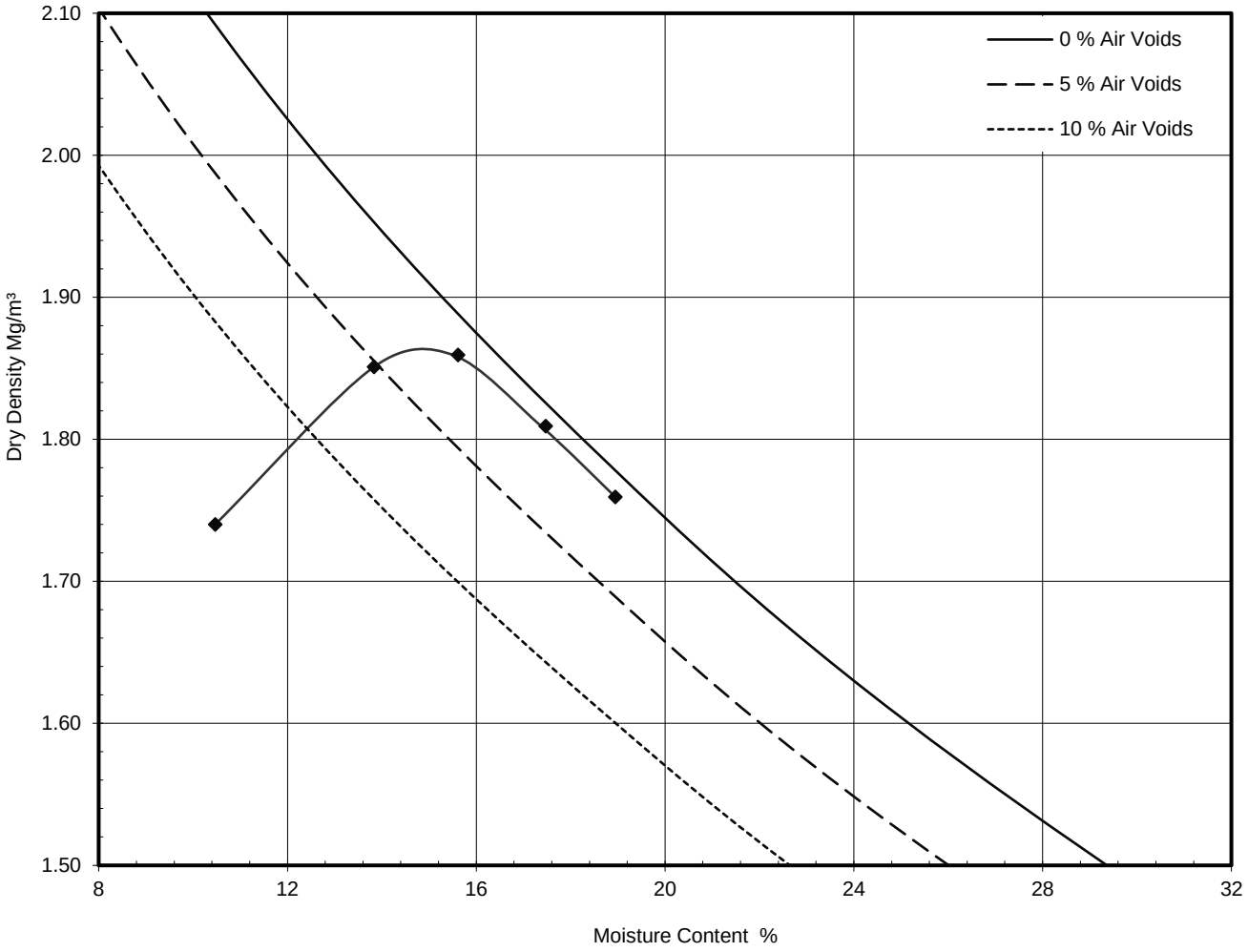


Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	3
Particle Density - Assumed	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.92**
Optimum Moisture Content	%	**12**

Remarks	Printed	
NMC = 11%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD07
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly gravelly sandy CLAY	Depth m	1.50 - 2.50
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer	Sample Type	B



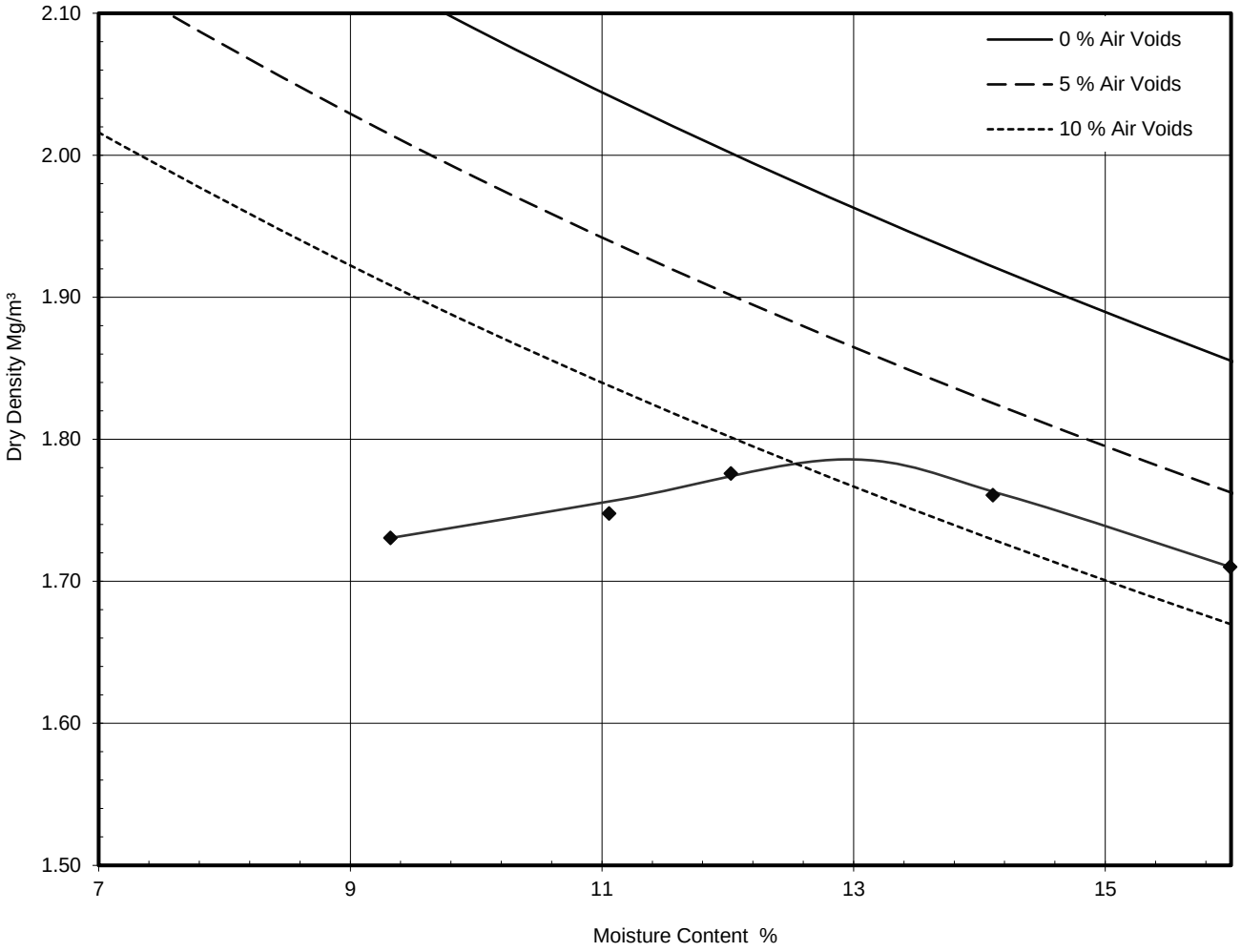
Preparation		Material used was natural
Mould Type		CBR
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	2
Material Retained on 20.0 mm Sieve	%	6
Particle Density - Measured using small pyknometer	Mg/m³	2.68

Maximum Dry Density	Mg/m³	**1.86**

Optimum Moisture Content	%	**15**

Remarks	Printed	
NMC = 16%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD10
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light brown gravelly slightly clayey SAND	Depth m	1.60 - 2.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



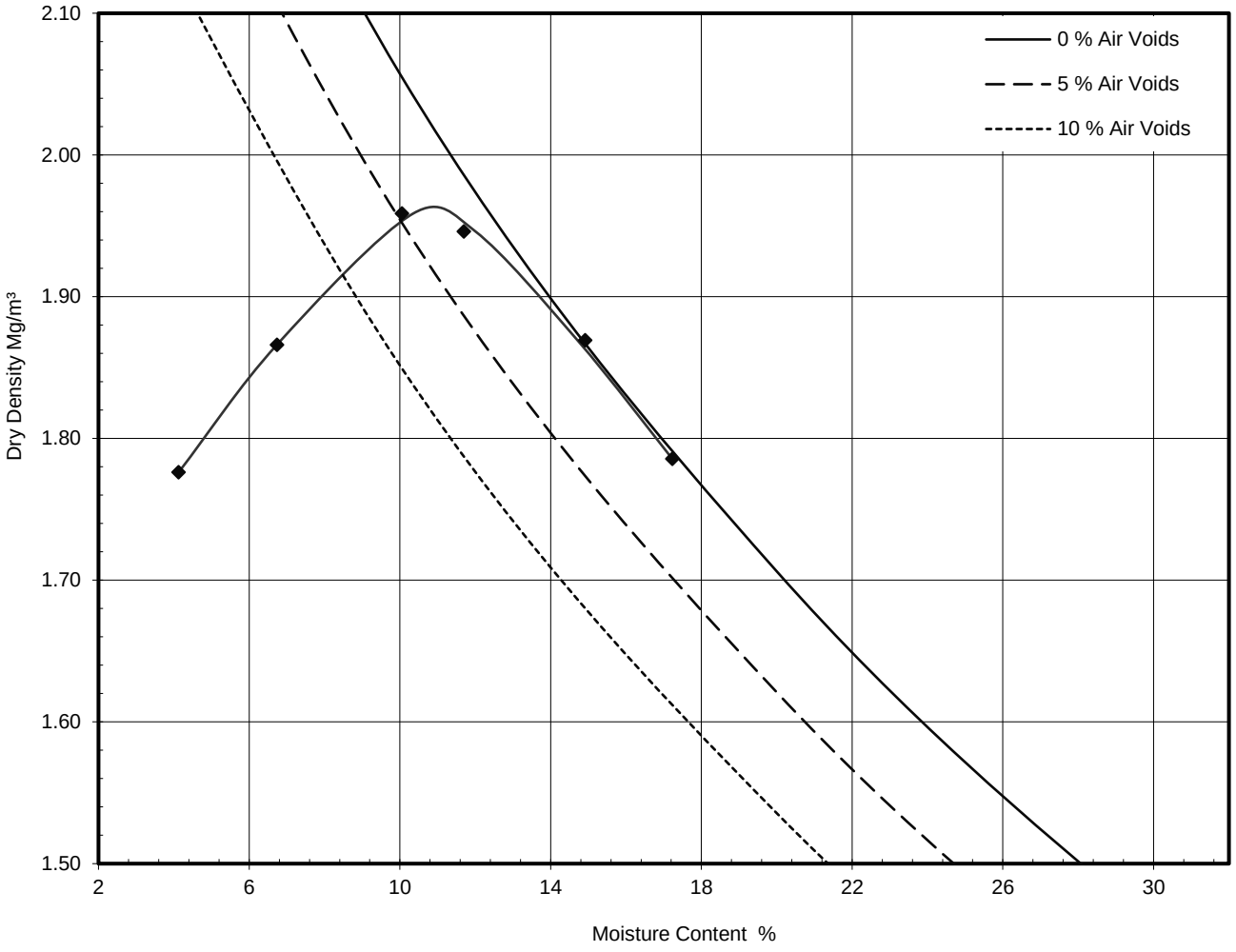
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.64

Maximum Dry Density	Mg/m³	**1.79**

Optimum Moisture Content	%	**13**

Remarks	Printed	
NMC = 4.6%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD12
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light brown slightly sandy slightly gravelly CLAY	Depth m	1.00 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



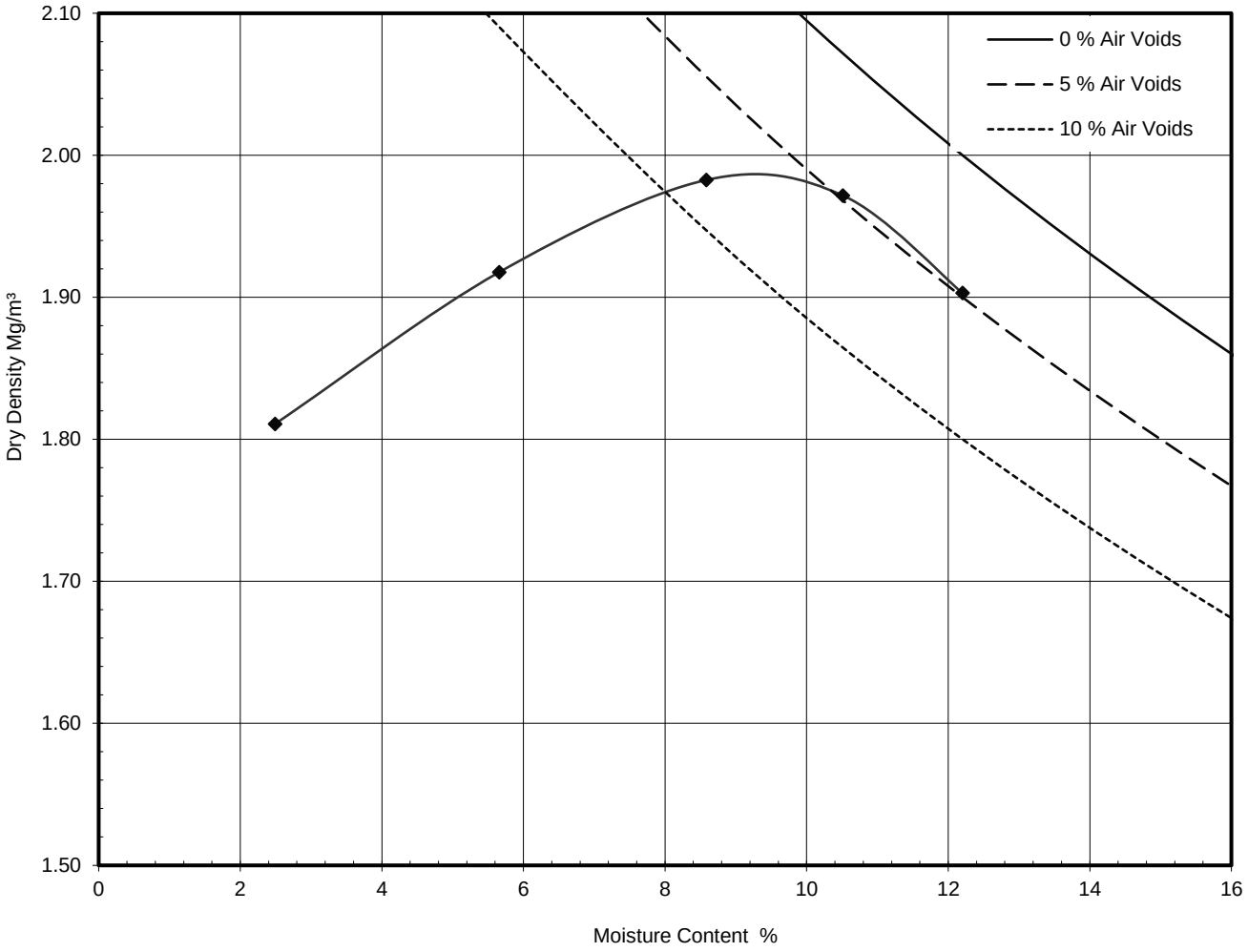
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.59

Maximum Dry Density	Mg/m³	**1.96**

Optimum Moisture Content	%	**11**

Remarks	Printed	
NMC = 12%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD15
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Dark brown gravelly slightly clayey SAND	Depth m	0.15 - 0.50
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer	Sample Type	B

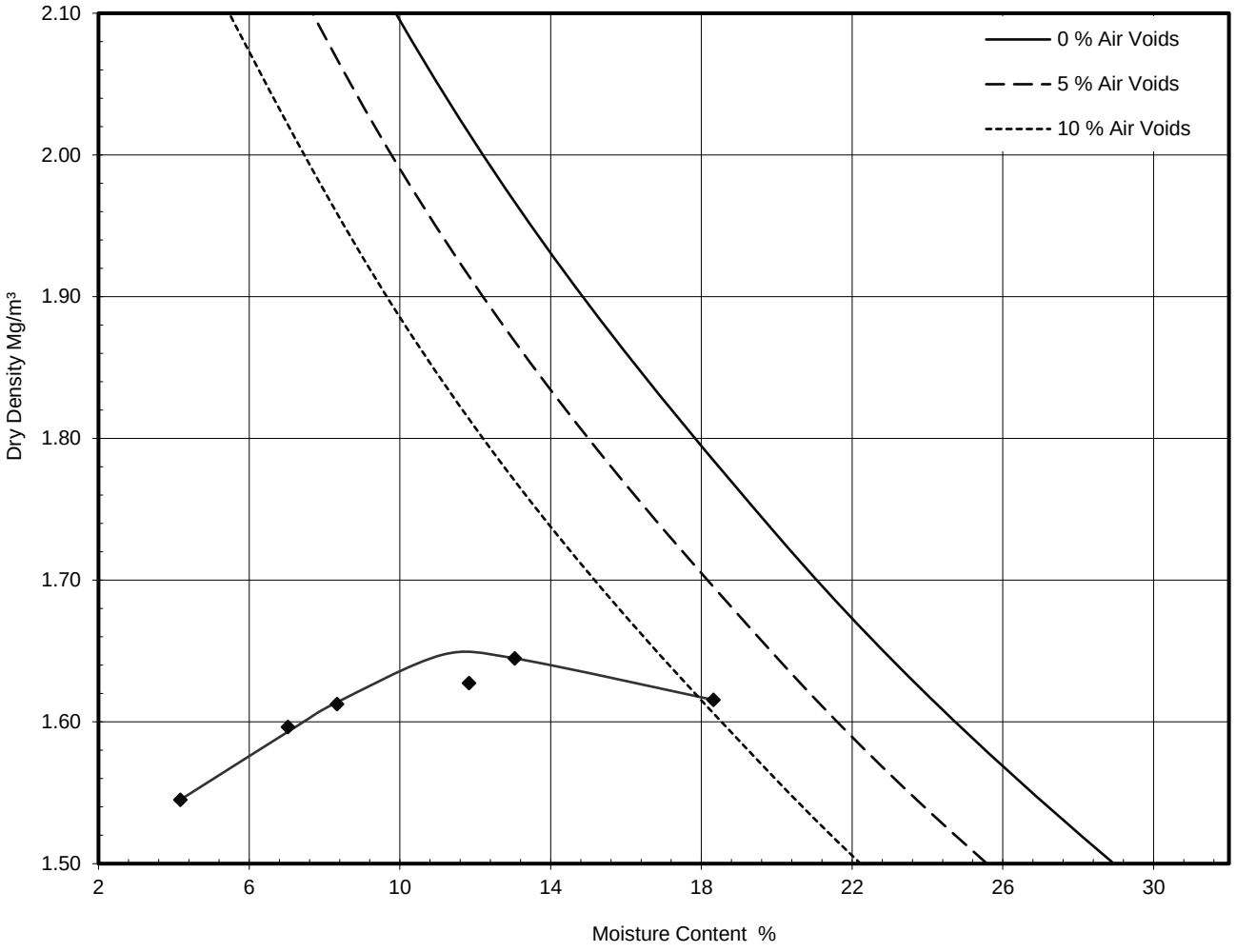


Preparation		Material used was natural
Mould Type		CBR
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	8
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.99**
Optimum Moisture Content	%	**9.4**

Remarks	Printed	
NMC = 2.5%	23/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPD17
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Orangish brown slightly clayey SAND	Depth m	0.45 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.65**
Optimum Moisture Content	%	**12**

Remarks

NMC = 4.2%

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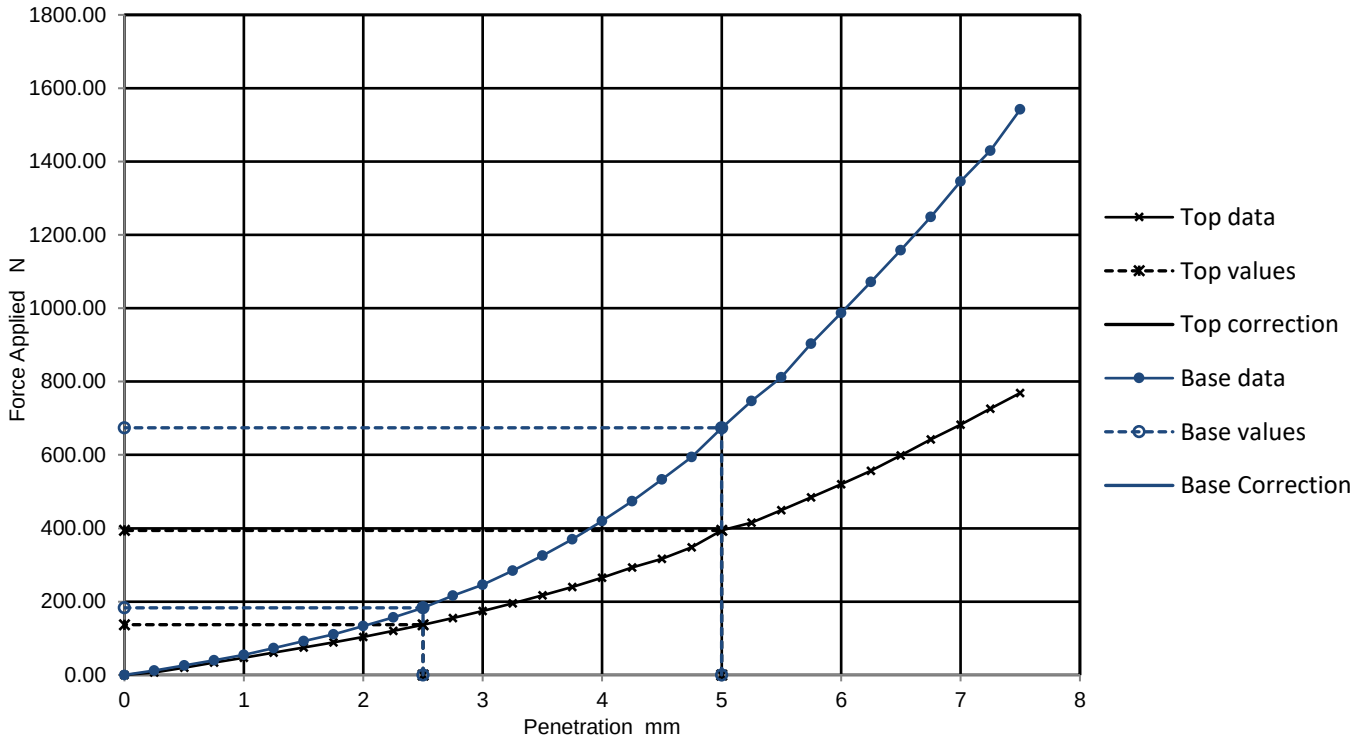
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD03
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.30 - 0.70
Specimen Description	Brown slightly gravelly slightly clayey SAND.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	7	days
			Time to surface	4	days
			Amount of swell recorded	0.62	mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	2.00	Mg/m3
Initial Specimen details	Bulk density	2.22 Mg/m3	Surcharge applied	12.3	kg
	Dry density	2.01 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	10.7 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.0	2.0	2.0		11.0
BASE	No	1.4	3.4	3.4		10.5

Remarks	Test Specific Remarks	Printed
		23/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

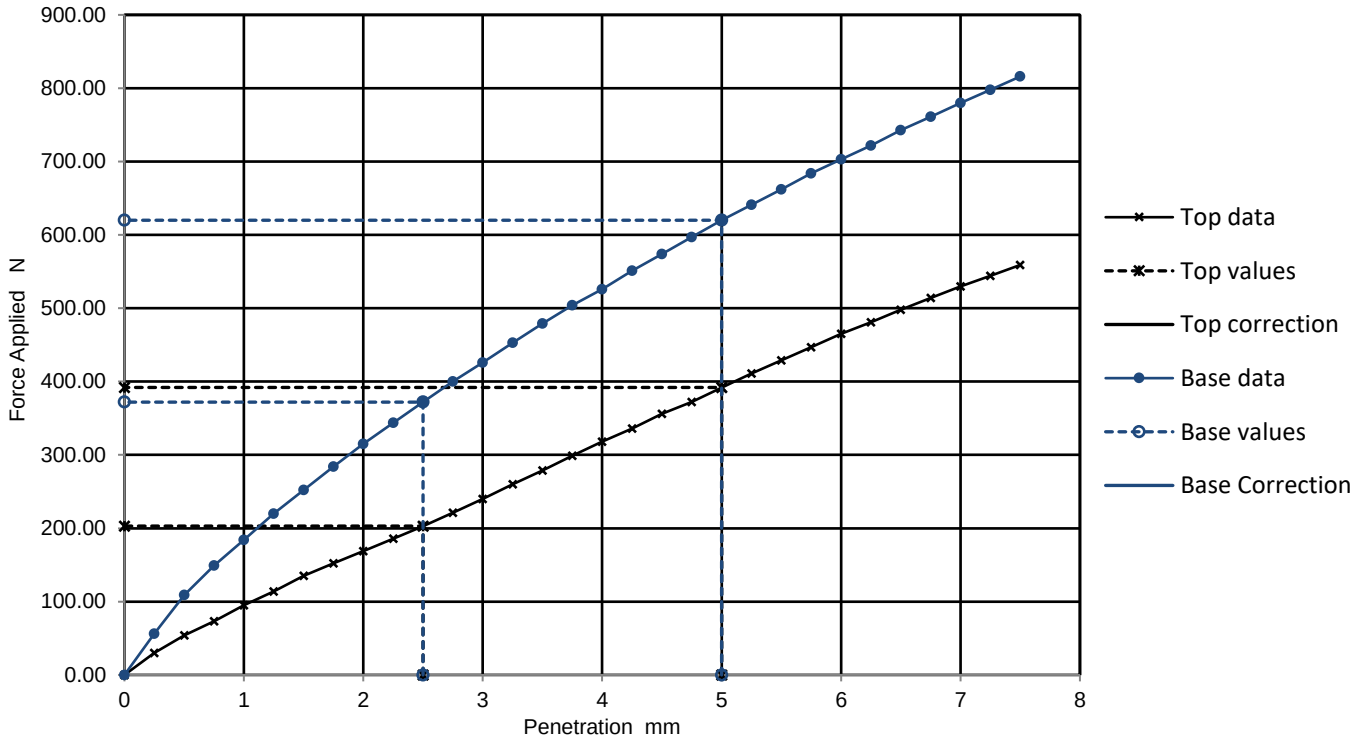
UKAS TESTING 1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD05
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.40 - 2.40
Specimen Description	Light brown slightly gravelly sandy CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	8	days
			Time to surface	4	days
			Amount of swell recorded	0.51	mm
Material retained on 20mm sieve removed	12	%	Dry density after soaking	1.94	Mg/m3
Initial Specimen details	Bulk density	2.20	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.98	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	11.0	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.5	2.0	2.0		13.6
BASE	No	2.8	3.1	3.1		12.9

Remarks	Test Specific Remarks	Printed
		23/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

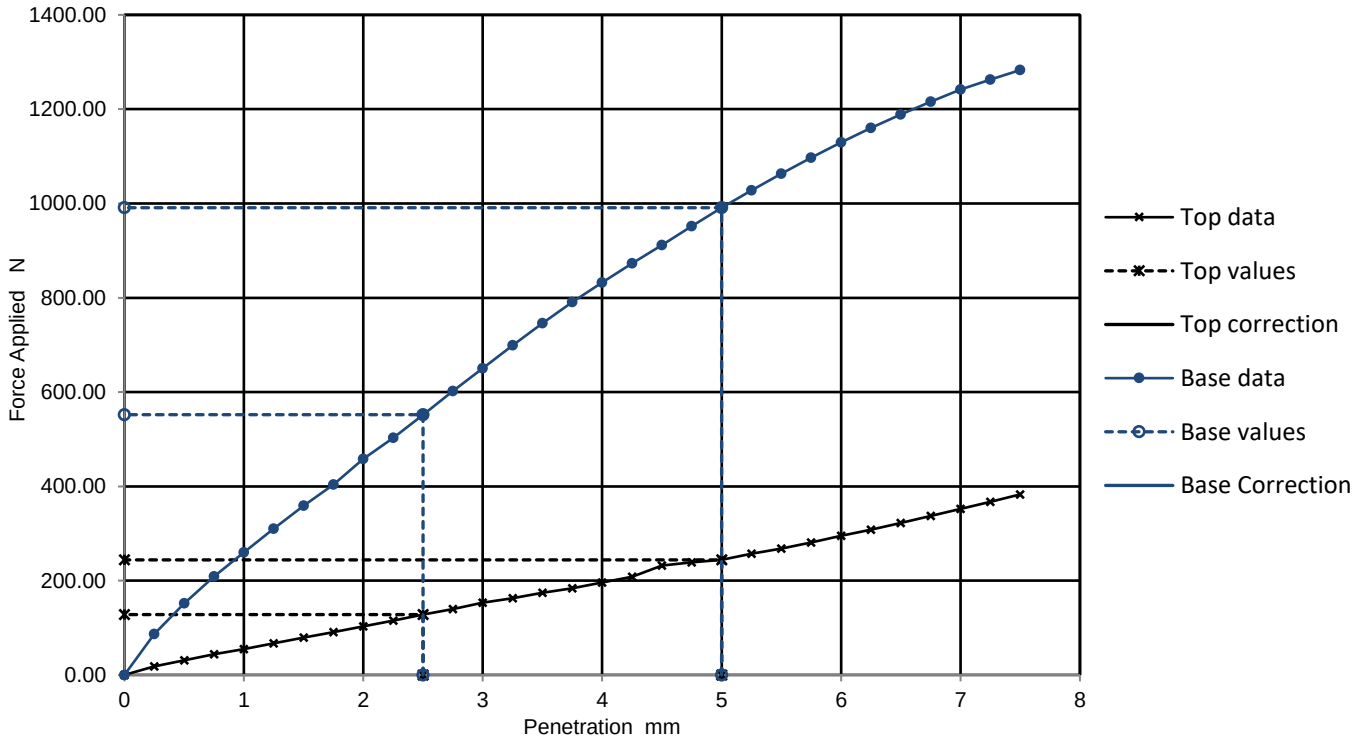
UKAS TESTING 1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD08
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 1.10
Specimen Description	Brown gravelly very clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	10	days
			Time to surface	4	days
			Amount of swell recorded	1.72	mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	2.02	Mg/m3
Initial Specimen details	Bulk density	2.24 Mg/m3	Surcharge applied	12.3	kg
	Dry density	2.04 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	9.6 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.0	1.2	1.2		11.9
BASE	No	4.2	5.0	5.0		10.1

Remarks	Test Specific Remarks	Printed
		23/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

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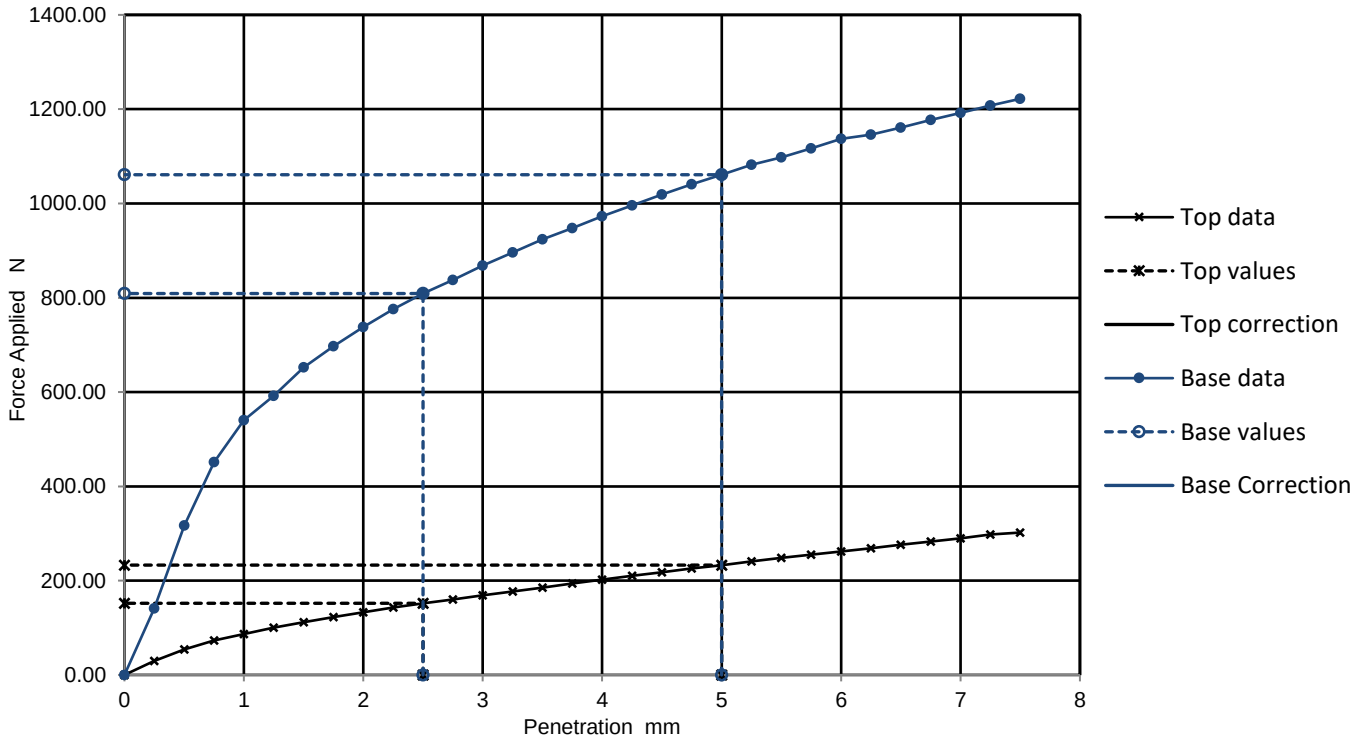
GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD09
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.50 - 1.50
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	8	days
			Time to surface	4	days
			Amount of swell recorded	3.50	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.86	Mg/m3

Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.87	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	15.9	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.2	1.2	1.2		17.4
BASE	No	6.1	5.3	6.1		15.7

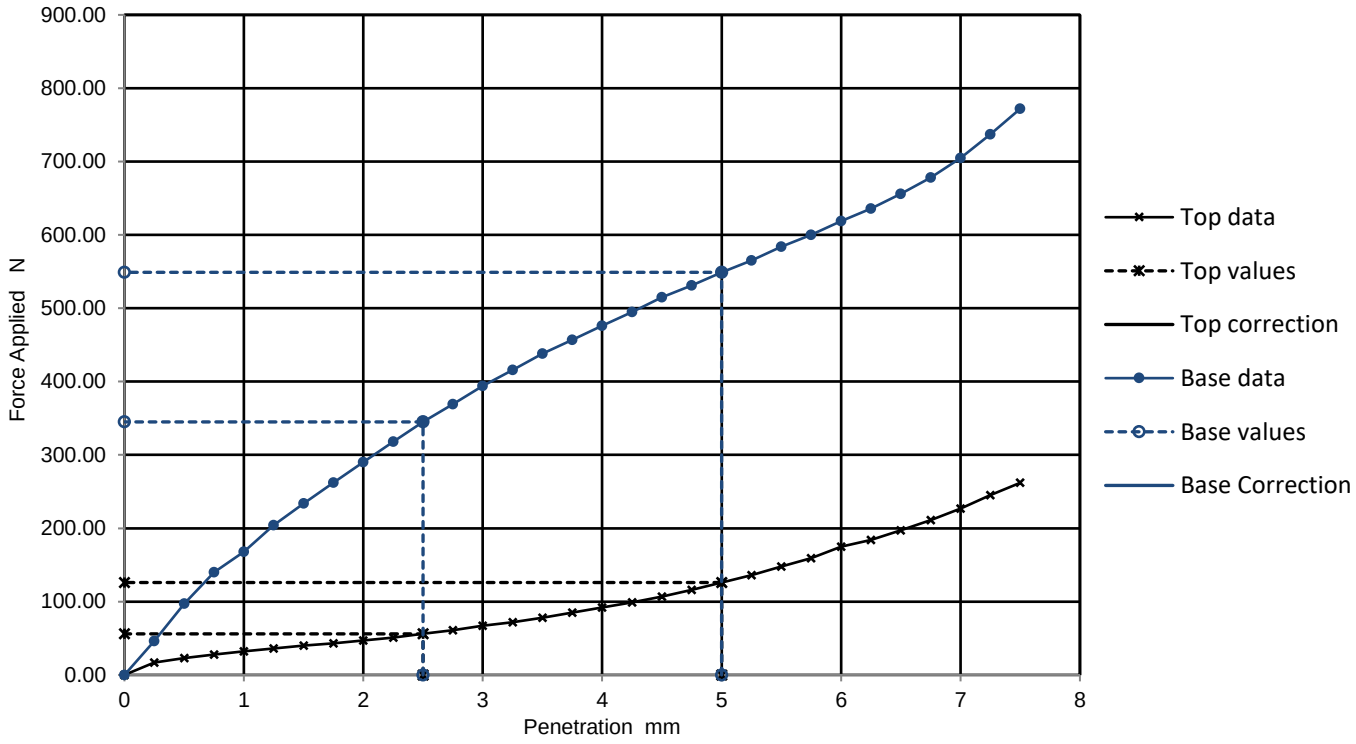
Remarks	Test Specific Remarks	Printed	
		23/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD11
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.50 - 2.50
Specimen Description	Light brown gravelly slightly clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	1.65	Mg/m3
Initial Specimen details	Bulk density	1.73 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.65 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	4.9 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.4	0.6	0.6		4.7
BASE	No	2.6	2.7	2.7		4.7

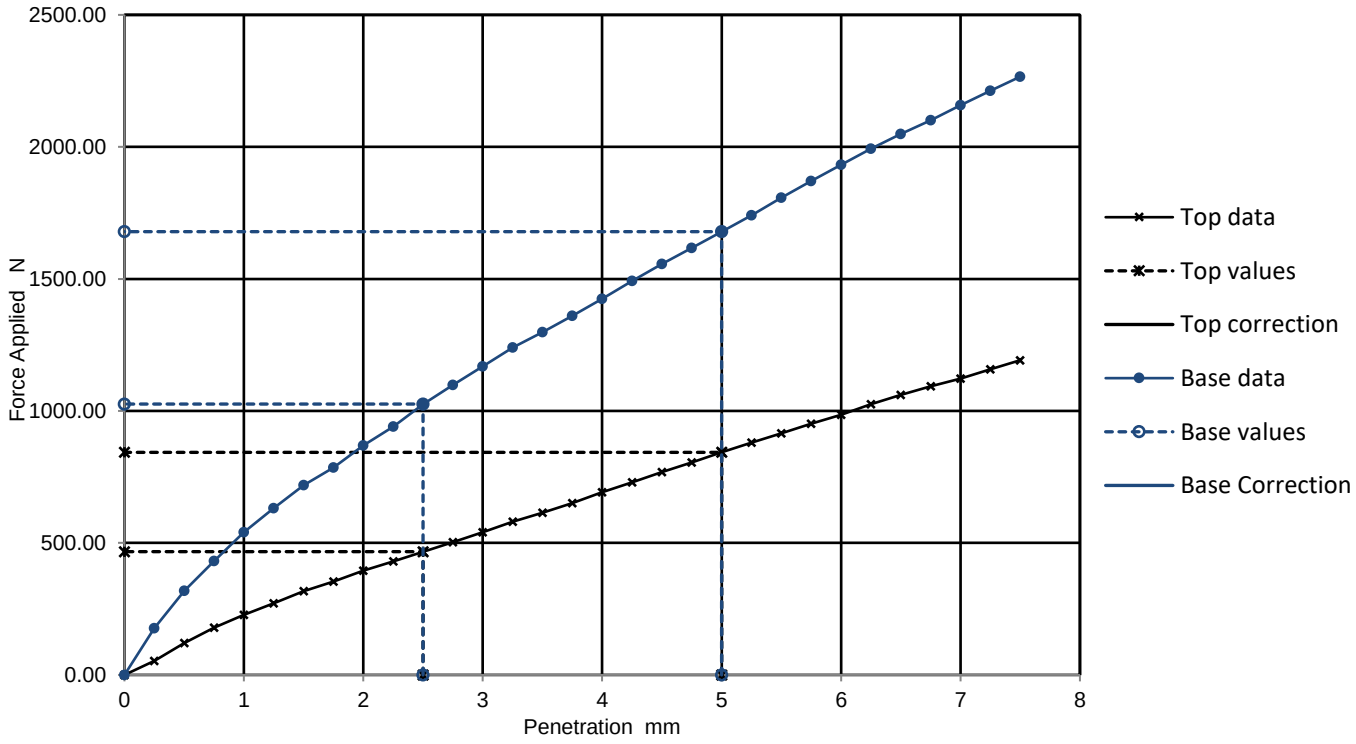
Remarks	Test Specific Remarks	Printed	
Unsuitable for soaking method		23/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD13
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 1.10
Specimen Description	Brown slightly gravelly sandy CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	8	days
			Time to surface	4	days
			Amount of swell recorded	0.25	mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	2.02	Mg/m3
Initial Specimen details	Bulk density	2.25 Mg/m3	Surcharge applied	12.3	kg
	Dry density	2.02 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	11.2 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	3.5	4.2	4.2		11.9
BASE	No	7.8	8.4	8.4		10.7

Remarks	Test Specific Remarks	Printed	
		23/01/2025	UKAS TESTING 1365

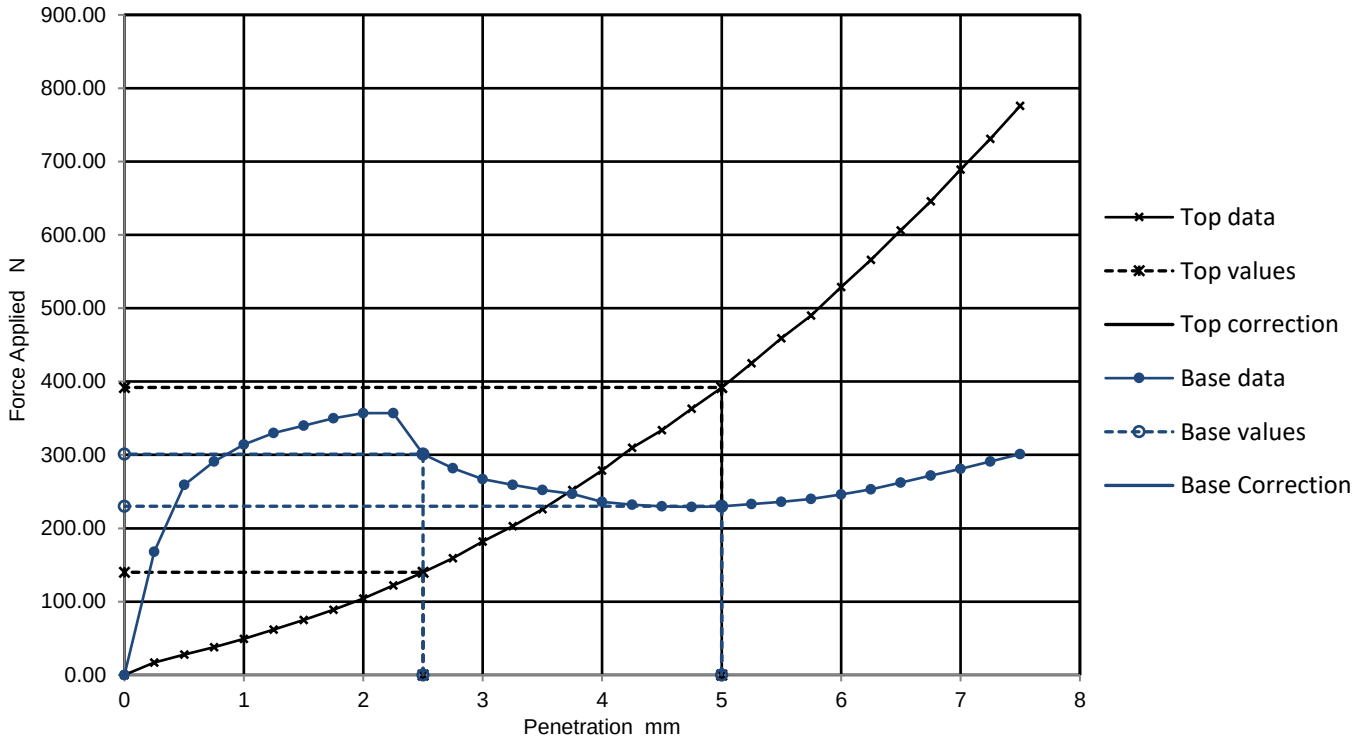
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD14
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.50 - 0.70
Specimen Description	Dark brown gravelly slightly clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.73	Mg/m3
Initial Specimen details	Bulk density	1.77 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.73 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.1	2.0	2.0	2.1	2.2
BASE	No	2.3	1.2	2.3		2.2

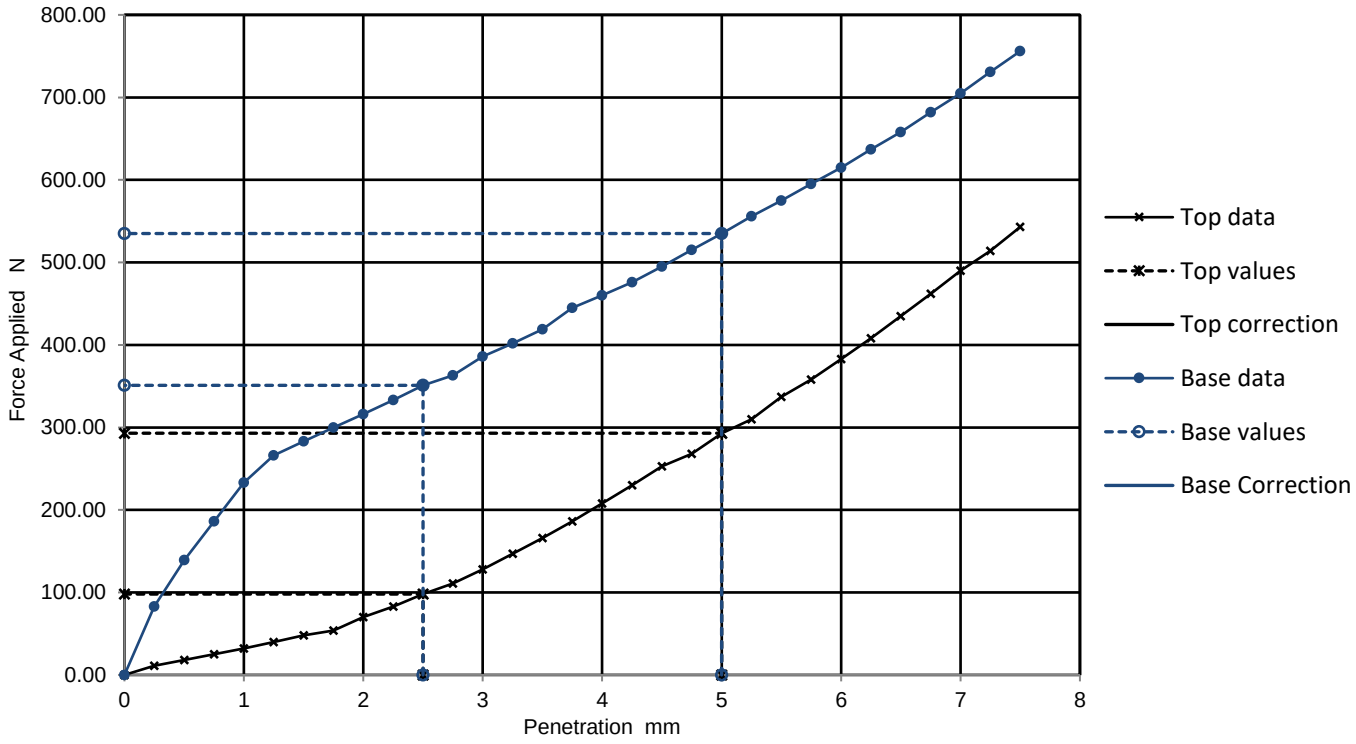
Remarks	Test Specific Remarks	Printed
Material unsuitable for soaking method	Base 'failed' beyond 2.5mm penetration	23/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD16
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.45 - 0.75
Specimen Description	Brown very gravelly slightly clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	21	%	Dry density after soaking	1.66	Mg/m3
Initial Specimen details	Bulk density	1.72 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.66 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	0.7	1.5	1.5		3.3
BASE	No	2.7	2.7	2.7		3.4

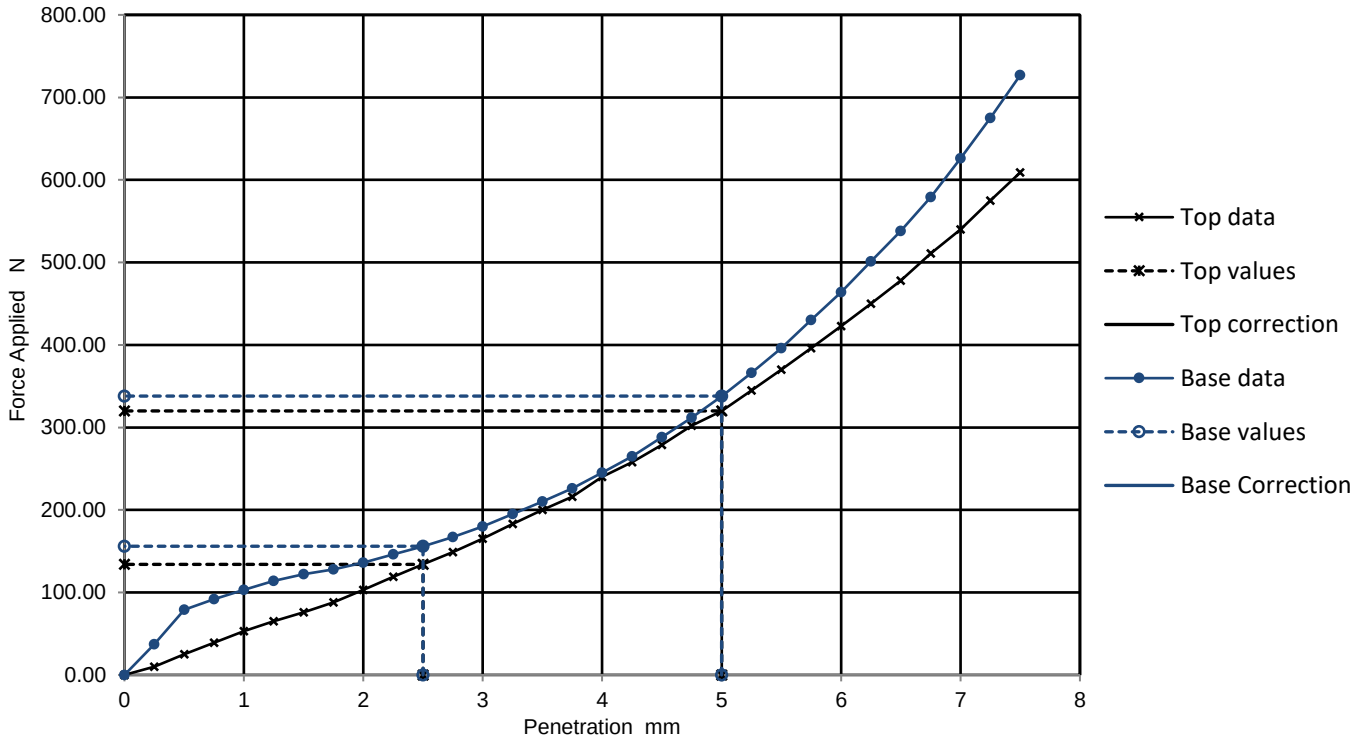
Remarks	Test Specific Remarks	Printed	
Material unsuitable for soaking method		23/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPD18
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 1.50
Specimen Description	Orangish brown slightly gravelly silty SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	11	days
			Time to surface	4	days
			Amount of swell recorded	0.96	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.46	Mg/m3
Initial Specimen details	Bulk density	1.71 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.66 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	3.3 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.0	1.6	1.6	1.6	17.8
BASE	No	1.2	1.7	1.7		16.4

Remarks	Test Specific Remarks	Printed
		23/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

UKAS TESTING 1365

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD18
		Sample Depth	1.50-1.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	05/11/2024

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	19.4	-	%
Bulk Density	1.98	-	Mg/m³
Dry Density	1.66	-	Mg/m³
Sample Mass	3125.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.79**	**-**	W/(m.k)
Thermal Resistivity	**0.56**	**-**	(m.k)/W
Initial Temperature	18.0	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD17
		Sample Depth	1.50-2.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	04/11/2024

Specimen Description	Grey sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	99.82	-	mm
Sample Length	200.13	-	mm
Water Content	21.3	-	%
Bulk Density	2.00	-	Mg/m³
Dry Density	1.65	-	Mg/m³
Sample Mass	3130.6	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.10**	**-**	W/(m.k)
Thermal Resistivity	**0.48**	**-**	(m.k)/W
Initial Temperature	18.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD16
		Sample Depth	0.75-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	04/11/2024

Specimen Description	Brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	2.9	-	%
Bulk Density	1.55	-	Mg/m³
Dry Density	1.50	-	Mg/m³
Sample Mass	2441.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.10**	**-**	W/(m.k)
Thermal Resistivity	**0.91**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD15
		Sample Depth	1.50-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	04/11/2024

Specimen Description	Brown slightly gravelly SAND with some clay pockets

Specimen	**1**	**2**	Units
Sample Diameter	99.82	-	mm
Sample Length	200.13	-	mm
Water Content	14.1	-	%
Bulk Density	2.04	-	Mg/m³
Dry Density	1.79	-	Mg/m³
Sample Mass	3189.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.30**	**-**	W/(m.k)
Thermal Resistivity	**0.43**	**-**	(m.k)/W
Initial Temperature	18.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD14
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	04/11/2024

Specimen Description	Brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	2.1	-	%
Bulk Density	1.65	-	Mg/m³
Dry Density	1.61	-	Mg/m³
Sample Mass	2594.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.40**	**-**	W/(m.k)
Thermal Resistivity	**0.71**	**-**	(m.k)/W
Initial Temperature	17.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD13
		Sample Depth	1.10-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	18/12/2024

Specimen Description	Brown SAND with some clay pockets

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	9.2	-	%
Bulk Density	1.95	-	Mg/m³
Dry Density	1.78	-	Mg/m³
Sample Mass	3070.8	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.44**	**-**	W/(m.k)
Thermal Resistivity	**0.41**	**-**	(m.k)/W
Initial Temperature	19.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD12
		Sample Depth	0.40-1.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	18/12/2024

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	11.6	-	%
Bulk Density	2.12	-	Mg/m³
Dry Density	1.90	-	Mg/m³
Sample Mass	3335.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.49**	**-**	W/(m.k)
Thermal Resistivity	**0.40**	**-**	(m.k)/W
Initial Temperature	19.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD11
		Sample Depth	0.40-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	06/01/2025

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	7.7	-	%
Bulk Density	1.86	-	Mg/m³
Dry Density	1.73	-	Mg/m³
Sample Mass	2930.6	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.20**	**-**	W/(m.k)
Thermal Resistivity	**0.46**	**-**	(m.k)/W
Initial Temperature	10.7	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD10
		Sample Depth	0.40-1.60m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	16/12/2024

Specimen Description	Light brown SAND with some clay pockets

Specimen	**1**	**2**	Units
Sample Diameter	100.40	-	mm
Sample Length	200.00	-	mm
Water Content	11.3	-	%
Bulk Density	2.03	-	Mg/m³
Dry Density	1.83	-	Mg/m³
Sample Mass	3220.2	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.67**	**-**	W/(m.k)
Thermal Resistivity	**0.37**	**-**	(m.k)/W
Initial Temperature	19.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD09
		Sample Depth	1.50-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	16/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.30	-	mm
Sample Length	200.40	-	mm
Water Content	5.4	-	%
Bulk Density	1.78	-	Mg/m³
Dry Density	1.69	-	Mg/m³
Sample Mass	2815.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.10**	**-**	W/(m.k)
Thermal Resistivity	**0.48**	**-**	(m.k)/W
Initial Temperature	18.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD08
		Sample Depth	1.10-1.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	01/11/2024

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	11.1	-	%
Bulk Density	2.22	-	Mg/m³
Dry Density	1.99	-	Mg/m³
Sample Mass	3494.6	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.66**	**-**	W/(m.k)
Thermal Resistivity	**0.38**	**-**	(m.k)/W
Initial Temperature	19.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD07
		Sample Depth	0.50-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	06/01/2025

Specimen Description	Grey slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	15.4	-	%
Bulk Density	2.10	-	Mg/m³
Dry Density	1.82	-	Mg/m³
Sample Mass	3301.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.09**	**-**	W/(m.k)
Thermal Resistivity	**0.48**	**-**	(m.k)/W
Initial Temperature	11.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD06
		Sample Depth	1.50-2.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	06/01/2025

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	10.8	-	%
Bulk Density	2.25	-	Mg/m³
Dry Density	2.03	-	Mg/m³
Sample Mass	3543.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.56**	**-**	W/(m.k)
Thermal Resistivity	**0.39**	**-**	(m.k)/W
Initial Temperature	11.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD05
		Sample Depth	0.40-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	06/01/2025

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	15.8	-	%
Bulk Density	2.15	-	Mg/m³
Dry Density	1.86	-	Mg/m³
Sample Mass	3384.8	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.40**	**-**	W/(m.k)
Thermal Resistivity	**0.42**	**-**	(m.k)/W
Initial Temperature	10.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD04
		Sample Depth	0.30-1.30m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/01/2025

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	11.3	-	%
Bulk Density	2.22	-	Mg/m³
Dry Density	1.99	-	Mg/m³
Sample Mass	3496.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.38**	**-**	W/(m.k)
Thermal Resistivity	**0.42**	**-**	(m.k)/W
Initial Temperature	15.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD03
		Sample Depth	0.70-1.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/01/2025

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	14.2	-	%
Bulk Density	2.14	-	Mg/m³
Dry Density	1.88	-	Mg/m³
Sample Mass	3377.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.31**	**-**	W/(m.k)
Thermal Resistivity	**0.43**	**-**	(m.k)/W
Initial Temperature	16.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPD02
		Sample Depth	0.40-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/01/2025

Specimen Description	Brown slightly gravelly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	11.2	-	%
Bulk Density	2.17	-	Mg/m³
Dry Density	1.95	-	Mg/m³
Sample Mass	3410.1	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.62**	**-**	W/(m.k)
Thermal Resistivity	**0.38**	**-**	(m.k)/W
Initial Temperature	15.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

Certificate of Analysis

Certificate Number 24-25761 *Issued:* 02-Dec-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-25761

Client Reference ~ PC248770

Order No ~ OC42256

Contract Title ~ Lionlink Cable Route

Description 8 Soil samples.

Date Received 27-Nov-24

Date Started 27-Nov-24

Date Completed 02-Dec-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-25761
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2431037	2431038	2431039	2431040	2431041	2431042	2431043	2431044
			Sample ID ~	BHD02	BHD05	BHD06	TPD02	TPD02	TPD03	TPD04	TPD04
			Depth ~	1.00-1.20	1.40	1.00-1.20	0.40-1.20	2.00	0.70-1.70	0.30-1.30	1.50
			Other ID ~								
			Sample Type ~	D	D	D	B	D	B	B	D
			Sampling Date ~	23/10/2024	21/10/2024	21/10/2024	21/10/2024	21/10/2024	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
Inorganics											
pH	DETSC 2008#		pH	9.8	11.7	8.4	8.7	8.5	8.5	8.5	8.8
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	70	34	13		13			12

Symbol key at end of report

Information in Support of the Analytical Results

Our Ref 24-25761
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2431037	BHD02 1.00-1.20 SOIL	23/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2431038	BHD05 1.40 SOIL	21/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2431039	BHD06 1.00-1.20 SOIL	21/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2431040	TPD02 0.40-1.20 SOIL	21/10/24	PT 1L	pH + Conductivity (7 days)	
2431041	TPD02 2.00 SOIL	21/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2431042	TPD03 0.70-1.70 SOIL	21/10/24	PT 1L	pH + Conductivity (7 days)	
2431043	TPD04 0.30-1.30 SOIL	21/10/24	PT 1L	pH + Conductivity (7 days)	
2431044	TPD04 1.50 SOIL	21/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-24968 *Issued:* 21-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-24968

Client Reference ~ PC248770

Order No ~ OC42164

Contract Title ~ Lionlink Cable Route

Description 12 Soil samples.

Date Received 18-Nov-24

Date Started 18-Nov-24

Date Completed 21-Nov-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24968
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2425686	2425687	2425688	2425689	2425690	2425691	2425692	2425693	2425694	2425695	2425696	2425697
			Sample ID ~	TPD05	TPD05	TPD06	TPD07	TPD07	TPD09	TPD10	TPD11	TPD11	TPD12	TPD13	TPD13
			Depth ~	0.40-1.40	1.00	1.50-2.40	0.50-1.50	0.60	1.50-2.50	0.40-1.60	0.40-1.50	1.00	0.40-1.00	1.00	1.10-2.00
			Other ID ~												
			Sample Type ~	B	D	B	B	D	B	B	B	D	B	D	B
			Sampling Date ~	28/10/2024	28/10/2024	29/10/2024	29/10/2024	29/10/2024	29/10/2024	30/10/2024	30/10/2024	30/10/2024	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**												
Inorganics															
pH	DETSC 2008#		pH	8.5	8.5	8.4	8.2	8.2	8.5	7.8	8.2	8.3	5.7	6.3	6.5
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		12			16				< 10		21	

Information in Support of the Analytical Results

Our Ref 24-24968
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2425686	TPD05 0.40-1.40 SOIL	28/10/24	PT 1L	pH + Conductivity (7 days)	
2425687	TPD05 1.00 SOIL	28/10/24	PT 1L	pH + Conductivity (7 days)	
2425688	TPD06 1.50-2.40 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425689	TPD07 0.50-1.50 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425690	TPD07 0.60 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425691	TPD09 1.50-2.50 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425692	TPD10 0.40-1.60 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425693	TPD11 0.40-1.50 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425694	TPD11 1.00 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425695	TPD12 0.40-1.00 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425696	TPD13 1.00 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425697	TPD13 1.10-2.00 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-22130 *Issued:* 18-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-22130

Client Reference ~ PC248770

Order No ~ OC41812

Contract Title ~ Lionlink Cable Route

Description One Soil sample.

Date Received 16-Oct-24

Date Started 16-Oct-24

Date Completed 18-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22130
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2409574
Sample ID ~	TPB18
Depth ~	1.50-1.70
Other ID ~	
Sample Type ~	B
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Inorganics				
pH	DETSC 2008#		pH	7.3

Information in Support of the Analytical Results

Our Ref 24-22130
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2409574	TPB18 1.50-1.70 SOIL	12/09/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-21518	*Issued:*	11-Oct-24
Client	Geotechnics LTD 203 Torrington Avenue Tile Hill Coventry CV4 9AP		

Our Reference	24-21518
Client Reference ~	PC248770
Order No ~	OC41730
Contract Title ~	Lionlink Cable Route
Description	11 Soil samples.
Date Received	08-Oct-24
Date Started	08-Oct-24
Date Completed	11-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21518
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2405238	2405239	2405240	2405241	2405242	2405243	2405244	2405245	2405246	2405247	2405248
			Sample ID ~	TPD08	TPD14	TPD14	TPD15	TPD15	TPD15	TPD16	TPD16	TPD17	TPD17	TPD17
			Depth ~	1.10-1.70	0.60	0.70-1.50	0.50-1.50	1.20	1.50-2.00	0.75-1.50	2.75	0.60	1.50-2.20	2.20-3.00
			Other ID ~											
			Sample Type ~	B	D	B	B	D	B	B	D	D	B	B
			Sampling Date ~	13/09/2024	12/09/2024	12/09/2024	11/09/2024	11/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	7.4		7.4		7.7	8.5	8.0		7.8	7.6	
Organic matter	DETSC 2002#	0.1	%		0.1		0.9				1.1			< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l					< 10				< 10		

Information in Support of the Analytical Results

Our Ref 24-21518
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2405238	TPD08 1.10-1.70 SOIL	13/09/24	PT 1L	pH + Conductivity (7 days)	
2405239	TPD14 0.60 SOIL	12/09/24	PT 1L		
2405240	TPD14 0.70-1.50 SOIL	12/09/24	PT 1L	pH + Conductivity (7 days)	
2405241	TPD15 0.50-1.50 SOIL	11/09/24	PT 1L		
2405242	TPD15 1.20 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2405243	TPD15 1.50-2.00 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2405244	TPD16 0.75-1.50 SOIL	12/09/24	PT 1L	pH + Conductivity (7 days)	
2405245	TPD16 2.75 SOIL	12/09/24	PT 1L		
2405246	TPD17 0.60 SOIL	12/09/24	PT 1L	pH + Conductivity (7 days)	
2405247	TPD17 1.50-2.20 SOIL	12/09/24	PT 1L	pH + Conductivity (7 days)	
2405248	TPD17 2.20-3.00 SOIL	12/09/24	PT 1L		

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 12

Laboratory Test Results - Contamination Soil

APPENDIX 12

Certificate of Analysis

Certificate Number	24-23274-1	*Issued:*	11-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23274-1
Client Reference ~	PC248770
Order No ~	OC41941
Contract Title ~	Lionlink Cable Route
Description	1 Soil sample, 1 Leachate prepared by DETS sample.
Date Received	30-Oct-24
Date Started	30-Oct-24
Date Completed	11-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes **This report supersedes 24-23274; Amendments made to Report: Sample ID updated**
Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416175
Sample ID ~	BHD02
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21
Lead	DETSC 2301#	0.3	mg/kg	22
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	20
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	31
Zinc	DETSC 2301#	1	mg/kg	72
Inorganics				
pH	DETSC 2008#		pH	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.5
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	23
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416175
Sample ID ~	BHD02
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	1.6
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416175
Sample ID ~	BHD02
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416176
Sample ID ~	BHD02
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.47
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	6.9
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.2
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.81
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	6.7
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	< 0.03
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.3
Nitrate as N	DETSC 2055	0.0226	mg/l	0.29
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.1
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416176
Sample ID ~	BHD02
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	0.06
Acenaphthylene	DETSC 3304	0.01	ug/l	0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.02
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416176
Sample ID ~	BHD02
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416176
Sample ID ~	BHD02
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2416176
Sample ID ~	BHD02
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2416175	BHD02 0.30	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-23274-1
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2416175	BHD02 0.30 SOIL	23/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2416176	BHD02 1.00 LEACHATE	23/10/24	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days)	VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-24065 *Issued:* 25-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-24065

Client Reference ~ PC248770

Order No ~ OC42061

Contract Title ~ LionLink Cable Route

Description 2 Soil samples.

Date Received 07-Nov-24

Date Started 07-Nov-24

Date Completed 25-Nov-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420506	2420507
			Sample ID ~	BHD03	BHD04
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	5.5	5.4
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	< 0.2	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	5.9	5.6
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	7.1	5.7
Lead	DETSC 2301#	0.3	mg/kg	8.1	7.0
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.3	4.9
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	13	13
Zinc	DETSC 2301#	1	mg/kg	28	20
Inorganics					
pH	DETSC 2008#		pH	8.3	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.7	1.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	33	31
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420506	2420507
			Sample ID ~	BHD03	BHD04
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg		< 35
2,4-D	DETSC 3447	35	ug/kg		< 35
Bentazone	DETSC 3447	35	ug/kg		< 35
Picloram	DETSC 3447	35	ug/kg		< 35
MCPA	DETSC 3447	35	ug/kg		< 35
Clopyralid	DETSC 3447	35	ug/kg		< 35
Dicamba	DETSC 3447	35	ug/kg		< 35
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35
Dichlorprop	DETSC 3447	35	ug/kg		< 35
Bromoxynil	DETSC 3447	35	ug/kg		< 35
Triclopyr	DETSC 3447	35	ug/kg		< 35
Fenoprop	DETSC 3447	35	ug/kg		< 35
MCPB	DETSC 3447*	35	ug/kg		< 35
2,4,5-T	DETSC 3447	35	ug/kg		< 35
Fluroxypyr	DETSC 3447	35	ug/kg		< 35
2,4-DB	DETSC 3447	35	ug/kg		< 35
Ioxynil	DETSC 3447	35	ug/kg		< 35
Benazolin	DETSC 3447	35	ug/kg		< 35
PCP	DETSC 3447*	35	ug/kg		< 35
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420506	2420507
			Sample ID ~	BHD03	BHD04
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1
Naled	DETSC 3433*	0.1	mg/kg		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420506	2420507
			Sample ID ~	BHD03	BHD04
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420506	2420507
			Sample ID ~	BHD03	BHD04
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-24065
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2420506	BHD03 0.10	SOIL	NAD	none	Michael Kay
2420507	BHD04 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-24065
Client Ref ~ PC248770
Contract ~ LionLink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2420506	BHD03 0.10 SOIL	31/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2420507	BHD04 0.10 SOIL	31/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-22753	*Issued:*	07-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-22753
Client Reference ~	PC248770
Order No ~	OC41912
Contract Title ~	Lionlink Cable Route
Description	4 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	23-Oct-24
Date Started	23-Oct-24
Date Completed	07-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2413212	2413213	2413215
	Sample ID ~	BHD05	BHD05	BHD06
	Depth ~	0.10	1.00	1.00-1.20
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg		8.1	2.5
Beryllium	DETSC 2301#	0.2	mg/kg		0.3	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg		0.4	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg		0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg		10	2.2
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg		12	10
Lead	DETSC 2301#	0.3	mg/kg		6.0	4.1
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg		13	2.5
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		21	5.7
Zinc	DETSC 2301#	1	mg/kg		50	24
Inorganics						
pH	DETSC 2008#		pH		8.3	8.4
Cyanide, Free	DETSC 2130#	0.1	mg/kg		< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%		0.4	0.8
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		31	18
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413212	2413213	2413215
			Sample ID ~	BHD05	BHD05	BHD06
			Depth ~	0.10	1.00	1.00-1.20
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2413212	2413213	2413215
	Sample ID ~	BHD05	BHD05	BHD06
	Depth ~	0.10	1.00	1.00-1.20
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413213	2413215
			Sample ID ~	BHD05	BHD06
			Depth ~	1.00	1.00-1.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413213	2413215
			Sample ID ~	BHD05	BHD06
			Depth ~	1.00	1.00-1.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2413216	2413217
	Sample ID ~	BHD05	BHD06
	Depth ~	0.50	0.60
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	21/10/2024	21/10/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	
BS EN 12457 10:1	DETSC 1009*				Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.9	
Boron, Dissolved	DETSC 2306*	12	ug/l	12	
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.21	
Calcium, Dissolved	DETSC 2306	0.09	mg/l	6.3	
Chromium, Dissolved	DETSC 2306	0.25	ug/l	3.5	
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.6	
Lead, Dissolved	DETSC 2306	0.09	ug/l	4.1	
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.04	
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.6	
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.3	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	5.5	
Zinc, Dissolved	DETSC 2306	1.3	ug/l	11	
Inorganics					
pH	DETSC 2008		pH	7.8	
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1	
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	
Nitrite as N	DETSC 2055	0.03	mg/l	< 0.03	
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.77	
Nitrate as N	DETSC 2055	0.0226	mg/l	0.17	
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.6	
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413216	2413217
			Sample ID ~	BHD05	BHD06
			Depth ~	0.50	0.60
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	0.28	
Acenaphthylene	DETSC 3304	0.01	ug/l	0.08	
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	
Fluorene	DETSC 3304	0.01	ug/l	0.03	
Phenanthrene	DETSC 3304	0.01	ug/l	0.07	
Anthracene	DETSC 3304	0.01	ug/l	0.02	
Fluoranthene	DETSC 3304	0.01	ug/l	0.06	
Pyrene	DETSC 3304	0.01	ug/l	0.06	
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.03	
Chrysene	DETSC 3304	0.01	ug/l	0.02	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.04	
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.02	
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.04	
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.03	
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.03	
PAH Total	DETSC 3304	0.2	ug/l	0.81	

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413216
Sample ID ~	BHD05
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413216
Sample ID ~	BHD05
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413216
Sample ID ~	BHD05
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-22753
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHD06 0.60

Sample Numbers 2413214 2413217
Date Analysed 30/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	5.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	0.046	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.4	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.73	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	5	0.05	4	50	200
DETSC 2055 Chloride as Cl	760	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	21000	210	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.3
DETSC 2009 Conductivity uS/cm	29.9
* Temperature*	19.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.94
Volume of Eluate VE1*	0.9

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-22753
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2413213	BHD05 1.00	SOIL	NAD	none	Keith Wilson
2413215	BHD06 1.00-1.20	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-22753
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2413212	BHD05 0.10 SOIL	21/10/24	GJ 250ml x2, GJ 60ml, PT 1L		
2413213	BHD05 1.00 SOIL	21/10/24	GJ 250ml x2, GJ 60ml, PT 1L		
2413214	BHD06 0.60 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413215	BHD06 1.00-1.20 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413216	BHD05 0.50 LEACHATE	21/10/24	GJ 250ml x2, GJ 60ml, PT 1L	pH/Cond (1 days)	VOC
2413217	BHD06 0.60 LEACHATE	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-22755	*Issued:*	06-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-22755
Client Reference ~	PC248770
Order No ~	OC41909
Contract Title ~	Lionlink Cable Route
Description	5 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	23-Oct-24
Date Started	23-Oct-24
Date Completed	06-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2413223	2413224	2413225	2413226
	Sample ID ~	TPD02	TPD03	TPD03	TPD04
	Depth ~	0.10	0.10	0.60	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	21/10/2024	21/10/2024	21/10/2024	21/10/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	8.1	8.4
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.4	0.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	2.9	3.3	1.1
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.1	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	16	17	10
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21	15	12
Lead	DETSC 2301#	0.3	mg/kg	13	10	7.7
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	14	11	11
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	32	31	23
Zinc	DETSC 2301#	1	mg/kg	64	47	46
Inorganics					
pH	DETSC 2008#		pH	8.0	8.1	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.4	1.6	0.3
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	260	270	97
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413223	2413224	2413225	2413226
			Sample ID ~	TPD02	TPD03	TPD03	TPD04
			Depth ~	0.10	0.10	0.60	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10		< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5		< 0.3	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg		< 35		
2,4-D	DETSC 3447	35	ug/kg		< 35		
Bentazone	DETSC 3447	35	ug/kg		< 35		
Picloram	DETSC 3447	35	ug/kg		< 35		
MCPA	DETSC 3447	35	ug/kg		< 35		
Clopyralid	DETSC 3447	35	ug/kg		< 35		
Dicamba	DETSC 3447	35	ug/kg		< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35		
Dichlorprop	DETSC 3447	35	ug/kg		< 35		
Bromoxynil	DETSC 3447	35	ug/kg		< 35		
Triclopyr	DETSC 3447	35	ug/kg		< 35		
Fenoprop	DETSC 3447	35	ug/kg		< 35		
MCPB	DETSC 3447*	35	ug/kg		< 35		
2,4,5-T	DETSC 3447	35	ug/kg		< 35		
Fluroxypyr	DETSC 3447	35	ug/kg		< 35		
2,4-DB	DETSC 3447	35	ug/kg		< 35		
Ioxynil	DETSC 3447	35	ug/kg		< 35		
Benazolin	DETSC 3447	35	ug/kg		< 35		
PCP	DETSC 3447*	35	ug/kg		< 35		
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413223	2413224	2413225	2413226
			Sample ID ~	TPD02	TPD03	TPD03	TPD04
			Depth ~	0.10	0.10	0.60	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1		
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1		
Naled	DETSC 3433*	0.1	mg/kg		< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1		

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413223	2413225	2413226
			Sample ID ~	TPD02	TPD03	TPD04
			Depth ~	0.10	0.60	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2413223	2413225	2413226
			Sample ID ~	TPD02	TPD03	TPD04
			Depth ~	0.10	0.60	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413228
Sample ID ~	TPD02
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	3.0
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	5.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.32
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.48
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.7
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.3
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.5
Inorganics				
pH	DETSC 2008		pH	7.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.4
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	0.4
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.03
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.031
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.025
Nitrite as N	DETSC 2055	0.03	mg/l	< 0.03
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.1
Nitrate as N	DETSC 2055	0.0226	mg/l	0.25
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.6
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413228
Sample ID ~	TPD02
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413228
Sample ID ~	TPD02
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413228
Sample ID ~	TPD02
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2413228
Sample ID ~	TPD02
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	21/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-22755
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPD04 0.50

Sample Numbers 2413227 2413229
Date Analysed 30/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.8	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.21	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.72	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	690	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	130	1.3	10	150	500
DETSC 2055 Sulphate as SO4	1600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	34000	340	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	48.5
* Temperature*	20.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.99
Volume of Eluate VE1*	0.955

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-22755
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2413223	TPD02 0.10	SOIL	NAD	none	Keith Wilson
2413225	TPD03 0.60	SOIL	NAD	none	Keith Wilson
2413226	TPD04 0.10	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-22755
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2413223	TPD02 0.10 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413224	TPD03 0.10 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413225	TPD03 0.60 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413226	TPD04 0.10 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413227	TPD04 0.50 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413228	TPD02 0.10 LEACHATE	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2413229	TPD04 0.50 LEACHATE	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-24067	*Issued:*	26-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-24067
Client Reference ~	PC248770
Order No ~	OC42054
Contract Title ~	LionLink Cable Route
Description	4 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	07-Nov-24
Date Started	07-Nov-24
Date Completed	26-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420516	2420517	2420518	2420519
			Sample ID ~	TPD05	TPD06	TPD07	TPD09
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	28/10/2024	29/10/2024	29/10/2024	29/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	8.1	8.2	10	4.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.3	0.4	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.5	0.5	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.2	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	8.9	8.7	9.9	4.0
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	9.8	11	11	5.2
Lead	DETSC 2301#	0.3	mg/kg	9.5	14	9.8	5.1
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	9.5	9.7	12	4.2
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	19	19	21	9.2
Zinc	DETSC 2301#	1	mg/kg	41	45	43	19
Inorganics							
pH	DETSC 2008#		pH	8.1	8.2	8.3	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.3	1.2	1.4	1.3
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	89	480	59	66
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

	Lab No	2420516	2420517	2420518	2420519
	Sample ID ~	TPD05	TPD06	TPD07	TPD09
	Depth ~	0.10	0.10	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	28/10/2024	29/10/2024	29/10/2024	29/10/2024
	Sampling Time ~	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.6
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg	< 35		< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35		< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35		< 35	
Picloram	DETSC 3447	35	ug/kg	< 35		< 35	
MCPA	DETSC 3447	35	ug/kg	< 35		< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35		< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35		< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35		< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35		< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35		< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35		< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35		< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35		< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35		< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35		< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35		< 35	
PCP	DETSC 3447*	35	ug/kg	< 35		< 35	
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420516	2420517	2420518	2420519
			Sample ID ~	TPD05	TPD06	TPD07	TPD09
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	28/10/2024	29/10/2024	29/10/2024	29/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	0.1		0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

			Lab No	2420516	2420517	2420518	2420519
			Sample ID ~	TPD05	TPD06	TPD07	TPD09
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	28/10/2024	29/10/2024	29/10/2024	29/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

				Lab No	2420516	2420517	2420518	2420519
				Sample ID ~	TPD05	TPD06	TPD07	TPD09
				Depth ~	0.10	0.10	0.10	0.10
				Other ID ~				
				Sample Type ~	ES	ES	ES	ES
				Sampling Date ~	28/10/2024	29/10/2024	29/10/2024	29/10/2024
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	2420520
Sample ID ~	TPD06
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	29/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.0
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	7.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	3.8
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.004
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.2
Lead, Dissolved	DETSC 2306	0.09	ug/l	6.0
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.4
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.31
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	6.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	16
Inorganics				
pH	DETSC 2008		pH	7.7
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.28
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.27
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.22
Nitrite as N	DETSC 2055	0.03	mg/l	0.05
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.96
Nitrate as N	DETSC 2055	0.0226	mg/l	0.22
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.17
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.6
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	2420520
Sample ID ~	TPD06
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	29/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	2420520
Sample ID ~	TPD06
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	29/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	2420520
Sample ID ~	TPD06
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	29/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	2420520
Sample ID ~	TPD06
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	29/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-24067
Client Ref ~ PC248770
Contract Title ~ LionLink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2420516	TPD05 0.10	SOIL	NAD	none	Michael Kay
2420517	TPD06 0.10	SOIL	NAD	none	Michael Kay
2420518	TPD07 0.10	SOIL	NAD	none	Michael Kay
2420519	TPD09 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-24067
Client Ref ~ PC248770
Contract ~ LionLink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2420516	TPD05 0.10 SOIL	28/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2420517	TPD06 0.10 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2420518	TPD07 0.10 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2420519	TPD09 0.10 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2420520	TPD06 0.10 LEACHATE	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days), SVOC (7 days)	VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20407	*Issued:*	09-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20407
Client Reference ~	PC248770
Order No ~	OC41667
Contract Title ~	Lionlink Cable Route
Description	One Soil sample.
Date Received	24-Sep-24
Date Started	24-Sep-24
Date Completed	09-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2399256
Sample ID ~	TPD08
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	5.7
Beryllium	DETSC 2301#	0.2	mg/kg	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.5
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	10
Lead	DETSC 2301#	0.3	mg/kg	10
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.2
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	12
Zinc	DETSC 2301#	1	mg/kg	28
Inorganics				
pH	DETSC 2008#		pH	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.8
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	38
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	4.2
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2399256
Sample ID ~	TPD08
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3
Acid Herbicides				
Mecoprop	DETSC 3447	35	ug/kg	< 35
2,4-D	DETSC 3447	35	ug/kg	< 35
Bentazone	DETSC 3447	35	ug/kg	< 35
Picloram	DETSC 3447	35	ug/kg	< 35
MCPA	DETSC 3447	35	ug/kg	< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35
Dicamba	DETSC 3447	35	ug/kg	< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35
MCPB	DETSC 3447*	35	ug/kg	< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35
Benazolin	DETSC 3447	35	ug/kg	< 35
PCP	DETSC 3447*	35	ug/kg	< 35
OCPs				
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2399256
Sample ID ~	TPD08
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1
OPPs				
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2399256
Sample ID ~	TPD08
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2399256
Sample ID ~	TPD08
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	12/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20407
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2399256	TPD08 0.20	SOIL	NAD	none	Darryl Fletcher

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20407
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2399256	TPD08 0.20 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-23748	*Issued:*	20-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23748
Client Reference ~	PC248770
Order No ~	OC42026
Contract Title ~	Lionlink Cable Route
Description	3 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	04-Nov-24
Date Started	04-Nov-24
Date Completed	20-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2418788	2418789	2418790
			Sample ID ~	TPD10	TPD11	TPD12
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	5.7	7.5	8.0
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	< 0.2	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.2	< 0.2	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.1	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.9	8.1	8.8
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	10	12	12
Lead	DETSC 2301#	0.3	mg/kg	11	13	12
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.4	7.7	8.0
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	14	17	17
Zinc	DETSC 2301#	1	mg/kg	27	38	45
Inorganics						
pH	DETSC 2008#		pH	8.2	8.3	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.9	1.0	0.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	12	< 10	< 10
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2418788	2418789	2418790
			Sample ID ~	TPD10	TPD11	TPD12
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	< 0.3	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		< 35
2,4-D	DETSC 3447	35	ug/kg	< 35		< 35
Bentazone	DETSC 3447	35	ug/kg	< 35		< 35
Picloram	DETSC 3447	35	ug/kg	< 35		< 35
MCPA	DETSC 3447	35	ug/kg	< 35		< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35		< 35
Dicamba	DETSC 3447	35	ug/kg	< 35		< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35		< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35		< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35		< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35		< 35
MCPB	DETSC 3447*	35	ug/kg	< 35		< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35		< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35		< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35		< 35
Benazolin	DETSC 3447	35	ug/kg	< 35		< 35
PCP	DETSC 3447*	35	ug/kg	< 35		< 35
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2418788	2418789	2418790
			Sample ID ~	TPD10	TPD11	TPD12
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2418788	2418789	2418790
			Sample ID ~	TPD10	TPD11	TPD12
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2418788	2418789	2418790
			Sample ID ~	TPD10	TPD11	TPD12
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2418791
Sample ID ~	TPD11
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.0
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	2.3
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	7.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.08
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.92
Nitrate as N	DETSC 2055	0.0226	mg/l	0.21
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.27
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.2
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2418791
Sample ID ~	TPD11
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2418791
Sample ID ~	TPD11
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2418791
Sample ID ~	TPD11
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2418791
Sample ID ~	TPD11
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-23748
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2418788	TPD10 0.10	SOIL	NAD	none	Michael Kay
2418789	TPD11 0.10	SOIL	NAD	none	Michael Kay
2418790	TPD12 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-23748
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2418788	TPD10 0.10 SOIL	30/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418789	TPD11 0.10 SOIL	30/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418790	TPD12 0.10 SOIL	30/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418791	TPD11 0.10 LEACHATE	30/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-24017 *Issued:* 13-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-24017

Client Reference ~ PC248770

Order No ~ OC42026

Contract Title ~ Lionlink Cable Route

Description 2 Soil samples, 1 Leachate prepared by DETS sample.

Date Received 06-Nov-24

Date Started 07-Nov-24

Date Completed 13-Nov-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24017
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2420181	2420182
			Sample ID ~	TPD13	TPD13
			Depth ~	0.10	0.50
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	5.8	8.0
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.2	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	4.1	7.1
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	6.4	9.7
Lead	DETSC 2301#	0.3	mg/kg	6.9	5.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	5.8	11
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	15	20
Zinc	DETSC 2301#	1	mg/kg	28	35
Inorganics					
pH	DETSC 2008#		pH	8.1	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.3	0.3
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10	14
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24017
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2420181	2420182
			Sample ID ~	TPD13	TPD13
			Depth ~	0.10	0.50
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24017
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2420181	2420182
			Sample ID ~	TPD13	TPD13
			Depth ~	0.10	0.50
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	31/10/2024	31/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-24017
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPD13 0.10

Sample Numbers 2420181 2420183
Date Analysed 13/11/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.4	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.5	0.02	0.5	2	25
DETSC 2306 Barium as Ba	4.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.47	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	1.5	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.8	0.02	4	50	200
DETSC 2055 Chloride as Cl	1300	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	190	1.9	10	150	500
DETSC 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	13000	130	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.6
DETSC 2009 Conductivity uS/cm	18.2
* Temperature*	18.0
Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.092
Stage 1	
Volume of Leachant L2*	0.914
Volume of Eluate VE1*	0.865

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-24017
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2420181	TPD13 0.10	SOIL	NAD	none	Ben Barsby
2420182	TPD13 0.50	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-24017
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2420181	TPD13 0.10 SOIL	31/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2420182	TPD13 0.50 SOIL	31/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2420183	TPD13 0.10 LEACHATE	31/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19933	*Issued:*	30-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19933
Client Reference ~	PC248770
Order No ~	OC41597
Contract Title ~	Lionlink Cable Route
Description	6 Soil samples, 4 Leachate prepared by DETS samples.
Date Received	18-Sep-24
Date Started	18-Sep-24
Date Completed	30-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395963	2395964	2395965	2395966	2395967	2395968
	Sample ID ~	TPD14	TPD15	TPD16	TPD17	TPD18	TPD18
	Depth ~	0.25	0.10	0.20	0.20	0.20	0.60
	Other ID ~						
	Sample Type ~	ES	ES	ES	ES	ES	ES
	Sampling Date ~	12/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
	Sampling Time ~	n/s	1000	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	3.0	4.2	6.1	4.2	4.3	6.7
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	< 0.2	0.2	0.2	< 0.2	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	< 0.1	0.1	< 0.1	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	4.5	6.5	7.1	6.4	5.0	5.1
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	9.0	11	11	8.6	10	6.1
Lead	DETSC 2301#	0.3	mg/kg	11	14	22	17	17	5.4
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	4.2	6.3	5.7	3.7	4.1	3.6
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	8.2	12	12	19	8.1	8.9
Zinc	DETSC 2301#	1	mg/kg	22	28	30	24	22	18
Inorganics									
pH	DETSC 2008#		pH	7.8	8.0	7.5	7.1	8.4	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.6	0.7	1.4	2.2	2.4	2.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10	11	< 10	< 10	12	< 10
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	1.7	3.3	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	1.8	2.6	< 1.4	7.1	7.3	2.7
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395963	2395964	2395965	2395966	2395967	2395968
			Sample ID ~	TPD14	TPD15	TPD16	TPD17	TPD18	TPD18
			Depth ~	0.25	0.10	0.20	0.20	0.20	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	12/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
			Sampling Time ~	n/s	1000	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg		< 35		< 35		
2,4-D	DETSC 3447	35	ug/kg		< 35		< 35		
Bentazone	DETSC 3447	35	ug/kg		< 35		< 35		
Picloram	DETSC 3447	35	ug/kg		< 35		< 35		
MCPA	DETSC 3447	35	ug/kg		< 35		< 35		
Clopyralid	DETSC 3447	35	ug/kg		< 35		< 35		
Dicamba	DETSC 3447	35	ug/kg		< 35		< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35		< 35		
Dichlorprop	DETSC 3447	35	ug/kg		< 35		< 35		
Bromoxynil	DETSC 3447	35	ug/kg		< 35		< 35		
Triclopyr	DETSC 3447	35	ug/kg		< 35		< 35		
Fenoprop	DETSC 3447	35	ug/kg		< 35		< 35		
MCPB	DETSC 3447*	35	ug/kg		< 35		< 35		
2,4,5-T	DETSC 3447	35	ug/kg		< 35		< 35		
Fluroxypyr	DETSC 3447	35	ug/kg		< 35		< 35		
2,4-DB	DETSC 3447	35	ug/kg		< 35		< 35		
Ioxynil	DETSC 3447	35	ug/kg		< 35		< 35		
Benazolin	DETSC 3447	35	ug/kg		< 35		< 35		
PCP	DETSC 3447*	35	ug/kg		< 35		< 35		
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		0.2		< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395963	2395964	2395965	2395966	2395967	2395968
			Sample ID ~	TPD14	TPD15	TPD16	TPD17	TPD18	TPD18
			Depth ~	0.25	0.10	0.20	0.20	0.20	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	12/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
			Sampling Time ~	n/s	1000	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Naled	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395963	2395964	2395965	2395966	2395967	2395968
	Sample ID ~	TPD14	TPD15	TPD16	TPD17	TPD18	TPD18
	Depth ~	0.25	0.10	0.20	0.20	0.20	0.60
	Other ID ~						
	Sample Type ~	ES	ES	ES	ES	ES	ES
	Sampling Date ~	12/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
	Sampling Time ~	n/s	1000	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395963	2395964	2395965	2395966	2395967	2395968
	Sample ID ~	TPD14	TPD15	TPD16	TPD17	TPD18	TPD18
	Depth ~	0.25	0.10	0.20	0.20	0.20	0.60
	Other ID ~						
	Sample Type ~	ES	ES	ES	ES	ES	ES
	Sampling Date ~	12/09/2024	11/09/2024	12/09/2024	12/09/2024	12/09/2024	12/09/2024
	Sampling Time ~	n/s	1000	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395969	2395970
	Sample ID ~	TPD14	TPD18
	Depth ~	0.25	0.20
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	12/09/2024	12/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.77	0.79
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.4	1.6
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.26	0.28
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.0	1.0
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.43	0.68
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.3	1.1
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.9	2.2
Inorganics					
pH	DETSC 2008		pH	6.3	6.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	2.3	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	2.3	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.08	0.05
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.3	1.2
Nitrate as N	DETSC 2055	0.0226	mg/l	0.30	0.26
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.25	0.18
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.4	1.2
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	1.4	100
Aliphatic C12-C16	DETSC 3072*	1	ug/l	11	340
Aliphatic C16-C21	DETSC 3072*	1	ug/l	21	350
Aliphatic C21-C35	DETSC 3072*	1	ug/l	9.0	90
Aliphatic C5-C35	DETSC 3072*	10	ug/l	43	880
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395969	2395970
			Sample ID ~	TPD14	TPD18
			Depth ~	0.25	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	12/09/2024	12/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	58
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	170
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	150
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	27
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	400
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	44	1300
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395969	2395970
			Sample ID ~	TPD14	TPD18
			Depth ~	0.25	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	12/09/2024	12/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395969	2395970
			Sample ID ~	TPD14	TPD18
			Depth ~	0.25	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	12/09/2024	12/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395969	2395970
			Sample ID ~	TPD14	TPD18
			Depth ~	0.25	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	12/09/2024	12/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19933
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPD16 0.20

Sample Numbers 2395965 2395971
Date Analysed 30/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.8	3	5	6
DETSC 2003# Loss On Ignition	%	2.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.6	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.47	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.7	0.03	4	50	200
DETSC 2055 Chloride as Cl	740	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	220	2.2	10	150	500
DETSC 2055 Sulphate as SO4	1500	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	9100	91	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.1
DETSC 2009 Conductivity uS/cm	13.1
* Temperature*	19.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.969
Volume of Eluate VE1*	0.92

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19933
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPD18 0.20

Sample Numbers 2395967 2395972
Date Analysed 30/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.5	3	5	6
DETSC 2003# Loss On Ignition	%	1.3	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.4	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.95	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.26	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.58	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.3	0.02	4	50	200
DETSC 2055 Chloride as Cl	1100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	210	2.1	10	150	500
DETSC 2055 Sulphate as SO4	1700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	19000	190	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.1
DETSC 2009 Conductivity uS/cm	27.2
* Temperature*	19.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.962
Volume of Eluate VE1*	0.915

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19933
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2395963	TPD14 0.25	SOIL	NAD	none	Ben Barsby
2395964	TPD15 0.10	SOIL	NAD	none	Ben Barsby
2395965	TPD16 0.20	SOIL	NAD	none	Ben Barsby
2395966	TPD17 0.20	SOIL	NAD	none	Ben Barsby
2395967	TPD18 0.20	SOIL	NAD	none	Ben Barsby
2395968	TPD18 0.60	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19933
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2395963	TPD14 0.25 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395964	TPD15 0.10 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395965	TPD16 0.20 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395966	TPD17 0.20 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395967	TPD18 0.20 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395968	TPD18 0.60 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395969	TPD14 0.25 LEACHATE	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2395970	TPD18 0.20 LEACHATE	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2395971	TPD16 0.20 LEACHATE	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395972	TPD18 0.20 LEACHATE	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 13

Laboratory Test Results - Contamination Groundwater

APPENDIX 13

Certificate of Analysis

Certificate Number	25-02346	*Issued:*	07-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-02346
Client Reference ~	PC248770
Order No ~	OC42061
Contract Title ~	Lionlink Cable Route
Description	1 Groundwater sample.
Date Received	03-Feb-25
Date Started	03-Feb-25
Date Completed	07-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Louise Cook
Contracts Manager

2139

Normec Dets Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info-dets@normecgroup.com • normecdets.com/

Summary of Chemical Analysis
Water Samples

Our Ref 25-02346
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458615
Sample ID ~	BHD05
Depth ~	14.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	30/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.98
Boron, Dissolved	DETSC 2306*	12	ug/l	56.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	130
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.8
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	3.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	120
Inorganics				
pH	DETSC 2008		pH	7.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.3
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	365
Sulphate as SO4	DETSC 2055	0.1	mg/l	28
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref 25-02346
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458615
Sample ID ~	BHD05
Depth ~	14.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	30/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-02346
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458615
Sample ID ~	BHD05
Depth ~	14.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	30/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-02346
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458615
Sample ID ~	BHD05
Depth ~	14.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	30/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-02346
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458615
Sample ID ~	BHD05
Depth ~	14.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	30/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Information in Support of the Analytical Results

Our Ref 25-02346
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2458615	BHD05 14.00 GROUND WATER	30/01/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 14

Archaeological Report

APPENDIX 14

Cotswold Archaeology

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling



for:
Steven Chapman
(Geotechnics Ltd)

on behalf of:
National Grid Ventures

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

April 2025

Andover Cirencester Milton Keynes Suffolk

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

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Revision	Date	Author	Checked by	Status	Reasons for revision	Approved by
A	April 2025	Michael Green and Holly Rogers	Stuart Boulter	Internal review	Copy Edit and Quality Control	Stuart Boulter

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SUMMARY

Project name:	Lion Link Cable Route,
Location:	Sections A-F (Knodishall to Southwold and Walberswick)
NGR:	Centred on 642832 269245
Type:	Archaeological Monitoring
Date:	September to November 2024
OASIS ID:	Cotswold2-527147
Location of Archive:	To be deposited with SCCAS and the Archaeology Data Service (ADS)
Site Codes:	UGG043, WNF082, HAM048, REY152, REY206, WLB148, WLB149, BLB 177, WLN147, MDD052, THB061, SXM086, SNF031, KND047, FRS092, WMH091, TNG052, BLY025, STH032, BRP044

Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from their bore-hole logs.

Archaeological features were encountered in five of the test-pits, a post-hole in Westleton parish (TPC08), five ditches in Walberswick (TP04, TP05 and TP08) and a ditch in Middleton (TPB23). Artefactual evidence suggested a Roman date for the features in TP04 and TPB23 while the ditch in TP05 appeared to join with an extant field boundary. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting prehistoric, Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although another interpretation of this evidence is the process of nightsoiling. The geoarchaeological assessment identified a number of deposits which can be considered to have archaeological potential during future, more invasive works.

1. INTRODUCTION

1.1. Between September and November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geological deposit modelling on land designated as Sections A – F and the proposed Walberswick and Reydon Landfall Sites for the Lion Link Cable Route (NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West) (Fig. 1). The proposed route will pass through, or at least encroach upon seventeen Suffolk parishes (Sternfield, Knodishall, Friston, Saxmundham, Theberton, Middleton, Westleton, Blythburgh, Walberswick, Reydon, Wangford with Henham, Uggeshall, Wenhaston with Mels Hamlet, Thorington, Blyford, Sotherton and Brampton with Stoven).

1.2. This interim report collates and reports on the works completed in 2024 with, the remainder of the outstanding fieldwork projected to be completed in May 2025. The results will be integrated into this report.

1.3. While no formal Archaeological Brief has been prepared by Suffolk County Council Archaeological Service (SCCAS), in their role as Archaeological Advisors (AA) to the Local Planning Authority (LPA), they have provided archaeological advice for the project team and the geotechnical contractor (Geotechnics Ltd) were asked to include Archaeological Monitoring and Geological Deposit Modelling within their tender. Subsequently, CA were commissioned by Geotechnics Ltd to undertake these elements of the work.

1.4. This project has been treated with the same due process as those with a formal SCCAS archaeological Brief. The methodology for the Archaeological Monitoring and the Geological Deposit Modelling is detailed in a Written Scheme of Investigation (WSI) prepared by CA (Boulter and Rogers; CA 2024b) and submitted to SCCAS for scrutiny. Initially, Section E was excluded from this phase of works, but subsequently added with and updated WSI agreed with SCCAS. A third version of the WSI has since been prepared and agreed with SCCAS which accommodates various programme changes associated with the second phase of fieldwork in 2025.

1.5. Invasive works associated with this initial phase of work involved the excavation of 108 x *c*.0.6m wide by *c*.2.5m long trial-pits of the proposed 183 trial-pits that were excavated to depths of between 2.5m and 3.5m along with the monitoring of twelve of the fourteen bore-holes deemed by SCCAS to be located in archaeologically sensitive

areas. A total of forty-one of the proposed bore-holes were completed by the contractor and the bore-hole logs were provided to CA for use in the geological deposit modelling (paras. 5.79 – 5.89 and Appendix B).

1.6. The detailed methodology for the fieldwork was defined in the various versions of the WSI based on advice from SCCAS archaeologist Hannah Cutler acting as the AA for the project.

1.7. The works were also carried out in line with *Standard for archaeological monitoring and recording* (CIfA 2023a); *Universal guidance for archaeological monitoring and recording* (CIfA 2023b); the *EAA Standards for Field Archaeology in the East of England* (Gurney 2003); *Management of Research Projects in the Historic Environment (MoRPHE) PPN 3: Archaeological Excavation* (Historic England 2015a); *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015b); *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England, 2015c) and the *SCCAS Requirements for Archaeological Monitoring* (SCCAS 2024).

The site

1.8. The overall redline area of the cable route and its associated works covered *c*.53.6 square kilometres (Fig. 1).

1.9. Essentially, the bulk of the site is orientated north to south, running from the Saxmundham Convertor Station at the southern end, *c*.23km northwards to where two east to west orientated spurs (*c*.6.77km and *c*.8.15km long) project eastwards to the two proposed landfall sites at Walberswick and Reydon respectively.

1.10. The route traverses gently undulating agricultural land, crossing the Minsmere River, Dunwich River and Blythe River along with a number of other minor watercourses and varying from *c*.30m AOD down to sea level at the landfall sites, both located on low lying water meadows/marshy areas.

1.11. While there is some variation along the route regarding the superficial geology, The British Geological Survey defines the bedrock geology of the site as Crag Group – Sand, a sedimentary rock formed between 5.333 million and 11.8 thousand years ago during the Neogene and Quaternary periods (BGS 2025).

1.12. Superficial deposits are largely mapped as Lowestoft Formation – Diamicton, formed between 480 and 423 thousand years ago during the Quaternary period. Localised deposits of Head (consisting of clay, silt, sand and gravel formed between 2.588 million years ago and the present during the Quaternary period) and Alluvium (consisting of clay, silt, sand and gravel formed between 11.8 thousand years ago and the present during the Quaternary period) are also mapped across the Site. In addition, at the Reydon landfall site, there is potential for Tidal Flat Deposits - Clay and silt formed between 11.8 thousand years ago and the present during the Quaternary period and localised peat (BGS 2025). https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/

2. ARCHAEOLOGICAL BACKGROUND

2.1. Following discussions with SCCAS it was agreed that a formal HER search would not be required as part of this element of the project. Desk Based Assessment works have already been undertaken and interrogation of the county Historic Environment Record (HER) may be specified as part of any subsequent archaeological mitigation works (evaluation and excavation).

2.2. However, it should be noted that the cable route crosses a rich and diverse landscape where archaeological deposits of all periods are recorded on the HER and recent geophysical surveys of the route (Wessex Archaeology 2024 and 2025) indicate that significant deposits are present in some areas.

3. AIMS AND OBJECTIVES

3.1. The aims and objectives of the archaeological and geoarchaeological monitoring were:

- to maintain a continuous archaeological presence during the geotechnical investigations and identify any archaeological deposits or features thus revealed; **NB it was possible to avoid excavation of archaeological features in some trial-pits. These were re-located once archaeology was revealed after the initial removal of topsoil;**
- to undertake geoarchaeological monitoring of the geotechnical trial-pit and bore-hole locations in accordance with current best practice and guidelines with the aim of refining understanding of the presence, nature and distribution of Quaternary superficial deposits across the site

- to assess the archaeological and geoarchaeological potential of the deposits recorded across the site;
- to record any archaeological deposits, features, structures, or remains encountered within the bore-hole and trial-pit locations;
- to identify the presence of Quaternary sediment sequences across the Site;
- to establish the potential of the superficial deposits to preserve archaeological and/or palaeoenvironmental remains;
- to correlate available Ground Investigation data to develop a deposit model for the Site, including (where appropriate) representative transects, thickness plots and digital elevation models (DEMs);
- to establish the potential impact of the proposed works on deposits of archaeological and geoarchaeological potential;
- Following the completion of the fieldwork, to produce a report setting out the monitoring results and the geoarchaeological and archaeological conclusions that can be drawn from the recorded data. This will be used to Inform the scope of subsequent phases of geoarchaeological and archaeological work that may be required to mitigate the impact of the works on the archaeological resource;
- at the conclusion of the project, to compile a stable, ordered, accessible project archive (see Section 6).

4. METHODOLOGY

4.1. The 2024 phase of fieldwork involved the monitoring of 103 of the proposed 182 trial-pits and twelve of the proposed fourteen archaeologically sensitive bore-holes. A total of forty-one of the originally proposed ninety-two bore-holes were completed and the bore-hole logs have been provided to CA for use in the geological deposit model:

- 103 x 1m x 3m trial-pits
- 12 x 1m x 1m bore-holes
- 41 x bore-hole logs

4.2. The initial scope of invasive works prior to the various revisions comprised the following interventions;

- **Section A:** 3 bore-holes (not monitored) and 8 trial-pits
- **Section B:** 24 bore-holes (1 monitored) and 33 trial-pits

- **Section C:** 11 bore-holes (3 monitored) and 39 trial-pits
- **Section D:** 6 bore-holes (2 monitored) and 18 trial-pits
- **Section E:** 24 bore-holes (1 monitored) and 33 trial-pits
- **Section F:** 12 bore-holes (2 monitored) and 27 trial-pits
- **Reydon Landfall Site:** 7 bore-holes (not monitored) and 14 trial-pits
- **Walberswick Landfall Site:** 5 bore-holes (all monitored) and 13 trial-pits (2 re-located)

4.3. Prior to the more recent revisions, the proposed interventions at that juncture were as follows, located within the bounds of seventeen parishes;

- **Sternfield (SNF 031):** one bore-hole, BHA01; five trial-pits, TPA01 – TPA05
- **Knodishall (KND 047):** one bore-hole, BHA02; three trial-pits, TPA06 – TPA08
- **Friston (FRS 092):** one bore-hole, BHA03; no trial-pits
- **Saxmundham (SXM 086):** two bore-holes, BHB01 and BHB02; four trial-pits, TPB01 – TPB04
- **Theberton (THB 061):** fifteen bore-holes, BHB03 – BHB015; fifteen trial-pits, TPB05 – TPB19
- **Middleton (MDD 052):** eight bore-holes, BHB18 – BHB24 and BHC01; eighteen trial-pits, TPB20 – TPB33 and TPC01 – TPC04
- **Westleton (WLN 147):** six bore-holes, BHC02 – BHC07, thirteen trial-pits, TPC05 – TPC17
- **Blythburgh (BLB 177):** eight bore-holes, BHC08 – BHC11, BHD01 and BHD 02 and BHE01 and BHE02; thirty-two trial-pits, TPC 18 – TPC39, TPD01 – TPD09 and TPE01
- **Walberswick (WLB 148 and WLB 149):** nine bore-holes, BHD03 – BHD06 (WLB 148) and BH01 – BH05 (WLB 149); twenty two trial-pits, TPD10 – TPD18 (WLB 148) and TP01 – TP11 (WLB 149)
- **Reydon (REY 152 and REY 206):** seventeen bore-holes, BHF03 – BHF12 (REY 152) and BH101 – BH107 (REY 206); twenty-nine trial-pits, TPF13 – TPF27 (REY 152) and TP101 – TP114 (REY 206)
- **Wenhaston with Mels Hamlet (WMH 091):** three bore-holes BHE06 – BHE08; four trial-holes, TPE02 – TPE05
- **Thorington (TNG 052):** three bore-holes, BHE03 – BHE05

- **Blyford (BLY 025):** two bore-holes, BHE10 and BHE11, two trial-holes, TPE06 and TPE07
- **Sotherton (STH 032):** four bore-holes, BHE14 – BHE17, seven trial-holes, TPE17 – TPE23
- **Brampton with Stoven (BRP 044):** four bore-holes, BHE18 – BHE21, two trial-holes, TPE 24 and TPE25
- **Wangford with Henham (WNF 082):** ***WNF 082***: two bore-holes, BHF01 and BHF02, eight trial-pits, TPF5 – TPF12: ***HAM 048***: two bore-holes BHE12 and BHE13, eight trial-pits, TPE08 – TPE16
- **Uggeshall (UGG 043):** four bore-holes, BHE22 – BHE25; twelve trial-pits, TPF1 – TPF4 and TPE26 – TPE33

4.4. The trial-pits and bore-holes were located to test the geological substrate, install ground water pipes and to test soak away properties of the underlying geology. The locations were set out by the geotechnical contractor (Geotechnics Ltd), as per the WSI and SCCAS agreed plan. In the field, where a trial-pit or bore-hole was found to encroach on dense archaeological features or remains, it was moved and excavated in a new location as close as possible to the original position; these movements were agreed following discussion between Geotechnics Ltd and SCCAS.

4.5. The archaeological monitoring involved the continuous presence of a competent archaeologist during the geotechnical works with an emphasis on the trial-pits. The less archaeologically damaging bore-hole investigations, which were undertaken broadly at the same time, were generally subjected to less intensive scrutiny on site. The bore-hole logs were subsequently provided to the CA Geoarchaeological Manager (Holly Rogers) for the purpose of using the data, in conjunction with that recorded on site from the trial-pits, to construct a geological deposit model across the site.

4.6. However, fourteen of the bore-hole locations (BHB19, BHC02 – BHC04, BHD03, BHD04, BHE08, BHF05, BHF011 and BH01 – BH05) were highlighted by SCCAS as having significant archaeological potential and were to be subject to a more enhanced methodology and higher scrutiny (see section 4.8 below).

4.7. Initially, the trial-pits were subject to the removal of 0.3 - 0.5m of topsoil over a *c.*3m x *c.*3m square. Where this did not reveal the archaeological horizon, a small 1m x 3m trench was excavated within original square to the top of the archaeological horizon.

Once fully recorded the trial-pits were then excavated to their full depth of 2.5m for soakaways and 3m or 3.5m for the standard trial-pits.

4.8. The archaeologically sensitive bore-holes were hand or machine excavated to remove the superficial overburden layers (topsoil and subsoil) to either the natural substrate or archaeological horizon. After recording, these were backfilled with the bore-holes inserted to various depths, normally exceeding 10m.

4.9. Upcast spoil was examined visually for the presence of artefactual evidence and was also subject to metal-detector survey.

4.10. Where no archaeological features were found to be present, the geotechnical contractors were able to proceed with the full depth excavation of the test-pit into the naturally occurring superficial geology.

4.11. Archaeological features/deposits were investigated, planned and recorded in accordance with *CA Technical Manual 1: Fieldwork Recording Manual*.

4.12. Deposits were assessed for their palaeoenvironmental potential and samples were taken in accordance with *CA Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites*.

4.13. Artefacts were processed in accordance with *CA Technical Manual 3: Treatment of Finds Immediately after Excavation*.

Treasure

4.14. An Item (RA 12) was identified that is considered to be 'Treasure' as detailed in the Treasure Act 1996 and the Code of Practice referred to therein, the following guidelines were followed.

- Upon discovery of treasure, CA notified their client (and landowner if different) and SCCAS immediately once identification was confirmed. CA will comply fully with the provisions of the Treasure Act 1996 and the Code of Practice referred to therein. Findings were reported to the Coroner within fourteen days.

- Treasure objects were immediately moved to secure storage at CA and appropriate security measures were taken on site.

Geoarchaeological recording of deposits

4.15. Deposits revealed during the geotechnical works were recorded on a graphic log with a written description by the attending archaeologist and geotechnical contractor, to include information in accordance with Hodgson (1997) such as:

- Location (XY coordinates)
- Level of the top of the sample (m OD)
- Depth for top and bottom of each lithological unit
- Texture
- Composition
- Colour
- Inclusions (clast size-range, degree of angularity/roundness etc.)
- Structure (bedding, ped characteristics etc.)
- Contacts between deposits (sharp, gradual etc.)
- Sampling locations

4.16. Interpretations were made regarding the likely depositional environments and formation processes of the encountered deposits. The data was tabulated by bore-hole / trial-pit and depth.

4.17. CA will make arrangements with SCCAS for the deposition of the project archive and, subject to agreement with the legal landowner(s), the artefact collection. A digital archive will also be prepared and deposited with the Archaeology Data Service (ADS). The archives (physical and digital) will be prepared and deposited in accordance with *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (CIfA 2020) and Archaeological Archives in Suffolk, guidelines for preparation and deposition. (SCCAS 2023).

4.18. A summary of information from this project, as set out in Appendix E, will be entered onto the OASIS online database of archaeological projects in Britain.

5. RESULTS

5.1. This section provides an overview of the monitoring results of the works conducted in 2024. Detailed summaries of the recorded contexts are given in Appendix A, tabulated geoarchaeological data is presented in Appendix B, details of the artefact assemblage is given in Section 6 and Appendix C and the biological evidence provided in Section 7 and Appendix D.

5.2. The results are presented by parish site code from south to north encompassing trial-pits and bore-holes within each section of the linear project. Only bore-holes which were perceived by SCCAS to have a high archaeological potential were monitored and are described in detail below. For the remainder of the boreholes, the geological logs were provided to CA for the information to be included in the geological deposit modelling.

5.3. The works completed during this phase of works and the revised outstanding works are as follows;

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Knodishall (KND 047)	BHA02 ***(1)***	TPA06, TPA07, TPA08, TPA10, TPA13, TPA14, TPA15, TPA16 ***(8)***
Friston (FRS 092)	*BHA03* ***(1)***	TPA09 ***(1)***
Sternfield (SNF 031)	***(0)***	WSA01, WSA02, *TPA01, TPA02,* TPA03, TPA04, TPA05 ***(5)***
Saxmundham (SXM 086)	BHA01, BHB01, BHB02 ***(3)***	TPA11, TPA12, TPB01, TPB02, TPB03, TPB04 ***(4)***
Theberton (THB 061)	BHB03, BHB04, BHB05, BHB06, BHB07, BHB08, BHB09, BHB10, BHB11, BHB12, BHB13, *BHB14,* BHB15, BHB16, BHB17 ***(15)***	TPB05, TPB06, TPB07, TPB08, TPB09, TPB10, TPB11, TPB12, TPB13, TPB14, *TPB15,* TPB16, TPB17, TPB18, TPB19 ***(15)***
Middleton (MDD 052)	BHB18, *BHB19,* BHB20, BHB21, BHB22, BH B23, BHB24, BHC01 ***(8)***	TPB20, TPB21, TPB22, TPB23, TPB24, TPB25, TPB26, TPB27, *TPB28,* TPB29, TPB30, TPB31, TPB 32, TPB33, TPC01, TPC02, TPC03, TPC04 ***(18)***
Westleton (WLN 147)	*BHC02, BHC03, BHC04,* BHC05, BHC06, BHC07 ***(6)***	TPC05, TPC06, TPC07, TPC08, TPC09, TPC10, TPC11, TPC12, TPC13, TPC14, TPC15, TPC16, TPC17 ***(13)***
Blythburgh (BLB 177)	BHC08, BHC09, BHC10, BHC11, BHD01, BHD02, BHE01, BHE02 ***(8)***	TPC18, TPC19, TPC20, TPC21, TPC22, TPC23, TPC24, TPC25, TPC26, TPC27, TPC28, TPC29, TPC30, TPC31, TPC32, TPC33, TPC34, TPC35, TPC36, TPC37, TPC38, TPC39, TPD01, TPD02, TPD03, TPD04, TPD05, TPD06, TPD07, TPD08, TPD09, TPE01 ***(32)***
Thorington (TNG 052)	BHE03, BHE04, BHE05 ***(3)***	***(0)***
Walberswick (WLB 148)	*BHD03, BHD04,* BHD05, BHD06 ***(4)***	TPD10, TPD11, TPD12, TPD13, TPD14, TPD15, TPD16, TPD17, TPD18 ***(9)***

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Walberswick (WLB 149)	*BH01, BH02, BH03, BH04, BH05* ***(5)***	TP01, TP02, TP03, TP04, TP05, TP06, TP07, TP08, TP09, TP10, TP11 ***(11)***
Wenhaston with mels hamlet (WMH 091)	*BHE06, BHE07, BHE08* ***(3)***	TPE02, TPE03, TPE04, TPE05 ***(4)***
Blyford (BLY 025)	BHE10, BHE11 ***(2)***	TPE06, TPE07 ***(2)***
Wangford with Henham (HAM 048)	*BHE12, BHE13* ***(2)***	TPE08, TPE09, TPE10, *TPE11, TPE12, TPE13, TPE14, TPE15, TPE16* ***(9)***
Wangford with Henham (WNF 082)	*BHF01, BHF02* ***(2)***	TPF5, TPF6, *TPF7, TPF8, TPF9,* TPF10, *TPF11, TPF12* ***(8)***
Sotherton STH 032	*BHE14, BHE15, BHE16, BHE17* ***(4)***	*TPE17, TPE18, TPE19, TPE20, TPE21, TPE22, TPE23* ***(7)***
Brampton with Stoven (BRP 044)	BHE18, BHE19, BHE20, BHE21 ***(4)***	TPE24, TPE25 ***(2)***
Uggeshall (UGG 043)	BHE22, *BHE23, BHE24, BHE25* ***(4)***	TPF01, TPF02, TPF03, TPF04, *TPE26, TPE27, TPE28, TPE29, TPE30, TPE31,* TPE32, TPE33 ***(12)***
Reydon (REY 152)	*BHF03, BHF04, BHF05, BHF06, BHF07, BHF08, BHF09, BHF10, BHF11, BHF12* ***(10)***	*TPF13, TPF14, TPF15, TPF16,* TPF17, *TPF18,* TPF19, *TPF20,* TPF21, TPF22, TPF23, TPF24, TPF25, TPF26, TPF27 ***(15)***
Reydon (REY 206)	*BH101, BH102, BH103, BH104, BH105,* BH106, BH107 ***(7)***	TP101, *TP102, TP103, TP104, TP105, TP106, TP107,* TP108, *TP109, TP110, TP111, TP112, TP113,* TP114 ***(14)***

KND 047 (Knodishall), FRS 092 (Friston), SNF 031 (Sternfield)

5.4. No works undertaken in this phase.

SXM 086 Saxmundham (Figs. 2, 5 and 6)

5.5. Four trial-pits of the six proposed for this parish, TPB01 - TPB04, located in two separate but adjacent fields, were excavated. Three bore-holes, BHA01 - BHA 03, were also excavated, but did not require archaeological monitoring.

5.6. The topsoil and subsoil deposits within the two fields were similar in character with topsoil comprising mid-dark red grey compact silty clay with frequent small to mid-sized flint inclusions and frequent chalk flecks varying between 0.15m - 0.3m in

thickness. Subsoil deposits were 0.1m - 0.3m in thickness, consisting of mid-brown firm clay with frequent chalk flecks.

5.7. No archaeological finds or features were recorded in any of the trial-pits excavated within this parish.

THB 061 Theberton (Figs. 2, 7 and 8)

5.8. Twelve of the fifteen proposed trial-pits for this parish were excavated, TPB05 - TPB14, TPB16 and TPB18 along with twelve bore-holes; none of the latter required archaeological monitoring. The interventions were distributed between eleven separate fields.

5.9. The topsoil varied in depth between 0.2m - 0.5m; the topsoil in TPB05 - TPB14 was similar in character, comprising firm mid-brown silty clay with occasional small flint inclusions and chalk flecks. In TPB16 and TPB18 the topsoil consisted of dark brown grey silty clay with occasional small to mid-sized flint inclusions. No finds were recovered from any of the topsoil deposits.

5.10. Subsoil was present in TPB07 (0023), TPB12 - TPB14 (0053, 0048, 0043), TPB16 (0061) and TPB18 (0074). In TPB07 - TPB14 the subsoil layer measured between 0.1m - 0.4m in thickness, comprising mid to dark olive brown firm sandy to silty clay with occasional small stones. The subsoil in TPB16 and TPB18 measured 0.15m - 0.2m in thickness and consisted of dark brown to grey firm clay with occasional chalk flecks and small flint inclusions. No finds were recovered from any of the subsoil deposits.

5.11. The geological subsoil comprised firm orange/brown clay or sandy clay apart from TPB09 which encountered a cover sand deposit.

MDD 052 Middleton (Figs. 2, 3, 9 and 10)

5.12. Seventeen trial-pits TPB20 - TPB27, TPB29 - TPB33 and TPC01 - TPC04 of the eighteen proposed for this parish and one bore-hole (BHB19) of the eight excavated, BHB03 – BHB17, were monitored. The trial-pits and bore holes were excavated across nine different fields with varying surface deposits; a ditch previously recorded on the geophysical survey was encountered in TPB23 which produced finds suggesting a Roman date for the feature (see below).

5.13. Bore-hole BHB19 was the most southerly excavated within this parish. The hand dug pit revealed 0.5m thickness of topsoil directly above the natural clay substrate. No features or finds were recorded.

5.14. TPB20 - TPB26 were excavated within two fields either side of Wash Lane on a moderate slope increasing in elevation in a north-westerly direction from TPB20 - TPB26. The topsoil deposits within these pits measured 0.2m - 0.4m in thickness, comprising dark grey-brown firm sandy silt and sandy clay with occasional small stones and chalk flecks. Below the topsoil a colluvial/subsoil deposit was present which varied in thickness between 0.6m -1.1m within pits TPB20 - TPB24, contexts 0109, 0113, 0117, 0148 and 0126 and consisted of mid-yellow brown firm sand with occasional small stones and chalk flecks.

5.15. TPB23 was excavated on the location of a linear feature previously recorded in the geophysical survey (Fig. 9). Removal of colluvial layer 140 revealed this feature, here numbered 150 and recorded as a ditch, although its actual dimensions could not be ascertained at this juncture due to the central location of the trial-pit, although it was seen to be 0.7m in depth. The single fill, 149, comprised dark brown firm sandy silt fill with occasional small stones and chalk flecks. Finds recovered from the fill included thirty-two sherds (173g) of Roman, late 2nd century or later pottery, eight pieces of Ceramic Building Material (CBM) (319g) an a residual worked flint flake.

5.16. The sequence encountered in TPB25 and TPB26 were markedly different from TPB20 - TPB24. TPB25 was excavated within a visible natural hollow where 1.7m of mixed topsoil had accumulated above the underlying geological substrate comprising yellow sand. TPB26 was excavated at the top of the slope where the subsoil/colluvial layer was not present.

5.17. Trial-pits TPB27 - TPB33 and TPC01 - TPC03 were excavated across five separate fields, all exhibiting a similar 0.3m – 0.45m thick topsoil comprising dark to mid-grey/brown sandy silt or clayey silt with occasional to frequent small stones. For the majority of these trial-pits, the natural geological substrate was revealed immediately below topsoil. However, in TPB27 a 0.2m thick layer of mid-brown firm silty clay subsoil, 0066, was recorded and in TPB30 a 0.7m of dark yellow/brown soft sandy silt colluvium, 0135, was found to be present overlying the geological substrate. No finds were recovered from the topsoil or subsoil/colluvial deposits.

5.18. TPC04 was the only trial-pit excavated in one of the fields where a 0.1m thick layer of topsoil, 165, comprising mid-brown loose sandy silt which measured 0.1m in thickness was recorded overlying a 0.3m thick layer of mid-yellow brown soft sandy silt subsoil, 166. A single sherd of Roman pottery (2g) and two worked flint flakes were recovered from the subsoil.

WLN 147 Westleton (Figs. 3 and 11-13)

5.19. All thirteen of the trial-pits proposed for this parish, TPC05 - TPC17, were excavated over ten separate fields. Four of the proposed six bore-holes were excavated, three of which, BHC02 – BHC04 required archaeological monitoring. These were located south of TPC05 within three additional fields. A possible post-hole was recorded in TPC08 with a stake-hole tentatively identified in BHC02.

5.20. Topsoil deposits differed in character within the various trial-pits and bore-holes. In TPC05 - TPC08 a 0.1m – 0.4m thick layer of firm mid-brown clayey silt with moderate stones and occasional chalk lumps. In TPC09-TPC17, the 0.2m - 0.5m thick topsoil comprised dark brown to dark grey/brown firm clayey silt topsoil with occasional small stones and chalk lumps. For BHC02 - BHC04, the topsoil was recorded as 0.3m - 0.35m of mid-brown soft sandy silt with no inclusions. No finds were recovered from the topsoil deposits.

5.21. Subsoil was present within TPC05, TPC06, TPC13, BHC02 and BHC04; 0170, 0176, 0206, 0218 and 0215 respectively, and differed in character between the excavated areas. In TPC05 and TPC06 the subsoil layer was 0.25m - 0.4m thick, comprising dark yellow/brown firm silty clay with occasional small stones measuring while in TPC13, a 0.3m thick layer of light olive brown firm clay subsoil with occasional chalk flecks was encountered. BHC02 and BHC04 revealed a 0.25m - 0.3m of soft mid brown sandy silt subsoil with no inclusions. No finds were recovered from these deposits.

5.22. TPC05-TPC16 revealed a firm olive brown clay natural substrate while TPC17 and BHC02-BHC04 contained a soft to moderately compact yellow sand; gravel was present within the sand in TPC17 only.

5.23. In TPC08, a possible post-hole, 181, was recorded immediately below topsoil 179 cutting into the underlying geological substrate (Fig. 12). It was sub-circular in plan, measuring 0.25m long, 0.19m wide and 0.1m in depth with steep concave sides and

a concave base and a single fill, 180, comprising dark grey to black firm clay with no inclusions. No finds were recovered.

5.24. In the hand excavated area around bore-hole BHC02, a possible stake-hole, 230, was recorded below subsoil 215 (Fig. 13). It was circular, measuring 0.13m in diameter, 0.07m in depth with steep sides and a V-shaped profile and a single fill, 231, comprising mid to light brown soft silty sand with no inclusions. No finds were recovered.

BLB 177 Blythburgh (Figs. 3, 4 and 15-17)

5.25. Eleven out of the thirty-two trial-pits proposed for this parish were excavated, TPC19 - TPC20, TPD02 - TPD09 and TPE01 over seven separate fields with a considerable distance between TPC19 and TPE01. Four of the proposed eight bore-holes were excavated, BHC08, BHD02, BHE01 and BHE02, none of which required archaeological monitoring.

5.26. Topsoil deposits differed in character within the various trial-pits. In TPC19 and TPC20, a 0.5m – 0.55m thick layer of soft dark grey/brown sandy silt with occasional stones was recorded while in TPD02 - TPE01 a 0.35m - 0.7m thick layer of dark olive brown soft clayey sandy silt with stones becoming more frequent from TPD07 - TPE01. No finds were recovered from these deposits.

5.27. The topsoil in TPC19 was recorded directly above a possible 0.8m thick colluvial layer comprising dark yellow/brown loose sand with occasional stones. No finds were recovered from this deposit.

5.28. In trial-pits TPD03, TPD05 and TPD06 a 0.2m thick layer of subsoil was recorded comprising dark yellow/brown soft silty sand with occasional small stones and clay pockets. No finds were recovered from these deposits.

5.29. The geological substrate in TPC19 and TPE01 consisted of light yellow sand and gravel in the remaining trial-pits it comprised light yellow/brown firm clay with a mix of sand and clay also present in TPD08 and TPD09.

TNG 052 Thorington (Figs. 3 and 4)

5.30. Only three bore-holes BHE03 - BHE05 were proposed for this parish, none of which required archaeological monitoring and were not excavated during this tranche of works.

WLB 148 Walberswick (Figs. 3, 4, 18 and 19)

5.31. All nine of the proposed trial-pits form this parish, TPD10 - TPD18, were excavated along with all four proposed boreholes, two of which, BHD03 and BHD04, required archaeological monitoring. The trial-pits and bore-holes were excavated over five separate fields.

5.32. Within TPD10 - TPD13 and BHD03 and BHD04, the two most westerly fields, both topsoil and subsoil deposits were found to be similar in character. The topsoil measured 0.4m – 0.6m in thickness comprising dark brown loose silty sand with occasional small stones while the subsoil deposits in TPD10 - TPD12, contexts 0442, 0426 and 0430, were 0.1m - 0.2m in thick, consisting of dark yellow-brown loose fine sand with occasional stones. Subsoil was absent in TPD13, BHD03 and BHD04 with the 0.4-0.6m of topsoil directly overlying the geological substrate.

5.33. TPD14 was excavated in one of the more easterly fields where the surface deposits were seen to be different. Here, the topsoil, 0082, comprised a 0.5m thickness of very dark brown/grey loose silty sand with an underlying 0.2m thick subsoil deposit of very fine orange/brown silty sand.

5.34. TPD15 - TPD18 were excavated within the two easternmost fields and revealed similar topsoil and subsoil deposits. Topsoil varied in thickness between 0.3m - 0.45m, comprising mid-brown loose sandy silt with moderate small to medium-sized stones while the subsoil layer varied in thickness between 0.1m - 0.4m and consisted of either mid to dark red brown, TPD15 context 0079, or mid to light yellow brown, TPD16 - TPD18, contexts 0088, 0093 and 0098 respectively, mixed sandy silt with frequent to occasional small stones.

5.35. With the exception of a highly worn, broken fragment of a James I Royal Farthing (RA 1), recovered from topsoil 097 in TPD18, no archaeological finds or features were recorded the trial-pits or bore-holes within this parish.

WLB 149 Walberswick landfall area (Figs. 3, 4 and 20-24)

5.36. The potential landfall site was confined to a single field and all eleven of the proposed trial-pits, TP01 - TP04/TP04A, TP05/TP05A, TP06 - TP11 and five proposed bore-holes, BH01 - BH05, were excavated. Trial-pits TP04 and TP05 were moved due to archaeological features being present in the initial excavation and renumbered as TP04A and TP05A. Possible features/ layers were also seen in TP08 and BH03 which were not subsequently re-located.

5.37. The topsoil varied in thickness from between 0.35m to 0.5m, comprising mid-brown soft silty sand with occasional small stones. Moderate amounts of CBM and modern material were recorded, but not retained along with a significant number of Registered Artefact (RA's) which are detailed in Section 6. In summary, these included seventeen separate items (RA's 1 – 9 and 11 – 19), eight coins, five jettons, a ring, a spoon, a cloth seal and a watch winder, with dates ranging from the medieval to modern period (see Section 6 for detail).

5.38. The subsoil varied in thickness from between 0.1m to 0.4m, comprising mid-orange brown soft silty sand with occasional small stones. BH03 and TP11 did not contain any subsoil. Finds recovered from the subsoil included two sherds (25g) of 14th – 15th century pottery from TP03, context 378 along with a sherd (1g) of Roman pottery from, three sherds (6g) of medieval pottery and two pieces of CBM (68g) from TP09, context 394.

5.39. When TP04 was initially excavated to a depth of 0.5m where the archaeological horizon was exposed, three ditches, 385, 387 and 389, were seen crossing the trench, all sealed by the subsoil deposits with unclear stratigraphic relationships between the individual features. These features were recorded with the surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP04A.

5.40. Ditch 0383 was located at the east end of TP04 and was only partially exposed. It was north to south orientated and measured in excess of 1m wide with a fill, 0384, comprising mid-orange/brown loose sandy silt with no visible inclusions. One sherd (4g) of Roman pottery was recovered from the surface.

5.41. Ditch 0385 was located at the southern edge of the trial-pit and was only partially exposed. It was orientated east to west and measured in excess of 0.8m wide with a fill, 0386, comprising mid-orange/brown loose sandy silt with no visible inclusions. No finds were recovered.

5.42. Ditch 0387 was located at the northern edge of the trial-pit and was only partially exposed. It was orientated east to west and in excess of 0.5m wide with a fill, 0388, comprising mid-orange/brown loose sandy silt with no visible inclusions. One piece of CBM (423g) was recovered that is likely be of medieval or post-medieval date.

5.43. When TP05 was initially excavated to a depth of 0.65m where the archaeological horizon was encountered, a large ditch, 0322, was seen to be present where it was sealed by the subsoil (Fig. 21). The ditch was recorded, surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP05A. This feature possibly equates to a ditch seen on the geophysical survey that joins with an extant field boundary at the north-western edge of the field.

5.44. Ditch 0322 was located at the northern edge of the trial-pit and was only partially exposed. It was east to west orientated and measured in excess of 2m wide with a fill, 0323, comprising mid-brown loose sandy silt with occasional stones. The finds collected from the ditch surface included twenty sherds (340g) of Roman pottery along with three fragments (58g) of Roman CBM. In addition,

5.45. TP08 was excavated to a depth of 0.8m where the archaeological horizon was encountered. A possible ditch or deepening of subsoil, 0373, was visible and was manually excavated as part of the current works.

5.46. Ditch 0373 was located on the eastern edge of the trial-pit and was only partially exposed. Within the trial-pit it was orientated north to south, measured 3m long, 1.5m wide, 0.3m in depth with a single fill, 0374, comprising mid-orange/brown loose sandy silt with occasional stones. No finds were recovered.

5.47. During the manual excavation of a 1m x 1m square box around BH03, a possible feature, 0312, or deeper subsoil deposit was encountered. The box was excavated to a depth of 0.8m where the geological substrate was encountered.

5.48. Possible feature 0312 was recorded throughout the excavated box with no edges visible. The feature/deposit was 0.45m in thickness with a single fill, 0313, comprising mid-orange/brown loose sandy silt similar in character to subsoil seen elsewhere in the vicinity. No finds were recovered.

WMH 091 Wenhaston with Mels Hamlet (Figs. 3, 4, 25, 26)

5.49. All four of the proposed trial-pits for this parish, TPE02 - TPE05, were excavated along with one of the three bore-holes, BHE08, which required archaeological monitoring *(NB CA were not informed when this was being done and it was not monitored)*. The trial-pits were located across three separate fields.

5.50. Topsoil deposits were consistent within the four trial-pits, varying in thickness between 0.4m - 0.7m, comprising dark olive to dark grey/brown soft fine sandy silt with frequent gravel-sized stones. No finds were recovered from the topsoil.

5.51. Subsoil was present in TPE04 (0481) and TPE05 (0443), measuring between 0.2m - 0.25m in thickness, comprising dark yellow/brown fine sand with occasional small stones. No finds were recovered.

BLY 025 Blyford (Figs. 4, 27 and 28)

5.52. The two proposed trial-pits for this parish, TPE06 and TPE07, were excavated, both in the same field. In addition, the two proposed bore-holes, BHE10 and BHE11, were excavated, neither of which required archaeological monitoring.

5.53. The overburden recorded within the trial-pits differed due to the varying topographical aspect. Trial-pit TPE06 was located at the base of the slope where a 0.5m thick layer of topsoil, 0463, was recorded comprising mid-olive brown soft sandy silt with occasional small stones overlying a 0.2m thick subsoil layer, 0464, consisting of light olive brown soft sandy silt with occasional small stones which, in turn, overlay the geological substrate of light yellow medium course sand with small stones.

5.54. TPE07 was located at the top of the slope with only a 0.4m thickness of similar topsoil (0467), although slightly more clayey, recorded directly above the geological substrate, here a soft light olive brown sandy clay, 0468.

5.55. No archaeological finds or features were recorded.

HAM 048 Wangford with Henham (Figs. 4 and 29)

5.56. Only three, TPE08 – TPE10, of the nine trial-pits proposed for this parish were excavated over three separate fields. The two proposed bore-holes were not excavated at this juncture.

5.57. Topsoil deposits were consistent within the three trial-pits, measuring 0.4m in thickness, comprising soft mid-brown silty clay with occasional stones. No Subsoil was recorded and no finds were recovered from the topsoil.

5.58. Removal of the topsoil revealed a yellow firm chalk flecked clay geological substrate in all three trial-pits.

WNF 082 Wangford with Henham (Figs. 4, 33 and 34)

5.59. Only three, TPF05, TPF06 and TPF10, of the proposed eight trial-pits for this parish were excavated across two separate fields. The two proposed bore-holes were not excavated at this juncture.

5.60. Topsoil deposits were consistent within the trial-pits, measuring between 0.35m - 0.45m in thickness, comprising soft mid-brown clayey silt with frequent stones and occasional chalk flecks and lumps. No finds were recovered.

5.61. Subsoil 0417 was present in TPF10 only, measuring 0.4m in thickness and consisting of light red brown firm clay with occasional small stones. No finds were recovered.

STH 032 Sotherton

5.62. No works undertaken in this phase.

BRP 044 Brampton with Stoven (Figs. 4, 30 and 31)

5.63. Both of the two proposed trial-pits for this parish, TPE24 and TPE25, were excavated within two fields flanking the A145 road with the topographical elevation increasing to the west. Four bore-holes were excavated, BHE18 – BHE21, none of which required archaeological monitoring.

5.64. The topsoil deposits TPE24 and TPE25, 0490 and 0494, respectively, were similar in character despite being within two different fields. The layer varied in depth between 0.3m - 0.4m in thickness, comprising mid-olive brown silty clay with frequent small stones.

5.65. Subsoil was only present in TPE024, 0495, comprising a 0.5m thickness of dark yellow/brown firm sandy clay with occasional stones.

5.66. No archaeological finds or features were recorded.

UGG 043 Uggeshall (Figs. 4 and 32)

5.67. Six out of the proposed twelve trial-pits for this parish were excavated, TPF01 - TPF04, TPE32 and TPE33 over four separate fields. Only one, BHE22, of the four proposed bore-holes was excavated, but did not require archaeological monitoring.

5.68. The landscape in this area was generally undulating and the deposits reflected this with variations in topsoil depths and thicknesses of subsoil/colluvial layers.

5.69. Topsoil deposits were consistent within TPF01 - TPF04, measuring 0.2m - 0.3m in thickness, comprising loose mid-brown sandy silt, becoming more clayey within TPF03 and TPF04, with frequent stones. The topsoil in TPE32 and TPE33 varied in thickness with 0.7m in TPE32, 0.4m in TPE33, both comprising dark grey/brown loose sandy silt with occasional stones. No finds were recovered.

5.70. Possible subsoil/colluvium was recorded in TPF02 - TPF04, 0238, 0248 and 0253 respectively, varying between 0.2m - 0.9m in thickness, comprising loose olive brown sand or clayey silt with occasional small stones. These deposits were recorded directly overlying the fine sand or clay geological substrate. No finds were recovered.

5.71. In trial-pit TPE32, a layer of colluvium, 0477, 0.9m in thickness, comprising dark yellow brown soft sandy clay with occasional small stones and chalk flecks was recorded while in TPE33, colluvial layers 0472 and 0473, with a combined thickness of 0.7m, were seen to consist of dark to mid yellow brown soft sandy clay with occasional stones. It is possible that these deposits represent silting within a localised dry valley. No finds were recovered.

REY 152 Reydon (Figs. 4, 35 and 36)

5.72. Seven out of the fifteen trial-pits proposed for this parish were excavated, TPF17, TPF19 and TPF21 - TPF25 over seven separate fields. Of the ten bore-holes proposed for this parish, only two, BHF05 and BHF11 were excavated during this tranche of works, both requiring archaeological monitoring *(NB CA were not informed when this was being done and they were not monitored).*

5.73. The geological substrate varied across this area and differences in the topsoil and subsoil appeared to reflect these variations. In TPF17, TPF19 and TPF21 a sandy clay geological substrate was recorded while in TPF22 - TPF25 mixed sand and gravel was encountered.

5.74. Topsoil deposits were consistent within TPF17, TPF19 and TPF20 - TPF23, measuring 0.4m - 0.7m in thickness, comprising soft dark grey/brown sandy silt with moderate to frequent stones. In TPF24 and TPF25, the topsoil varied between 0.4m -0.45m in thickness, consisting of dark grey/black loose sandy silt with occasional small stones. A worked flint flake was recovered from topsoil 0335 in TPF17.

5.75. Subsoil was recorded within TPF17, TPF19, TPF21, TPF23 and TPF25, 0336, 0339, 0290, 0298 and 0306 respectively, all measuring between 0.2m - 0.3m in thickness.

In trial-pits TPF17, TPF19 and TPF21 it comprised mid-yellow brown soft to moderately compact silty clay or sandy clay with frequent small stones while in TPF23 a very mixed mid-brown to mid-yellow/brown and grey/brown silty sand and sandy clay with frequent gravel inclusions was recorded. In TPF25, the subsoil comprised dark brown loose sand with occasional stones. No finds were recovered from any of the subsoil deposits.

REY 206 Reydon landfall site (Figs. 4, 37 and 38)

5.76. Three out of the fourteen trial-pits proposed for this parish were excavated, TP101, TPF108 and TP114 along with two of the proposed bore-holes, BH106 and BH107, neither of which required archaeological monitoring. The trial-pits were all located within one field which had a number of extant segmented drainage ditches.

5.77. The juxtaposition of the landfall site to the coastline has resulted in the presence of varying superficial geological deposits including sand wash, sand dunes and fluvial sediments. Only the topsoil is described below as the underlying deposits are presented in more detail in the geological deposit model.

5.78. Topsoil deposits were consistent in TP101, TP108 and TP114, measuring between 0.1m - 0.2m in thickness, comprising soft light yellow/brown sand with frequent small stones. No finds were recovered.

Geological deposit modelling

Introduction

5.79. An interim geoarchaeological assessment has been carried out for the trial-pits and bore-holes that formed the first tranche of geotechnical investigation of the site.

5.80. In total, 109 of the 183 originally proposed trial-pits along the route have been monitored to a maximum depth of 3m below ground level (bgl). Each test-pit was excavated and monitored to the following dimensions: 3m long x 0.5m wide x 3m deep.

5.81. A total of 53 of the 92 originally proposed boreholes along the route have also been monitored to a maximum depth of 35m bgl (WLB 049, BH03). Inspection pits for each bore-hole were monitored to a maximum depth of 0.8m bgl (WLB 049, BH03) prior to drilling.

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5.82. Within the boreholes, bedrock was encountered at an average depth of 3.77m bgl, ranging between 0.90m bgl (WMH 091, BHE08) and 9.6m bgl (THB 061, BHB12).

Methodology

5.83. Following an interim review of the Ground Investigation (GI) data logs against the localised bedrock geology and superficial geology mapped by the British Geological Survey, the sediments encountered within each intervention have been assigned a geoarchaeological potential rating as outlined in the table below.

Geoarchaeological potential rating

Deposit type	Geoarchaeological potential
Topsoil	Low
Subsoil	Low
Alluvium	Moderate
Organic alluvium	High
Peat	High
Archaeological deposits	High
Colluvium	Low
Head	Low
Lowestoft Formation	Low
Bedrock	Low

5.84. The stratigraphical units present across the Site which have potential to contain and/or seal archaeological remains and deposits of geoarchaeological significance (i.e. sediments containing paleoenvironmental indicators such as pollen, plant macrofossils etc) are alluvial deposits, organic rich alluvial deposits and sediments containing archaeological remains.

5.85. Alluvial deposits represent low-energy fluvial sediments (i.e. mostly clays and silts with some coarser-grained sands and gravels) associated with local river systems and in-filling former palaeochannels or topographic lows incised into the underlying bedrock topography.

5.86. Although alluvium has the potential to contain and seal waterlogged archaeology, the deposits themselves typically have a low geoarchaeological potential. Archaeological and palaeoenvironmental remains – if present - are likely to be preserved within the alluvium, but these will invariably have been fluvially transported from within the catchment and therefore representative of a potentially large and uncertain source area. Alluvium, therefore, can be considered to have a ‘moderate’ geoarchaeological potential.

5.87. Organic alluvium and/or peat deposits have the potential to contain a wide range of palaeoenvironmental remains (e.g. pollen and plant macrofossils) and waterlogged archaeological remains informing on past physical vegetation and environmental change and the impact of humans on the landscape. Organic alluvium and/or peat deposits can therefore be considered to have a 'high' geoarchaeological potential.

5.88. Deposits containing archaeological remains can also be considered to have a 'high' geoarchaeological potential; containing archaeological evidence for human settlement and interaction within the landscape.

Results of the interim geoarchaeological assessment

5.89. Having reviewed the initial GI logs, a geoarchaeological interim assessment has been carried out for the initial tranche of interventions. The interventions with potential are tabulated in Appendix B and have been summarised by parish code below:

Theberton (THB 061)

BHB03a – **High potential** - Organic material encountered at 3.00m – 3.45m bgl.

BHB06 – **High potential** - Organic material encountered between 0.80m - 2.00m bgl.

TPB07 – **Moderate potential** - Alluvium encountered between 0.40m – 0.65m bgl.

Middleton (MDD 052)

BHC01 – **Moderate potential** – Alluvium encountered between 0.80m - 2.00m bgl.

TPB23 – **High potential** - Archaeological ditch feature encountered between 1.00m - 1.70m bgl.

TPB30 – **Moderate potential** - Alluvium encountered between1.50m-3.00m bgl.

Westleton (WLN 147)

TPC08 – **High potential** - Archaeological feature encountered between 0.35m - 0.45m bgl.

TPC15 – **Moderate potential** – Alluvium encountered between 0.35m – 1.70m bgl.

Blythburgh (BLB 177)

BHE01 – **Moderate potential** - Alluvium encountered between 3.00m – 6.50m bgl.

BHE02 – **Moderate Potential** - Alluvium encountered between 0.40m – 5.90m bgl.

TPC19 – **Moderate Potential -** Alluvium encountered between 1.35m – 1.60m bgl.

TPD08 – **Moderate Potential -** Alluvium encountered between 0.35m – 1.10m bgl.

Walberswick (WLB 148)

TPD14 – **Moderate Potential -** Alluvium encountered between 1.80m – 2.90m bgl.

TPD16 – **High potential** – Alluvium encountered between 1.70m – 3.00m bgl containing fossilised wood and iron panning within alluvium substrate.

TPD17 – **Moderate potential** - Alluvium encountered between 1.50m – 2.20m bgl.

TPC18 – **Moderate potential** – Alluvium encountered between 1.40m – 2.30m bgl.

Walberswick (WLB 149)

TP08 – **High potential** – Archaeological feature encountered between 0.80m – 1.10m bgl.

TP10 – **High potential** - Alluvium substrate encountered between 0.90m – 1.30m bgl overlaying an organic alluvium deposit with possible humic laminae between 1.30m – 1.40m bgl.

TP11 – **Moderate potential** - Alluvium encountered between 2.20m – 2.60m bgl.

Brampton with Stoven (BRP 044)

BHE20 – **High potential** - Organic alluvium encountered between 1.20m to 3.20m bgl.

BHE21 – **Moderate potential** - Alluvium substrate encountered between 0.80m – 3.00m bgl.

Wangford with Henham (WNF 082)

TPF10 – **Moderate potential** – Alluvium encountered between 1.50m – 3.00m bgl.

Reydon (REY 206)

BH106 – **High potential** - Peat encountered between 3.00m – 6.00m bgl, overlaying organic alluvium substrate.

BH107 – **High potential** - Alluvium encountered between 2.50m - 3.60m bgl overlying partially decomposed fibrous peat at 3.60m – 5.90m bgl.

TP108 – **High potential** - Organic alluvium encountered between 1.20m – 1.40m bgl.

TP114 – **High potential** - Organic deposits encountered between 1.15m - 1.25m bgl.

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6. THE FINDS

6.1. A small quantity of pottery, ceramic building material (CBM), lithics, metalwork and possible briquetage was recovered from three of the parishes, Walberswick, Middleton and Reydon; sites WLB 149, MDD 052 and REY 152 respectively. A summary quantification is provided in the table below. The finds from these sites are variously indicative of activity during the prehistoric, Roman, medieval and post-medieval periods. While most of the assemblage is residual, stratified artefactual evidence supports a Roman date for two features in the Middleton (site MDD 052, TPB23) and Walberswick (site WLB 149, TP05) parishes.

6.2. Finds have been washed (with the exception of the metal objects), quantified and recorded in line with the CIfA Toolkit for Specialist Recording (2021, Level 2). Details have been recorded directly to a Microsoft Access database which will form part of the project archive; a summary of the finds catalogue is provided in Appendix C (Table C1). Pottery has been recorded in line with national guidance (Barclay *et al.* 2016, section 2.4.5), and fabrics follow period-specific regional pottery series (Lyons and Tester 2014; Anderson 2020). Pottery fabrics are tabulated and described in Appendix C, Table C2). The worked flint was macroscopically scanned and assigned to a category within a worked flint classification system (after Brown *et al.* 2024; Butler 2005; Mithen 2000; Wickham-Jones 1990).

Summary of finds by material type

Site	Material type	Category	Count	Weight (g)
MDD 052	Pottery	Roman	33	175
	CBM	Roman	8	319
	Lithics	Worked flint	3	33
WLB 148	Metalwork	Copper alloy	1	<1
WLB 149	Pottery	Roman	22	345
		Post-Roman	5	31
		Sub total	***27***	***376***
	CBM	Roman	3	58
		Med/PM	3	491
		Sub total	***6***	***549***
	Briquetage	Roman	1	257
	Metalwork	Copper alloy	7	11
		Silver	9	10
		Lead	1	2
		Sub total	***17***	***23***
REY 152	Lithics	Worked flint	1	10
	Metalwork	Silver	1	1

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Middleton Parish, MDD 052

6.3. A small assemblage of pottery, CBM and worked flint was recovered from two trial-pits, TPC04 and TPB23, a subsoil layer, 166 in TPC04, and a ditch, 150 in TPB23. The finds are most clearly indicative of Roman activity in the vicinity of trial-pit TPB23, with residual elements suggestive of prehistoric and Roman activity more generally in the wider area.

Pottery

Roman

6.4. Roman pottery amounting to thirty-three sherds (175g) was recovered from trial-pits TPB23 (fill 149 of ditch 150) and TPC04 (subsoil layer 166). The condition of the pottery is mostly fair, with some light to moderate abrasion.

6.5. Ditch 150 (trial-pit TPB23) produced almost all of the Roman pottery (32 sherds, 173g), with only a single, presumably residual, sherd (2g) coming from layer 166 (trial-pit TPC04).

6.6. The only fineware fabric present is an unprovenanced whiteware (WF; 1 sherd, 8g), present only in the pedestal base of a small, exceptionally thin-walled (1-2mm) platter form reminiscent of Eggshell Terra Nigra wares; the vessel may represent a Gaulish import, although further research would be required to parallel this sherd.

6.7. Miscellaneous local reduced coarsewares (GX) comprise the majority of the assemblage (22 sherds, 140g); these include a single beaded rim from a beaker type vessel (EVE 0.04, estimated diameter 140mm). Micaceous reduced coarsewares, likely produced by the Wattisfield industry of northern Suffolk (GM; 5 sherds, 7g), and buff coarsewares (BUF; 4 sherds, 8g) are also present. Black surfaced wares are represented by a single base sherd (BSW; 12g), probably from a Cam 404 small, ovoid beaker (Hawkes and Hull 1947; Symonds and Wade 1999).

6.8. The only closely dateable Roman pottery recovered is the Cam 404 beaker base, which is dated to the late 2nd century. Along with the wider group from ditch 150 (TPB23), this is sufficient to support a date for the deposition of fill 149 to during or after the late 2nd century.

CBM

6.9. A small assemblage of eight fragments (319g) of Roman CBM was recovered during excavation of trial-pit TPB23, from fill 149 of ditch 150. All fragments are moderately or severely abraded.

6.10. Fabrics include fine and medium sand, and the majority utilize grog temper; a minority of fragments have small subrounded and elongate voids suggesting the inclusion of a non-surviving organic or calcareous temper.

6.11. Most fragments are too poorly preserved to confidently indicate original forms, but one extremely abraded fragment (128g) must be from a *tegula* roof tile, given its faintly visible semicircle signature, formed of two (possibly three) parallel finger-grooves. At least four further fragments (176g) appear most likely to be from tiles, though few surfaces survive.

Lithics

6.12. Three worked flints (33g) were recovered. One from subsoil layer 166 in trial-pit TPC04, the other two from fill 149 of ditch 150 in trial-pit TBP23.

6.13. One worked flint from the subsoil layer has a grey abraded cortex while the other two are noncortical. All three worked flints are in poor condition with moderate to heavy edge damage.

6.14. The assemblage comprises flakes that are thick and hard hammer struck indicating broadly prehistoric activity, dating probably from later Neolithic to Bronze Age. All were residual as the two flakes from ditch 149 were found in conjunction with sherds of Roman pottery, whilst the other flake was recovered from subsoil.

6.15. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Discussion

6.16. The finds assemblage from the trial-pits in Middleton parish (MDD 052) provides evidence of activity in the Roman and prehistoric period.

6.17. The most indicative element is the group of Roman pottery from ditch 150 (fill 149, TPB23), which is sufficient to suggest a Roman date after the mid to late 2nd century for the infilling of this feature, and includes two particularly notable forms: a Cam 404 small ovoid beaker, and the fine, extremely thin-walled unprovenanced – but possibly

imported - whiteware platter. This small group, in conjunction with Roman CBM from the same deposit, likely represents domestic waste from nearby settlement. Roman activity is also more ephemerally suggested in the area of TPC04 by a single residual sherd.

6.18. A low level of prehistoric, late Neolithic or Bronze Age, activity is suggested in the wider vicinity of trial-pits TPB23 and TPC04 by the presence of a small quantity of residual worked flint. The worked flints are from secondary gravel deposits which are common in this part of East Anglia. The site is situated within a wider area of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

Walberswick Parish, WLB 148

6.19. One trial-pit (TPD18) produced a single coin from the topsoil, suggestive of ephemeral post-medieval activity in the local area.

Metalwork

6.20. A singular copper alloy coin (RA 1, topsoil 097, TPD18). The object dates to the earlier post-medieval period and is identifiable as a highly worn, broken fragment of a James I Royal Farthing. Though poor preservation does not allow for a more precise identification (see North 1991, nos. 2130-2136 for general type), these coins were issued from 1613–1625. However, due to the chronic shortage of small change during the 17th century this example could well have continued to circulate up till the period of the English Civil War.

Discussion

6.21. The singular, unstratified find indicates little else other than attesting to the presence of earlier post-medieval activity within the vicinity. Given its status as a singular coin find, this object probably represents a casual loss.

Walberswick Parish, WLB 149

6.22. A moderate assemblage of metalwork and pottery was recovered from ten trial-pits and five bore holes within the area of this parish covered by the WLB 149. Finds were recovered from layers and two archaeological features (ditches 322 in trial-pit TP05, and 383 in trial-pit TP04). Medieval and early post-medieval activity is attested by the metalwork, and the distribution of numismatic evidence from this period could suggest a commercial site in the area; Roman activity is also represented by stratified and residual pottery, especially focused in trial-pit TP05.

Pottery

Roman

6.23. A small assemblage of twenty-two sherds (345g; EVE 0.3) of Roman pottery was recovered from three deposits in trial-pits TP05 (fill 323 of ditch 322), TP04 (fill 384 of ditch 383), and TP09 (layer 394). Condition of the pottery ranges from fair to poor, though a few sherds show more than light to moderate abrasion.

6.24. Ditch 322 (TP05) produced by far the largest group of pottery, with twenty sherds (340g), with the other two sherds occurring singly.

6.25. All fabrics present are coarsewares, with the most frequent being micaceous reduced wares (GMG; 14 sherds, 271g), likely products of the Wattisfield industry (Lyons and Tester 2014). A further six sherds are in unprovenanced local reduced fabrics (GX; 6 sherds, 69g). Single sherds of black surfaced ware (BSW; 4g) and buff ware (BUF; 1g) were also recovered.

6.26. Refitting sherds from the rim and body of a wide mouthed jar with a groove below the rim (fabric GM; EVE 0.26, rim diameter 280mm) came from ditch 322 (fill 323) in trial-pit TP05. Body sherds from a second jar form, with a band of stabs at the shoulder, were also found in the same context.

6.27. None of the sherds present are closely datable. The group from ditch 322 (trial-pit TP05) is sufficient nonetheless to indicate a date for the deposition of fill 323 during the Roman period. The single sherd from deposit 394 is residual in a layer with medieval pottery; while no later finds accompanied the single sherd from ditch 383 (TP04), it is also likely to be residual.

Post-Roman

6.28. Post-Roman pottery amounting to five sherds (31g) was recovered from trial-pits TP03 and TP09, within subsoil layers 378 and 394. Condition ranges from fair to poor, with most sherds showing light or severe abrasion.

6.29. Fabrics present are mostly unprovenanced medieval coarsewares (fabric MCW; 4 sherds, 18g); however, of these, the largest sherd (12g, from layer 378 in TP03) may be of the Suffolk Coastal type (MCWSC; Anderson 2020). One rim sherd is in an oxidized, partially glazed Late Medieval Transitional fabric (LMT; 13g, EVE 0.05), though these fabrics can be similar to the earliest Glazed Red Earthenwares (GRE;

Jennings 1981; Anderson 2020), and it is possible that this sherd could alternatively belong in the latter categorisation.

6.30. The only rim present (fabric LMT, EVE 0.05) is everted and flanged, likely from a jar, with a clear glaze applied to the rim interior only.

6.31. None of the post-Roman pottery was recovered within stratified features, and can only attest broadly to activity in the area in the high and late medieval (or possibly post-medieval) periods. Medieval coarseware fabrics (MCW) are generally current in the period of the 12th – 14th century; however, if the sherd from TP03 is of the Suffolk Coastal type (MCWSC), these fabrics have a slightly later, 13th – 15th century currency (Anderson 2020). Despite some slight uncertainty in the fabric categorisation, the Late Medieval Transitional (or possible Glazed Red Earthenware) sherd is dated to the period of the 15th or 16th century.

CBM

6.32. Six fragments (549g) of CBM were recovered from trial-pits TP04. TP05, and TP09. They are likely to include Roman and medieval/post-medieval types.

Roman

6.33. Three fragments (58g) of heavily abraded CBM were recovered from ditch 322 (fill 323, TP05), which also contained a small group of Roman pottery, and are probably of Roman date.

6.34. Fabrics include an orange, medium sandy fabric with flint, and a paler orange, fine sandy fabric with grog. Poor preservation of surface morphology makes identification of forms difficult, but at least two fragments (51g) are likely to be from tiles.

Medieval or post-medieval

6.35. Three fragments (491g) of CBM, certainly or tentatively identified as brick, are likely dated to the medieval or post-medieval periods. All appear abraded, and no fragments survive with sufficient measurable dimensions to suggest a specific type.

6.36. Fabrics all include medium, or fine and medium, sand with flint. One fragment (423g) from ditch 387 (fill 388) also includes two visible, possibly incidental pieces of chalk <14mm.

6.37. Though no formal types are identified, the preserved surfaces and edges appear relatively evenly shaped and regular. This trait is more commonly associated with post-medieval manufacture. However, given the low proportion of each brick surviving, it cannot be considered as conclusive in this case.

6.38. One fragment from layer 394 (TP09) is heavily sooted on one surface, which could result from use in a hearth, oven or chimney, though burning could alternatively have occurred after disposal or re-use. The same may be true of the large fragment from ditch 387 (fill 388, TP04) which is heat-affected, although this could also be the result of overfiring.

6.39. The fragments from layer 394 (TP09) were found with both medieval and Roman pottery fragments, all off which may be residual. The fragment from ditch 387 (TP04) was the sole find from the deposit, but given the long use-life of bricks, may have been deposited decades or centuries after its manufacture and therefore provides only *terminus post quem* (TPQ) for this feature.

Briquetage

6.40. A single fragment (257g) of possible briquetage (salt-making ceramic material) was recovered from ditch 322 (fill 323, TP05). The fragment is in fair condition, with light abrasion.

6.41. The fabric contains medium and coarse sand with rare angular flint 4mm - 12mm. The fragment is flat, roughly formed and smoothed, with a thin white coating on one surface; a straight concave edge preserved suggests either a large coil-join, or possibly a means of tightly fitting with another, convex-edged piece.

6.42. The presence of possible briquetage near to the coastline here is not surprising. The fabric and form of this fragment suggests a Roman date, supported by the presence of a small group of Roman pottery found in the same deposit.

Metalwork

6.43. The overwhelming majority of metalwork from the initial phase geotechnical works was recovered from WLB 149, which produced a scatter of seventeen metal objects (Fig. 21). They include thirteen items of numismatic relevance (e.g., coins or jettons) with the remaining four belonging to other functional categories.

Medieval

6.44. Two silver coins are of medieval date. The first (RA 11, topsoil 320, TP05) is a somewhat worn and clipped sterling issue penny of Edward I, struck *c*.1305 – 1306 (class 10cf1, mint of Canterbury, see North 1991 no. 1040 for type). Its condition suggests it may well have circulated for quite some time before being lost, perhaps even beyond Edward III's weight-reduction reforms of 1351. The second coin of medieval date (RA 2, topsoil 278, BH01) is slightly later, identifiable as a halfpenny of Edward III's second 'star-marked' coinage. This piece was struck at London between 1335–1343 (see Withers and Withers 2007, type 5ii/iii, North 1991 no. 1102).

Post-medieval to modern

6.45. The remaining fifteen objects are of post-medieval to modern date, though most of these (13 finds, 11 of which are coins or jettons) date from the 16th to 17th centuries.

6.46. The post-medieval coins (6) correspond to the reigns of Henry VIII (2), Elizabeth I (2) and Charles I (2). A silver halfpenny of Henry VIII's second coinage (RA 13, topsoil 329, TP07) dates *c*.1526–1544 (see North 1991, no. 1815), while a base silver groat (RA 3, topsoil 281, BH04) is a posthumous issue of Canterbury struck early in the reign of Edward VI (see North 1991, no. 1875). Both coins of Elizabeth are worn silver halfgroats, which potentially circulated well into the 17th century. Registered Artefact 7 (topsoil 282, BH105) is incomplete and of the third coinage, its initial mark ('A') indicating a date of 1582 – 1584, while the second example (RA 19, topsoil 367, TP02) is much more worn and cannot be dated any closer than 1558 – 1603. The coins attributable to Charles I were both recovered from topsoil 356 of TP010. These comprise RA 14, a very worn and bent silver halfgroat of group D or E (see North 1991, nos. 2271 - 2272) and RA 15, a worn copper alloy Richmond farthing struck 1625 - 1644 (type 1, initial mark probably lion, see North 1991, no. 2277).

6.47. In addition to the coins, five copper alloy jettons were recovered. These objects are relatively common British site finds, designated officially as accounting tokens but probably also utilised as gaming counters or for local small change when need arose. All are products of Nuremberg and date from the period *c*.1500 – 1640. One jetton (RA 6, topsoil 280, BH103) is a large, piedfort-style piece with repeating nonsense legends corresponding to the Lion of St. Mark type (see Mitchiner 1988, nos. 1102 - 1109). It dates *c*.1500 – 1570. All the other jettons are of the rose-orb type. One example (RA 4, topsoil 279 of BH02) is complete but broken into two conjoining

fragments, attributable as an anonymous-issue type with nonsense legends of *c*.1500 – 1550/1585 (see Mitchiner 1988, nos. 1227 - 1286). Two further jettons bear fully literate inscriptions indicating their issue by mintmasters Hans Krauwinckel II (RA 5, topsoil 280, BH103) and Hans Schultes III (RA 17, topsoil 326, TP05A) between 1585 – 1635 and 1608 – 1612 respectively. Registered Artefact 17, interestingly, shows evidence of secondary modification, a triangular off-centre perforation indicating its piercing with the tip of a knife blade. However, the reason this was undertaken is uncertain. Lastly, the remaining rose-orb jetton (RA 8 topsoil, 282, BH105) cannot be dated any more closely than 1500 – 1640, given its highly worn state of preservation.

6.48. A small number of other objects dating to the earlier post-medieval period (i.e., 16th – 17th centuries) were additionally recovered. The sole lead/lead alloy object (RA 16, topsoil 362, TP011) is very worn and fragmentary but can be identified as part of a two-disc type cloth seal used to indicate the type, origin and quality of textile bolts. Raised decoration on one face appears to depict the Royal Arms of England, though this is tentative. More closely identifiable is a well-worn, silver-gilt finger ring with an internal posy or inscription (RA 12, topsoil 315, TP01), likely dating to the second half of the 16th century. Its circular hoop is 'D' shaped in cross section and plain on its external face excepting for an incised groove at each edge, its interior retaining copious gilding alongside the block-capital inscription 'GOD BE PRASED' (God be praised). Rings of this type with either religious or love-themed inscriptions (posies) were popular from the 16th – 18th centuries, being known in both precious and base metals. Those with inscriptions using block-capital letterforms became most common after *c.*1530 (Glanville 1990, 149) and remained fashionable till the early 17th century, when lower-case italic script became increasingly common. Because of its age and precious metal content, this find qualifies as potential Treasure under the 1996 Treasure Act and has accordingly been reported to both the Suffolk Coroner and British Museum, being assigned the Treasure case tracking number 2024 T1211.

6.49. Lastly, two finds are of modern date (i.e., post 1800). A small, oval silver spoon bowl (RA 9, topsoil 282, BH105) probably originates from a mustard spoon, while an openwork copper alloy object with a suspension loop (RA 18, topsoil 367, TP02) is probably best identified as a watch-winder. Both of these finds likely date from the later 19th to early 20th centuries, representing the most recent metal objects from WLB 149.

Discussion

6.50. The assemblage of pottery, CBM and metalwork from WLB 149 is indicative of activity at and around the site in the Roman, medieval and early post-medieval periods.

6.51. Activity in the Roman period is attested most clearly by pottery, and supported by CBM and a single fragment of possible briquetage; the finds are sufficient to suggest a stratified Roman deposit within ditch 322 (TP05), likely refuse from nearby settlement. The presence of possible briquetage in this feature is suggestive of local salt-production in the Roman period; the site is suitably close to the coast for such activity to occur nearby. The pottery assemblage is typical for northern Suffolk, with a high proportion of micaceous reduced wares likely originating from the Wattisfield industry, though sherds present are not particularly indicative of a close date within the Roman period.

6.52. The medieval and early post medieval assemblage includes pottery, CBM and metalwork, with the most significant elements being numismatic objects. The fairly substantial assemblage of metalwork alone, from twelve trial-pits across the site, indicates activity within the landscape from the medieval period onwards, certainly beginning in at least the 14th century. No stratified archaeological features are definitively dated to this period, though the medieval or post-medieval brick fragment suggests that ditch 387 was backfilled no earlier than the later medieval period, and given the decades- or centuries-long use of bricks before deposition, possibly much later.

6.53. However, It is also possible that the medieval and later metalwork, pottery and CBM finds could have been deposited through centuries of nightsoiling/manuring from the local settlement at Walberswick, or in the case of the metalwork, singular casual losses relating to foot traffic. However, the predominance of coins and coin-related objects, as well as their spatial concentration, may well indicate that the metal finds scatter relates to commercial activity in the medieval to earlier post-medieval periods (i.e., the location of a small fair or undocumented market). Certainly the location of this site would have been well suited for activity of this character, being located directly south of the main east/west thoroughfare through the village. However, the specific find-types recovered additionally hint at such an interpretation, with jettons and cloth-seals both having distinctly commercial associations. These have been observed to cluster strongly in both urban settings as well as around market sites (Oksanen and Lewis 2020, 16), often occurring alongside numerous coin finds. Such a trend,

particularly for jettons, indicates their important role in more monetarily developed environments (*ibid.*) where use of token currency alongside 'proper' money was probably quite common. Residual pottery from trial-pit TP03 (layer 378) and TP09 (layer 394) is also suggestive of activity in the vicinity during the high medieval, and late medieval or early post-medieval, periods.

REY 152

6.54. Finds recovered from trial-pitting within this parish include a worked flint flake (trial-pit TPF17) and a silver coin (trial-pit TPF23), each recovered from topsoil, 355 and 297 respectively. The finds represent residual evidence of ephemeral activity in the local area during the late Neolithic or Bronze Age and post-medieval periods.

Lithics

6.55. A single worked flint (10g) was recovered from topsoil layer 355 in TPF17.

6.56. The flake has a cream abraded cortex and is slightly rolled, has heavy edge damage and is uncorticated. The flake is hard hammer struck and provides minimal evidence for broadly prehistoric activity dating probably from later Neolithic to Bronze Age.

6.57. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Metalwork

6.58. A singular coin was recovered from REY 152 (RA 10, topsoil 297 of TPF23). It can be identified as a broken fragment of a third coinage Elizabeth I sixpence, dated 1591 (see North 1991, no. 2015). Only around 20% of the original flan is preserved due to old breaks.

Discussion

6.59. The worked flint and metalwork finds from site REY 152 are both residual, having been recovered from topsoil.

6.60. The singular coin from REY 152 indicates little more than the presence of earlier post-medieval activity within the vicinity; this object was probably deposited as a result of casual loss.

6.61. The worked flint flake is minimal evidence of broadly prehistoric activity dating probably from later Neolithic to Bronze Age. The site is situated within a wider area

of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

7. THE BIOLOGICAL EVIDENCE

The Animal bone

7.1. A very small assemblage of animal bone was recovered from ditch 0322 in TP05 excavated in Walberswick parish, site WLB 149.

Methods

7.2. Each bone fragment was identified where possible to element (including cranial and post-cranial elements) and species, All data are recorded in Appendix D, Table D1. Identification was carried out using comparative collections and with reference to Hillson (1992) and Schmid (1972) for domestic mammals.

7.3. The percentage of the element present was estimated and recorded to the nearest 10% for all identified fragments. Each fragment was also examined for butchery, breakage patterns, gnawing and weathering indicators. Burnt bone was recorded by colour (buff, brown, grey, black and calcined). The condition of all fragments was assessed on a five-point scale through poor, poor-average, average, average-good and good. Pathological changes were noted where present. Measurements were taken as per von den Driesch (1976). No teeth were available for assessment of aging.

Results

7.4. A single fragment was recorded from context 0323 in ditch 0322. The condition of the bone was average, with some indications of minor etching of the surface by roots. No gnawing or burning was noted.

7.5. The single element recovered was a horse radius. This provides some aging information as it was distally fused, suggesting an animal of more than forty-two months of age at death. This fragment was measurable is recorded in Table C1; withers height was not calculable.

Comment and Selection

7.6. This single bone is unable to provide much information, and could be consistent with various periods, including the post-medieval.

7.7. Individually this horse element offers little insight into the economy or consumption/disposal practice at the site. However, it does indicate reasonable bone preservation on the site and further material is likely to provide information on the animal economy and consumption practice, should the area be further excavated.

7.8. The assemblage has been fully recorded to archive standards. The material should be retained and in the event that further work is undertaken at the site, this material should be available for inclusion alongside a wider archive. The data recorded to date can be incorporated into any subsequent report.

8. DISCUSSION

8.1. The results of the geophysics survey (Wessex 2024 and 2025) clearly provide evidence for a landscape which has been heavily utilised with concentrations of archaeological features visible over wide areas of the overall site.

8.2. However, given the keyhole nature of the geotechnical excavations, the chances of hitting archaeological features within the trial-pits and bore-holes remained low, even within the more concentrated areas of archaeology as demonstrated by the geophysics results (*ibid*.). In addition, where the geophysics results were available prior to the geotechnical fieldwork, SCCAS requested a number of movements to the location of specific interventions which were subsequently implemented on site.

8.3. Archaeological features were only recorded in five of trial-pits; a possible post-hole in trial-pit TPC08 located in Westleton parish, while three ditches were seen in TP04, one in TP05 and a possible ditch in TP08, all in the Walberswick landfall area (WLB 149), and one ditch in TPB23 in Middleton parish.

8.4. While remaining unexcavated, with the trial-pits moved (TP04A and TP05A), surface finds suggested that the features in TP04 were Roman in date, while the ditch in TP05 appeared in the geophysics survey to join with an extant field boundary. The feature in TP08 remained undated. The ditch in TPB23 coincided with a feature previously recorded in the geophysical survey and produced ceramic evidence suggestive of a Roman, late 2nd century or later date.

8.5. Also of possible archaeological significance relating to the Walberswick landfall site was the presence of a metalwork scatter including coins, jettons and cloth seal that were that could relate to commercial activity on the site, possibly a small fair or

undocumented market, although another interpretation of this evidence is the process of nightsoiling.

8.6. Other artefactual evidence was limited to a small quantity of finds recovered from subsoil in TPC04 (Middleton), topsoil in TPF17 and TPF23 (Reydon).

8.7. However, the low level of finds recovery from almost all of the interventions and limited to topsoil and subsoil, cannot be taken as evidence for the absence of archaeology in the wider vicinity, the presence and character of which will become more apparent during the subsequent trial-trenching exercise.

8.8. The geological deposit modelling designated a rating of archaeological potential to the various sediment types encountered which included alluvium (moderate), organic alluvium, peat and archaeological deposits (high). On that basis, deposits of moderate and high archaeological potential were identified locally in the parishes of Theberton, Middleton, Westleton, Blythburgh, Walberswick, Brampton with Stoven, Wangford with Henham and Reydon.

9. CA PROJECT TEAM

9.1. Fieldwork was undertaken by Edward Aylott and Michael Green. This report was written by Michael Green. The finds and biological evidence reports were written by Ciar Boyle Gifford (pottery, CBM and briquetage), Alexander Bliss (metalwork), Robert Leedham (lithics) and Clare Randall (animal bone). The geoarchaeological deposit modelling was undertaken by Holly Rodgers. The report illustrations were prepared by Alice Woodard. The project archive has been compiled by Clare Wootton, and prepared for deposition by Zoe Emery. The project was managed for CA by Stuart Boulter who also edited the report.

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APPENDIX A: CONTEXT DESCRIPTIONS

Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0001				TPB01	Layer	5YR 4/2 dark reddish grey, hard clay topsoil with frequent flints of all sizes, poorly sorted and occasional to frequent chalk flecking. SHARP TO: 2				0.15	0002			
0002				TPB01	Layer	7.5YR 5/3 brown firm clay with chalk flecking. SHARP TO: 3				0.15	0003	0001		
0003				TPB01	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub-angular flint nodules, 2-3 cm, relatively well sorted. SHARP TO: 4				0.55	0004	0002		
0004				TPB01	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				2.15		0003		
0005				TPB02	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 6				0.30	0006			
0006				TPB02	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 7				0.20	0007	0005		
0007				TPB02	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, and patches of 5YR 4/4 reddish brown loose sand DIFFUSE TO: 8				0.50	0008	0006		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0008				TPB02	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecks and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules.				2.00		0007		
0009				TPB03	Layer	5YR 4/2 dark reddish grey hard clay topsoil, frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 10				0.30	0010			
0010				TPB03	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 11				0.30	0011	0009		
0011				TPB03	Layer	7.5YR 5/4 brown firm very coarse sandy clay with frequent chalk flecking and patches of 5YR 4/4 reddish brown loose sand SHARP TO: 12				0.70	0012	0010		
0012				TPB03	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking occasional medium chalk nodules, roughly 5cm, and occasional pockets of 5YR 4/4 reddish sand,				1.70		0011		
0013				TPB04	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 14				0.25	0014			
0014				TPB04	Layer	7.5YR 5/3 brown firm clay with rare chalk flecking. SHARP TO:15				0.10	0015	0013		
0015				TPB04	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub angular flint nodules, roughly 2-3cm, relatively well sorted. SHARP TO: 16				0.45	0016	0014		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0016				TPB04	Layer	7.5YR 5/4 brown friable very sandy (mid coarse) clay moderate chalk flecking, rare to medium small flint nodules of roughly 2-3cm. Relatively well sorted. SHARP TO: 17				0.80	0017	0015		
0017				TPB04	Layer	10 YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules of roughly 5cm, and frequent small rounded chalk nodules.				1.40		0016		
0018				TPB06	Layer	10YR 4/4 dark yellowish brown firm silty clay with frequent chalk flecking, occasional flints of all sizes and shapes, Rare CBM. SHARP TO: 19				0.40	0019			
0019				TPB06	Layer	2.5Y 5/4 light olive brown very firm clay with frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm and occasional rounded flint nodules of roughly 3-5cm. Well sorted. SHARP TO: 20				0.20	0020	0018		
0020				TPB06	Layer	2.5Y 6/2 light brownish grey very firm clay, frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm, rare angular flint and very rare nodules of iron stone of roughly 10cm. DIFFUSE TO: 21				1.00	0021	0019		
0021				TPB06	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				1.40		0020		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0022				TPB07	Layer	10YR 4/3 brown firm silty clay topsoil, occasional chalk flecks and nodules of roughly 3-4cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 23				0.30	0023			
0023				TPB07	Layer	2.5Y 4/4 olive brown firm silty clay with rare small stones. SHARP TO: 24				0.10	0024	0022		
0024				TPB07	Layer	2.5YR 4/4 olive brown firm silty clay with frequent chalk flecking, occasional manganese streaking, and rare small angular stones. Patches of 2.5Y 8/1 white very chalky firm clay, occasional chalk nodules smaller than 10cm DIFFUSE TO: 25				0.15	0025	0023		
0025				TPB07	Layer	The very chalky clay described in 24 becomes predominant over the olive brown clay to the point that it is almost entirely absent, SHARP TO: 26				1.45	0026	0024		
0026				TPB07	Layer	GLEY1 3/N Very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules <1cm				0.90		0025		
0027				TPB08	Layer	10YR 4/3 brown firm silty clay topsoil with occasional chalk flecks and nodules of roughly 3-4 cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 28				0.40	0028			
0028				TPB08	Layer	2.5Y 3/3 dark olive brown friable silty slightly sandy clay with very rare angular flints. SHARP TO: 29				0.10	0029	0027		
0029				TPB08	Layer	2.5Y 5/3 light olive brown friable silty clay with frequent chalk flecking and very small nodules, occasional chalk nodules of larger				0.60	0030	0028		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sizes. Rare stones of all sizes and shapes, poorly sorted. SHARP TO: 30								
0030				TPB08	Layer	GLEY1 6/10Y greenish grey firm clay with very frequent chalk flecking and frequent small chalk nodules of roughly 0.3cm. VERY DIFFUSE TO: 31				0.50	0031	0029		
0031				TPB08	Layer	GLEY1 3/N very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules smaller than 1cm				1.4		0030		
0032				TPB05	Layer	5Y 4/3 olive firm clay topsoil, frequent small and medium - roughly 4cm - angular and sub angular flint nodules, poorly sorted. SHARP TO: 33				0.30	0033			
0033				TPB05	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking and with patches of 5YR 4/4 reddish brown loose sand. SHARP TO 34				0.50	0034	0032		
0034				TPB05	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and frequent small to medium chalk nodules. Rare flints of roughly 3-4cm. The layer becomes slightly darker right at the base of the trial-pit around 3m				2.20		0033		
0035				TPB09	Layer	10YR 4/2 dark greyish brown friable sandy topsoil flint nodules of all sizes and shapes, poorly sorted. DIFFUSE TO: 36				0.50	0036			
0036				TPB09	Layer	7.5YR 4/6 strong brown friable to firm medium coarse sand, occasional to rare small to medium large flints of 2-8cm, poorly sorted. SHARP TO 37				0.65	0037	0035		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0037				TPB09	Layer	2.5Y 5/4 light olive brown firm clay with rare angular small flints, occasional chalk nodules of roughly 10 to 3cm, occasional to rare large patches of chalk. Poorly sorted.				1.85		0036		
0038				TPB10	Layer	2.5Y 3/3 dark olive brown friable mid coarse sandy clayey topsoil. SHARP TO: 39				0.40	0039			
0039				TPB10	Layer	2.5Y 4/4 olive brown friable very sandy (mid coarse) clay with occasional very small angular flints of roughly 0.5cm, rare sub rounded flints of roughly 1cm, and frequent medium sub rounded flints of roughly 5-7cm. Poorly sorted. SHARP TO: 40				0.40	0040	0038		
0040				TPB10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and rare very small chalk nodules of less than 1cm. Occasional medium to large flints of all shapes. Poorly sorted. SHARP TO: 41				0.70	0041	0039		
0041				TPB10	Layer	GLEY 1 4/5GY dark greenish grey firm clay with frequent chalk flecking, frequent rounded chalk nodules of roughly 4cm and smaller, and rare to occasional small angular flints.				1.50		0040		
0042				TPB14	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 43	Topsoil			0.20	0043			
0043				TPB14	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flints, quite poorly sorted. SHARPE TO: 44				0.40	0044	0042		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0044				TPB14	Layer	2.5Y 4/3 olive brown soft clay with rare chalk fecking and even rarer manganese streaking. Small patches of 10YR 5/6 yellowish brown clay with frequent mid coarse to fine sand throughout, and with rare manganese streaks and chalk flecks. SHARP TO: 45				0.3	0045	0043		
0045				TPB14	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules, 1-4cm across. Pockets of 10YR 5/8 yellowish brown soft/loose medium to fine sand from 0.9-1.5m BGL. SHARP TO: 46				1.0	0046	0044		
0046				TPB14	Layer	GLEY1 4/5GY dark greenish grey firm clay, frequent chalk flecking and very small nodules				1.10		0045		
0047				TPB13	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil. Frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 48	Topsoil			0.25	0048			
0048				TPB13	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flint nodules. Poorly sorted. SHARP TO: 49	Subsoil			0.25	0049	0047		
0049				TPB13	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules				0.50	0050	0048		
0050				TPB13	Layer	GLEY1 4/5GY dark greenish grey firm clay with frequent chalk flecking and very small chalk nodules				0.60	0051	0049		
0051				TPB13	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk flecking and rare ironstone nodules				1.40		0050		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0052				TPB12	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil, frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 53				0.30	0053			
0053				TPB12	Layer	2.5Y 4/2 dark greyish brown medium to soft clay. Occasional rounded to sub angular small to medium flints, poorly sorted. SHARP TO: 54				0.30	0054	0052		
0054				TPB12	Layer	2.5Y 4/4 olive brown medium firm clay, very frequent chalk flecking and rare rounded chalk nodules				0.60	0055	0053		
0055				TPB12	Layer	GLEY1 6/5GY greenish grey firm clay with frequent chalk flecking and small nodules				0.50	0056	0054		
0056				TPB12	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk nodules				1.30		0055		
0057				TPB11	Layer	2.5Y 4/4 olive brown clayey silty topsoil, occasional flints of all shapes and sizes, poorly sorted. SHARP TO: 58	Topsoil			0.30	0058			
0058				TPB11	Layer	2.5Y 6/2 light brownish grey friable silty clay with streaks of 10YR 5/8 yellowish brown sand throughout. Frequent chalk flecking and very small nodules, 1cm across, occasional nodules of 5-8cm, across, and rare larger nodules of roughly 15cm across. Occasional angular flints 0.5-7cm across. Large pockets of 10YR 5/8 yellow red sand from 0.3-0.7m BGL. SHARP TO: 59				1.30	0059	0057		
0059				TPB11	Layer	GLEY1 4/N dark grey friable/hard silty clay with frequent chalk flecks and small nodules <7cm.				1.40		0058		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0060				TPB16	Layer	2.5Y 3/2 very dark greyish brown clayey silty topsoil occasional to frequent small angular to sub angular flints				0.30	0061			
0061				TPB16	Layer	2.5Y 4/3 olive brown friable silty clay. Occasional small sub-angular flints				0.15	0062	0060		
0062				TPB16	Layer	2.5Y 4/4 olive brown friable/firm clay, frequent chalk flecking and small nodules				0.25	0063	0061		
0063				TPB16	Layer	5Y 5/1 grey friable/firm clay with frequent chalk flecking, small nodules				1.10	0064	0062		
0064				TPB16	Layer	GLEY1 4/N Dark grey friable/firm clay, frequent chalk flecking and small nodules				1.20		0063		
0065				TPB27	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent flints of all shapes and sizes, and rare small chalk nodules				0.30	0066			
0066				TPB27	Layer	2.5Y 4/3 olive brown firm clay with rare chalk flecking and small chalk nodules				0.20	0067	0065		
0067				TPB27	Layer	2.5Y 5/3 light olive brown firm clay with frequent very small chalk nodules				0.25	0068	0066		
0068				TPB27	Layer	2.5Y 5/1 grey friable/loose clay with frequent chalk flecking and very small nodules				1.05	0069	0067		
0069				TPB27	Layer	GLEY1 4/N dark grey firm clay with frequent chalk flecking and small and medium nodules				1.20		0068		
0070				TPB29	Layer	5Y 3/2 dark olive grey loose sandy topsoil with rare flints of all sizes and shapes, poorly sorted. SHARP TO: 71				0.40	0071			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0071				TPB29	Layer	2.5Y 6/6 olive yellow very fine loose stoneless sand. SHARP TO: 72				0.30	0072	0070		
0072				TPB29	Layer	2.5Y 7/4 pale brown very fine loose stoneless sand.				2.30		0071		
0073				TPB18	Layer	2.5Y 2.5/1 black friable/firm silty clayey topsoil, occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO: 74	Topsoil			0.30	0074			
0074				TPB18	Layer	2.5Y 4/2 dark greyish brown hard/friable clay with occasional chalk flecks and rare poorly sorted flints of all shapes and sizes. SHARP TO: 75	Subsoil			0.20	0075	0073		
0075				TPB18	Layer	2.5Y 5/3 light olive brown very firm clay with occasional chalk flecking and rare, angular flints of 2-4cm across SHARP TO: 76				0.60	0076	0074		
0076				TPB18	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking, frequent very small nodules				0.40	0077	0075		
0077				TPB18	Layer	GLEY1 3/N very dark grey firm clay with frequent chalk flecking, occasional chalk nodules 3-6cm across and frequent very small nodules <1cm.				1.50		0076		
0078				TPD15	Layer	10R 2.5/1 Red very fine sandy topsoil, frequent medium to small flints	Topsoil			0.30	0079			
0079				TPD15	Layer	10R 2.5/4 dark reddish grey very fine sand with frequent medium and small flints				0.40	0080	0078		
0080				TPD15	Layer	Darker than 10R 2.5/2 slightly reddish black, no direct match in the soil chart. Mid coarse sand with frequent to occasional quite well				0.80	0081	0079		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sorted flint gravel, mostly rounded, roughly 3cm across. Rare smaller angular flints								
0081				TPD15	Layer	10YR 5/8 yellowish brown soft medium fine stoneless clayey sand. Occasional patches of 10YR 6/2 light brownish grey friable sandy clay. Clay content of both becomes increasingly scarce towards 3m.				1.50		0080		
0082				TPD14	Layer	10YR 2/1 black very fine sandy topsoil, rare small sub rounded flints, roughly 5cm across.	Topsoil			0.50	0083			
0083				TPD14	Layer	10YR 6/4 orange brown fine sand and silt with occasional rounded flint.	Subsoil			0.20	0084	0082		
0084				TPD14	Layer	2.5Y 6/6 yellow fine sand with mixed yellow brown patches, and occasional small rounded flint inclusions. Patches of 10YR 7/6.				1.10	0085	0083		
0085				TPD14	Layer	5Y 8/6 pale white/yellow medium fine sand, relatively homogenous, with frequent rounded gravel.				1.0	0086	0084		
0086				TPD14	Layer	GLEY1 5G5/2 grey orange firm stoneless micaceous clay.				0.10		0085		
0087				TPD16	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.45	0088			
0088				TPD16	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0089	0087		
0089				TPD16	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.15	0090	0088		
0090				TPD16	Layer	2.5Y 6/8 mixed with 5Y 8/4 fine and medium fine soft sand				0.80	0091	0089		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0091				TPD16	Layer	2.5Y 6/8 clay laminated with 5Y 8/4 orange and white sand mixed with GLEY1 8/10GYclay. Iron panning and fossilised wood.				0.50		0090		
0092				TPD17	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.40	0093			
0093				TPD17	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0094	0092		
0094				TPD17	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.00	0095	0093		
0095				TPD17	Layer	GLEY1 5G5/2 laminated micaceous pale grey blue clay and 2.5Y 6/8 red fine sand.				0.70	0096	0094		
0096				TPD17	Layer	2.5YR 8/8 yellow medium fine sand and laminated patches of 7.5YR 6/8 orange clay. Iron panning inclusions.				0.80		0095		
0097				TPD18	Layer	10YR 3/2 mid dark grey brown sandy silty topsoil with occasional small rounded flints <5cm	Topsoil			0.40	0098			
0098				TPD18	Layer	10YR 4/6 mid brown yellow silty sand with occasional small rounded flints.	Subsoil			0.10	0099	0097		
0099				TPD18	Layer	2.5Y 6/8 fine yellow orange soft sand with occasional small rounded flints.				0.90	0100	0098		
0100				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.10	0101	0099		
0101				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.60	0102	0100		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0102				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.20	0103	0101		
0103				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.70		0102		
0104				TPD08	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes, poorly sorted. DIFFUSE TO: 105	Topsoil			0.35	0105			
0105				TPD08	Layer	10YR 5/6 yellowish brown fine clayey sand, rare angular to sub angular quite well sorted flints of 2-5cm across. SHARP TO: 106	Subsoil			0.75	0106	0104		
0106				TPD08	Layer	10YR 5/6 yellowish brown very firm fine clayey sand with occasional to frequent small to medium sub angular to sub rounded flints 1-3cm across, and occasional very small angular flints				0.60	0107	0105		
0107				TPD08	Layer	2.5Y 6/6 olive yellow fine to medium fine stoneless sand.				1.30		0106		
0108				TPB20	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Rare chalk flecking and occasional rounded to sub rounded medium flints of roughly 3cm across. SHARP TO: 109	Topsoil			0.30	0109			
0109				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand with 10YR 3/2 greyish brown striations. Rare small angular flints	Colluvium			0.60	0110	0108		
0110				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand, with rare small angular flints	Colluvium			0.50	0111	0109		
0111				TPB20	Layer	10YR 5/6 yellowish brown loose mid coarse stoneless sand.				1.60		0110		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0112				TPB21	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. Rare CBM. SHARP TO: 113	Topsoil			0.40	0113			
0113				TPB21	Layer	10YR 5/4 yellowish brown quite firm/friable somewhat concreted mid fine sand. SHARP TO: 114	Colluvium			0.70	0114	0112		
0114				TPB21	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO 115				0.60	0115	0113		
0115				TPB21	Layer	10YR 4/6 dark yellowish brown mid fine loose stoneless sand with rare pockets of 5Y 7/3 pale yellowish mid fine loose stoneless sand				1.30		0114		
0116				TPB22	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. SHARP TO: 113				0.40	0117			
0117				TPB22	Layer	10YR 4/3 brown firm concreted/friable sand, rare chalk nodules and flecking of roughly 3cm across, rare large flints of roughly 10cm across. Occasional flints				1.10	0118	0116		
0118				TPB22	Layer	7.5YR 4/6 strong brown firm/friable coarse sand with frequent gravel of all sizes and shapes, poorly sorted. SHARP TO: 119				0.80	0119	0117		
0119				TPB22	Layer	10YR 5/8 yellowish brown loose mid-course stoneless sand.				0.70		0118		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0120				TPB33	Layer	2.5Y 4/4 olive brown friable silty clayey topsoil with rare to occasional small to medium flints of all shapes, poorly sorted. SHARP TO: 121	Topsoil			0.45	0121			
0121				TPB33	Layer	10YR 5/6 yellowish brown firm clay with frequent chalk flecking, occasional to frequent chalk nodules of roughly 5cm across, occasional small to medium flints of all shapes, rare large sub angular to rounded flints of roughly 10cm across. SHARP TO: 122				1.15	0122	0120		
0122				TPB33	Layer	2.5Y 6/1 grey firm clay with frequent small to medium chalk nodules				0.40	0123	0121		
0123				TPB33	Layer	10YR 5/8 yellowish brown loose mid coarse clayey sand with frequent small sub angular flints and chalk flecks. SHARP TO: 124				0.90	0124	0122		
0124				TPB33	Layer	2.5Y 8/3 pale brown loose medium fine stoneless sand.				0.10		0123		
0125				TPB24	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded flints, roughly 3cm across, and occasional chalk flecking. SHARP TO: 126	Topsoil			0.20	0126			
0126				TPB24	Layer	10YR 4/3 brown firm/friable sand with rare chalk flecking and nodules of roughly 3cm across. Rare large flints of all shapes, 10cm across, occasional flints of all shapes,	Colluvium			0.70	0127	0125		
0127				TPB24	Layer	10YR 5/8 yellowish brown loose coarse stoneless sand				2.10		0126		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0128				TPB25	Layer	10YR 4/2 dark greyish brown very firm clayey topsoil, with frequent small to medium flints, mostly rounded or sub rounded. Frequent chalk flecking, rare CBM. SHARP TO: 129	Very deep topsoil. TPB25 was dug in a large hollow in a field, the topsoil is possibly so deep as a result of repeated ploughing into the depression building up the layer over time, or deliberate infill. There was no perceptible subsoil.			1.70	0129			
0129				TPB25	Layer	2.5Y 7/6 yellow very fine stoneless sand.				1.30		0128		
0130				TPB26	Layer	10YR 4/2 dark greyish brown very firm clay topsoil with frequent small to medium rounded and subrounded flints and frequent chalk flecking. SHARP TO: 131	Topsoil			0.30	0131			
0131				TPB26	Layer	2.5Y 4/3 olive brown very firm clay with rare pockets of 10YR 5/8 yellowish brown mid coarse loose sand, frequent chalk flecking, occasional chalk nodules of roughly 7cm across, rare angular flint of roughly 7cm across. SHARP TO: 132				0.50	0132	0130		
0132				TPB26	Layer	10YR 5/1 grey very firm clay, frequent chalk flecking, occasional small nodules of chalk				0.90	0133	0131		
0133				TPB26	Layer	2.5Y 4/1 dark grey very firm clay with frequent chalk flecking, occasional small chalk nodules				1.30		0132		
0134				TPB30	Layer	2.5Y 3/3 dark olive brown friable sandy topsoil, rare small to medium flints of all shapes, poorly sorted. SHARP TO 135				0.40	0135			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0135				TPB30	Layer	10YR 3/6 dark yellowish brown soft slightly silty sand, rare sub rounded flints. SHARP TO: 136	Subsoil or possible colluvium			0.70	0136	0134		
0136				TPB30	Layer	10YR 5/6 yellowish brown mid coarse sand, largely stoneless excepting a single pocket of medium flint gravel, poorly sorted. SHARP TO: 137				0.40	0137	0135		
0137				TPB30	Layer	10YR 6/1 grey very sandy clay with striations of 10YR 5/6 yellowish brown mid coarse sand, with occasional small sub rounded to sub angular flints. SHARP TO: 138				0.80	0138	0136		
0138				TPB30	Layer	10YR 5/6 yellowish brown soft sandy clay with some silt, frequent small flints of roughly 1cm across.				0.70		0137		
0139				TPB31	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARPT TO: 40	Topsoil			0.40	0140			
0140				TPB31	Layer	10YR 5/6 yellowish brown friable mid fine sand with rare to occasional chalk flecking, and rare patches of chalk becoming more common with depth until 1.1m. Occasional medium rounded to angular flints of roughly 7cm across, rare larger sub rounded flints of roughly 12cm across. Poorly sorted. SHARP TO: 141				1.40	0141	0139		
0141				TPB31	Layer	2.5Y 8/4 pale brown mid fine stoneless sand.				1.20		0140		
0142				TPB32	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARP TO: 143	Topsoil			0.45	0143			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0143				TPB32	Layer	2.5Y 5/4 light olive brown firm clay with frequent medium to small chalk nodules and flecking, rare angular flints of roughly 3cm across. Rare patches of 10YR 5/6 mid fine sand with large patches of chalk from 1.0m BGL. SHARP TO 144				0.75	0144	0142		
0144				TPB32	Layer	5Y 4/1 dark grey very firm clay with frequent chalk flecking and very small nodules				0.80	0145	0143		
0145				TPB32	Layer	A thin layer of 2.5Y 6/6 olive yellow friable very sandy clay with some silt, and very frequent chalk flecking. SHARP TO: 146				0.20	0146	0144		
0146				TPB32	Layer	2.5Y 8/3 pale brown medium fine stoneless sand				0.80		0145		
0147				TPB23	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Occasional rounded to sub rounded medium flints of roughly 3cm across, and occasional chalk flecking. SHARP TO: 148	Topsoil			0.4	0148			
0148				TPB23	Layer	10YR 4/3 brown firm concreted/friable sand with rare chalk flecking and nodules	Colluvium			0.60	0149	0147		
0149	0150	Ditch		TPB23	Cut	10YR 3/3 dark brown firm, concreted/friable sand, rare chalk flecking and nodules	Colluvial ditch fill			0.70	0150	0148		
0150	0150	Ditch		TPB23	Fill	A ditch cut occupying the entire trial-pit, only visible as a feature in geophysics. Due to this and the ditch being filled with a colluvial layer, while itself being underneath another layer of colluvium almost indistinguishable from each other [150] was not recorded as a feature	Probable Roman enclosure ditch			0.70	0151	0149		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						when in the field, but rather 2 layers of colluvium. While the survey was being processed the pit was found to be totally within a likely enclosure ditch, and the lower layer of colluvium from which a deal of pot was recovered has been retrospectively recorded as a ditch. The pit is situated at the SSE corner of a large probable enclosure from which the enclosure ditch continues up to the NNW and off to the WSW meeting at right angles where the pit was dug.									
0151				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO: 152	Fluvial deposit			0.60	0152	0150		
0152				TPB23	Layer	10YR 4/6 dark yellowish brown sandy soft stoneless clay. SHARP TO:153				0.40	0153	0151		
0153				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand.				0.30		0152		
0154				TPC01	Layer	10YR 3/2 very dark greyish brown sandy topsoil with rare flints of all shapes and sizes. SHARP TO: 155	Topsoil			0.30	0155			
0155				TPC01	Layer	10YR 5/8 yellowish brown mid coarse friable stoneless sand. SHARP TO: 156				1.30	0156	0154		
0156				TPC01	Layer	2.5Y 8/3 pale brown mid fine stoneless sand.				1.40		0155		
0157				TPC02	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent small to medium flints of all shapes, poorly sorted. SHARP TO: 158				0.30	0158			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0158				TPC02	Layer	2.5Y 4/4 olive brown very firm clay with frequent chalk flecking and occasional chalk nodules				1.70	0159	0157		
0159				TPC02	Layer	2.5Y 8/3 pale brown mid coarse stoneless sand. Becomes mid fine from 2.5m BGL onwards.				1.0		0158		
0160				TPC03	Layer	2.5Y 3/3 dark olive brown clayey topsoil with some mid coarse sand. Rare rounded to sub angular medium to small flints,	Topsoil			0.40	0161			
0161				TPC03	Layer	2.5Y 4/3 olive brown firm clay with mid coarse sand with rare chalk flecking and poorly sorted rare to occasional flints of all shapes				0.50	0162	0160		
0162				TPC03	Layer	10YR 4/4 dark yellowish brown firm mid coarse sandy clay, with rare chalk nodules				0.30	0163	0161		
0163				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across. SHARP TO: 164				1.40	0164	0162		
0164				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across, with large pockets of 2.5Y 5/6 light olive brown mid coarse sand.				0.40		0163		
0165				TPC04	Layer	10YR 5/3 brow mid loose mid coarse sandy topsoil, with rare small to medium angular flints	Topsoil			0.10	0166			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0166				TPC04	Layer	10YR 5/4 yellowish brown friable mid coarse sand with frequent medium to small sub angular flints, quite well sorted. Rare CBM and chalk flecking. SHARP TO: 167	Subsoil			0.30	0167	0165		
0167				TPC04	Layer	7.5YR 4/6 strong brown friable mid coarse sand with occasional sub angular flints of roughly 4cm across, rare sub angular flints				0.70	0168	0166		
0168				TPC04	Layer	2.5Y 5/6 light olive brown loose fine stoneless sand, with pockets of fine 7.5YR 4/6 sand				1.90		0167		
0169				TPC05	Layer	10YR 4/3 brown firm clayey topsoil with poorly sorted frequent flints of all sizes and shapes, and rare sub angular chalk nodules of around 5cm across. SHARP TO: 170	Topsoil			0.10	0170			
0170				TPC05	Layer	10YR 4/4 dark yellowish brown firm silty clay with rare poorly sorted flints of all shapes and sizes. SHARP TO: 171	Subsoil			0.25	0171	0169		
0171				TPC05	Layer	2.5Y 5/3 light olive brown very firm clay with frequent chalk flecking and very small nodules				0.35	0172	0170		
0172				TPC05	Layer	2.5Y 6/2 light brownish grey medium stiff clay with frequent chalk flecking. Frequent medium chalk nodules around 5cm across. SHARP TO: 173				0.80	0173	0171		
0173				TPC05	Layer	2.5Y 4/2 dark greyish brown medium stiff clay with frequent chalk flecking and medium chalk nodules of roughly 5cma cross. DIFFUSE TO: 174				0.80	0174	0172		
0174				TPC05	Layer	2.5Y 6/2 light brownish grey friable clay with frequent small flint gravel				0.70		0173		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						and rare large flints, roughly 30cm across, small angular chalk nodules - possibly some form of limestone or similar material, and rare large lumps of chalk of roughly 25cm.								
0175				TPC06	Layer	2.5Y 3/3 dark olive brown soft clayey topsoil, frequent flints of all shapes	Topsoil			0.40	0176			
0176				TPC06	Layer	10YR 4/4 dark yellowish brown friable sandy clay with rare small sub angular to angular flints. SHARP TO: 177				0.40	0177	0175		
0177				TPC06	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				1.70	0178	0176		
0178				TPC06	Layer	10YR 5/6 yellowish brown friable/loose sandy clay with occasional chalk flecking.				0.50		0177		
0179				TPC08	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes	Topsoil			0.35	0180			
0180	0181			TPC08	Fill	5Y 2.5/1 black stiff clay, no inclusions, no finds.	Post-hole fill, natural processes.	0.25	0.19	0.10	0181	0179		
0181	0181	Post-hole		TPC08	Cut	A possible post-hole cut, circular in plan, very slightly elongated NW/SE. Steep sides leading to a rounded base via moderate breaks of slope.	Possible post-hole cut	0.25	0.19	0.10	0182	0180		
0182		Post-hole		TPC08	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				0.45	0183	0181		
0183				TPC08	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0184	0182		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0184				TPC08	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and very small nodules				1.60		0183		
0185				TPC09	Layer	2.5Y 3/2 very dark greyish brown friable clayey topsoil with some sand. Frequent flints of all shapes	Topsoil			0.50	0186			
0186				TPC09	Layer	2.5Y 5/3 firm clay with occasional chalk flecking and small nodules				0.50	0187	0185		
0187				TPC09	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0188	0186		
0188				TPC09	Layer	2.5Y 3/1 very dark grey firm clay with frequent chalk flecking and very small nodules <10cm				1.20		0187		
0189				TPC07	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes and sizes, occasional to frequent rounded chalk nodules	Topsoil			0.10	0190			
0190				TPC07	Layer	Mottled 2.5Y 5/3 light olive brown, 2.5Y 4/3 olive brown and 5YR 3/3 dark reddish brown soft clay with occasional medium flints of all shapes and rounded chalk nodules both	Shallow topsoil and deep ploughing have heavily disturbed this layer.			0.20	0191	0189		
0191				TPC07	Layer	2.5Y 5/3 light olive brown soft clay with rare rounded and sub rounded medium flints				0.90	0192	0190		
0192				TPC07	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and nodules				0.70	0351	0191		
0193				TPC10	Layer	2.5Y 3/3 dark olive brown firm clayey topsoil occasional to rare flints of all shapes	Topsoil			0.30	0194			
0194				TPC10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				0.30	0195	0193		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0195				TPC10	Layer	5Y 7/1 light grey firm clay with frequent chalk flecking and small nodules				0.30	0196	0194		
0196				TPC10	Layer	5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules				1.50		0195		
0197				TPC11	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 198	Topsoil			0.30	0198			
0198				TPC11	Layer	2.5Y 5/3 light olive brown firm clay with occasional to frequent chalk flecking and nodules				0.40	0199	0197		
0199				TPC11	Layer	2.5Y 5/1 grey firm clay frequent chalk flecking and small nodules				0.80	0200	0198		
0200				TPC11	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules <5cm				1.50		0199		
0201				TPC12	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 202	Topsoil			0.30	0202			
0202				TPC12	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.40	0203	0201		
0203				TPC12	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0204	0202		
0204				TPC12	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				1.70		0203		
0205				TPC13	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with poorly sorted flints of all sizes and shapes. SHARP TO: 206				0.20	0206			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0206				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with rare chalk flecking. SHARP TO: 207	Subsoil			0.30	0207	0205		
0207				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.20	0208	0206		
0208				TPC13	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0209	0207		
0209				TPC13	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.50		0208		
0210				TPC14	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 211	Topsoil			0.40	0211			
0211				TPC14	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking and small nodules				0.50	0212	0210		
0212				TPC14	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and nodules				0.70	0213	0211		
0213				TPC14	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.40		0212		
0214				BHC02	Layer	10YR 3/3 silty sandy topsoil, no inclusions. SHARP TO: 215	Topsoil			0.30	0215			
0215				BHC02	Layer	.5YR 3/3 silty mid fine sand, no inclusions. SHARP TO: 216	Subsoil			0.25	0231	0214		
0216				BHC02	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand, likely the result of rooting pulling subsoil down into the sand.						0230		
0217				BHC04	Layer	7.5YR 3/3 dark brown silty sandy topsoil with rare sub angular and	Topsoil			0.30	0218			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						angular flints of 1-2cm. SHARP TO: 218								
0218				BHC04	Layer	7/5YR 3/4 dark brown loose silty sand with rare flints of all shapes, 5-1cm across. SHARP TO: 219	Subsoil			0.30	0219	0217		
0219				BHC04	Layer	Mottled 10YR 5/8 yellowish brown and 7.5YR 4/6 friable sand with small patches of 10YR 5/6 yellowish brown stiff clay Rare subangular flints of around 5cm and rare chalk nodules of around 10cm.						0218		
0220				TPC15	Layer	2.5Y 3/1 dark grey brown friable topsoil with frequent flints of all sizes.	Topsoil			0.35	0221			
0221				TPC15	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking.				0.55	0222	0220		
0222				TPC15	Layer	2.5Y 5/1 light grey firm clay with frequent chalk flecks and occasional flints.				0.80	0223	0221		
0223				TPC15	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules, and occasional large flints.				1.30		0222		
0224				TPC16	Layer	2.5Y 3/1 dark grey brown clayey friable topsoil with frequent flints of all sizes.				0.35	0225			
0225				TPC16	Layer	2.5Y 5/3 light olive brown and orange firm clay with occasional chalk flecking ad small flints.				0.90	0226	0224		
0226				TPC16	Layer	2.5Y 5/1 light grey compact clay with frequent chalk flecking and occasional large flints.				0.90	0227	0225		
0227				TPC16	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and large				1.30		0226		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk noodles. Occasional large and medium sized flint.								
0228				BHC03	Layer	10YR 3/3 silty candy topsoil, no inclusions. SHARP TO: 229				0.35	0229			
0229				BHC03	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand. Rare chalk nodules.						0228		
0230	0230	Stake-hole		BHC02	Cut	Circular in plan, no elongation/orientation. A steep western side and a moderate eastern side meet in a rounded V shaped base.	Though this may be a stake-hole, fill (231) in texture and colour was indistinguishable from several natural splodges also seen in the trial-pit, likely the result of rooting. This suggests some caution should be taken in interpreting this feature, however the shape in profile and particularly in plan remains convincing.			0.07	0216	0231		
0231	0230	Stake-hole		BHC02	Fill	7.5YR 3/3 silty mid fine sand, no inclusions.	Natural infill.			0.07	0230	0215		
0232				TPC17	Layer	10YR 4/2 dark greyish brown loose sandy topsoil with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 283	TOPSOIL			0.30	0233			
0233				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 234				0.80	0234	0232		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0234				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. Flints become less and less frequent with depth before becoming totally absent from 2m BGL and downwards.				1.90		0233		
0235				BHB19	Layer	2.5Y 2.5/1 black friable silty clayey topsoil with occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO 236	Topsoil			0.50	0236			
0236				BHB19	Layer	2.5Y 5/3 light olive brown firm clay with flints and chalk flecking.						0235		
0237				TPF02	Layer	2.5Y 3/2 very dark greyish brown fine silty topsoil, flints of all shapes and sizes. SHARP TO: 238	Topsoil			0.30	0238			
0238				TPF02	Layer	2.5Y 4/4 olive brown loose silty sandy subsoil with very rare small angular flints	Subsoil			0.90	0239	0237		
0239				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler. No inclusions. DIFFUSE TO 240				0.90	0240	0238		
0240				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler, with frequent flint gravel				0.80	0241	0239		
0241				TPF02	Layer	2.5Y 5/2 greyish brown very firm clay with rare chalk flecking and flints <1cm.				0.10		0240		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0242				TPF01	Layer	2.5Y 4/4 olive brown loose/soft sandy topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 243				0.30	0243			
0243				TPF01	Layer	2.5Y 5/4 light olive brown loose very sandy clay with occasional to frequent chalk flecking and rare medium chalk nodules of roughly 4cm across. Occasional medium rounded flints of roughly 6cm, with rare larger sub rounded flints, quite well sorted. SHARP TO: 244				1.50	0244	0242		
0244				TPF01	Layer	2.5Y 5/4 light olive brown soft clayey fine sand, frequent small to medium rounded flints 1-6cm across, SHARP TO: 245				0.30	0245	0243		
0245				TPF01	Layer	2.5Y 5/4 light olive brown soft somewhat sandy clay with rare chalk flecks, rare small to medium angular flints, and rare highly degraded possible iron stone. SHARP TO: 246				0.30	0246	0244		
0246				TPF01	Layer	2.5Y 6/4 light yellowish brown very fine sand, no inclusions.				0.60		0245		
0247				TPF03	Layer	10YR 3/2 sandy clayey topsoil with frequent flints of all shapes	Topsoil			0.20	0248			
0248				TPF03	Layer	2.5Y 4/4 olive brown friable silty clay with rare small flints	Subsoil			0.60	0249	0247		
0249				TPF03	Layer	2.5Y 6/4 light yellowish brown firm clay with occasional sub angular and sub rounded flints with occasional chalk flecking and small chalk nodules				1.40	0250	0248		
0250				TPF03	Layer	2.5Y 5/2 greyish brown firm clay with occasional sub angular and sub rounded flints with occasional				0.30	0251	0249		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk flecking and small chalk nodules								
0251				TPF03	Layer	2.5Y 5/6 light olive brown very fine stoneless sand.				0.50		0250		
0252				TPF04	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes. DIFFUSE TO: 253	Topsoil			0.30	0253			
0253				TPF04	Layer	2.5Y 4/3 olive brown soft clayey subsoil, occasional small angular flints. SHARP TO: 254	Subsoil			0.20	0254	0252		
0254				TPF04	Layer	2.5Y 5/4 light olive brown quite firm clay with frequent chalk flecks and small nodules				0.70	0255	0253		
0255				TPF04	Layer	2.5Y 5/6 greyish brown firm clay with frequent chalk flecks and small nodules				0.90	0256	0254		
0256				TPF04	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				0.90		0255		
0257				TPF05	Layer	2.5Y 3/3 olive brown soft clayey topsoil, frequent flecks of all shapes and sizes, and very rare small chalk nodules	Topsoil			0.35	0258			
0258				TPF05	Layer	2.5Y 5/4 light olive brown quite firm clay, frequent chalk flecking and small chalk nodules				0.75	0259	0257		
0259				TPF05	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				1.20	0260	0258		
0260				TPF05	Layer	2.5Y 4/1 greyish brown firm clay frequent chalk flecking and nodules <5cm.				0.70		0259		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0261				TPF06	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes, very rare small chalk nodules	Topsoil			0.45	0262			
0262				TPF06	Layer	2.5Y 5/4 light olive brown friable clay (sandy from 0.45-0.55 BGL) frequent small chalk flecks and nodules				1.35	0263	0261		
0263				TPF06	Layer	2.5Y 6/2 light brownish grey medium firm clay with frequent chalk flecking and nodules				0.30	0264	0262		
0264				TPF06	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules <5cm.				0.90		0263		
0265				TPC19	Layer	10YR 3/2 very dark grey brown soft sandy topsoil with occasional to rare small angular to sub rounded flints less than 3cm across. SHARP TO: 266	Topsoil			0.55	0266			
0266				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with rare small flints	Colluvium			0.80	0267	0265		
0267				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with frequent flint gravel, frequent small flints	Fluvial deposit			0.25	0268	0266		
0268				TPC19	Layer	10YR 5/6 yellowish brown mid coarse loose stoneless sand.				0.80		0267		
0269				TPC20	Layer	10YR 3/2 very dark greyish brown soft sandy topsoil with occasional to rare angular to sub rounded flints	Topsoil			0.50	0270			
0270				TPC20	Layer	A thin lens of 2.5Y 4/4 dark yellow brown stiff somewhat sandy clay from 0.5-0.6m BGL, then 2.5Y 5/8 yellow brown medium fine clayey sand, with rare medium flints	Very mixed layer			1.60	0271	0269		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0271				TPC20	Layer	2.5Y 8/4 medium fine stoneless sand				0.90		0270		
0272				TPD02	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 273	Topsoil			0.40	0273			
0273				TPD02	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				1.70	0274	0272		
0274				TPD02	Layer	10YR 5/8 yellowish brown medium fine to fine sand with occasional rounded to sub angular flints <2cm.				0.90		0273		
0275				TPD03	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes from 1-4cm. SHARP TO: 276	Topsoil			0.70	0276			
0276				TPD03	Layer	10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm. Rare to occasional pockets of 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules				0.20	0277	0275		
0277				TPD03	Layer	Predominantly 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules with pockets of 10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm.				2.10		0276		
0278				BH01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0308			
0279				BH02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0287			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0280				BH03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0313			
0281				BH04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0283			
0282				BH05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0310			
0283				BH04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.	Subsoil			0.15	0284	0281		
0284				BH04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0283		
0285				TPD04	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 286	Topsoil			0.60	0286			
0286				TPD04	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				2.40		0285		
0287				BH02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.2	0288	0279		
0288				BH02	Layer	2.5Y 7/6 yellow fine stoneless sand.						0287		
0289				TPF21	Layer	2.5Y 3/2 very dark greyish brown somewhat silty sandy topsoil with occasional to frequent rounded flints of 4-2 cm SHARP TO: 290	Topsoil			0.40	0290			
0290				TPF21	Layer	10YR 5/8 yellowish brown mottled with 10YR 4/4 dark yellowish brown soft/loose slightly clayey sand with occasional to rare sub angular to rounded flints of 2-5cm. SHARP TO: 291	Subsoil			0.30	0291	0289		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0291				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with rare small rounded flints				2.10	0292	0290		
0292				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with frequent flint gravel, rounded 5-8cm, well sorted.	Fluvial deposit?			0.20		0291		
0293				TPF22	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional to frequent flints, sub rounded to sub angular. SHARP TO: 294	Topsoil			0.55	0294			
0294				TPF22	Layer	10YR 5/8 yellowish brown firm/medium firm clayey sand with occasional to rare flints from 1-3cm. SHARP TO 295				0.75	0295	0293		
0295				TPF22	Layer	2.5Y 7/4 pale brown mid fine sand mixed with 2.5Y 6/8 olive yellow mid fine sand with occasional rounded flint gravel, 5-8cm, quite well sorted. 2.5Y 7/4 becomes predominant with only pockets of 2.5Y 6/8 from 1.8m BGL SHARP TO: 296				1.50	0296	0294		
0296				TPF22	Layer	7.5YR 4/6 strong brown mid coarse sand with frequent rounded flint gravel of 5-8cm, well sorted.						0295		
0297				TPF23	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional subrounded to subangular flints. SARP TO: 298	Topsoil			0.70	0298			
0298				TPF23	Layer	Very mixed layer of subsoil; mid fine sand with mottled patches of 5YR 3/4 dark reddish brown, 10YR 4/3 brown, 10YR 5/4 yellowish brown and 10YR 5/8 yellowish brown. Frequent rounded flint gravel throughout, 3-6cm across. SHARP TO: 299	Subsoil			0.20	0299	0297		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0299				TPF23	Layer	2.5Y 6/4 light yellowish brown mid fine sand mixed with 10YR 4/6 dark yellowish brown, with occasional to frequent subrounded to sub angular flint gravel 1-4cm across throughout, and patches of 2.5Y 7/2 fine stoneless sand. SHARP TO: 300				1.10	0300	0298		
0300				TPF23	Layer	2.5Y 7/2 light grey mixed with 10YR 6/8 brownish yellow sandy silty soft clay, with rare very small flints				0.90	0301	0299		
0301				TPF23	Layer	10YR 6/8 gravel with clay and silty sand with occasional rounded and sub rounded flints from 5-3cm across and rare small sub angular flints				0.10		0300		
0302				TPF24	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded and rounded flints from 1-4cm across. SHARP TO: 303	Topsoil			0.40	0303			
0303				TPF24	Layer	10YR 5/8 yellowish brown soft, quite fine sand with occasional sub angular to rounded flints from 1-4cm across, and rare larger flints from 6-10cm across. Occasional pockets of 10YR 5/8 yellowish brown mid firm clay, with pockets of small, well sorted, rounded flints from 1-4cm across. DIFFUSE TO: 304				0.95	0304	0302		
0304				TPF24	Layer	2.5Y 6/4 fine sand with frequent rounded flints, mostly 1-5cm across, rare flints up to 10cm, quite well sorted.				1.65		0303		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0305				TPF25	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded flints, 1-4cm across. SHARP TO: 306	Topsoil			0.45	0306			
0306				TPF25	Layer	7.5YR 3/3 dark brown sand with rare to occasional flints of all shapes	Subsoil			0.20	0307	0305		
0307				TPF25	Layer	10YR 5/6 yellowish brown loose mid to fine sand with rare to occasional flints of all shapes				2.35		0306		
0308				BH01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0309	0278		
0309				BH01	Layer	2.5Y 7/6 yellow fine stoneless sand.						0308		
0310				BH05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0311	0282		
0311				BH05	Layer	2.5Y 7/6 yellow fine stoneless sand.						0310		
0312	0312			BH03	Cut	A feature of unclear shape filling the entire trial-pit.					0314	0313		
0313	0312			BH03	Fill	Likely feature fill, very similar to subsoil in nearby pits. 10YR 4/6 dark yellowish brown soft sandy silt.				0.45	0312	0280		
0314				BH03	Layer	2.5Y 7/6 yellow fine stoneless sand.						0312		
0315				TP01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0316			
0316				TP01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0317	0315		
0317				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.90	0318	0316		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0318				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0319	0317		
0319				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.50		0318		
0320				TP05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0321			
0321				TP05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.15	0323	0320		
0322	0322	Ditch		TP05	Cut	East West running ditch, unexcavated.		Linear	2.00		0499	0323		
0323	0322	Ditch		TP05	Fill	10YR 5/4 yellowish brown loose sandy silt with occasional flints.					0322	0321		
0324				TP05A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0325			
0325				TP05A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0326	0324		
0326				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.00	0327	0325		
0327				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0328	0326		
0328				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.20		0327		
0329				TP07	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0330			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0330				TP07	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0331	0329		
0331				TP07	Layer	2.5Y 7/6 yellow fine sand with occasional flint gravel.				0.40	0332	0330		
0332				TP07	Layer	5Y 8/4 yellow medium fine soft stoneless sand.				0.70	0333	0331		
0333				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0334	0332		
0334				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				0.90		0333		
0335				TPF17	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across, and rare flints up to 10cm across. SHARP TO: 336				0.60	0336			
0336				TPF17	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints up to 10cm across. DIFFUSE TO: 337				0.20	0337	0335		
0337				TPF17	Layer	10YR 5/8 yellowish brown firm/friable sandy clay with frequent rounded and sub rounded flints from 1-5cm across, and rare flints up to 10cm across. Angular flints apparent from 1.6m BGL.				2.20		0336		
0338				TPF19	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across. SHARP TO: 339				0.60	0339			
0339				TPF19	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints				0.20	0340	0338		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						from 1-5cm, rare up to 10cm. DIFFUSE TO 340								
0340				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. DIFFUSE TO 341				0.40	0341	0339		
0341				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across. DIFFUSE TO: 342				0.90	0342	0340		
0342				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. SHARP TO: 343				0.30	0343	0341		
0343				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across.				0.60		0342		
0344				TP108	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 345	Topsoil			0.20	0345			
0345				TP108	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints less than 2cm across. SHARP TO: 346				1.00	0346	0344		
0346				TP108	Layer	GLEY2 2.5/5PB blueish black mid fine stoneless sand. Pit collapsed at 1.4m BGL.				0.20		0345		
0347				TP114	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 348	Topsoil			0.15	0348			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0348				TP114	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints				0.50	0349	0347		
0349				TP114	Layer	10YR 4/6 loose mid coarse to coarse sand and gravel with frequent rounded to angular flints, poorly sorted. SHARP TO: 350				0.50	0350	0348		
0350				TP114	Layer	10YR 3/1 very dark grey silty sand, with organic deposits. Though relatively deep in the sequence this layer of organic deposits seems quite recent, possibly as a result of fast paced natural processes due to proximity to the coast and a nearby marsh, or due to human action in the area, e.g. the sea wall/promenade/car park. Pit collapsed at 1.25m BGL.				0.10		0349		
0351				TPC07	Layer	2.5Y 4/1 dark grey fine clay with frequent chalk flecking and very small chalk nodules smaller than 1cm, and occasional larger nodules up to 10cm.				1.10		0192		
0352				TP06	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0353			
0353				TP06	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0354	0352		
0354				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.80	0355	0353		
0355				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10		0354		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0356				TP010	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0357			
0357				TP010	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0358	0356		
0358				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.30	0359	0357		
0359				TP010	Layer	2.5Y 8/8 olive yellow clay with 2.5Y 8/3 pale brown stoneless sand.				0.40	0360	0358		
0360				TP010	Layer	2.5YR 5/4 brown sand and silt organic lens, no clear preserved organics or other inclusions.	Organic lens			0.10	0361	0359		
0361				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				2.10		0360		
0362				TP011	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0363			
0363				TP011	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.70	0364	0362		
0364				TP011	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10	0365	0363		
0365				TP011	Layer	5Y 7/8 yellow clay laminated with 2.5Y 7/6 yellow sand and 5Y 4/1 dark grey iron and manganese panning.				0.40		0364		
0366				TP011	Layer	2.5Y 7/6 yellow medium fine stoneless sand.				0.90		0365		
0367				TP02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0368			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0368				TP02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.40	0369	0367		
0369				TP02	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.70	0370	0368		
0370				TP02	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.00		0369		
0371				TP08	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0372			
0372				TP08	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.30	0374	0371		
0373	0373	Ditch		TP08	Cut	A possible ditch cut, running North South with moderate, concave sides, and an unclear base, obfuscated by the trial-pit wall. No section drawing due to depth of trial-pit in unstable ground.				0.30	0375	0374		
0374	0373	Ditch		TP08	Fill	2.5Y 5/4 light olive brown soft sand with occasional small flints.				0.30	0373	0372		
0375				TP08	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0376	0373		
0376				TP08	Layer	2.5Y 8/4 pale brown medium fine sand with clay pockets.				0.90		0375		
0377				TP03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0378			
0378				TP03	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0379	0377		
0379				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.20	0380	0378		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0380				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.40		0379		
0381				TP04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0382			
0382				TP04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.1	0384, 0386, 0388	0381		
0383	0383	Ditch		TP04	Cut	North South running unexcavated ditch.		Linear	>1.00	Unexcavated	0441	0384		
0384	0383	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>1.00	Unexcavated	0383	0382		
0385	0385	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	>0.80	Unexcavated	0441	0386		
0386	0385	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>0.80	Unexcavated	0385	0382		
0387	0387	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	0.50	Unexcavated	0441	0388		
0388	0387	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	0.50	Unexcavated	0387	0382		
0389				TP04A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0390			
0390				TP04A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0391	0389		
0391				TP04A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.50	0392	0390		
0392				TP04A	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.40		0391		
0393				TP09	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0394			
0394				TP09	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0395	0393		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0395				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.10	0396	0394		
0396				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.70		0395		
0397				TP101	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints				0.10	0398			
0398				TP101	Layer	2.5Y 3/3 dark olive brown very fine sand with occasional to rare small rounded flints				0.30	0399	0397		
0399				TP101	Layer	2.5Y 5/6 light olive brown mid coarse sand with rare rounded flints				1.10	0400	0398		
0400				TP101	Layer	2.5Y 4/4 olive brown very sandy soft clay with occasional to rare sub angular and angular flints				0.70		0399		
0401				TPD05	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 402	Topsoil			0.70	0402			
0402				TPD05	Layer	10YR 5/8 yellowish brown fine soft sand, frequent very small flints				0.20	0403	0401		
0403				TPD05	Layer	10YR 5/8 mid coarse loose sand with frequent angular to sub rounded flint gravel up to 3cm across, rare up to 8cm. Frequent chalk flecking. SHARP TO: 404				0.60	0404	0402		
0404				TPD05	Layer	2.5Y 6/4 light yellowish brown firm/friable clay with frequent angular and sub angular flints				1.50		0403		
0405				TPD06	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 406	Topsoil			0.60	0406			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0406				TPD06	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0407	0405		
0407				TPD06	Layer	10YR 5/6 yellow brown friable clayey sand with frequent chalk flecking and occasional nodules up to 6cm across, occasional sub rounded to angular flints up to 3cm across. Frequent pockets of 10YR 5/6 mid firm sandy clay. SHARP TO 408				1.40	0408	0406		
0408				TPD06	Layer	2.5Y 5/6 light olive brown loose, fine sand, with rare rounded to sub angular flints up to 3cm across.				0.80		0407		
0409				TPD07	Layer	2.5Y 3/3 mid coarse sandy topsoil with frequent flints of all shapes and sizes. SHARP TO: 410	Topsoil			0.50	0410			
0410				TPD07	Layer	10YR 5/6 yellowish brown friable sandy clay with frequent chalk flecking and small rounded flints				1.90	0411	0409		
0411				TPD07	Layer	2.5Y 6/4 light yellow brown friable sandy clay with frequent chalk flecking, small nodules up to 3cm across, and rare medium nodules up to 7cm. Frequent to occasional small flints				0.60		0410		
0412				TPD09	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 413	Topsoil			0.60	0413			
0413				TPD09	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 414				0.20	0414	0412		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0414				TPD09	Layer	10YR 5/6 yellowish brown fine mid firm sandy clay with frequent very small angular and sub angular flints				0.70	0415	0413		
0415				TPD09	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0414		
0416				TPF10	Layer	10YR 6/3 pale brown firm clayey silt with occasional small flints.	Topsoil			0.40	0417			
0417				TPF10	Layer	10YR 6/6 brownish yellow firm sandy clay with occasional small flints.	Alluvial Subsoil			0.40	0418	0416		
0418				TPF10	Layer	2.5Y 7/6 yellow firm clay with sand and gravel pockets.				0.70	0419	0417		
0419				TPF10	Layer	2.5YR 6/6 olive yellow loose sandy clay and gravel.				0.70	0420	0418		
0420				TPF10	Layer	2.5Y 7/6 yellow fine soft silty clay.				0.80		0419		
0421				TPD10	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 422	Topsoil			0.40	0422			
0422				TPF10	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0423	0421		
0423				TPF10	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 424				1.00	0424	0422		
0424				TPF10	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				0.40		0423		
0425				TPD11	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 426	Topsoil			0.40	0426			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0426				TPD11	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0427	0425		
0427				TPD11	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 428				1.00	0428	0426		
0428				TPD11	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0427		
0429				TPD12	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 430	Topsoil			0.40	0430			
0430				TPD12	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0431	0429		
0431				TPD12	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 432				1.50	0432	0430		
0432				TPD12	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.00		0431		
0433				TPD13	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 435	Topsoil			0.40	0434			
0434				TPD13	Layer	10YR 5/6 yellowish brown mid coarse very loose sand, occasional to rare well sorted rounded flints up to 3cm across. SHARP TO: 435.				0.80	0435	0433		
0435				TPD13	Layer	2.5Y 6/8 olive yellow mid coarse sand with occasional to rare well sorted rounded flints				0.70	0436	0434		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0436				TPD13	Layer	2.5Y 7/4 mid fine loose sand with occasional to rare well sorted small rounded to sub rounded flints				1.10		0435		
0437				BHD03	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 438	Topsoil			0.60	0438			
0438				BHD03	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0437		
0439				BHD04	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 440	Topsoil			0.50	0440			
0440				BHD04	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0439		
0441				TP04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0387, 0385, 0383		
0442				TPE05	Layer	2.5Y 3/2 very dark greyish brown fine sandy topsoil with rare poorly sorted flints od all shapes up to 7cm across. SHARP TO: 443	Topsoil			0.5				
0443				TPE05	Layer	10YR 3/4 dark yellowish brown fine sand with rare poorly sorted flints of all shapes. SHARP TO: 044	Subsoil			0.2				
0444				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.9				
0445				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0446				TPE05	Layer	10YR 4/6 loose mid fine sand with frequent flints of all shapes up to 10cm across, with rare patches of 2.5Y 7/2 mid firm very sandy clay.				1.1				
0447				TPE01	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with frequent rounded and sub rounded flints of 2-6cm across. SHARP TO: 448	Topsoil			0.4				
0448				TPE01	Layer	10YR 3/6 dark yellowish brown loose fine stoneless sand. SHARP TO: 449				0.9				
0449				TPE01	Layer	2.5Y 5/6 light olive brown mottled with moderately frequent small splodges of 10YR 3/6 dark yellowish brown fine sand. Very rare flints and sandstone. Some clumps of 2.5Y 5/6 light olive brown very soft, very sandy clay apparent from 2.0m BGL, 40cm across. DIFFUSE TO: 450				1.0				
0450				TPE01	Layer	2.5Y 5/6 loose sand with frequent moderately well sorted rounded to sub rounded flint gravel, 0.5-6cm across.	Fluvial			0.7				
0451				TPE10	Layer	2.5Y 4/3 mid olive brown firm silty clay topsoil with occasional small mid-sized flints.	Topsoil			0.4				
0452				TPE10	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional poorly sorted flints of various sizes, and occasional firm sandy patches.				0.4				
0453				TPE10	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				0.9				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0454				TPE10	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.3				
0455				TPE08	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0456				TPE08	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.9				
0457				TPE08	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.0				
0458				TPE08	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				0.7				
0459				TPE09	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0460				TPE09	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.3				
0461				TPE09	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.0				
0462				TPE09	Layer	GLEY 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0463				TPE06	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.5				
0464				TPE06	Layer	2.5Y 5/4 light olive brown soft sandy silt subsoil with occasional small flints.	Subsoil			0.2				
0465				TPE06	Layer	2.5Y 5/6 light olive brown soft medium coarse sand with occasional rounded small flints.				1.1				
0466				TPE06	Layer	2.5Y 7/8 yellow fine stoneless sand with occasional small clay pockets.				1.2				
0467				TPE07	Layer	2.5Y 4/3 olive brown sandy clayey topsoil with occasional small flints.	Topsoil			0.4				
0468				TPE07	Layer	2.5Y 5/4 light olive brown soft sandy clay.				0.2				
0469				TPE07	Layer	GLEY1 6/5G_/1 greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.0				
0470				TPE07	Layer	GLEY1 3/5G_/1 very dark greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.4				
0471				TPE33	Layer	2.5Y 3/2 very dark greyish brown very fine loose sandy topsoil, occasional flints of all shapes	Topsoil			0.4				
0472				TPE33	Layer	10YR 4/4 dark yellowish brown medium coarse soft very sandy clay with rare rounded/sub rounded flints	Colluvium			0.3				
0473				TPE33	Layer	10YR 4/6 dark yellowish brown medium coarse soft sandy clay with occasional rounded flints 1-8cm across, rare up to 8cm. SHARP TO: 474	Colluvium			0.4				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0474				TPE33	Layer	2.5Y 5/6 light olive brown soft clay with occasional chalk flecks, occasional to rare rounded and sub rounded flints from 1-10cm across, and striations of mid fine 2.5Y 5/6 light olive brown sand. SHARP TO: 475				0.7				
0475				TPE33	Layer	Mixed 10YR 5/8 yellowish brown and 2.5Y 5/6 light olive brown fine sand with rare to occasional rounded flints from 1-3cm across.				1.2				
0476				TPE32	Layer	2.5Y 3/2 very dark greyish brown fine loose sandy topsoil with occasional poorly sorted flint of varying size.				0.7				
0477				TPE32	Layer	10YR 4/4 dark yellowish brown soft sandy clay with rare small rounded flints and chalk flecking.				0.9				
0478				TPE32	Layer	2.5Y 5/6 light olive brown soft sand with clay pockets and occasional small rounded flints.				0.3				
0479				TPE32	Layer	2.5Y 6/8 olive yellow sand with clay pockets, occasional small to medium rounded flints. Pockets of lighter sand apparent approaching 3.0m BGL.				1.1				
0480				TPE04	Layer	2.5Y 3/3 dark olive brown fine sandy topsoil with frequent rounded to sub rounded flint gravel, between 1-3cm across. SHARP TO: 481	Topsoil			0.4				
0481				TPE04	Layer	10YR 3/6 dark yellow brown loose slightly silty fine sand with rare rounded to sub rounded flints 1-3cm across. SHARP TO: 482	Subsoil			0.25				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0482				TPE04	Layer	10YR 5/6 yellowish brown loose fine sand with occasional rounded to sub angular flint gravel 1-5cm across, with pockets of 10YR 5/4 yellowish brown soft/friable clayey sand up to 40cm across. Pockets become frequent with depth. DIFFUSE TO: 483				1.35				
0483				TPE04	Layer	2.5Y 8/3 pale brown soft/friable clayey very fine sand with rare rounded flints 2-3cm across.				1.0				
0484				TPE02	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent flint gravel of all shapes and sizes, poorly sorted. DIFFUSE TO: 485	Topsoil			0.6				
0485				TPE02	Layer	2.5Y 4/4 olive brown fine loose sand mixed with 10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel <2cm.				0.9				
0486				TPE02	Layer	10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel				0.2				
0487				TPE03	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent poorly sorted flint gravel of all shapes and sizes and rare chalk flecking. SHARP TO 488	Topsoil			0.7				
0488				TPE03	Layer	Mixed 2.5Y 6/4 light yellowish brown and 10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand from 1.7m BGL DIFFUSE TO: 489				1.6				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0489				TPE03	Layer	10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Frequent large pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand.				0.7				
0490				TPE25	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 491	Topsoil			0.4				
0491				TPE25	Layer	2.5Y 5/4 light olive brown stiff/friable slightly sandy clay with poorly sorted occasional flints of all shapes and sizes including rare very large flints 20-30cm across. SHARP TO: 492				1.1				
0492				TPE25	Layer	2.5Y 5/2 greyish brown firm clay, rare averagely well sorted rounded to sub angular flint gravel				1.2				
0493				TPE25	Layer	2.5Y 7/4 pale brown mid fine sand with frequent poorly sorted rounded to angular flints, 0.5-4cm across.				0.3				
0494				TPE24	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 495	Topsoil			0.3				
0495				TPE24	Layer	10YR 4/4 dark yellow brown firm/friable sandy clay with very rare small flints	Subsoil			0.5				
0496				TPE24	Layer	2.5Y 4/4 olive brown firm clay with frequent to moderate chalk flecking with rare flints				0.4				
0497				TPE24	Layer	2.5Y 6/4 light yellowish brown mixed with 10YR 5/6 yellowish				1.7				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						brown loose sand with occasional rare rounded flints								
0498				TPE24	Layer	2.5Y 6/4 light yellowish brown firm clay with sand, rare angular flints				0.1				
0499				TP05	Layer	2.5Y 7/6 yellow fine stoneless sand.				Unexcavated		0322		

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APPENDIX B: GEOARCHAEOLOGICAL ASSESSMENT

Completed interventions only

Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Saxmundham (SXM 086)	BHB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Theberton (THB 061)	BHB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB03A	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic alluvium encountered @3.00m-3.45m bgl
	BHB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB06	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic material encountered @0.80m-2.00m bgl
	BHB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–0.65m bgl
	TPB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB17	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Middleton (MDD 052)	BHB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB20	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB21	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB22	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB23	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @ 0.80m-2.00m
	TPB20	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB21	Crag Group - Sand	None recorded	Low	
	TPB22	Crag Group - Sand	None recorded	Low	
	TPB23	Crag Group - Sand	None recorded	High	Archaeological ditch feature encountered @1.00m-1.70m bgl
	TPB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB25	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB26	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB27	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB29	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB30	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.50m-3.00m bgl
	TPB31	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB 32	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB33	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Westleton (WLN 147)	BHC02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC08	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Archaeological feature encountered @0.35m-0.45m bgl
	TPC09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC15	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.35m-1.70m bgl
	TPC16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC17	Crag Group - Sand	Head	Low	
Blythburgh (BLB 177)	BHC08	Crag Group - Sand	Head	Low	
	BHD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	BHE01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @3.00m–6.50m bgl
	BHE02	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–5.90m bgl
	TPC19	Crag Group - Sand	N/A	Moderate	Alluvium encountered @1.35m-1.60m bgl
	TPC20	Crag Group - Sand	N/A	Low	
	TPD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD07	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD08	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @0.35m-1.10m bgl
	TPD09	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Thorington (TNG 052)	BHE03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE05	Crag Group - Sand	None recorded	Low	
Walberswick (WLB 148)	BHD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD06	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD14	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.80m-2.90m bgl
	TPD15	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPD16	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	High	Alluvium encountered @1.70m-3.00m bgl containing fossilised wood and iron panning.
	TPD17	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-2.20m bgl
	TPD18	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.40m-2.30m bgl
Walberswick (WLB 149)	BH01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	BH02	Crag Group – Sand	None recorded	Low	
	BH03	Crag Group – Sand	None recorded	Low	
	BH04	Crag Group – Sand	None recorded	Low	
	BH05	Crag Group – Sand	None recorded	Low	
	TP01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TP02	Crag Group – Sand	None recorded	Low	
	TP03	Crag Group – Sand	None recorded	Low	
	TP04	Crag Group – Sand	None recorded	Low	
	TP05	Crag Group – Sand	None recorded	Low	
	TP06	Crag Group – Sand	None recorded	Low	
	TP07	Crag Group – Sand	None recorded	Low	
	TP08	Crag Group – Sand	None recorded	High	Archaeological feature encountered @0.80m-1.10m bgl
	TP09	Crag Group – Sand	None recorded	Low	
	TP10	Crag Group – Sand	None recorded	High	Alluvium encountered @0.90m-1.30m bgl overlying Organic Alluvium @1.30m-1.40m bgl
	TP11	Crag Group – Sand	None recorded	Moderate	Alluvium encountered @2.20m-2.60m bgl
Wenhaston with mels hamlet (WMH 091)	BHE08	Crag Group – Sand	Head - Clay, Silt, Sand and Gravel	Low	
	TPE02	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE03	Crag Group – Sand	None recorded	Low	
	TPE04	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE05	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Blyford (BLY 025)	BHE10	Crag Group – Sand	Head – Clay	Low	
	BHE11	Crag Group – Sand	Head – Clay	Low	
	TPE06	Crag Group – Sand	Head – Clay	Low	
	TPE07	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Wangford with Henham (HAM 048)	TPE08	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE09	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE10	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Brampton with Stoven (BRP 044)	BHE18	Crag Group - Gravel	Head – Clay	Low	
	BHE19	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	BHE20	Crag Group - Gravel	Lowestoft Formation – Diamicton	High	Organic alluvium encountered @1.20m-3.20m bgl
	BHE21	Crag Group - Gravel	Alluvium - Clay, Silt, Sand and Gravel	Moderate	Alluvium encountered @0.80m–3.00m bgl
	TPE24	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	TPE25	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
Uggeshall (UGG 043)	BHE22	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPF01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPE32	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE33	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
Wangford with Henham (WNF 082)	TPF5	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF6	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF10	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-3.00m bgl

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Reydon (REY 152)	BHF11	Crag Group – Sand	None recorded	Low	
	TPF17	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF19	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF21	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF22	Crag Group – sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF23	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF24	Crag Group – Sand	None recorded	Low	
	TPF25	Crag Group – Sand	None recorded	Low	
Reydon (REY 206)	BH106	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Peat encountered @3.00m–6.00m bgl. Overlaying organic Alluvium substrate
	BH107	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Alluvium encountered @2.50m-3.60m bgl overlying partially decomposed peat @3.60m–5.90m bgl.
	TP101	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	Low	
	TP108	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic Alluvium encountered @1.20m-1.40m bgl
	TP114	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic deposits encountered @1.15m-1.25m bgl

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APPENDIX C: THE FINDS

Table C1: Finds concordance

Site	Test Pit	Context	Feature/ Layer	Material	Fabric/Description	Ct.	Wt. (g)	Artefact date	Overall finds spotdate
MDD 052	TPB23	149	Ditch 150	Roman pottery	WF, GM, GX, BUF, BSW	32	173	LC2+	LC2+ (residual LN/BA)
				CBM	Fragments of tegula and ?tile, undiagnostic fragments	8	319	Rom	
				Lithics	Worked flint flake	1	19	LN/BA (residual)	
	TPC04	166	Subsoil	Roman pottery	GM	1	2	Rom	
				Lithics	Worked flint flakes	2	14	LN/BA (residual)	
WLB 148	TPD18	097	Layer	Copper alloy	Coin (RA 1)	1	0.22	Post-medieval	
WLB 149	BH01	278	Layer	Silver	Coin (RA 2)	1	0.61	Medieval	
	BH02	279	Layer	Copper alloy	Jetton (RA 4)	1	0.67	Post-medieval	
	BH03	280	Layer	Copper alloy	Jetton (RA 5)	2	1.01	Post-medieval	
				Copper alloy	Jetton (RA 6)	1	5.34	Post-medieval	
	BH04	281	Layer	Silver	Coin (RA 3)	1	2.47	Post-medieval	
	BH05	282	Layer	Silver	Coin (RA 7)	1	0.62	Post-medieval	
				Copper alloy	Jetton (RA 8)	1	1.36	Post-medieval	
				Silver	Spoon (RA 9)	1	1.18	Modern	
	TP01	315	Layer	Silver	Ring (RA 12)	1	2.49	Post-medieval	
	TP05	320	Layer	Silver	Coin (RA 11)	1	1.03	Medieval	
		323	Ditch 322	Roman pottery	GM, GX	20	340	Rom	Rom
				CBM	?tile fragments, amorphous fragment	3	58	?Rom	
	TP05A	326	Layer	Copper alloy	Jetton (RA 17)	1	1.35	Post-medieval	
	TP07	329	Layer	Silver	Coin (RA 13)	1	0.31	Post-medieval	
	TP10	356	Layer	Silver	Coin (RA 14)	1	0.33	Post-medieval	
				Copper alloy	Coin (RA 15)	1	0.38	Post-medieval	
	TP11	362	Layer	Lead	Cloth seal (RA 16)	1	2.29	Post-medieval	
	TP02	367	Layer	Copper alloy	Watch winder (RA 18)	1	0.7	Modern	
				Silver	Coin (RA 19)	1	0.53	Post-medieval	
	TP03	378	Layer	Post-Roman pottery	LMT, MCW	2	25	12–14/15C	
	TP04	384	Ditch 383	Roman pottery	BSW	1	4	Rom	?Residual Rom

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		388	Ditch 387	CBM	Brick fragment (heat-affected/overfired)	1	423	Med/PM	?Residual Med/PM
	TP09	394	Layer	Roman pottery	BUF	1	1	Rom	
				Post-Roman pottery	MCW	3	6	12–14C	
				CBM	Brick fragments (one heavily sooted)	2	68	Med/PM	
REY 152	TPF17	335	Topsoil	Lithics	Worked flint flake	1	10	LN/BA (residual)	
	TPF23	297		Silver	Coin RA 10	1	1.06	Post-medieval	

Table C2: Pottery fabrics

Site	Period	Fabric	Fabric description	No.	Wt/g.	Fabric date
MDD 052	Roman	WF	Unprovenanced white finewares	1	8	Rom
		GX	Reduced coarsewares	22	140	Rom
		GM	Micaceous reduced wares (Wattisfield)	5	7	Rom
		BSW	Black surfaced wares	1	12	Rom
		BUF	Buff coarsewares	4	8	Rom
	Sub-total			***33***	***175***	
WLB 149	Roman	GM	Micaceous reduced wares (Wattisfield)	14	271	Rom
		GX	Reduced coarsewares	6	69	Rom
		BSW	Black surfaced wares	1	4	Rom
		BUF	Buff coarsewares	1	1	Rom
	Post-Roman	MCW	Medieval coarsewares	4	18	C12–C14(/15th)
		LMT	Late medieval and transitional wares	1	13	C15–C16
	Sub-total			***27***	***376***	
Total				**60**	**551**	

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APPENDIX D: THE BIOLOGICAL EVIDENCE

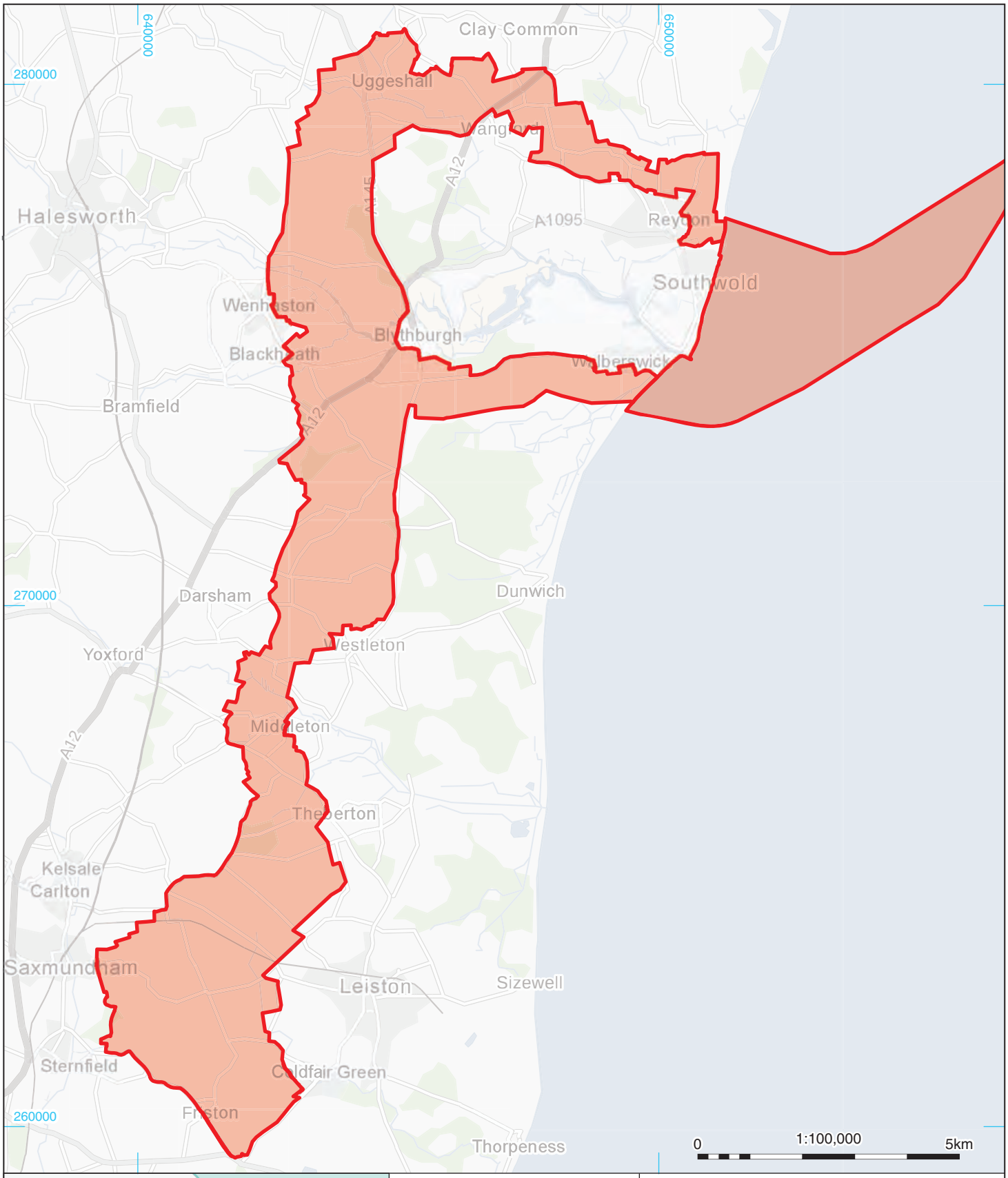
Table D1: Animal bone

Context	Taxon	Element	Details
0323	Horse	Radius (Left)	Distal half of bone present (60% WBE), including articulation. Average condition with minor surface root etching over 10% of surface. Distal fused. Measured: Bd=77.2mm Dd=40.7mm

APPENDIX E: OASIS REPORT FORM

PROJECT DETAILS (interim version)	
Project name	Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites Oasis ID: cotswold2-527147
Short description	Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from the bore-hole logs. Archaeological features were encountered in four of the test-pits, a post-hole in Westleton parish (TPC08) and four ditches in Walberswick (TP04, TP05 and TP08). Where artefactual evidence was recovered, a Roman date was suggested. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although nightsoiling could be a another interpretation of this evidence. The geoarchaeological assessment identified a limited number of deposits which can be considered to have archaeological potential during future, more invasive works.
Project dates	September – November 2024
Project type	Archaeological Monitoring of Geotechnical Interventions
Previous work	None
Future work	Completion of geotechnical interventions projected to be undertaken in May 2025
PROJECT LOCATION	
Site location	Sections A – F over seventeen parishes in Suffolk
Study area (m^2/ha)	NA
Site co-ordinates	NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West
PROJECT CREATORS	
Name of organisation	Cotswold Archaeology
Project brief originator	Suffolk County Council Archaeological Service
Project design (WSI) originator	Cotswold Archaeology
Project Manager	Stuart Boulter

Project Supervisor	Michael Green, Edward Aylott	
MONUMENT TYPE	Ditches	
SIGNIFICANT FINDS	None	
PROJECT ARCHIVES	**Intended final location of archive (museum/Accession no.)** Suffolk County Council Archaeological Service (physical archive); Archaeology Data Service (digital archive)	**Content (e.g. pottery, animal bone etc) Indicate the contents of each archive box**
Physical	To be added when project is complete	To be added when project is complete
Paper	To be added when project is complete	To be added when project is complete
Digital	To be added when project is complete	To be added when project is complete
BIBLIOGRAPHY		
Cotswold Archaeology 2025, *Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites: Interim Results of a Programme of Archaeological Monitoring and Geotechnical Modelling,* Report No. SU0680_1		





Site boundary

N

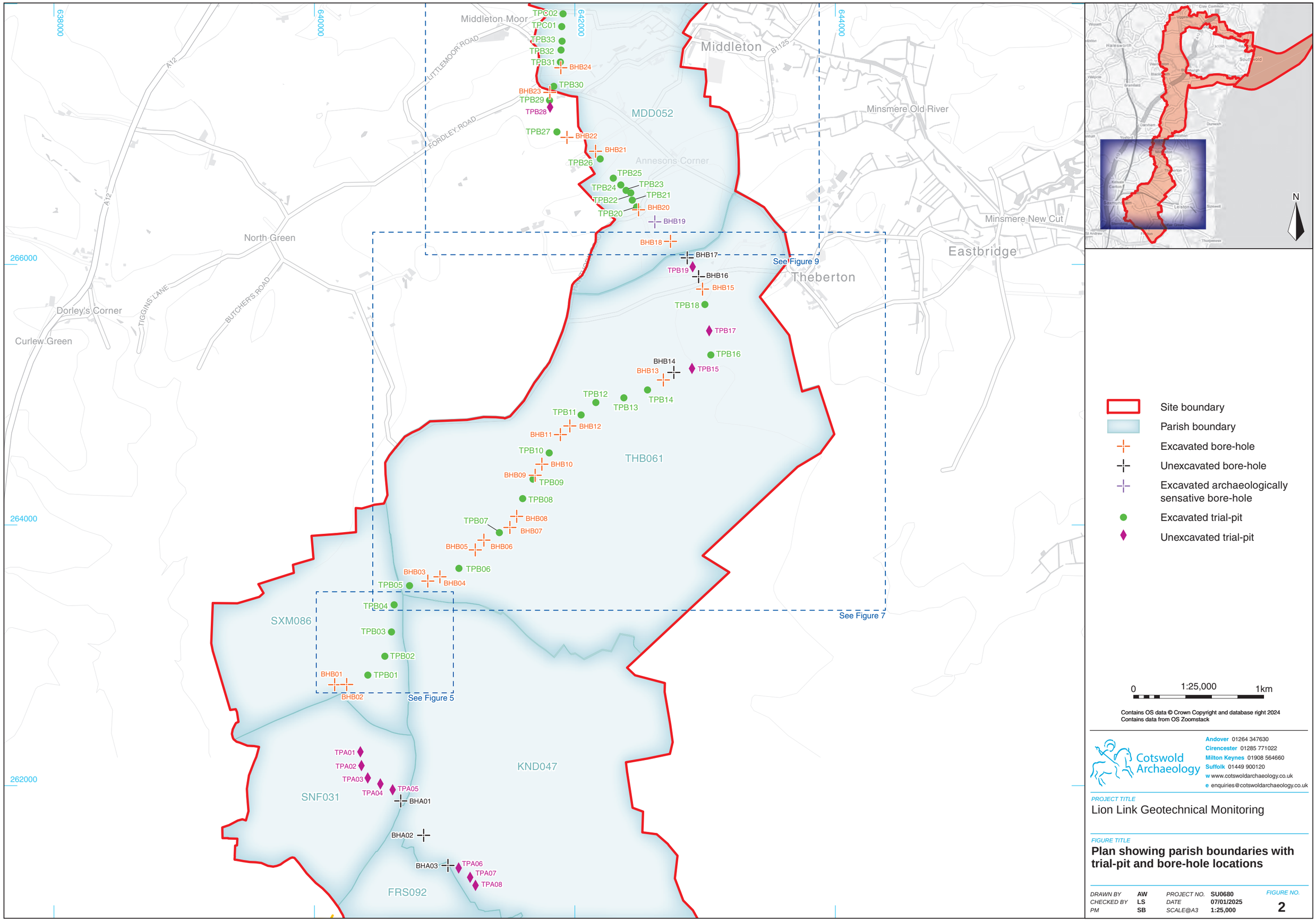
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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
Site location plan

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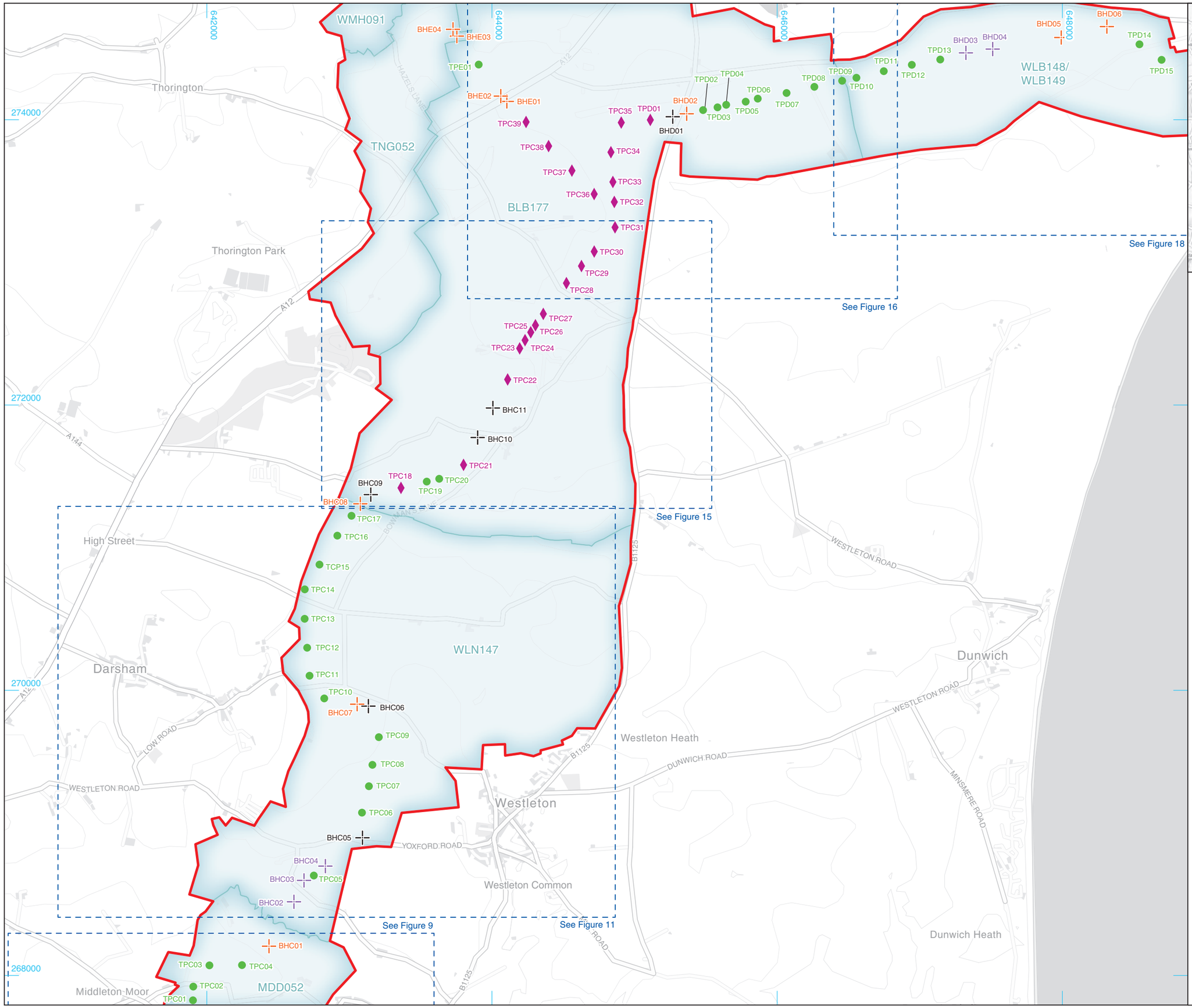
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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CHECKED BY	LS	DATE	07/01/2025		2
PM	SB	SCALE@A3	1:25,000		



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated archaeologically sensative bore-hole

Excavated trial-pit

Unexcavated trial-pit

0 1:25,000 1km

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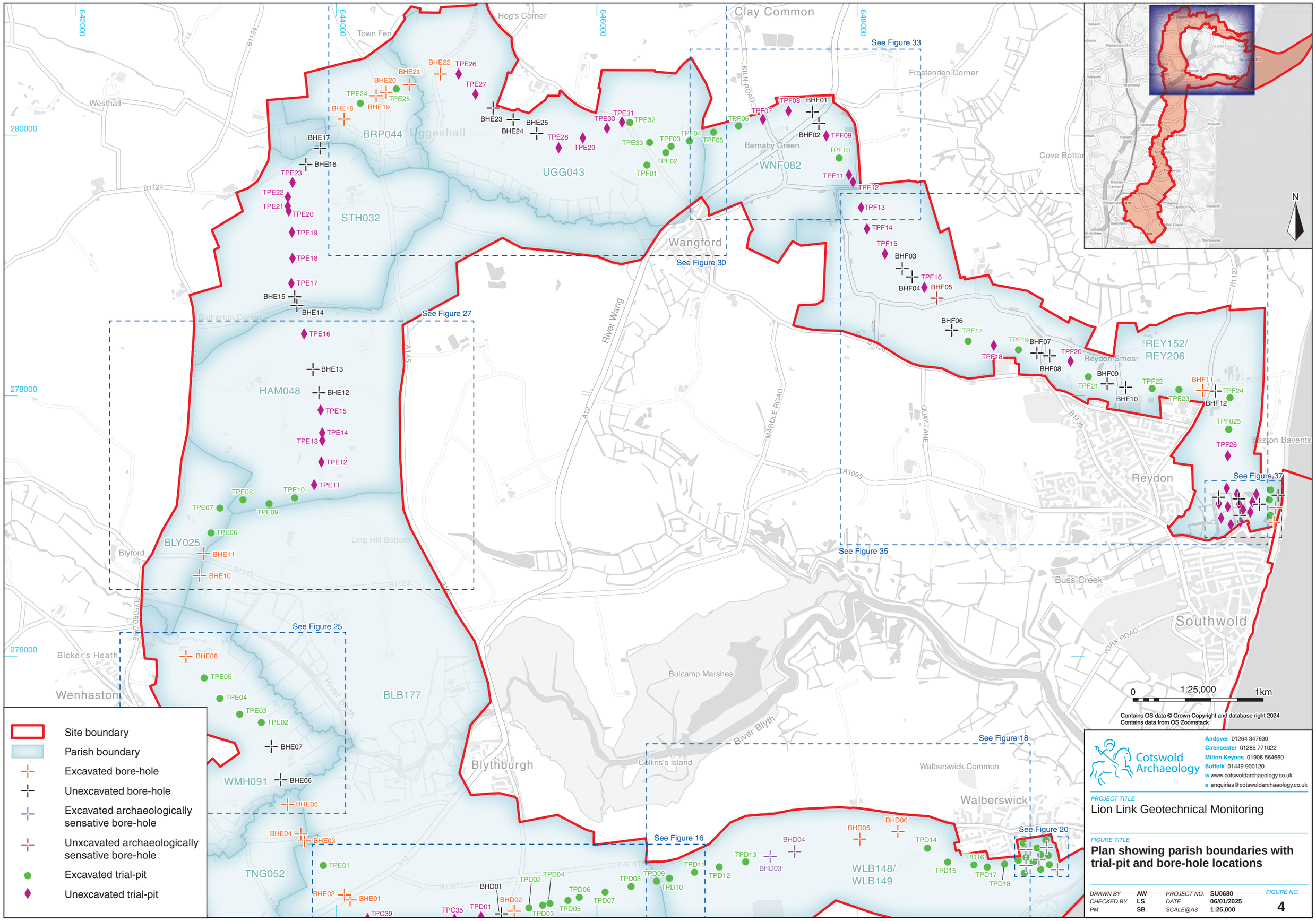
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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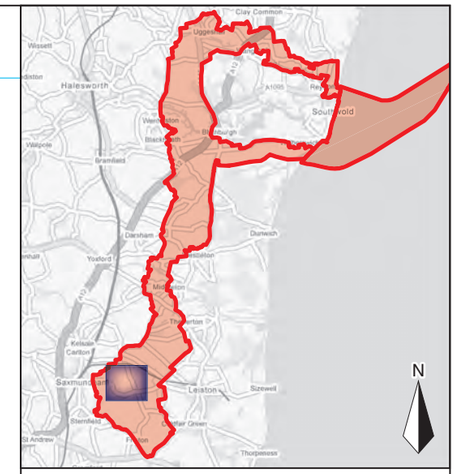
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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640200
640400
640600
640800
263400
263200
263000
262800
Wardspring Farm
TPB04
TPB03
TPB02
TPB01
BHB01
BHB02
SXM 086
KND 047
Friston Covert


Site boundary
Parish boundary
Excavated bore-hole
Excavated trial-pit
Geophysical survey results (WA 2024)
Historic landscape feature
Service
Archaeology possible
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
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PROJECT TITLE
Lion Link Geotechnical Monitoring
FIGURE TITLE
SXM 086: TPB01-TPB04, BHB01, BHB02 with geophysical survey
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TPB01, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB01, looking south-west (1m scale)

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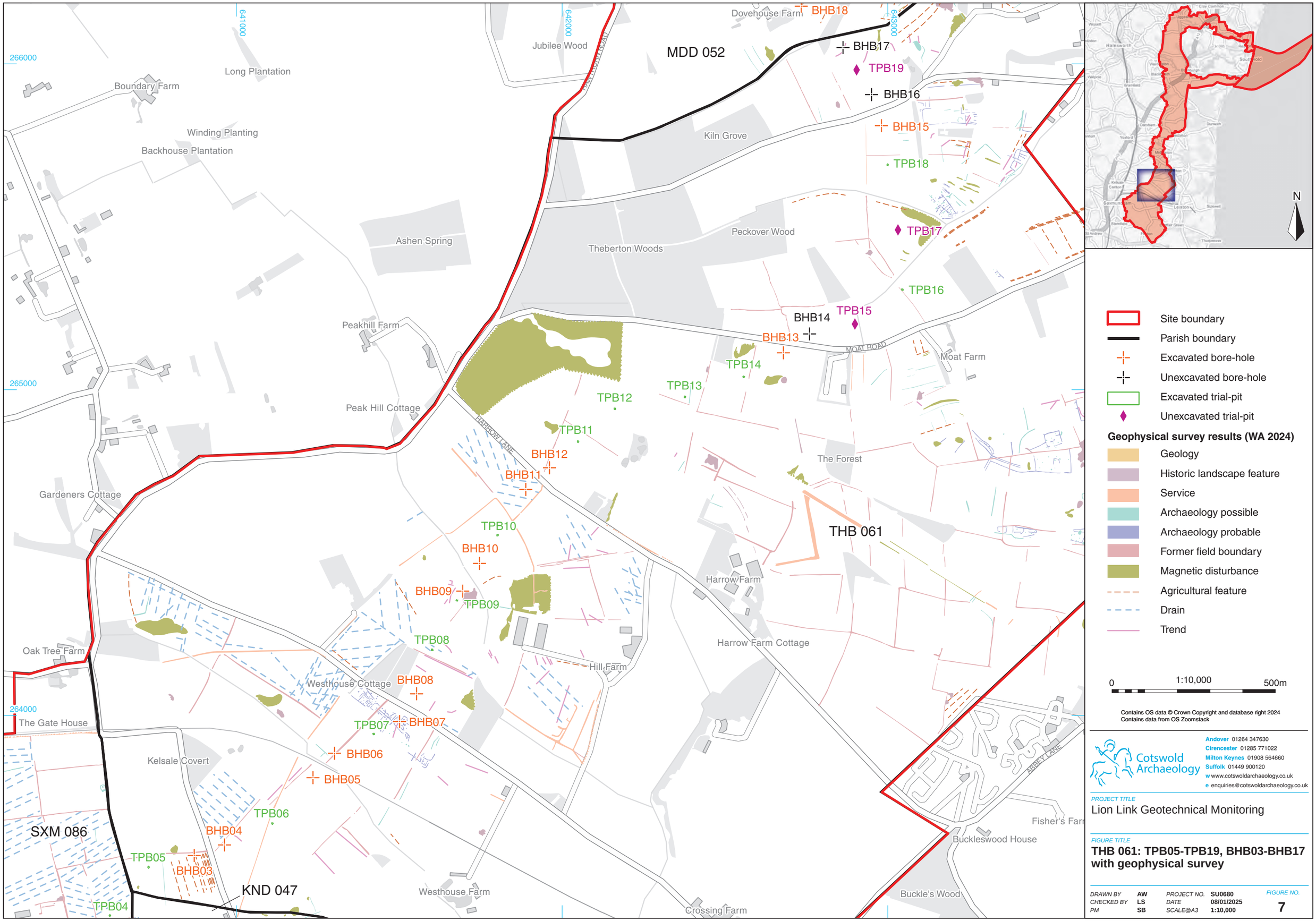
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

SXM 086: photographs

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
THB 061: TPB05-TPB19, BHB03-BHB17 with geophysical survey

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TPB05, looking north (1m scale)



TPB10, looking south-west (1m scale)



TPB18, looking south (1m scale)



TPB18, looking south-west (1m scale)

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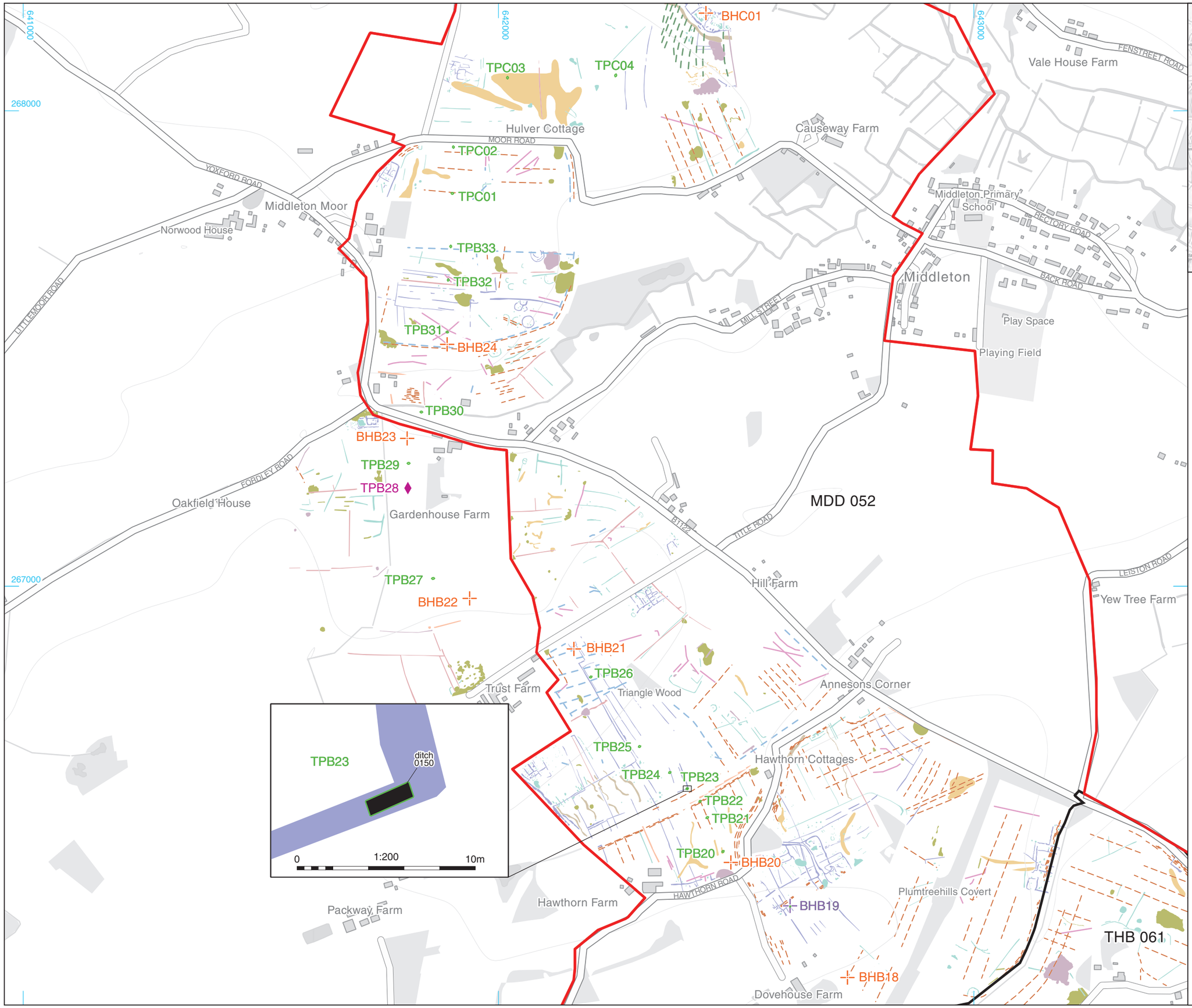
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FIGURE TITLE

THB 061: photographs

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PROJECT TITLE
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FIGURE TITLE
MDD 052: TPB20-TPB33, TBC01-TBC04, BHB18-BHB24, BHC01 with geophysical survey

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TPB20, looking south-east (1m scale)



TPB23, looking west



TPC03, looking west (1m scale)



BHB19, looking south-west (0.2m scale)

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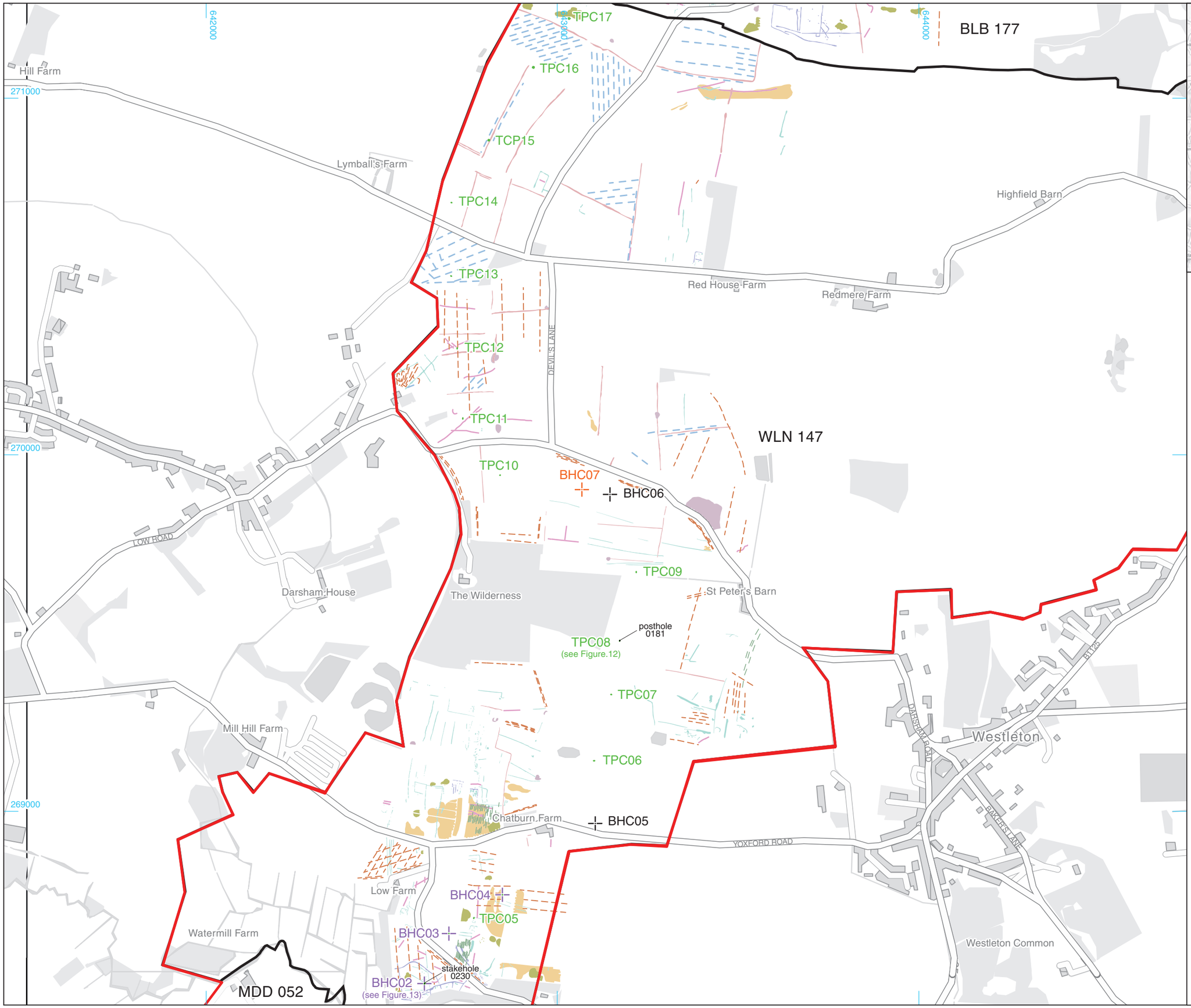
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FIGURE TITLE

MDD 052: photographs

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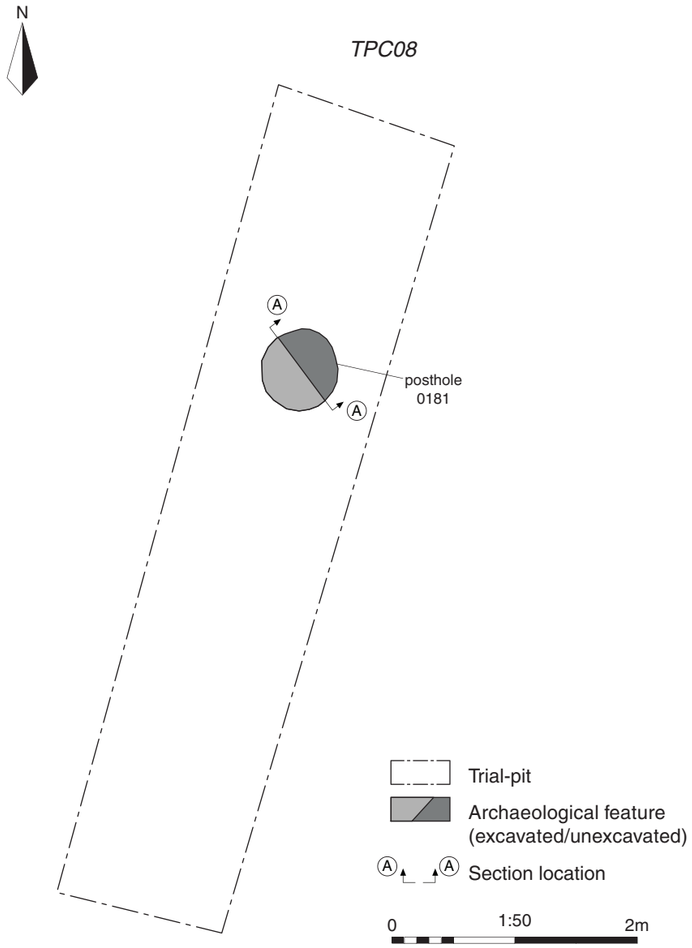
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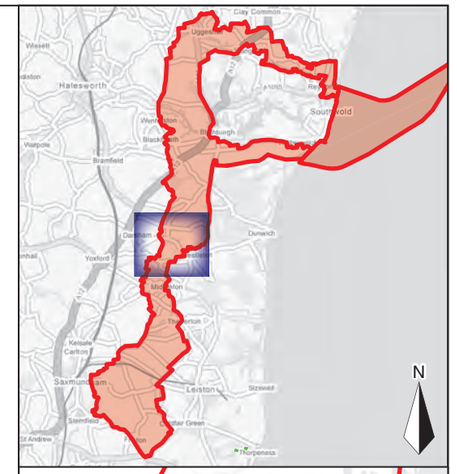
FIGURE TITLE
WLN 147: TPC05-TPC17, BHC02-BHC07 with geophysical survey

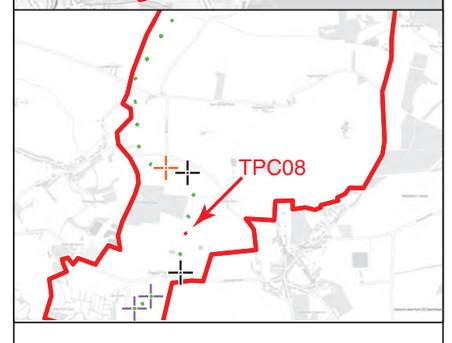
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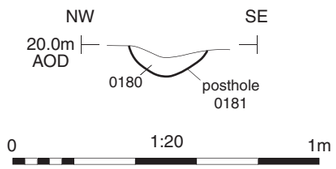


TPC08, looking north-east (1m scale)





Section AA





Posthole 0181, looking north-east (0.2m scale)



TPC08, looking north-west (1m scale)

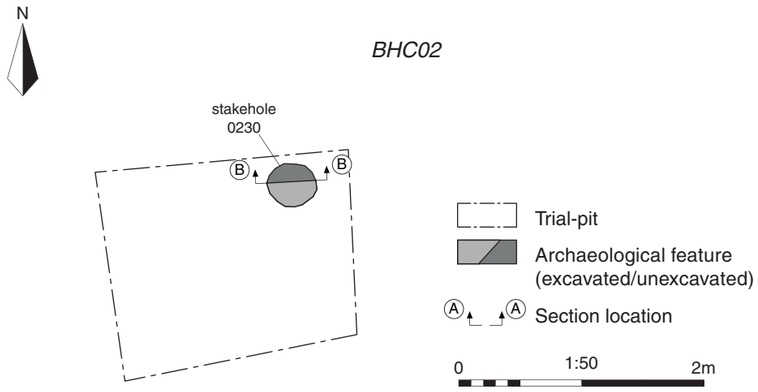
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PROJECT TITLE
Lion Link Geotechnical Monitoring

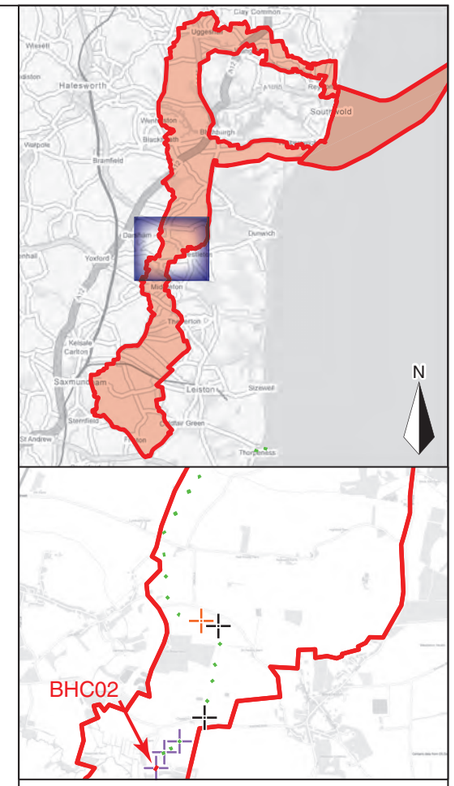
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WLN 147: TPC08, plan, section and photographs

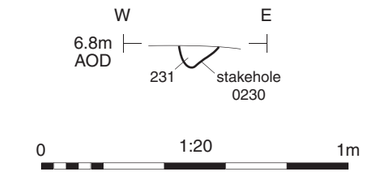
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BHC02, looking north (1m scale)







Stakehole 0230, looking north (0.2m scale)



BHC02, looking north (1m scale)

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLN 147: BHC02, plan, section and photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	13
PM	SB	SCALE@A3	1:50, 1:20	



TPC05, looking south-east (1m scale)



TPC11, looking north (1m scale)



BHC04, looking east (1m scale)



TPC17, looking south-east (1m scale)

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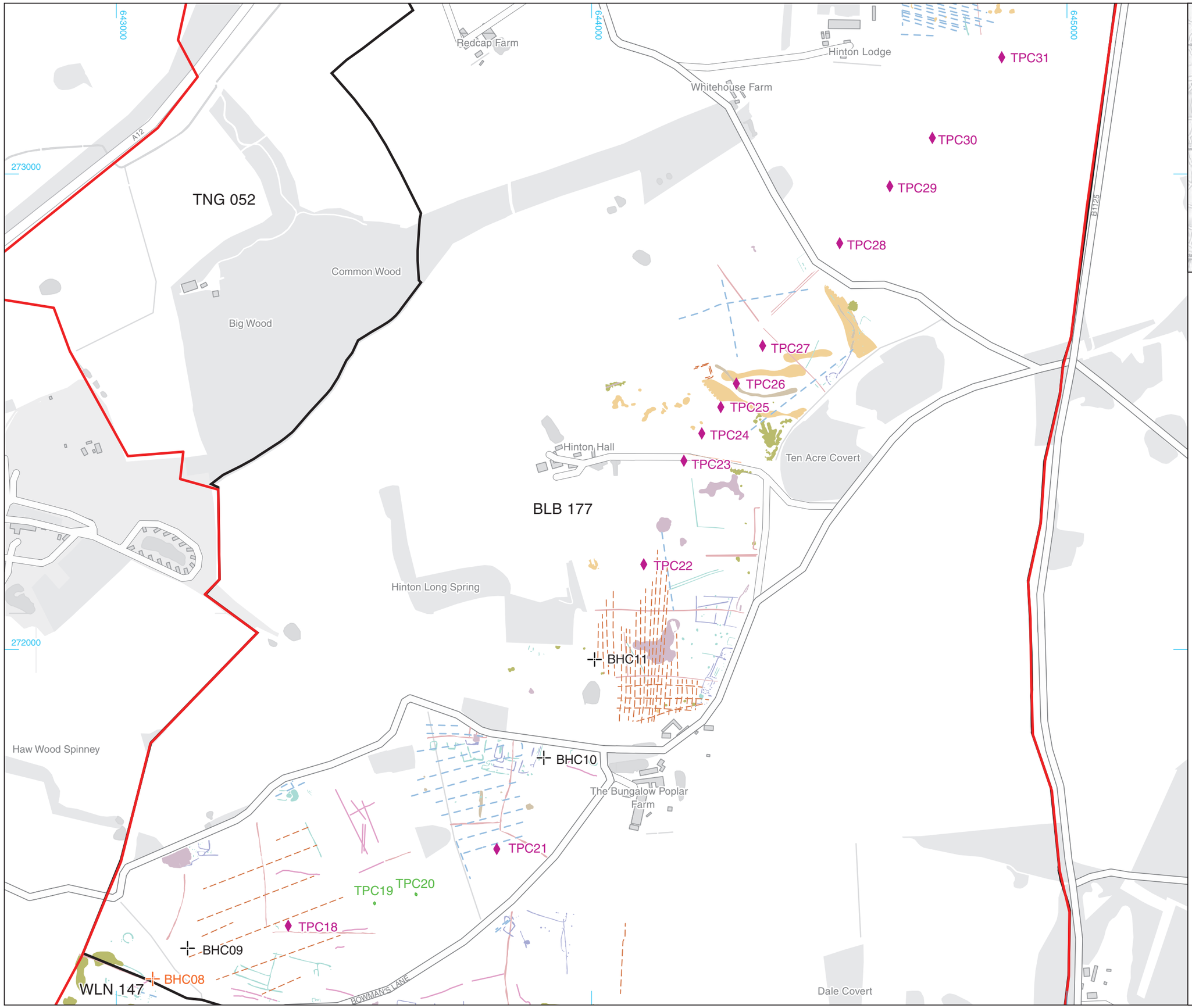
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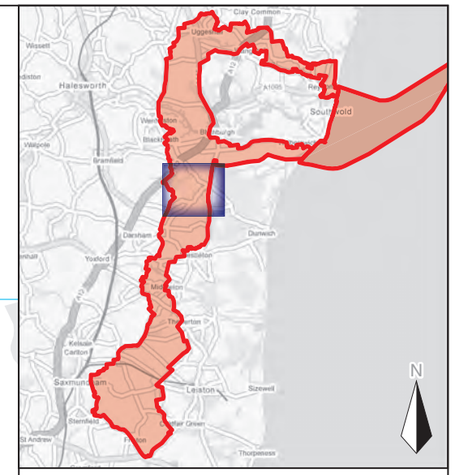
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FIGURE TITLE

WLN 147: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**14**
PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:7500 250m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
BLB 177: TPC18-TPC31, BHC08-BHC11 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	15
PM	SB	SCALE@A3	1:7500	

TNG 052

BLB 177

WLB 148

WENHASTON LANE

A12

B1387

THE STREET

DUNWICH ROAD

B1125

644000

645000

646000

274000

Blythburgh Covert

Stone Cottages

Toby's Cottage

Hinton Lodge

Whitehouse Farm

Westwood Lodge

Shepherds Cottage

Newdelight Covert

Fen Cottages

TPE01

BHE02

BHE01

BHD01

BHD02

TPC39

TPC38

TPC37

TPC36

TPC35

TPC34

TPC33

TPC32

TPC31

TPC30

TPC29

TPC28

TPD01

TPD02

TPD03

TPD04

TPD05

TPD06

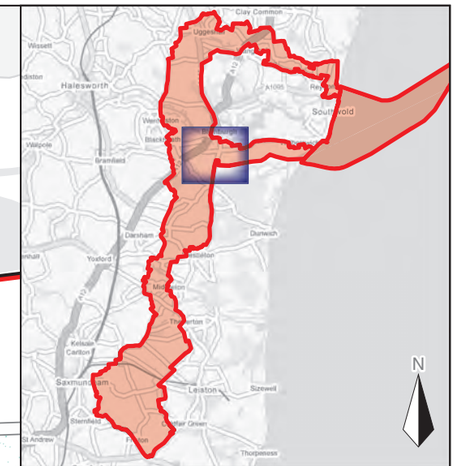
TPD07

TPD08

TPD09

TPD10

TPD11



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated trial-pit

Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology

Historic landscape feature

Archaeology possible

Archaeology probable

Former field boundary

Magnetic disturbance

Agricultural feature

Drain

Trend

0 1:7500 250m

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLB 177: TPC32-TPC39, TPD01-TPD09, TPE01, BHD01, BHD02, BHE01, BHE02 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	16
PM	SB	SCALE@A3	1:7500	



TPC19, looking north (1m scale)



TPD02, looking south (1m scale)



TPD08, looking north-east (1m scale)

TPE01, looking north-east

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLB 177: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	17
PM	SB	SCALE@A3	NA	

Collins's Island
Hill Covert
Tinker's Covert
Deadman's Covert
Eastwoodlodge Farm
THE STREET
B1387
Sallow Walk Covert
LODGE ROAD
Hoist Covert
Wood Cottage
Old Covert
Dunwich River
St Andrew's Church
Walberswick
WLB 148/
WLB 149
BLB177
BHD03
BHD04
BHD05
BHD06
TPD09
TPD10
TPD11
TPD12
TPD13
TPD14
TPD15
TPD16
TPD17
TPD18
TP01
TP05/
TP05A
(see Figure 21)
BH01
ditches
0383,0385,
0387
ditch
0322
TP04/
TP04A
(see Figure 21)
BH04
TP09
647000
648000
275000
N
0 1:7500 250m

Site boundary
Parish boundary
Excavated bore-hole
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 148: TPD10-TPD18, BHD03-BHD06 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	18
PM	SB	SCALE@A3	1:7500	



TPD10, looking west (1m scales)



TPD15, looking west (1m scale)



BHD03, looking east (1m scale)



BHD04, looking north-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

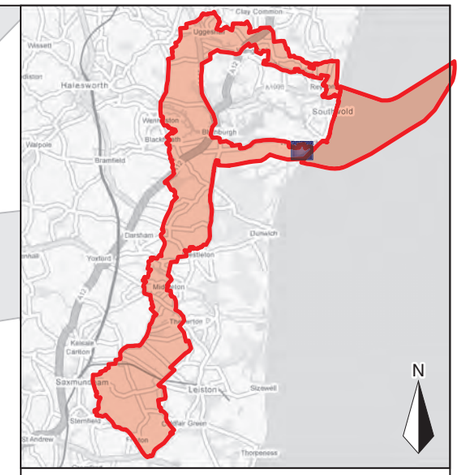
FIGURE TITLE

WLB 148: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**19**
PM	**SB**	*SCALE@A3*	**NA**	

649300
649400
649500
274500
274400

10
TP01
4
BH01
TP03
3
BH02
18
17
TP02
12
TP07
TP08
(see Figure.22)
ditch
0373
11
TP05
(see Figure.21)
ditch
0322
TP05A
WLB 149
8
BH03
feature
0312
7
ditch
0387
ditch
0383
TP04
(see Figure.21)
ditch
0385
TP04A
TP06
15
13
TP11
1
BH04
6
9
5
BH05
16
14
TP10
TP09



Site boundary
Parish boundary
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature
Registered artefact

Geophysical survey results (WA 2024)

Geomorphology
Archaeology possible
Archaeology probable
Former field boundary
Agricultural feature
Trend

0 1:1000 50m

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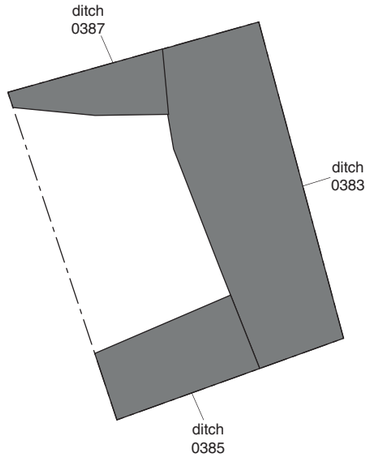
PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 149: TP01-TP11, BH01-BH05 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	20
PM	SB	SCALE@A3	1:1000	

N

TP04



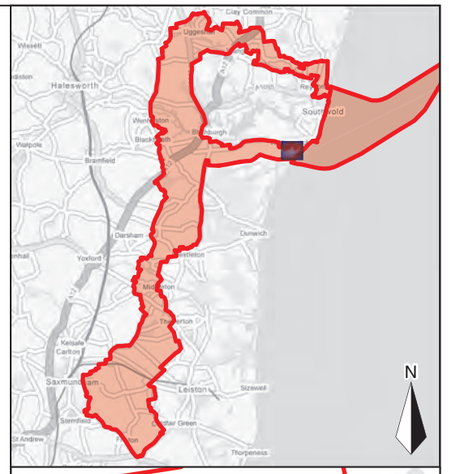
Trial-pit

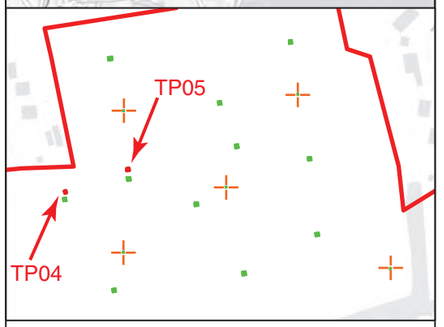
Archaeological feature
(excavated/unexcavated)

0 1:20 1m



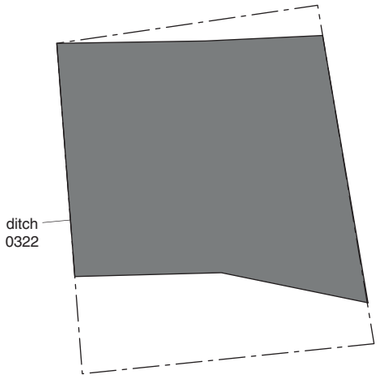
TP04, looking north-east (1m scales)





N

TP05



Trial-pit

Archaeological feature
(excavated/unexcavated)

0 1:20 1m



TP05, looking south-west (1m scales)

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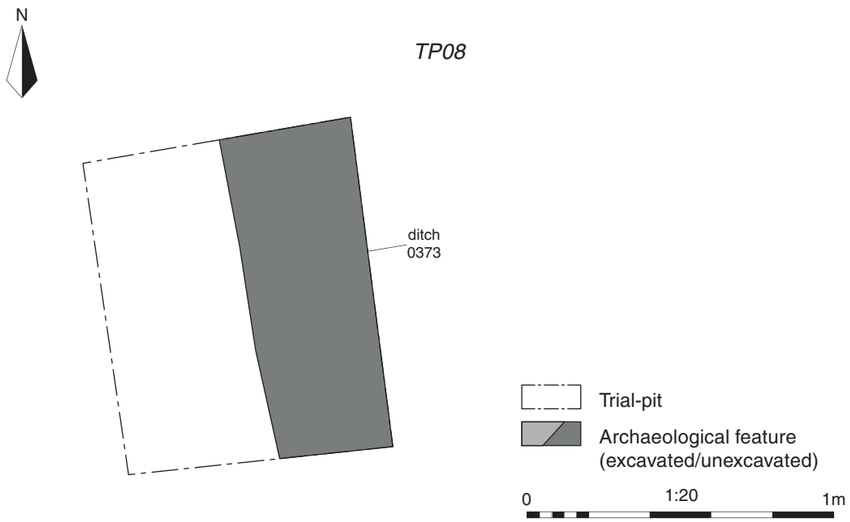
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: TP04, TP05, plan and photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**21**
PM	**SB**	*SCALE@A3*	**1:20**	

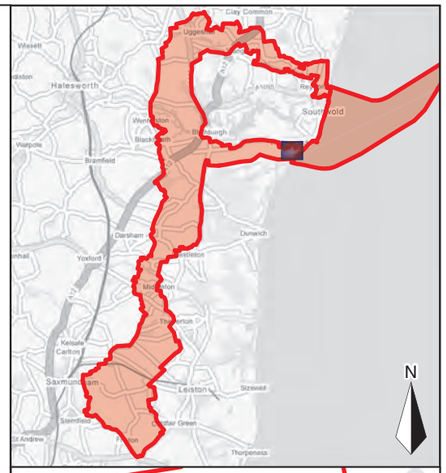


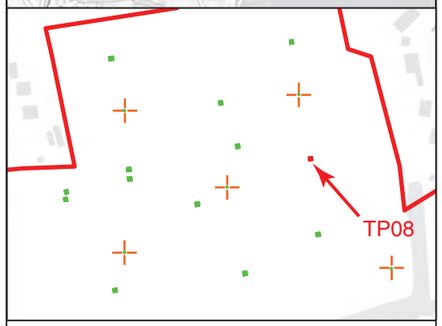


TP08, looking south-west (1m scales)



Ditch 373, looking north-west (1m scale)





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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 149: TP08, plan and photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	22
PM	SB	SCALE@A3	1:20	



TP01, looking east (1m scales)



TP03, looking west (1m scales)



TP06, looking west (1m scales)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**23**
PM	**SB**	*SCALE@A3*	**NA**	



BH01, looking north (1m scales)



BH03, looking north-west (1m scales)



BH05, looking north-west (1m scales)



BH03, looking north (1m scales)

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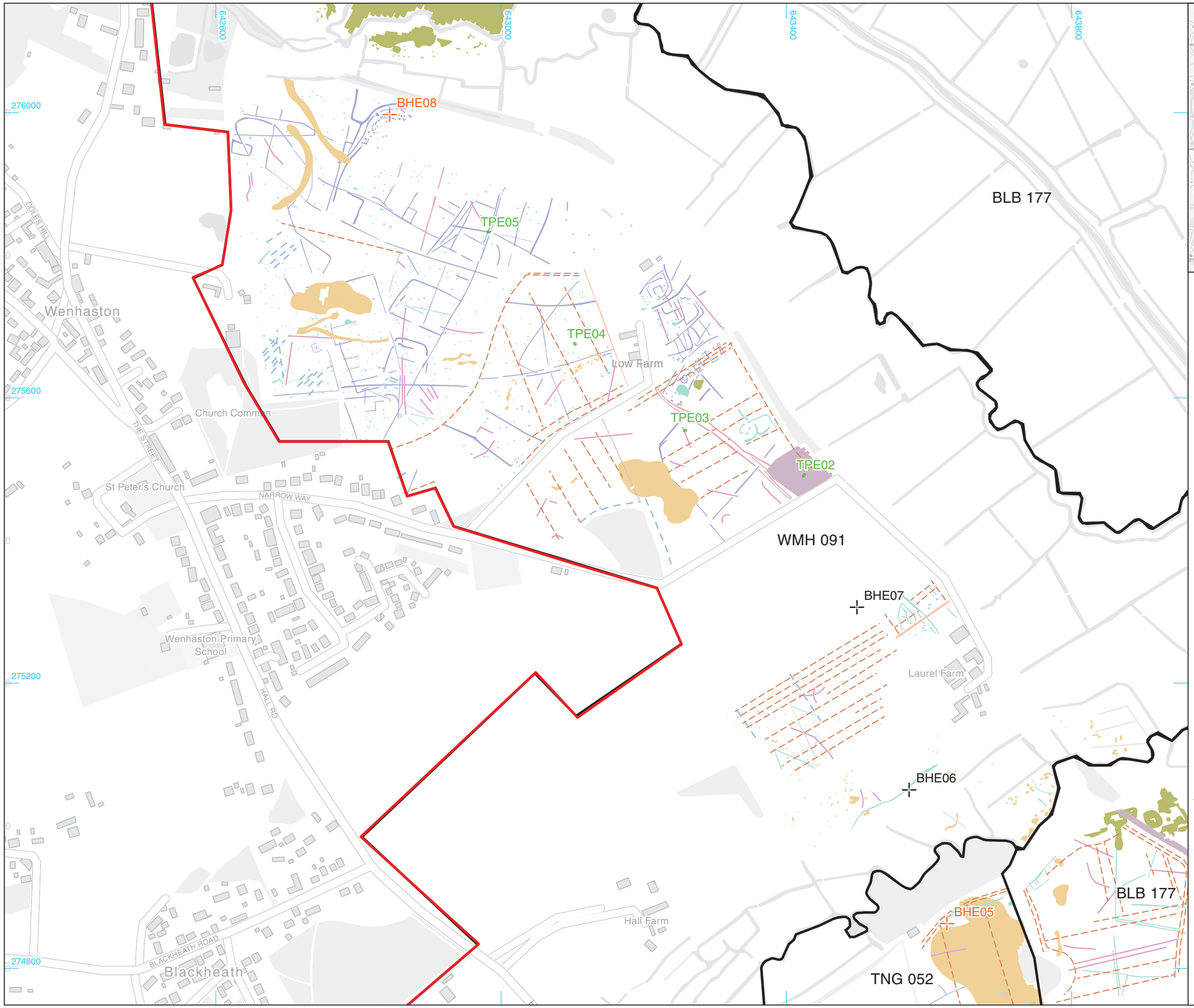
PROJECT TITLE

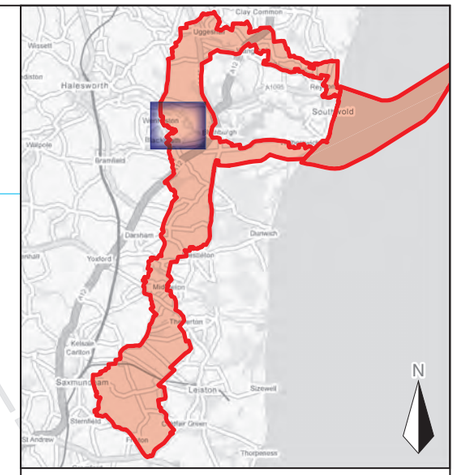
Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**24**
PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:5000 250m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WMH 091: TPE02-TPE05, BHE06-BHE08 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	25
PM	SB	SCALE@A3	1:5000	



TPE02, looking south-west (1m scale)



TPE02, looking south-east



TPE04, looking south-east (1m scale)



TPE04, looking east (1m scale)

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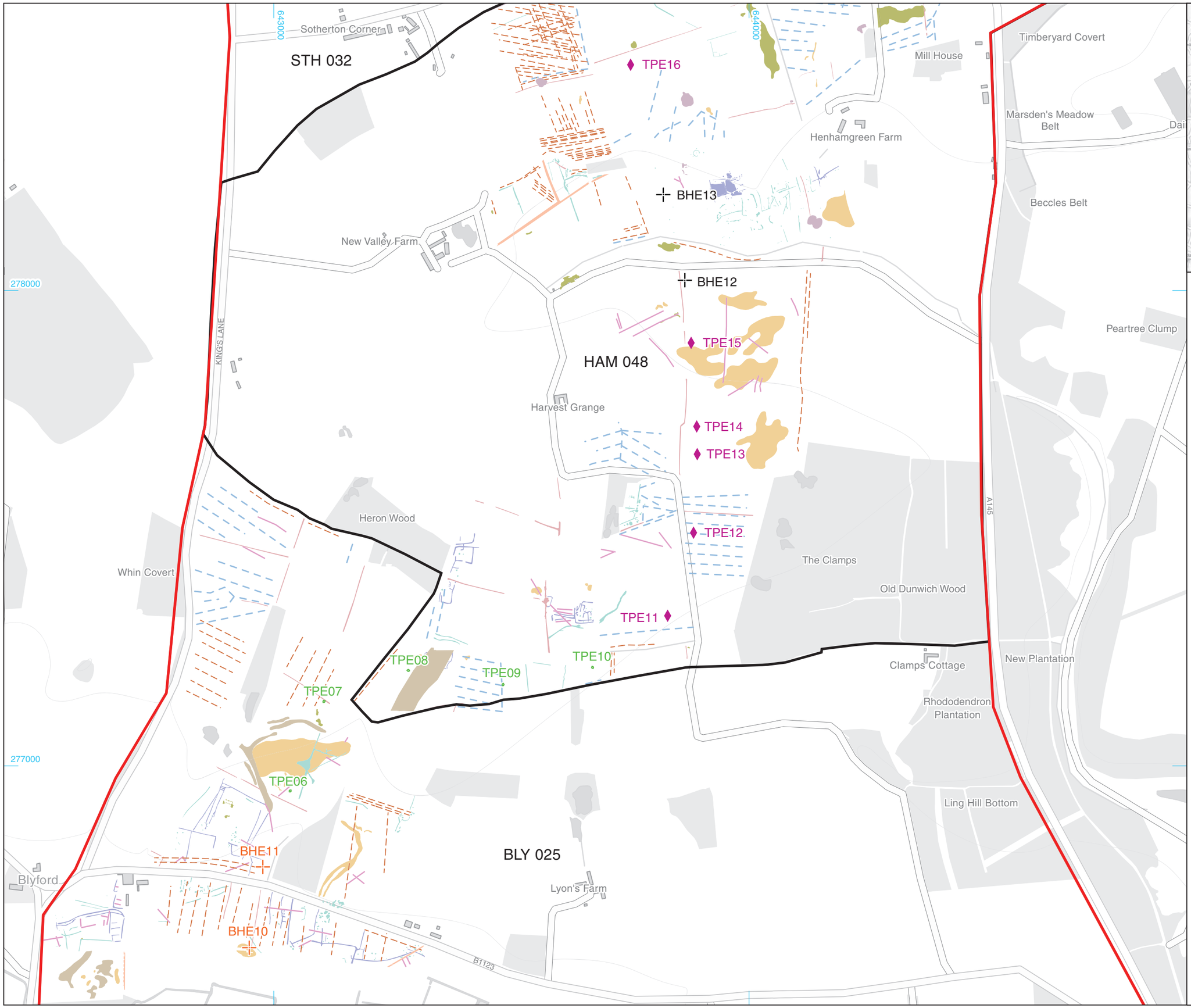
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WMH 091: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
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PM	**SB**	*SCALE@A3*	**NA**	



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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLY 025: TPE06-TPE07, BHE10, BHE11 and HAM 048: TPE08-TPE16, BHE12, BHE13 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	27
PM	SB	SCALE@A3	1:7500	



TPE06, looking south-west (1m scale)



TPE07, looking south-east (1m scale)



TPE06, looking south



TPE07, looking south-east

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PROJECT TITLE

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FIGURE TITLE

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**28**
PM	**SB**	*SCALE@A3*	**NA**	



TPE08, looking north (1m scale)



TPE09, looking north-east



TPE09, looking east (1m scale)



TPE10, looking north-east

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

HAM 048: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**29**
PM	**SB**	*SCALE@A3*	**NA**	

644000
645000
646000
281000
280000
Town Fen
A145
WANGFORD ROAD
HALESWORTH ROAD
CHURCH ROAD
Hog's Corner
Whitehouse Farm
Manor Farm
St Mary's Church
Wash Lane Cottages
BULLION'S LANE
Bullions Cottage
Uggeshall
STOVEN ROAD
Long Belt
Moatyard Covert
BHE18
BHE19
BHE20
BHE21
BHE22
BHE23
BHE24
BHE25
TPE24
TPE25
TPE26
TPE27
TPE28
TPE29
TPE30
TPE31
TPE32
TPE33
TPF01
TPF02
TPF03
TPF04
TPF05
BRP 044
UGG 043
WNF 082
STH 032
HAM 048
N
0
1:7500
250m
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Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
BRP 044: TPE24-TPE25, BHE18-BHE21 and UGG 043: TPF01-TPF04, TPE26-TPE33 with geophysical survey

DRAWN BY	AW	*PROJECT NO.*	SU0680	*FIGURE NO.*	
CHECKED BY	LS	*DATE*	09/01/2025		30
PM	SB	*SCALE@A3*	1:7500		



TPE24, looking north (1m scale)



TPE25, looking south-west (1m scale)



TPE24, looking north-west (1m scale)



TPE25, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BRP 044: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	31
PM	SB	SCALE@A3	NA	



TPE32, looking south-east (1m scale)



TPF01, looking north-west (1m scale)



TPE32, looking south-east



TPF03, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

UGG 043: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	32
PM	SB	SCALE@A3	NA	

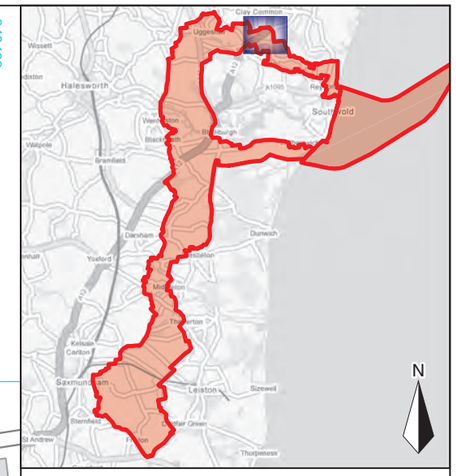
646800
647200
647600
648000
648400
280400
280000
279600

Gough's Wood
Blomfield Wood
White House Farm
Keith's Wood
Vale Farm
Wangford Farm
Barnaby Green
Elms Farm
A12
ELMS LANE
WOOD FARM LANE

UGG 043
WNF 082
REY 152/
REY 206

TPF05
TPF06
TPF07
TPF08
TPF09
TPF10
TPF11
TPF12
TPF13

BHF01
BHF02



- Site boundary
- Parish boundary
- Unexcavated bore-hole
- Excavated trial-pit
- Unexcavated trial-pit

Geophysical survey results (WA 2024)

- Geology
- Geomorphology
- Historic landscape feature
- Service
- Archaeology possible
- Archaeology probable
- Former field boundary
- Magnetic disturbance
- Agricultural feature
- Drain
- Trend
- Historic Culivation

0 1:5000 250m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WNF 082: TPF05-TPF12, BHF01, BHF02 with geophysical survey

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**10/01/2025**	**33**
PM	**SB**	*SCALE@A3*	**1:5000**	



TPF05, looking north-west (1m scale)



TPF06, looking south-west (1m scale)



TPF05, looking north-east (1m scale)



TPF10, looking south (1m scales)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WNF 082: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**34**
PM	**SB**	*SCALE@A3*	**NA**	

WNF 082

TPF13
TPF14
TPF15
TPF16
TPF17
TPF18
TPF19
TPF20
TPF21
TPF22
TPF23
TPF24
TPF025
TPF26
TPF27

BHF03
BHF04
BHF05
BHF06
BHF07
BHF08
BHF09
BHF10
BHF11
BHF12

BH101
BH102
BH104
BH105
TP102
TP103
TP104
TP105
TP106
TP107
TP109
TP110
TP111
TP112
TP113

REY 152/
REY 206

See Figure 37

Wood Farm
Jay's Farm
High Wood
Reydon Grove Farm
Hall Farm
Spright's Covert
The Elms Farm
The Grove
Cuckoo Farm
Reydon Smear
Quay Lane Cottage
Quay House
Reydon
Easton Bavents
Sole Bay

WOOD FARM LANE
RISSMERE LANE
WANGFORD ROAD
QUAY LANE
GREEN LANE
COX'S LANE
COVEY ROAD
LOWESTOFT ROAD
A1095
B1126
B1127

648000
649000
650000
651000
279000

N

0 1:10,000 500m

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Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Unexcavated archaeologically sensative bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
REY 152: TPF13-TPF27, BHF03-BHF12 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.	
CHECKED BY	LS	DATE	10/01/2025		35
PM	SB	SCALE@A3	1:10,000		



TPF17, looking south (1m scale)



TPF19, looking south-east (1m scale)



TPF23, looking north (1m scale)



TPF25, looking east (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

REY 152: photographs

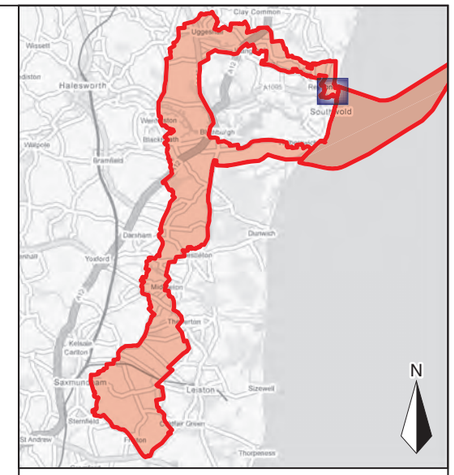
DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**36**
PM	**SB**	*SCALE@A3*	**NA**	

650800
651000
651200
277200
277000

REY 152/
REY 206

TPF27
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
TP110
TP111
TP112
TP113
TP114

BH101
BH102
BH103
BH104
BH105
BH106
BH107



Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Archaeology possible
Former field boundary
Magnetic disturbance
Trend

0 1:1500 50m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
REY 206: TP101-114, BH101-BH107 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	10/01/2025	37
PM	SB	SCALE@A3	1:1500	



TP101, looking north-west (1m scale)



TP108, looking north (1m scale)



TP114, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

REY 206: photographs

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PM	**SB**	*SCALE@A3*	**NA**	

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APPENDIX 15

Investigation Techniques and General Notes

INVESTIGATION TECHNIQUES

INTRODUCTION

The following brief review of Ground Investigation techniques, generally used as part of most Site Investigations in the UK, summarises their methodology, advantages and limitations. Detailed descriptions of the techniques are available and can be provided on request. This review should be read in conjunction with the accompanying General Notes.

TRIAL PITS

The trial pit is amongst the simplest yet most effective means of identifying shallow ground conditions on a site. Its advantages include simplicity, speed, potential accuracy and cost-effectiveness. The trial pit is most commonly formed using a back-acting excavator which can typically determine ground conditions to some 4 metres below ground level. Hand excavation is often used to locate, expose and detail existing foundations, features or services. In general, it is difficult to extend pits significantly below the water table in predominantly granular soils, where flows can cause instability. Unless otherwise stated, the trial pits will not have been provided with temporary side support during their construction. Under such circumstances, entrance into the pit is not permitted and hence observations will have been made from the ground surface and samples taken from the excavator bucket.

Where access for personnel is required to allow close observation of the exposed strata, the taking of samples and the carrying out of in situ tests, the sides of the trial pits (Observation Pits in BS 5930:2015) will be made safe using temporary supports or the sides battered back to a stable angle. Some limited access to such Trial Pits (Observation Pits) at depths less than 1m may be allowed in stable conditions or where the sides are benched or battered back to a safe angle.

Trends in strata type, level and thickness can be determined, shear surfaces identified and the behaviour of plant, excavation sides and excavated materials can be related to the construction process. They are particularly valuable in land slip investigations. Some types of in situ test can be undertaken in such pits and large disturbed or block samples obtained.

CABLE PERCUSSION BORING

The light Cable Percussion technique of soft ground boring, typically at a diameter of 150mm, is a well-established simple and flexible method of boring vertical holes and generally allows data to be obtained in respect of strata conditions other than rock. A tubular cutter (for cohesive soils) or shell with a flap valve (for granular soils) is repeatedly lifted and dropped using a winch and rope operating from an "A" frame. Soil which enters these tools is regularly removed and either sampled for subsequent examination or test, or laid to one side for later removal off site and licensed disposal or, if permitted by the Client, use as backfill. Steel casing will have been used to prevent collapse of the borehole sides where necessary. A degree of disturbance of soil and mixing of layers is inevitable and the presence of very thin layers of different soils within a particular stratum may not be identified. Changes in strata type can only be detected on recognition of a change in soil samples at the surface, after the interface has been passed. For the foregoing reasons, depth measurements should not be considered to be more accurate than 0.10 metre. The technique can determine ground conditions to depths in excess of 30 metres under suitable circumstances and usually causes less surface disturbance than trial pitting.

In cohesive soils cylindrical samples are retrieved by driving or pushing in 100mm nominal diameter tubes. In soft soils, piston sampling or vane testing may be undertaken. In granular soils and often in cohesive materials, in situ Standard Penetration Tests (SPT's) are performed. The SPT records the number of standard blows required to drive a 50mm diameter open or cone ended probe for 300mm after an initial 150mm penetration. A modified method of recording is used in denser strata. Small disturbed samples are obtained throughout.

ROTARY DRILLING

Rotary Drilling to produce cores by rotating an annular diamond-impregnated tube or barrel into the ground is the technique most appropriate to the forming of site investigation boreholes through rock or other hard strata. It has the advantage of being able to be used vertically or at an angle. Core diameters of less than 100mm are most common for site investigation purposes. Core is normally retrieved in plastic lining tubes. A flushing fluid such as air, water or foam is used to cool the bit and carry cuttings to the surface. Depths in excess of 60 metres can be achieved under suitable circumstances using rotary techniques, with minimal surface disturbance.

Examination of cores allows detailed rock description and generally enables angled discontinuity surfaces to be observed. However, vertical holes do not necessarily reveal the presence of vertical or near-vertical fissures or joint discontinuities. The core type and/or techniques used will depend on the ground conditions. Where open hole rotary drilling is employed, descriptions of strata result from examination at the surface of small particles ejected from the borehole in the flushing medium. In consequence, no indication of fissuring, bedding, consistency or degree of weathering can be obtained.

DYNAMIC SAMPLING

This technique involves the driving of an open-ended tube into the ground and retrieval of the soil which enters the tube. It was previously called window or windowless sampling. The term "window sample" arose from the original device which had a "window" or slot cut into the side of the tube through which samples were taken. This was superseded by the use of a thin-walled plastic liner to retrieve the soil sample from within a sampler (windowless sampling) which has a solid wall. Line diameters range from 36 to 86mm. Such samples can be used for qualitative logging, selection of samples for classification and chemical analysis and for obtaining a rudimentary assessment of strength.

Driving devices can be hand-held or machine mounted and the drive tubes are typically in 1m lengths. Depending on the type of rig used, the hole formed can be cased to prevent collapse of the borehole sides. Where the type of rig does not allow the insertion of casing, the success of this technique can be limited when soils and groundwater conditions are such that the sides of the hole collapse on withdrawal of the sampler. Obstructions within the ground, the density of the material or its strength can also limit the depth and rate of penetration of this light-weight investigation technique. Nevertheless, it is a valuable tool where access is constrained such as within buildings or on embankments. Depths of up to 10m can be achieved in suitable circumstances depending on the rig type but depths of 5m to 6m are more common.

EXPLORATORY HOLE RECORDS

The data obtained by these techniques are generally presented on Trial Pit, Borehole, Drillhole or Dynamic Sample Records. The descriptions of strata result from information gathered from a number of sources which may include published geological data, preliminary field observations and descriptions, in situ test results, laboratory test results and specimen descriptions. A key to the symbols and abbreviations used accompanies the records. The descriptions on the exploratory hole records accommodate but may not necessarily be identical to those on any preliminary records or the laboratory summaries.

The records show ground conditions at the exploratory hole locations. The degree to which they can be used to represent conditions between or beyond such holes, however, is a matter for geological interpretation rather than factual reporting and the associated uncertainties must be recognised.

DYNAMIC PROBING

This technique typically measures the number of blows of a standard weight falling over a standard height to advance a cone-ended rod over sequential standard distances (typically 100mm). Some devices measure the penetration of the probe per standard blow. It is essentially a profiling tool and is best used in conjunction with other investigation techniques where site-specific correlation can be used to delineate the distribution of soft or loose soils or the upper horizon of a dense or strong layer such as rock.

Both machine-driven and hand-driven equipment is available, the selection depending upon access restrictions and the depth of penetration required. It is particularly useful where access for larger equipment is not available, disturbance is to be minimised or where there are cost constraints. No samples are recovered and some techniques leave a sacrificial cone head in the ground. As with other lightweight techniques, progress is limited in strong or dense soils. The results are presented both numerically and graphically. Depths of up to 10m are commonly achieved in suitable circumstances.

The hand-driven DCP probing device has been calibrated by the Highways Agency to provide a profile of CBR values over a range of depths.

INSTRUMENTATION

The most common form of instrument used in site investigation is either the standpipe or else the standpipe piezometer which can be installed in investigation holes. They are used to facilitate monitoring of groundwater levels and water sampling over a period of time following site work. Normally a standpipe would be formed using rigid plastic tubing which has been perforated or slotted over much of its length whilst a standpipe piezometer would have a filter tip which would be placed at a selected level and the hole sealed above and sometimes below to isolate the zone of interest. Groundwater levels are determined using an electronic "dip meter" to measure the depth to the water surface from ground level. Piezometers can also be used to measure permeability. They are simple and inexpensive instruments for long term monitoring but response times can limit their use in tidal areas and access to the ground surface at each instrument is necessary. Remote reading requires more sophisticated hydraulic, electronic or pneumatic equipment.

Settlement can be monitored using surface or buried target plates whilst lateral movement over a range of depths is monitored using slip indicator or inclinometer equipment.

GENERAL NOTES

1. *The report is prepared for the exclusive use of the Client named in the document and copyright subsists with Geotechnics Limited. Prior written permission must be obtained to reproduce all or part of the report. It is prepared on the understanding that its contents are only disclosed to parties directly involved in the current investigation, preparation and development of the site.*

2. *Further copies may be obtained with the Client's written permission, from Geotechnics Limited with whom the master copy of the document will be retained.*

3. *The report and/or opinion is prepared for the specific purpose stated in the document and in relation to the nature and extent of proposals made available to Geotechnics Limited at that time. Re-consideration will be necessary should those details change. The recommendations should not be used for other schemes on or adjacent to the site without further reference to Geotechnics Limited.*

4. *The assessment of the significance of the factual data, where called for, is provided to assist the Client and their Engineer and/or Advisers in the preparation of their designs.*

5. *The report is based on the ground conditions encountered in the exploratory holes together with the results of field and laboratory testing in the context of the proposed development. The data from any commissioned desk study and site reconnaissance are also drawn upon. There may be special conditions appertaining to the site, however, which are not revealed by the investigation and which may not be taken into account in the report.*

6. *Methods of construction and/or design other than those proposed by the designers or referred to in the report may require consideration during the evolution of the proposals and further assessment of the geotechnical and any geoenvironmental data would be required to provide discussion and evaluations appropriate to these methods.*

7. *The accuracy of results reported depends upon the technique of measurement, investigation and test used and these values should not be regarded necessarily as characteristics of the strata as a whole (see accompanying notes on Investigation Techniques). Where such measurements are critical, the technique of investigation will need to be reviewed and supplementary investigation undertaken in accordance with the advice of the Company where necessary.*

8. *The samples selected for laboratory test are prepared and tested in accordance with the relevant Clauses and Parts of BS EN ISO 17892 and BS 1377 Parts 1 to 8, where appropriate, in Geotechnics Limited's UKAS accredited Laboratory, where possible. A list of tests is given.*

9. *Tests requiring the use of another laboratory having UKAS accreditation where possible are identified.*

10. *Any unavoidable variations from specified procedures are identified in the report.*

11. *Specimens are cut vertically, where this is relevant and can be identified, unless otherwise stated*

12. *All the data required by the test procedures are recorded on individual test sheets but the results in the report are presented in summary form to aid understanding and assimilation for design purposes. Where all details are required, these can be made available.*

13. *Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes, or on the possible presence of features based on either visual, verbal, written, cartographical, photographic or published evidence, this is for guidance only and no liability can be accepted for its accuracy.*

14. *The Code of Practice for Ground Investigations – BS 5930:2015 calls for man-made soils to be described as Anthropogenic Ground with soils placed in an un-controlled manner classified as Made Ground and soils placed in a controlled manner as Fill. In view of the difficulty in always accurately determining the origin of man-made soils in exploratory holes, Geotechnics Limited classify such materials as Made Ground. Where soils can be clearly identified as being placed in a controlled manner then further classification of the soils as Fill has been added to the Exploratory Hole Records.*

15. *Classification of man-made soils is based on the inspection of retrieved samples or exposed excavations. Where it is obvious that foreign matter such as paper, plastic or metal is present, classification is clear. Frequently, however, for man-made soils that arise from the adjacent ground or from the backfilling of excavations, their visual characteristics can closely resemble those of undisturbed ground. Other evidence such as site history, exploratory hole location or other tests may need to be drawn upon to provide clarification. For these reasons, classification of soils on the exploratory hole records as either Made Ground or naturally occurring strata, the boundary between them and any interpretation that this gives rise to should be regarded as provisional and subject to re-evaluation in the light of further data.*

16. *The classification of materials as Topsoil is generally based on visual description and should not be interpreted to mean that the material so described complies with the criteria for Topsoil used in BS 3882:2015. Specific testing would be necessary where such a definition is a requirement.*

17. *Ground conditions should be monitored during the construction of the works and the report should be re-evaluated in the light of these data by the supervising geotechnical engineers.*

18. *Any comments on groundwater conditions are based on observations made at the time of the investigation, unless specifically stated otherwise. It should be noted, however, that the observations are subject to the method and speed of boring, drilling or excavation and that groundwater levels will vary due to seasonal or other effects.*

19. *Any bearing capacities for conventional spread foundations which are given in the report and interpreted from the investigation are for bases at a minimum depth of 1m below finished ground level in naturally occurring strata and at broadly similar levels throughout individual structures, unless otherwise stated. Typically they are based on serviceability criteria taking account of an assessment of the shear strength and/or density data obtained by the investigation. The foundations should be designed in accordance with the good practice embodied in BS 8004:2015 - Foundations, supplemented for housing by NHBC Standards. Foundation design is an iterative process and bearing pressures may need adjustment or other measures may need to be taken in the context of final layouts and levels prior to finalisation of proposals.*

20. *Unless specifically stated, the investigation does not take account of the possible effects of mineral extraction or of gases from fill or natural sources within, below or outside the site.*

21. *The costs or economic viability of the proposals referred to in the report, or of the solutions put forward to any problems encountered, will depend on very many factors in addition to geotechnical or geoenvironmental considerations and hence their evaluation is outside the scope of the report.*

2 Geotechnics Ground Investigation Factual Report: Lionlink – Cable Route Section B & C

GEOTECHNICS

BUILD ON CONFIDENCE

Ground Investigation

at

Lionlink - Cable Route Sections B & C

Project No:	PC248770
Client:	National Grid Ventures
Engineer:	BakerHicks
Date:	January 2025

Factual Report

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APPENDIX 15	Investigation Techniques and General Notes

1.0 INTRODUCTION

A geotechnical and geoenvironmental investigation was undertaken by Geotechnics Limited at the site of a proposed HVDC cable route to form part of a future interconnection between Great Britian and mainland Europe near Saxmundham, Suffolk. The investigation was carried out to the instructions of the Engineer, BakerHicks on behalf of the Client, National Grid Ventures. This report describes the work undertaken and presents the data obtained.

2.0 OBJECT AND SCOPE OF THE INVESTIGATION

The object of the investigation was to obtain information on the ground and groundwater conditions relating to the design of the proposed works within the limitations posed by exploratory hole numbers, locations, depths, methods adopted and the scope of approved in situ and laboratory testing. The investigation comprised cable percussive boreholes, trial pits, in situ and laboratory testing and reporting. A Factual Report was also commissioned.

An extract of the Brief for the project is included in Appendix 1. Due to land access restrictions, it was not possible to access the land to undertake four boreholes (numbered BHB14, BHB16, BHB17 and BHC11) and twenty-one Trial Pits (numbered TPB15, TPB17, TPB19 and TPC22-TPC39). One trial pit, numbered TPB28, was cancelled on the instruction of the Engineer. Due to deteriorating ground conditions, it was not possible to get to the investigation plant to four boreholes (numbered BHC05, BHC06, BHC09 and BHC10) and two trial pits (numbered TPC18 and TPC21). An attempt was made to get to Borehole BHC05 on the 30th September and BHC09 on the 7th October 2024, but neither was successful.

3.0 PRESENTATION

A description of the site and a summary of the procedures followed during the investigation process are presented in Sections 4 to 6. The factual data so obtained are presented in Appendices 2 to 14 of this report. Attention is drawn to the General Notes and Investigation Procedures presented in Appendix 15 to aid an understanding of the procedures followed and the context in which the report should be read.

The report is presented in electronic PDF format with the data presented in electronic format in accordance with "The Electronic Transfer of Geotechnical Data from Ground Investigations" published by the AGS (the AGS Format) are presented separately as a digital file.

4.0 THE SITE

4.1 Location

The route has been split into two Sections, numbered B and C, with Section B forming the southern part of the route, linking in with the planned Converter Station Site 3 at Saxmundham, with the route merging into Section C after approximately 7.6km as it travels north.

The southern most part of the Section B route of the site is located approximately 1.8km east of Saxmundham town centre. The route then trends to the northeast for approximately 4km before turning to the northwest, about 0.5km to the west of the village of Theberton. The route then continues for about 1.8km before turning north for another 0.8km

and ending 0.15km to the east of Middleton Moor village.

The route then changes to Section C and continues in a northeasterly direction for approximately 2.5km, curving round the Wilderness Woods to the east of at Darsham Village, before heading north for about 1.5km to just south of Hinton Springs, before trending northeast again, across a number of piggeries for approximately 2.5km before the route branches, about 0.35km to the east of Hinton Lodge. One branch heads north for approximately 0.8km before merging with Section D, while the other trends northwest for 1.10km before becoming Section E.

The approximate Ordnance Survey National Grid Reference for the southern point of Section B is TM 401 628 while the northern end is at TM 418 677 at which point the route changes to become Section C which branches at TM 449 732 with the northern branch ending at TM 450 741 and the northwestern route ending at TM 442 740. An extract from the relevant 1:50,000 Scale O.S. Map (Sheet No. 156) is included as Appendix 2.

4.2 Description

The Section B portion of the route crosses multiple farmers fields, most of which had been recently harvested or freshly drilled during the works. The route crosses the east-west trending a railway (Aldeburgh branch line). During the works ground conditions in this area were good, with most fields being dry through the works.

The Section C portion of the route also crosses multiple agricultural fields in the south. It crosses the Minsmere New Cut River in the southern part of the Section and the Dunwich River in the central part. Ground conditions during this phase of the works were wet, causing very soft ground conditions. The northern part of the route was not accessible due to no agreed land access but consisted of a number of fields used as piggeries.

Photographs of the site taken during the fieldwork are presented in Appendix 3.

4.3 Site Geology

The British Geological Survey website, https://geologyviewer.bgs.ac.uk/, accessed on 9th December 2024, shows the site to be underlain by the Crag Group comprising of sands of Neogene to Quaternary age. Overlying the bedrock, superficial deposits of the Lowestoft Formation (Diamicton) are shown covering most of the site. In the northern part of Section B, Lowestoft Formation comprising sand and gravel can be found just to the northwest of Theberton and again at Middleton Moor where the two Sections meet. Small outcrops of Head and Alluvium, both comprising clay, silt, sand and gravels are also shown in the Middleton Moor area.

Along Section C, the superficial deposits are shown to be more varied, with the Lowestoft Formation (Diamicton) dominating with areas of Lowestoft Formation (sand and gravels) present. A band of Peat, most likely associated with Minsmere New Cut River is located in the south with an east-west trend. In the central part of the Section, no superficial deposits are shown. Head, associated with the Dunwich River is mapped with another outcrop at the northern end just before the piggeries.

4.4 Hydrogeology

The Magic Maps website, https://magic.defra.gov.uk/MagicMap.aspx , accessed on 9th December 2024, shows the Crag Group to be a Principal Aquifer. For the superficial deposits, the Lowestoft Formation is shown as a Secondary (Undifferentiated) aquifer, the Head and Alluvium as a Secondary A aquifer with the peat being showing as an aquiclude.

5.0 PROCEDURE

5.1 Commissioning

The work was awarded following submission of a tender for work designed by the Engineer for a ground investigation of the site in accordance with the Client's requirements (see Appendix 1).

5.2 General

The procedures followed in this site investigation are based on BS 5930: 2015+A1:2020 – Code of Practice for Site Investigations and BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites. The soils and rocks encountered have been described in accordance with BS5930:2015+A1:2020, BS EN ISO 14688-1:2018 and BSEN ISO 14689:2018. The Cable Percussive Borehole and Trial Pit Records are included in Appendices 4 and 5 and their approximate positions are shown on the Exploratory Hole Location Plan in Appendix 6.

The Exploratory Hole locations were specified by the Engineer. The co-ordinates and levels shown on the Exploratory Hole Records were measured using a Leica GPS survey device. The depths quoted on the exploratory hole records are in metres below ground level (bgl).

Prior to the investigation, a survey was carried out by Diamond Drilling Solutions and EOD Contracts Limited utilising ground penetrating radar (GPR) to check for the presence of buried services at the proposed exploratory hole locations covering borehole locations BHB01 to BHB10 and trial pit locations TPB01 to TPB10.

5.3 Archaeology

Before the works were undertaken a Written Schemes of Investigation (WSI) was produced by Cotswold Archaeology and approved by Suffolk County Council Archaeological Service (SCCAS) to detail the methodology for geoarchaeological works. During the excavation of the trial pits and inspection pits of specified boreholes in sensitive areas, a trained archaeologist undertook a watching brief to check for anything of archaeological importance. Any finds were processed and quantified and are detailed in the Archaeological report in Appendix 14 before being deposited with SCCAS. Furthermore, a geoarchaeological deposit model has been created from information recovered from the boreholes and trial pits.

5.4 Explosive Ordnance Clearance

Historical information provided by the Engineer indicated the presence of the historical RAF Leiston site beneath part of the site and in order to reduce the risk of any buried munitions being found during drilling or excavation, exploratory hole locations BHB13, TPB12-TPB14 and TPB16 was cleared by a Specialist Company, EOD Contracts Limited before commencement of the ground investigation operations. The clearance works were carried out by an Explosive Ordnance Detection (EOD) Engineer. Observational methods, in conjunction with careful excavation and the use of a hand-held magnetometer were used for the trial pits. The cable percussive borehole was cleared progressively in 1m stages. A hand-held magnetometer was lowered down the borehole, following removal of the steel casing and insertion of a plastic pipe, allowing a 1m zone below the base of the borehole to be cleared. This allowed a further 1m advancement of the borehole followed by a repeat of the checking procedure. This continued until a depth was reached at which the EOD Engineer judged that the risk of ordnance being present was low and the drilling could continue in the usual manner to the scheduled depth.

5.5 Boreholes

Twenty nine (29 No.), boreholes (numbered BHB01-BHB13, BHB15, BHB18-BHB24, BHC01-BHC04, BHC07-BHC08, BHB03A and BHB06A), up to 200mm diameter, were sunk by Cable Percussion Tool techniques to depths varying between 0.80m and 15.45m bgl. The work was carried out between the 29th August and 8th October 2024.

At each exploratory hole location an inspection pit was excavated using hand tools to a depth of 1.20m bgl to check for the presence of underground services. Prior to and on completion of the excavation, the location was scanned using a cable avoidance tool (CAT). The inspection pit for boreholes BHB19 and BHC02-BHC04 were expanded around the boreholes to clear a 1.00mx1.00m area of any archaeological finds before a length of casing was inserted and the hole backfilled around the casing to allow drilling to commence. These pits were supervised by a trained Archaeologist.

At borehole BHB03 a plastic duct was found at 0.80m depth. The hole was backfilled and the location moved to BHB03A. At Borehole BHB06 the split spoon from the Standard Penetration Test (SPT) sheared off the base of the rods and became wedged sideways down the hole at 5.00m depth resulting in the hole being backfilled and redrilled as BHB06A.

Aquifer protection measures were employed when drilling the boreholes in order to preclude the creation of a pathway for contamination to migrate down towards the underlying aquifer. These protection measures comprised using 200mm diameter casing and tools to drill to the top of the bedrock, then by installing a 1.00m thick bentonite plug, prior to reducing to 150mm diameter casing and tools and re-commencing drilling.

Representative disturbed (D and B) samples of the soils encountered were obtained at regular intervals. Additional samples for Agricultural Analysis (AG) were obtained where specified by the Engineer at the depths indicated on the Borehole Records. Standard Penetration Tests (SPTs) were undertaken at the depths indicated on the borehole records in accordance with BS EN ISO 22476-3:2005+A1:2011 to obtain a measure of the engineering properties of the proved strata. In addition, environmental soil samples (ES) were recovered at the depths indicated on the Borehole Records.

No defined groundwater strikes were encountered in most of the boreholes, most likely due to the addition of water to the borehole as part of the drilling process. Where water was added it has been noted on the Borehole Records. On encountering groundwater in boreholes BHB04 and BHC01, boring operations were suspended for 20 minutes in order to record any rise in water level. Full details of groundwater observations during site work are included on the Borehole Records

On completion, standpipes were installed in all the boreholes (with the exceptions of BHB03 and BHB06 which were both backfilled with bentonite and topped with arisings) with a protective fence erected (see Section 5.11).

5.6 Trial Pits

Forty eight (48 No.) Trial Pits (numbered TPB01-TPB14, TPB16, TPB18, TPB20-TPB27, TPB29-TPB33, TPC01-TPC17 and TPC19-TPC20) were excavated to depths varying between 2.20m and 3.00m bgl using a wheeled excavator between the 2nd September and 8th October 2024. This work was supervised on site by a geotechnical engineer and trained Archaeologist.

Part way through the works the Engineer instructed the separation of the topsoil from the subsoils to prevent cross contamination. A 3.00x3.00m pit was opened at surface at the locations of TPB21-TPB27, TPB30-TPB33, and TPC01-TPC17 and TPC19-TPC20. Topsoil was stored to the side of the pit. Once below the level of the topsoil, the pit was

continued at a width of between 0.59m to 0.60m allow full depth of trial pit to be achieved. The arisings from soils below the topsoil were then stored within the 3.00x3.00m footprint.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Representative samples were taken, where appropriate, for laboratory examination and analysis and in addition, Environmental samples (ES) were recovered at the depths indicated on the Trial Pit Records. Samples were taken directly from excavated materials deposited at the surface. Groundwater observations and trench stability notes are included on the Trial Pit Records. Photographs of the pits are presented in Appendix 5.

5.7 PID Meter Readings

Photo-ionisation detection (PID) tests were undertaken during the drilling of the boreholes and the excavation of the trial pits by testing the headspace of the recovered ES samples. The tests were carried out using a suitably calibrated MiniRAE 2000 PID Meter fitted with a 10.6eV UV lamp. The results of the PID tests are presented on the Exploratory Hole Records with the readings reported as Volatile Organic Compounds (VOCs) recorded in parts per million.

5.8 Hand Vane Tests

Hand vane tests were carried out to obtain a measure of the undrained shear strength of cohesive soils within the trial pits and borehole inspection pits at the depths indicated on the Exploratory Hole Records. In the trial pits and inspection pits, tests were taken in the sides of the pit where it was possible to reach from surface, otherwise they were carried out on intact blocks of the excavated soil deposited at the surface. Typically, each test comprised three measurements of the undrained shear strength with the mean value being reported. The hand vane tests were carried out using an EDECO Pilcon Hand Vane in accordance with the manufacturer's instructions and the results reported in kN/m^2.

5.9 Dynamic Cone Penetration Tests

Forty-eight (48 No.) Dynamic Cone Penetration (DCP) Tests were carried out adjacent to all the Trial Pits. The tests were commenced from Ground Level and were performed to give an indication of CBR values at shallow depths to aid pavement design. The test comprises the measurement of increments of penetration of a 60° cone driven into the ground using an 8kg hammer falling a distance of 575mm. The CBR is obtained from the relationship between the CBR and the DCP readings.

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{mm/blow})$$

as defined in the Design Manual for Roads and Bridges Document CS229 Revision 0, March 2020, published by Highways England. The test results are presented in Appendix 7.

5.10 Thermal Resistivity Tests

Thermal Resistivity Testing was undertaken by Geotechnics Ltd within all Trial Pits at depths of 0.60m in both long faces of the pit and at 1.50m in the base of the pit. Testing was undertaken using a TEMPOS Thermal Properties Meter utilising a TR-3 probe sensor following the method and requirements of IEEE 442-2017 'Guide for Thermal Resistivity Measurements of Soils and Backfill Materials'. In Trial Pits TPB20, TPB22, TPB23, TPB25 it was not possible to insert the probe into the pit wall due to the high consistency of the material present. The test was therefore preformed in material deposited at surface as instructed by the Engineer.

The results of the Thermal Resistivity Tests are presented in Appendix 8.

5.11 Instrumentation and Monitoring

Long-term monitoring of the gas and groundwater levels was made possible by the installation of standpipes as follows:

Exploratory Hole	Standpipe Slotted Pipe & Filter Zone (m)	Exploratory Hole	Standpipe Slotted Pipe & Filter Zone (m)
BHB01	8.00-15.00	BHB18	6.50-14.50
BHB02	2.50-7.50	BHB19	2.00-8.00
BHB03A	3.00-10.00	BHB20	2.00-12.00
BHB04	7.00-9.00	BHB21	2.00-7.50
BHB05	7.00-13.00	BHB22	9.00-14.50
BHB06A	2.00-8.00	BHB23	2.00-12.00
BHB07	10.00-14.50	BHB24	4.00-14.00
BHB08	2.00-8.00		
BHB09	5.00-14.50	BHC01	6.50-15.00
BHB10	2.00-5.00	BHC02	2.00-8.00
BHB11	2.00-9.00	BHC03	10.00-15.00
BHB12	9.50-14.50	BHC04	5.00-14.00
BHB13	2.00-8.00	BHC07	2.00-6.50
BHB15	3.00-7.00	BHC08	5.00-14.00

On each of the monitoring visits a record of the groundwater level in the standpipes was obtained. During the weeks commencing 20th January, 27th January and 10th February 2025, where water was recorded, samples were obtained following purging of water in the standpipes. The following parameters were recorded using a multi-parameter flow cell during purging which continued until such time as the parameters reached a steady level.

- Temperature (°C)
- Electrical Conductivity (µS/cm)
- Dissolved Oxygen Concentration (%)
- pH
- Redox Potential (mV)

In addition to the groundwater levels, the following parameters were measured and recorded using a GFM435 Gas Analyser:-

- Concentrations (% Vol) of CH4, O2, CO2, CH4 and (ppm) H2S, CO
- Flow Rate
- Differential Pressure
- Barometric Pressure
- Air Temperature

The results of the monitoring are presented in Appendix 9.

At the end of the monitoring period all boreholes were decommissioned between the 24th and 26th February and the 10th and 14th March 2025. For full decommissioning records see Appendix 10.

6.0 LABORATORY TESTING

6.1 Geotechnical

The laboratory testing schedule was specified by the Engineer in order to relate to the proposed development. Unless otherwise stated, the tests were carried out in Geotechnics Limited's UKAS accredited Laboratory (Testing No. 1365) and were undertaken in accordance with the appropriate Standards as indicated below and on the Laboratory Test Certificate in Appendix 11. Any descriptions, opinions and interpretations are outside the scope of UKAS accreditation.

The tests undertaken can be summarised as follows:-

Standard	Test Description	Quantity
BS EN ISO 17892-1:2014	Water Content Determination	111
BS EN ISO 17892-4:2016	Particle Size Distribution Determination – Sieving Method	96
	Particle Size Distribution Determination – Pipette Method	50
BS EN ISO 17892-8:2018	Unconsolidated Undrained Triaxial Test – Single Stage	30
BS EN ISO 17892-12:2018	Determination of Liquid and Plastic Limits	105
BS 1377:1990 Part 2: 8.2	Particle Density Determination – Gas Jar Method	1
BS EN ISO 17892-3:2015	Particle Density Determination – Fluid Pycnometer	21
BS 1377:1990 Part 4: 3.3	Dry Density/Moisture Content relationship determination. Compaction Test - British Standard (2.5 kg Hammer)	23
BS 1377:1990 Part 4: 7	California Bearing Ratio (CBR) Measurement - recompacted - soaked	24
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	48
-	Shear Strength by Hand Vane	4

The following testing was carried out at the laboratories of Normec DETS Limited (UKAS Accredited Laboratory, Number 2139).

Test Description	Quantity
BRE Special Digest 1 Suite comprising:- Soluble Sulphate pH	39
pH	48
Organic Matter	4
Asbestos in soil screen	4

6.2 Contamination

Selected samples of soil and groundwater were tested at the laboratories of Normec DETS Limited for a number of determinands in order to check on potential site contamination. The determinands were specified by the Engineer and are detailed on the results sheets in Appendices 12 and 13 together with the test result as well as the test method, accreditation and detection limit.

In addition, a number of leachate samples were also prepared from selected soil samples in accordance with the NRA Leachate Protocol and analysed for the determinants detailed on the results sheets in Appendix 12.

Waste Acceptance Criteria (WAC) analyses were also carried out on selected samples, including tests on solid waste and two stage leaching tests on eluates. The determinands tested for are detailed on the results sheets in Appendix 12.

The tests undertaken can be summarised as follows:-

Test Description	Quantity
Suite E1 (Soil Samples)	96
Suite E2 (Standard Leachate Analyses)	31
Suite J (Inert Waste Landfill)	19
Pesticides and Herbicides	30
Suite F (Water Samples)	13

Signed for and on behalf of Geotechnics Limited.

Prepared by:

Lucy Chapman
MGeol
Senior Engineer

Reviewed by:

Trevor Hardie
BSc, MSc, DIC, CEng, MICE
Chief Geotechnical Engineer

APPENDIX 1

The Brief

APPENDIX 1

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GROUND INVESTIGATION SPECIFICATION: CABLE SECTIONS B & C

NG Onshore Civil Design - LionLink

REFERENCE: **30002884-BHK-01-DC-SP-C-0001**

Prepared for:

National Grid Ventures

24 July 2024

BakerHicks.

Schedule 1: Introduction and site specific requirements

S1.1 Name of Contract

The Contract is called LionLink: Cable Sections B & C.

S1.2 Investigation Supervisor

The Investigation Supervisor and Principal Contractor shall be BakerHicks, 5th Floor, Anchorage 2, Salford Quays, Manchester, M50 3YW.

The Investigation Supervisor is to be consulted before any hole is moved, if unexpected conditions are encountered or if holes are terminated at depths shallower than planned.

S1.3 Description of site

The entire proposed LionLink cable route is approximately 40km in length, trending generally north-south connecting landfalls on the Suffolk coast to converter station and substation sites around Friston, Suffolk. The proposed route has been split up into six sections A to F, with Section A being the most southerly and F being the most northerly. This ground investigation (GI) specification is solely for Sections B & C of the LionLink cable route. Sections A and D to F of the cable route, the landfalls and convertor station sites are considered in separate specifications.

Section B

The proposed Section B cable route is approximately 7.6km in length running between Converter Station Site 3 (CS3) near Saxmundham at the southern end to meet Section C in agricultural fields near Middleton Moor at the northern end. The proposed cable route is outlined in Figure 1 along with the position of CS3 (outlined in red). The proposed cable route has been divided into sub sections B1, B2, B3 and B4 as shown in Figure 1.

An approximate grid reference for the northern end of the route is E:641984, N:267831 and for the southern end of the route is E:639929, N:262773.

The proposed cable route currently crosses through multiple agricultural fields some of which are lined with trees/hedgerows. The cable route also crosses nine roads (orange stars on Figure 1) all of which are either B roads or smaller named/unnamed roads. At E:641295, N:263842, the proposed route crosses an existing single track railway line named the Aldeburgh branch line.

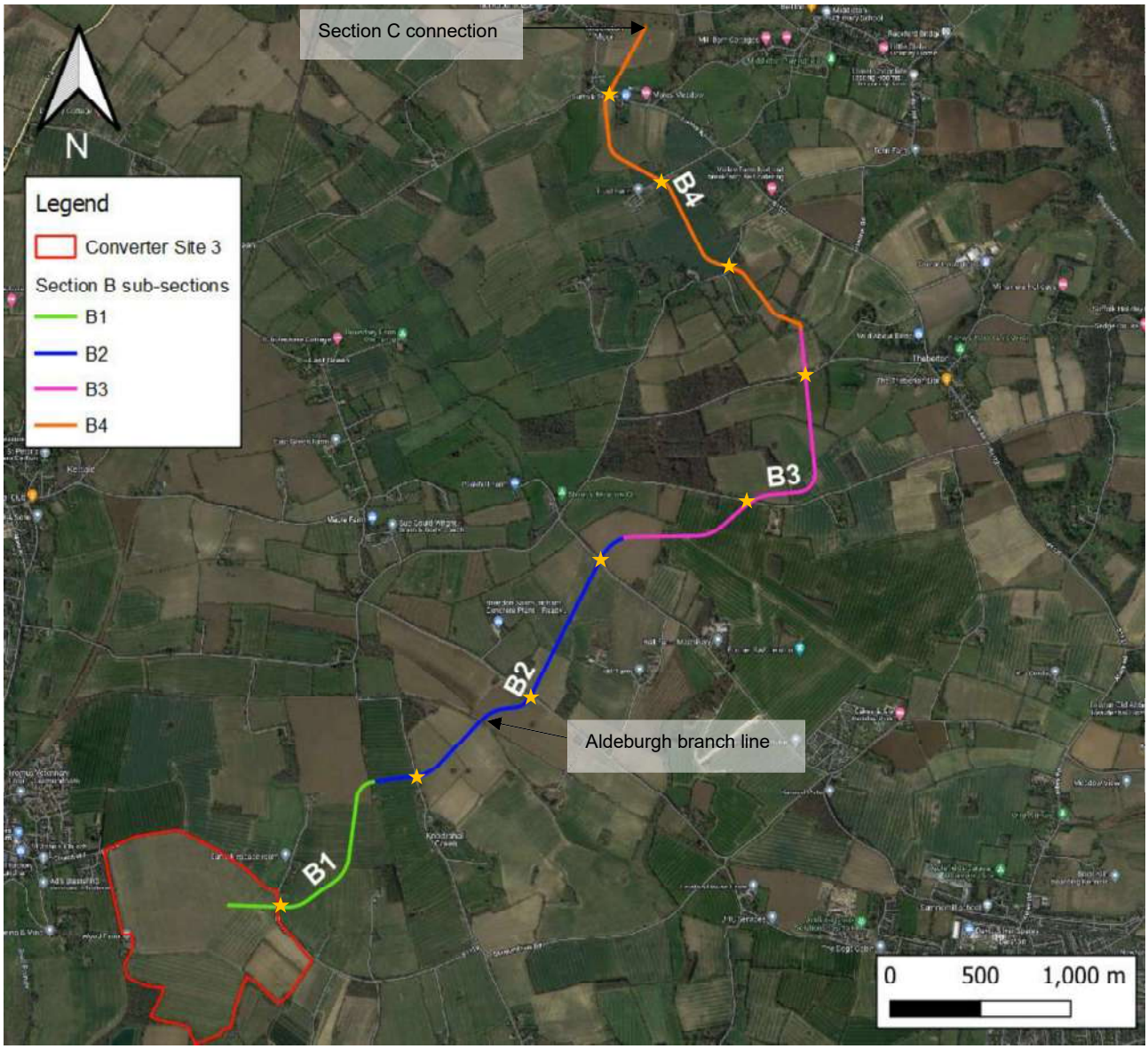


Figure 1: Site location plan for Section B cable route and sub sections.

Section C

The proposed Section C cable route is approximately 9.6km in length. The route splits in a 'Y' shape after approximately 8km at the northern end with one arm trending eastwards for approximately 650m to connect with Section D, and the other arm heading northwest for approximately 425m to connect with Section E. The grid reference for the southern end is E:641995, N:267751, and for the northern end is E:644401, N:274209. The proposed cable route is outlined in Figure 2.

The proposed cable route currently crosses through several agricultural fields with trees and shrubs along hedgerows. Public footpaths intersect the cable route at:

- E:641990, N:267807
- E:642339, N:268189
- E:643242, N:271242
- E:644042, N:271968
- E:644382, N:272570
- E:644655, N:273486
- E:644715, N:273928

The cable route between E:644655, N:273486 and E:644639, N:274105 is parallel to a public footpath.

The cable route crosses multiple features, indicated on Figure 2 and described as follows:

- Several minor road crossings (orange star):
- Major flood plain and river crossings (Minsmere River) (blue star);
- Land drain (black star).

The A12 runs generally parallel to the cable route, more than 1km west generally, nearing to 100m at the northern end of the route.

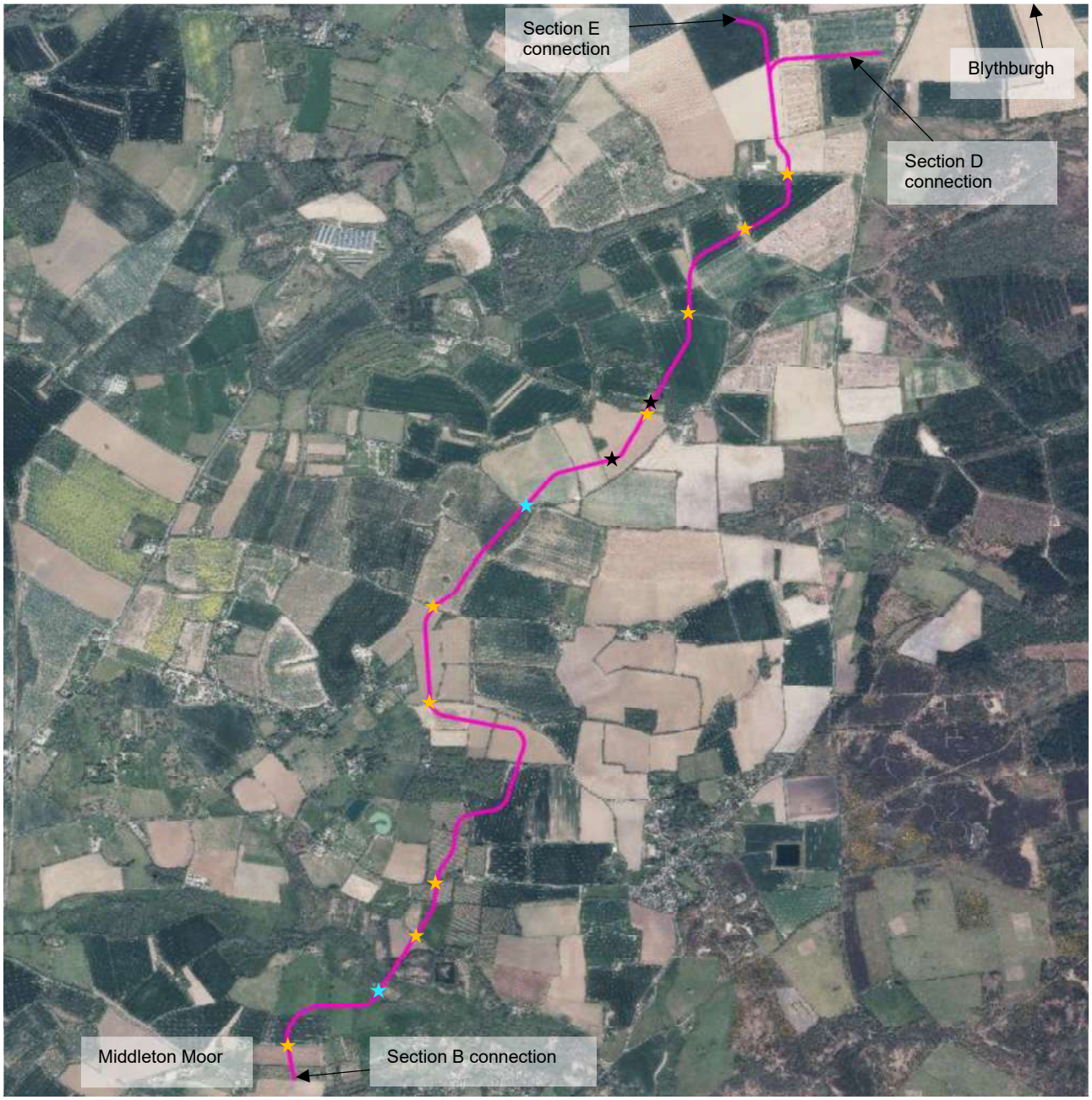


Figure 2: Site location plan for Section C cable route (pink)

S1.4 Main works proposed and purpose of this contract

National Grid Ventures (NGV) has appointed BakerHicks to complete a Front-End Engineering and Design (FEED) study, the aim of which is to consider an HVAC/HVDC cable route and associated new landfall sites. The works form part of a future interconnection between Great Britain and mainland Europe. The onshore development also forms part of National Grid's future electricity network and 2050 net zero carbon goals.

LionLink is a proposed HVDC Offshore Hybrid Asset (OHA) project to connect the GB network with the Netherlands with a connection agreement in the Sizewell area.

This document specifies the GI requirements for Sections B & C of the cable route. The GI specifications for Sections A, and D to F of the cable route are in separate documents.

The proposed GI for this scheme is presented in Schedule 2. The Bill of Quantities for the proposed works is included in this document.

The Cable Sections B & C are proposed to be constructed via Open Trench and Horizontal Directional Drilling (HDD), expected to be at maximum depths of 2m and 10m respectively.

S1.5 Objective and Scope of the Investigation

This ground investigation has been designed to support a FEED Study to understand the ground risks at the site. It has not been designed to undertake detailed design and is not considered robust enough to undertake such designs. When the scheme design progresses, it is envisaged and recommended that further investigations are undertaken to support such designs.

This specification outlines the geotechnical investigation requirements in support of the continuation of the optioneering and FEED design process.

The aim of this ground investigation is shown below:

- To obtain geotechnical information along the proposed cable route;
- To investigate the nature and depth of any superficial deposits and bedrock geology;
- To collect samples for geotechnical testing to provide material properties of the strata at the site;
- To collect samples for geo-environmental testing to determine the presence and level of contamination at the site;
- To collect samples for agricultural land classification;
- To understand the thermal resistivity and pH of the ground;
- To provide information on the groundwater conditions of the site;
- To obtain California Bearing Ratio (CBR) values;
- To provide information to inform the drilling method / excavation method;
- To classify materials for reuse in earthworks.

Plans showing the proposed GI locations are included in Appendices A and B. The scope of the investigation is as detailed below:

- 35 No. cable percussive boreholes to a depth of 15m.
- Standard Penetration Testing / UT100 sampling in boreholes.
- 72 No. machine excavated trial pits to a maximum depth of 3m.
- Dynamic Cone Penetrometer (DCP) tests at all trial pit locations to obtain California Bearing Ratio (CBR)
- In situ hand shear vanes in all trial pits and inspection pits.
- 3 No. In situ soil thermal resistivity tests in each trial pit, with 2 No. along the sides of the pit at a depth of 0.6m and 1 No. in the centre of the pit at a depth of 1.5m.
- Geotechnical Sampling and Testing.
- Geo-environmental Sampling and Testing.
- Surveying of all the exploratory hole locations.
- Groundwater and ground gas monitoring.
- Factual Ground Investigation Reporting – one report for Section B and one report for Section C.
- AGS data.

S1.6 Geology and ground conditions

The following sources of information have been reviewed and discussed below.

- British Geological Survey, 1:50,000 Series, Sheet 191 Saxmundham, Solid and Drift, 1996
- British Geological Survey, 1:10,000 Series, Sheet TM46NW (Westleton), Solid and Drift, 1992.
- British Geological Survey, 1:10,000 Series, Sheet TM46SW (Leiston), Solid and Drift, 1991
- British Geological Survey, 1:10,000 Series, Sheet TM36SE (Saxmundham), Solid and Drift, 1991
- British Geological Survey, 1:10,000 Series, Sheet TM47SW (Thorington), Solid and Drift, 1992
- BGS GeoIndex (Onshore)

The cable route crosses several lithologies through sections B & C summarised below.

Section B

Artificial ground: The 1:10,000 BGS mapping record 24 areas of either worked ground or worked ground & made ground within 500m of the site, some of which are directly on the route at approximately E: 641710, N: 264358, E:642245, N:266618, and E: 641910, N: 267650.

Superficial deposits: The 1:50,000 BGS mapping indicates that the geology along the cable route comprises Head - Clay, Silt, Sand and Gravel; Lowestoft Formation – Diamicton; Lowestoft Formation - Sand and Gravel; and Alluvium - Clay, Silt, Sand and Gravel. There were also some areas where no superficial deposits are mapped.

Bedrock geology: The 1:50,000 BGS mapping indicates that the geology along the cable route comprises Crag Group – Sand. The sands are characteristically dark green from glauconite but weather bright orange with haematite iron pans.

Section C

Artificial ground: There are several areas of artificial ground recorded on the 1:10,000 and 1:50,000 BGS mappings in the vicinity of the cable route. One area of artificial ground is denoted on 1:10,000 mapping as intersecting with the proposed cable route between E:644620, N:273238 and E:644622, N:273264, this corresponds with the gravel pit noted on the 1883-1884 1:10,560 map.

Superficial deposits: The 1:50,000 BGS mapping shows that the geology along the cable route comprises Lowestoft Formation - Sand and Gravel; Lowestoft Formation – Diamicton; Head - Clay, Silt, Sand and Gravel; and Peat – dark organic Silt. There were also some areas where no superficial deposits are mapped.

Bedrock geology: The 1:50,000 BGS mapping shows that the geology along the cable route comprises Crag Group – Sand, and Crag Group – Gravel. The sands are characteristically dark green from glauconite but weather bright orange with haematite iron pans.

S1.7 Schedule of drawing(s) and documents

The following elements are included in this document:

- Bill of Quantities for Ground Investigation
- Appendix A: Ground Investigation Plan – Cable Section B
- Appendix B: Ground Investigation Plan – Cable Section C

Name of contract LionLink: Cable Sections B & C
Anticipated drift geology Made ground; Head – Clay, Silt, Sand and Gravel; Lowestoft Formation – Diamicton; Lowestoft Formation – Sand and Gravel; Alluvium – Clay, Silt, Sand and Gravel; Peat – dark organic Silt
Anticipated solid geology Crag Group – Sand and Gravel
BDA Category of site Green
UXO Risk category Low

Schedule 2

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
Section B							
BHB01	CP	15	640155	262775	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHB02	CP	15	640248	262776	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB03	CP	15	640871	263570	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB04	CP	15	640964	263603	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB05	CP	15	641235	263809	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHB06	CP	15	641301	263884	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB07	CP	15	641501	263981	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB08	CP	15	641553	264067	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB09	CP	15	641695	264382	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB10	CP	15	641746	264467	SPT / UT100 PID	50mm Standpipe and gas tap	

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
BHB11	CP	15	641889	264694	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHB12	CP	15	641961	264760	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB13	CP	15	642679	265113	SPT / UT100 PID	50mm Standpipe and gas tap	Historic RAF Leiston site - Possible UXO
BHB14	CP	15	642760	265171	SPT / UT100 PID	50mm Standpipe and gas tap	Historic RAF Leiston site - Possible UXO
BHB15	CP	15	642980	265810	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB16	CP	15	642950	265906	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB17	CP	15	642862	266050	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB18	CP	15	642734	266177	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHB19	CP	15	642605	266325	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHB20	CP	15	642489	266419	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB21	CP	15	642159	266868	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB22	CP	15	641939	266974	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB23	CP	15	641808	267311	SPT / UT100 PID	50mm Standpipe and gas tap	
BHB24	CP	15	641892	267509	SPT / UT100 PID	50mm Standpipe and gas tap	

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPB01	TP	3	640409	262852	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB02	TP	3	640541	262993	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB03	TP	3	640592	263181	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB04	TP	3	640609	263380	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPB05	TP	3	640731	263534	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB06	TP	3	641111	263669	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB07	TP	3	641421	263944	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB08	TP	3	641601	264201	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB09	TP	3	641677	264353	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB10	TP	3	641800	264553	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB11	TP	3	642049	264841	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB12	TP	3	642161	264942	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historic RAF Leiston site - Possible UXO

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPB13	TP	3	642378	264976	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historic RAF Leiston site – Possible UXO
TPB14	TP	3	642559	265039	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historic RAF Leiston site - Possible UXO
TPB15	TP	3	642899	265202	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historic RAF Leiston site - Possible UXO
TPB16	TP	3	643043	265306	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required. Historic RAF Leiston site - Possible UXO
TPB17	TP	3	643031	265491	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB18	TP	3	642999	265690	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB19	TP	3	642904	265982	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB20	TP	3	642473	266442	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB21	TP	3	642440	266513	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPB22	TP	3	642423	266548	Thermal resistivity DCP for CBR Hand vanes PID	N/A	

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPB23	TP	3	642396	266574	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB24	TP	3	642359	266609	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPB25	TP	3	642298	266666	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB26	TP	3	642194	266810	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB27	TP	3	641863	267017	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB28	TP	3	641809	267206	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB29	TP	3	641808	267260	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPB30	TP	3	641837	267367	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB31	TP	3	641893	267534	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB32	TP	3	641896	267643	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPB33	TP	3	641899	267716	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
Section C							
BHC01	CP	15	642436	268206	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
BHC02	CP	15	642613	268517	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHC03	CP	15	642682	268641	SPT / UT100 PID	50mm Standpipe and gas tap	
BHC04	CP	15	642826	268767	SPT / UT100 PID	50mm Standpipe and gas tap	
BHC05	CP	15	643092	268966	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHC06	CP	15	643133	269889	SPT / UT100 PID	50mm Standpipe and gas tap	
BHC07	CP	15	643054	269902	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHC08	CP	15	643077	271307	SPT / UT100 PID	50mm Standpipe and gas tap	
BHC09	CP	15	643150	271372	SPT / UT100 PID	50mm Standpipe and gas tap	
BHC10	CP	15	643900	271772	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
BHC11	CP	15	644006	271979	SPT / UT100 PID	50mm Standpipe and gas tap	Agricultural samples required
TPC01	TP	3	641903	267826	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC02	TP	3	641906	267924	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC03	TP	3	642020	268070	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC04	TP	3	642246	268075	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPC05	TP	3	642750	268700	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC06	TP	3	643104	269137	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC07	TP	3	643135	269326	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC08	TP	3	643164	269478	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC09	TP	3	643208	269673	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC10	TP	3	642825	269943	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC11	TP	3	642720	270101	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC12	TP	3	642703	270299	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC13	TP	3	642687	270500	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC14	TP	3	642688	270706	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC15	TP	3	642793	270882	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC16	TP	3	642919	271088	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC17	TP	3	643015	271222	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPC18	TP	3	643362	271419	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC19	TP	3	643543	271464	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC20	TP	3	643634	271488	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC21	TP	3	643800	271580	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC22	TP	3	644110	272179	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC23	TP	3	644194	272397	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC24	TP	3	644232	272455	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC25	TP	3	644272	272510	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC26	TP	3	644305	272559	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC27	TP	3	644360	272639	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC28	TP	3	644522	272855	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC29	TP	3	644627	272974	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC30	TP	3	644717	273076	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

Hole Number	Type	Scheduled Depth (m)	National grid reference*		In situ Testing	Installations	Remarks
			Easting	Northing			
TPC31	TP	3	644863	273246	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC32	TP	3	644858	273424	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC33	TP	3	644848	273564	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC34	TP	3	644834	273772	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC35	TP	3	644906	273980	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC36	TP	3	644716	273479	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC37	TP	3	644560	273643	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required
TPC38	TP	3	644397	273815	Thermal resistivity DCP for CBR Hand vanes PID	N/A	
TPC39	TP	3	644239	273985	Thermal resistivity DCP for CBR Hand vanes PID	N/A	Agricultural samples required

*Approximate only. To be confirmed by the Investigation Supervisor during the fieldwork



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Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

Revision	Description	Drawn	Date	Checked	Approved
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Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

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2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.
2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
5. Historic RAF Leiston site - Possible UXO and/or radiation.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

Revision	Description	Drawn	Date	Checked	Approved
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2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.
5. Historic RAF Leiston site - Possible UXO and/or radiation.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

Revision	Description	Drawn	Date	Checked	Approved
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4. Historical pit, possible infilled material.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

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BHB22
BHB21
TPB26
1
4
TPB25
TPB24
TPB23
TPB22
TPB21
2
TPB20
BHB20
3
BHB19
BHB18
0 50 100 200 Meters
N

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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.
2. Hostility from members of the public opposed to the project.
3. Livestock may have been present in field.
4. Historical pit, possible infilled material.



Section_B_SHE_Hazards
Section_B_Boreholes_20240613
Section_B_Trial_Pits_20240613

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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.

4. Historical pit, possible infilled material.

6. Flood Zone 3 - potentially saturated ground.



Section_B_SHE_Hazards

Section_B_Boreholes_20240613

Section_B_Trial_Pits_20240613

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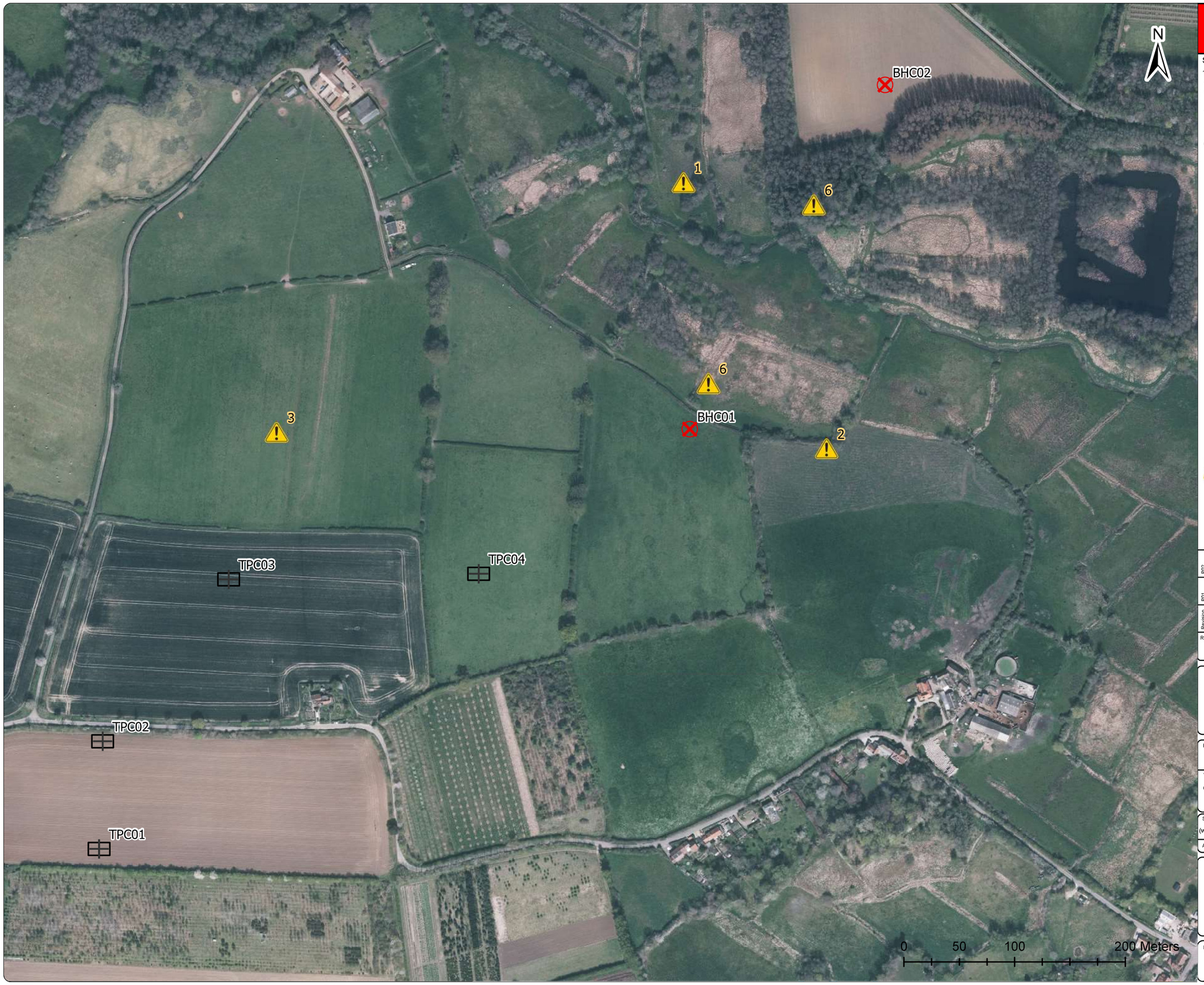
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Appendix B: Ground Investigation Plan – Cable Section C



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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.

6. Flood Zone 3 - potentially saturated ground.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
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1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

5. No holes to be within 15m of Overhead line (OHL)



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
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Title: LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 3 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

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Project number	Drawing number	Revision
30002884	30002884-BHK-01-DC-SP-C-0001	P02



Health & Safety
CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	12/03/2024	HG	PDH
P01	FIRST ISSUE	NA	12/03/2024	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project
NGV Onshore Civil Design

Title
LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 4 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

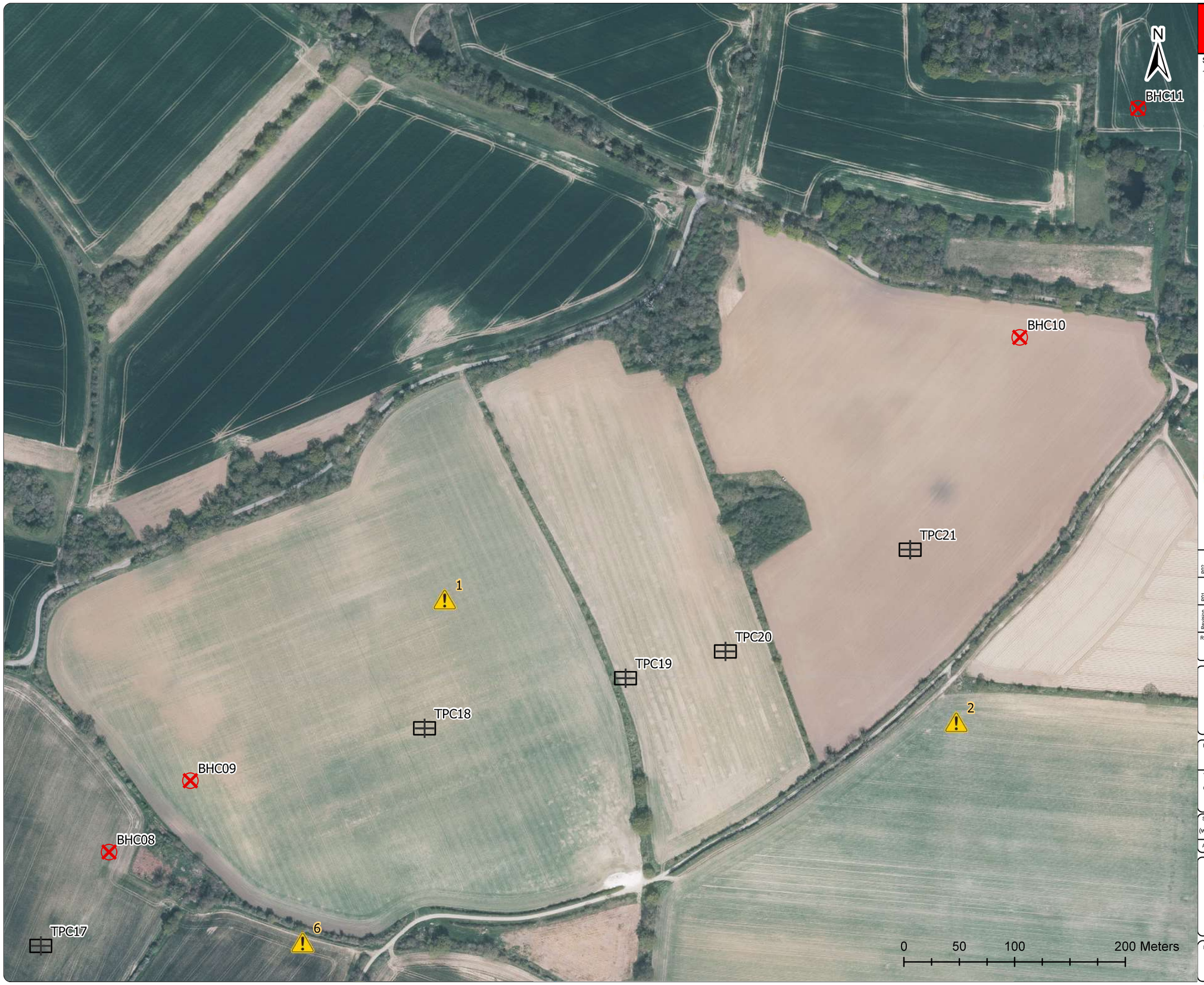
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Project number	Drawing number	Revision
30002884	30002884-BHK-01-DC-SP-C-0001	P02



Health & Safety
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Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

6. Flood Zone 3 - potentially saturated ground.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	23/05/2024	HG	PDH
P01	FIRST ISSUE	NA	12/03/2024	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project
NGV Onshore Civil Design

Title
LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 5 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

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30002884	30002884-BHK-01-DC-SP-C-0001	P02



Health & Safety
CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	12/03/2024	HG	PDH
P01	FIRST ISSUE	NA	12/03/2024	HG	PDH

Revisions

FOR INFORMATION

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Project
NGV Onshore Civil Design

Title
LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 6 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

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Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.

4. Historical / Registered Landfill Site.

7. Historical Pits - possible infilled ground.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	12/03/2024	HG	PDH
P01	FIRST ISSUE	NA	12/03/2024	HG	PDH

Revisions

FOR INFORMATION

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Project: NGV Onshore Civil Design

Title: LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 7 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

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CDM Regulations 2015

Significant risk associated with this drawing are identified below.

1. Presence of services along entire section to be considered once STATs information is provided. Service avoidance is the contractor's responsibility.

2. Hostility from members of the public opposed to the project.

3. Livestock may have been present in field.

7. Historical Pits - possible infilled ground.



Section_C_SHE_Hazards

Section_C_Boreholes_20240703

Section_C_Trial_Pits_20240703

Revision	Description	Drawn	Date	Checked	Approved
P02	SECOND ISSUE - Updated cable route alignment.	NA	12/03/2024	HG	PDH
P01	FIRST ISSUE	NA	12/03/2024	HG	PDH

Revisions

FOR INFORMATION

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Project
NGV Onshore Civil Design

Title
LIONLINK
CABLE ROUTE SECTION C - PROPOSED GROUND INVESTIGATION LOCATIONS
PAGE 8 OF 08

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 12/03/2024	Date 12/03/2024	Date 12/03/2024

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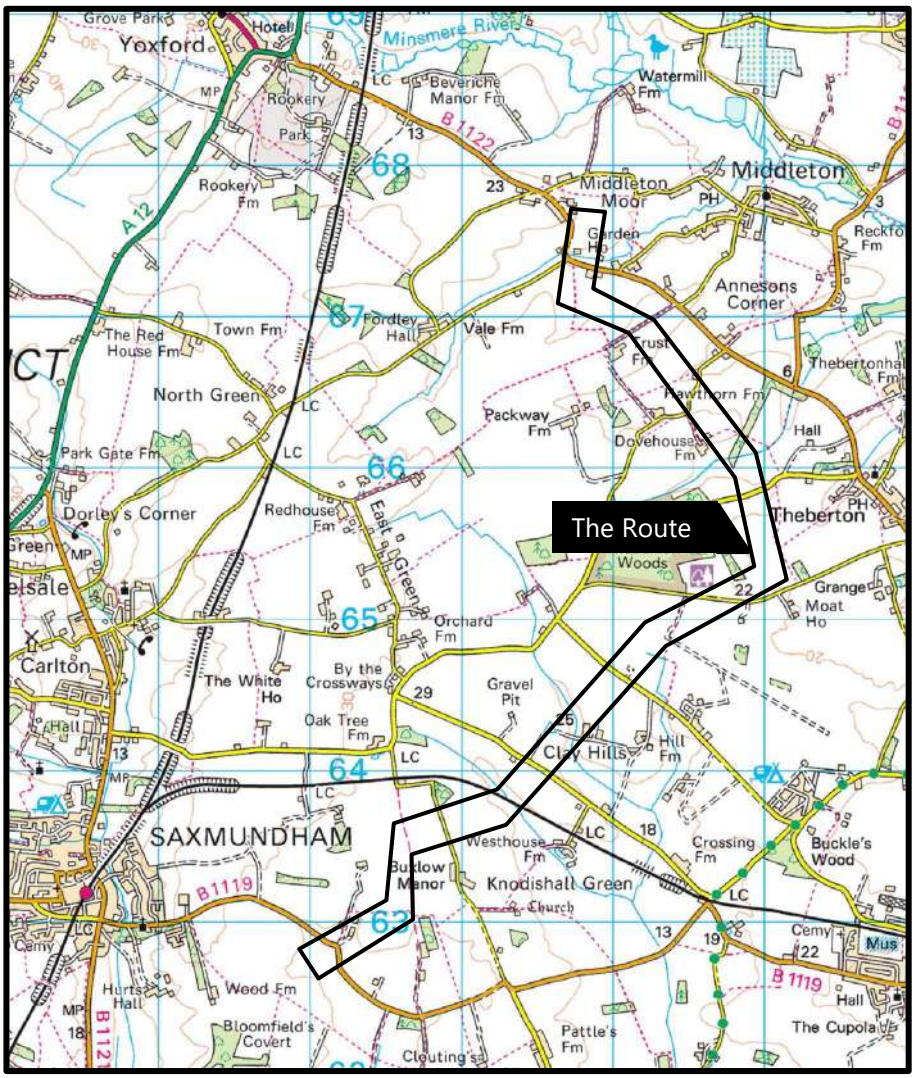
APPENDIX 2

Site Location Plan

APPENDIX 2

GEOTECHNICS
BUILD ON CONFIDENCE

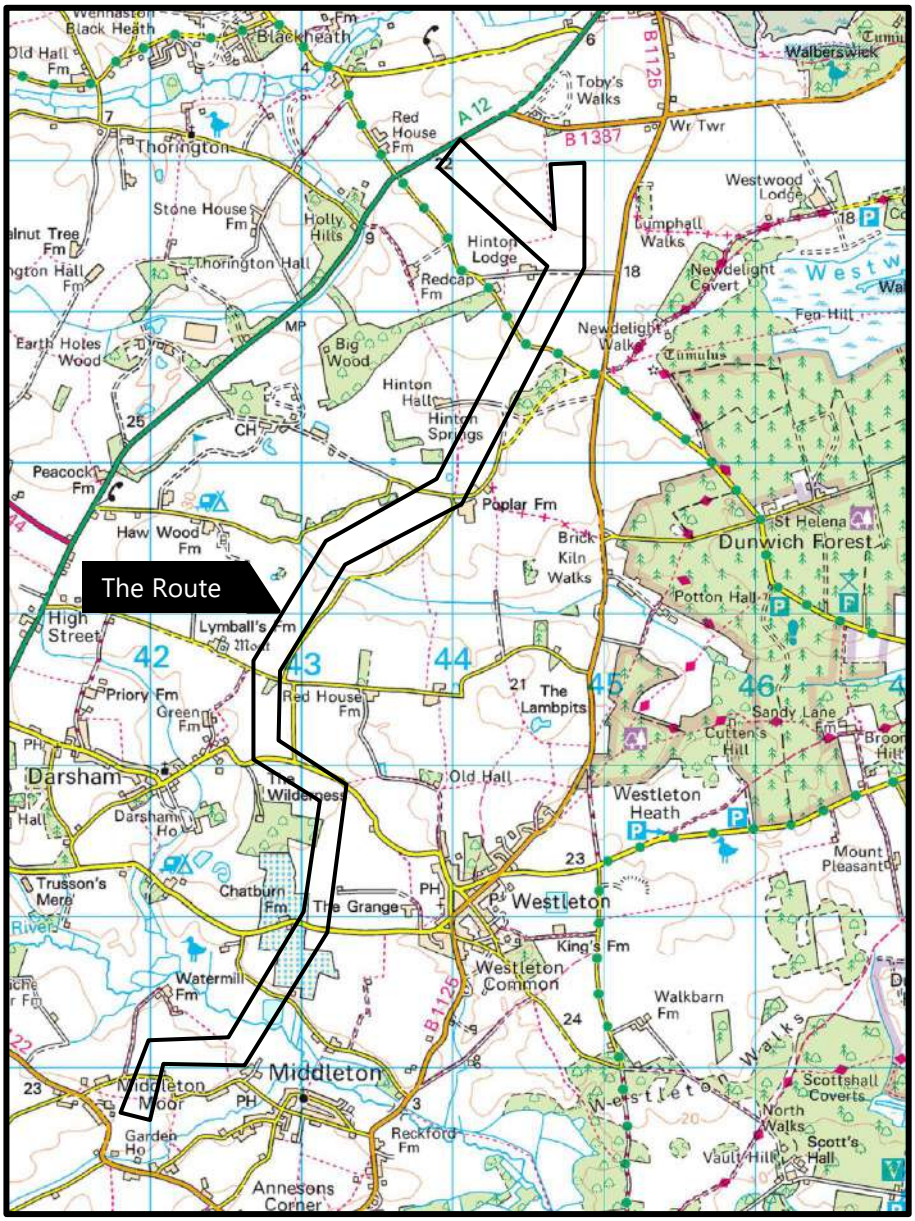
Site Location Plan
Section B



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GEOTECHNICS
BUILD ON CONFIDENCE

Site Location Plan
Section C



APPENDIX 3

Site Photographs

Looking SW from TPB01



Looking SE from TPB07



Looking NW from TPB11



Looking N from TPB16



Looking N from TPB20



Looking NE from TPC08



Looking SW from entrance to BHC09



Looking S towards BHC09



Looking E from TPC13



Looking W from TPC17



APPENDIX 4

Borehole Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



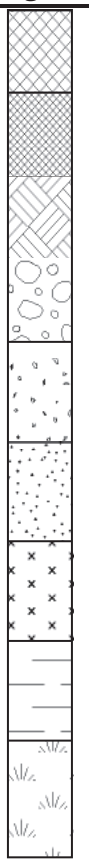
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

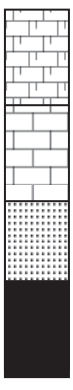
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



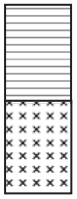
Chalk

Limestone

Sandstone

Coal

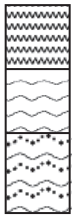
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

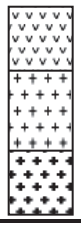


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB01
Client	National Grid Ventures	**National Grid Coordinates**	640154.9 E 262774.9 N	**Ground Level**	17.38 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to subrounded fine to coarse flint.	0.30		17.08
0.20	D							
0.20	ES							
0.20			PID: <0.1 ppm		Brown slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and chalk.	0.55		16.83
0.25	AG							
0.30 - 0.55	B				Brown gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint.	0.80		16.58
0.50	AG							
0.50	D				Orangish brown gravelly fine to medium SAND with rare pockets (up to 50mm in size) of very sandy clay. Gravel is subangular to subrounded fine to medium flint.			
0.50	ES							
0.50			PID: <0.1 ppm					
0.55 - 0.80	B							
0.70	AG					1.80		15.58
0.70	D				Medium dense orangish brown slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint.			
0.70	ES							
0.70			PID: <0.1 ppm					
1.00	AG							
1.00	D							
1.00	ES							
1.00 - 1.70	B							
1.00			PID: <0.1 ppm					
1.50 - 1.95		1.45 (DRY)		S19				
1.50 - 1.95	D							
1.80 - 2.30	B				Below 3.50m, loose.			
2.20	D							
2.50 - 2.95		2.00 (DRY)		S11				
2.50 - 2.95	B							
2.50 - 2.95	D							
3.20	D							
3.50 - 3.95		3.40 (DRY)		S7				
3.50 - 3.95	D					4.80		12.58
3.50 - 4.00	B				Loose brown slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint.			
4.20	D					5.10		12.28
4.50 - 4.95		4.40 (4.30)		S9	Greyish brown very clayey fine to medium SAND.	5.15		12.23
4.50 - 4.95	D				Brown slightly gravelly SAND. Gravel is subangular to subrounded fine to medium flint.			
4.50 - 5.00	B							
5.10	D					6.00		11.38
5.90	D				Medium dense brown silty fine to medium SAND.			
6.00 - 6.45		5.90 (DRY)		S21				
6.00 - 6.45	D							
6.00 - 6.50	B							
7.50 - 7.95		7.45 (7.40)		S10				
7.50 - 7.95	D							
7.50 - 8.00	B							
8.90	D							
9.00 - 9.40		8.90 (8.50)		S50/ 252mm	Very dense orange fine to medium SAND.	9.00		8.38
9.00 - 9.40	D							
9.00 - 9.50	B							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	CR/BB
15.31	0.20	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			29/08/24	08:00
1.20		DRY	29/08/24	18:00
1.20		DRY	30/08/24	08:00
10.50	10.50	DRY	30/08/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					Possible strike around 11.50m, stopped adding water at this depth.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring between 2.50m and 11.50m.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 8.00m to 15.00m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Logged by RA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB01
Client	National Grid Ventures	**National Grid Coordinates**	640154.9 E 262774.9 N	**Ground Level**	17.38 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.55 - 10.90		10.50 (10.30)		S50/ 196mm				
10.55 - 10.90	D							
10.55 - 11.00	B							
11.80	D					11.80		5.58
					Dense orangish brown fine to medium SAND.			
12.05 - 12.50		12.00 (11.50)		S43				
12.05 - 12.50	B							
12.05 - 12.50	D							
13.55 - 13.89		13.50 (11.80)		S50/ 191mm				
					Below 13.55m, very dense. Between 13.55-14.80m, becoming slightly gravelly and silty. Gravel is subrounded fine sandstone.			
13.55 - 13.89	D							
13.55 - 14.00	B							
14.80	D							
15.05 - 15.31		15.00 (11.80)		S50/ 113mm				
15.05 - 15.31	D					15.31		2.07
					End of Borehole			

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
10.50	10.50	10.30	02/09/24	08:00
15.31	15.00	11.80	02/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: gravel filter up to 8.00m, bentonite seal up to 0.50m, concrete up to ground level.

Logged by RA
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB02
Client	National Grid Ventures	**National Grid Coordinates**	640247.9 E 262775.8 N	**Ground Level**	19.34 m OD

Sampling			Properties		Strata			Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend		Level (m OD)
0.10	D				MADE GROUND: Very stiff (desiccated) brown slightly sandy slightly gravelly clay. Gravel is angular to rounded fine to coarse flint, chalk and brick.				
0.10	ES								
0.10 - 0.40	B					0.40			18.94
0.10			PID: <0.1 ppm		MADE GROUND: Very stiff (desiccated) greyish brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse chalk and flint.				
0.50	D					0.70			18.64
0.50	ES				Stiff brownish grey slightly sandy slightly gravelly CLAY with occasional lenses and pockets (up to 30mm in size) of light grey silt. Gravel is subanuglar to rounded fine to coarse chalk, flint and quartzite.				
0.50 - 0.80	B								
0.50			PID: 0.2 ppm						
1.00	ES				Below 1.20m, very stiff.				
1.00			PID: <0.1 ppm						
1.20 - 1.65		1.20 (DRY)		S39					
1.20 - 1.65	D								
1.70	D		w: 17 %						
1.70 - 2.00	B								
2.00 - 2.45		2.00 (DRY)		S43					
2.00 - 2.45	D				Medium dense brown gravelly very silty SAND with rare pockets (up to 20mm in size) of soft brown sandy clay. Sand is fine. Gravel is subangular to subrounded fine to coarse flint and quartzite.	2.50			16.84
2.50	D								
2.50 - 2.80	B								
3.00 - 3.45		3.00 (DRY)		S28					
3.00 - 3.45	D								
3.50	D								
3.50 - 3.80	B								
4.00 - 4.45		4.00 (2.00)		S43	Below 4.00m, dense.				
4.00 - 4.45	D								
4.50	D								
4.50 - 4.80	B								
5.00 - 5.45		5.00 (4.00)		S48	Dense brown slightly gravelly sandy SILT. Sand is fine. Gravel is subangular to subrounded fine to coarse flint and quartzite.	5.00			14.34
5.00 - 5.45	D								
5.50	D		w: 25 %						
5.50 - 5.80	B								
6.00 - 6.45		6.00 (4.00)		S18	Medium dense brown silty fine SAND.	6.00			13.34
6.00 - 6.45	D								
6.50	D								
6.50 - 7.00	B								
7.00 - 7.45		7.00 (5.00)		S29	Between 7.00-7.45m, slightly gravelly. Gravel is subangular medium flint.				
7.00 - 7.45	D								
7.50	D								
7.50 - 8.00	B								
8.00 - 8.45		8.00 (5.00)		S36	Dense brown silty fine and medium SAND, locally slightly gravelly. Gravel is subangular to subrounded fine to coarse flint and quartzite.	8.00			11.34
8.00 - 8.45	D								
8.50	D								
8.50 - 9.00	B								
9.00 - 9.45		9.00 (7.00)		S37					
9.00 - 9.45	D								
9.50	D								
9.50 - 9.80	B								
10.00 - 10.34		10.00 (5.00)		S50/ 190mm					

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
3.00	0.20	Cable Percussion	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			30/08/24	08:00
5.00	5.00	3.00	30/08/24	18:00
5.00	5.00	3.00	02/09/24	08:00
15.45	15.00	13.00	02/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Water was added to assist boring below 2.50m.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 3.00m depth and reducing casing diameter to 150mm.
A 50mm standpipe was installed to 7.50m with a geowrapped slotted section from 2.50m to 7.50m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB02
Client	National Grid Ventures	**National Grid Coordinates**	640247.9 E 262775.8 N	**Ground Level**	19.34 m OD

Scale 1:50

Sampling			Properties	Strata				
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.34	D				Between 10.00-13.00m, very dense.			
10.50	D							
10.50 - 10.80	B							
11.40	D							
11.50 - 11.95		11.50 (10.00)		S51	Between 11.50-14.00m, orangish brown.			
11.50 - 11.95	D							
11.50 - 12.00	B							
12.40	D							
12.50 - 13.00	B							
13.00 - 13.45		13.00 (11.00)		S35				
13.00 - 13.45	D							
13.50	D							
13.50 - 14.00	B							
14.50	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (13.00)		S34				
15.00 - 15.45	D							
					End of Borehole	15.45		3.89

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Backfill details from base of hole: bentonite seal up to 7.50m, gravel filter up to 2.50m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB03
Client	National Grid Ventures	**National Grid Coordinates**	640870.7 E 263569.8 N	**Ground Level**	25.94 m OD

Scale 1:50

Sampling			Properties		Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
					MADE GROUND: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.30		25.64
					MADE GROUND: Firm to stiff orangish brown mottled bluish grey slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse chalk, flint and quartzite.	0.70		25.24
					MADE GROUND: Brown slightly sandy gravel of subrounded to rounded fine to coarse flint. At 0.80m, blue plastic pipe (50mm in diameter).	0.80		25.14
					End of Borehole			

Boring

Depth	Hole Dia.	Technique	Crew
0.80	0.40	Inspection Pit	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			03/09/24	08:00
0.80		DRY	03/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during pitting.

Remarks

Plastic ducting found at 0.80m depth. Excavation stopped and Borehole moved to BHB03A.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Borehole backfilled with arisings on completion.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 1 of 1
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB03A
Client	National Grid Ventures	**National Grid Coordinates**	640873.2 E 263573.4 N	**Ground Level**	25.92 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				MADE GROUND: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.30		25.62
0.10	D							
0.10	ES							
0.10			PID: <0.1 ppm		Firm to stiff orangish brown mottled bluish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and quartzite.	0.80		25.12
0.40	D							
0.40 - 0.70	B							
0.50	HV		68/66/72 kPa R: 30 kPa		Stiff orangish brown mottled bluish grey slightly sandy slightly gravelly CLAY, locally slightly gravelly clayey sand. Gravel is subangular to subrounded fine to coarse chalk, flint and quartzite.	1.20		24.72
0.60	ES							
0.60			PID: <0.1 ppm		Stiff dark greenish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and quartzite.			
0.90	D		w: 15 %					
0.90 - 1.20	B							
1.00	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S17				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.70	D							
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00 (DRY)	51 blows		Stiff dark grey mottled greenish brown slightly sandy slightly gravelly CLAY with rare decomposed dark brown organic material (up to 30mm in size). Gravel is subangular to subrounded fine to coarse chalk, quartzite, flint , sandstone and mudstone.	3.00		22.92
2.50	D		w: 20 %					
3.00 - 3.45		3.00 (DRY)		S26	Below 3.45m, organic material is absent.			
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00 (DRY)	68 blows w: 17 %					
4.50	D		w: 20 %					
5.00 - 5.45		5.00 (DRY)		S34	Below 5.00m, very stiff.			
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D							
6.00 - 6.45	B					6.00		19.92
6.00 - 6.45	UT	6.00 (DRY)	84 blows		Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, quartzite, flint, sandstone and mudstone.			
6.45 - 6.50	D							
7.00 - 7.45		7.00 (DRY)		S39				
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45	B							
8.00 - 8.45	UT	8.00 (DRY)	53 blows w: 17 %					
8.45 - 8.50	D							
9.00 - 9.45		9.00 (DRY)		S48				
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45	B							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
15.38	0.20	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			03/09/24	08:00
11.50	11.50	DRY	03/09/24	18:00
11.50	11.50	DRY	04/09/24	08:00
15.38	11.50	DRY	04/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vane at 0.50m due to high consistency of the clay strata.
A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 3.00m to 10.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 10.00m, gravel filter up to 3.00m, bentonite seal up to 0.50m, concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB03A
Client	National Grid Ventures	**National Grid Coordinates**	640873.2 E 263573.4 N	**Ground Level**	25.92 m OD

Scale 1:50

Sampling			Properties		Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	UT	10.00 (DRY)	54 blows w: 16 %					
10.50	D							
11.50 - 11.95		11.50 (DRY)		S44				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.50	D							
13.00 - 13.45	B							
13.00 - 13.45	UT	11.50 (DRY)	100 blows					
13.45 - 13.50	D							
14.00 - 14.50	B							
14.50	D							
15.00 - 15.38		11.50 (DRY)		S51/ 235mm				
15.00 - 15.38	D				End of Borehole	15.38		10.54

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB04
Client	National Grid Ventures	**National Grid Coordinates**	640964.0 E 263603.1 N	**Ground Level**	25.15 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				MADE GROUND: Stiff (desiccated) dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint, chalk and brick.			
0.10	ES					0.30		24.85
0.20	AG				Stiff orangish brown mottled bluish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse quartzite, chalk and flint.			
0.20	D					0.75		24.40
0.20	ES							
0.20			PID: 0.2 ppm		Stiff bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse quartzite, chalk and flint. (Driller notes occasional orange sandy pockets).			
0.30 - 0.75	B							
0.50	AG							
0.50	D							
0.50	ES							
0.50			PID: <0.1 ppm					
0.75 - 1.00	B							
1.00	AG							
1.00	D		w: 14 %					
1.00	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65	UT	(DRY)	18 blows			2.50		22.65
1.20 - 1.65			cu: 250 kPa		Stiff greenish grey mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse quartzite, chalk and flint.			
2.00	D							
2.10 - 2.55		2.00 (DRY)		S26				
2.10 - 2.55	B							
2.10 - 2.55	D							
3.00	D							
3.10 - 3.55	UT	2.00 (DRY)	22 blows					
3.10 - 3.70	B					4.00		21.15
3.55 - 3.65	D				Stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, sandstone, siltstone and mudstone.			
4.00	D							
4.10 - 4.55		2.00 (DRY)		S27				
4.10 - 4.55	B							
4.10 - 4.55	D							
4.70	W							
5.00	D							
5.10 - 5.55	UT	2.00 (DRY)	30 blows					
5.10 - 5.65	B							
5.55 - 5.65	D		w: 16 %					
6.10 - 6.53		2.00 (DRY)		S50/ 283mm				
6.10 - 6.53	D				Below 6.30m, becoming sandy.			
					Medium dense grey very gravelly SAND. Gravel is subangular to subrounded fine to coarse chalk, mudstone, flint and quartzite.	6.45		18.70
6.80	D				Below 6.80m, grading to sand and gravel.			
7.00 - 7.45		7.00 (4.70)		C10				
7.00 - 7.55	B				Between 7.50-8.00m, Driller notes blowing sand.			
7.80	D							
8.10 - 8.55		8.00 (4.70)		C17	At 8.00m, grading to very sandy silty gravel.			
8.10 - 8.60	B							
9.00	D							
9.10 - 9.44		9.05 (4.70)		C54/ 191mm	At 9.10m, very dense.			
9.10 - 9.60	B							
					Very stiff dark grey slightly sandy to sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, mudstone, flint and quartzite.	9.80		15.35
9.80	D							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	CR/BB
6.50	0.20	Cable Percussion	CR/BB
15.39	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			02/09/24	08:00
1.65	1.50	DRY	02/09/24	16:16
1.65	1.50	DRY	03/09/24	08:00
13.00	12.50	4.70	03/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
6.50	2.00	4.70	20		Fast inflow.
13.00	12.50				Fast seepage

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 6.50m depth and reducing casing diameter to 150mm.
Water was added to assist boring between 6.50m and 9.80m.
Chiselling: 10.50-11.50m for 120 minutes.
Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB04
Client	National Grid Ventures	**National Grid Coordinates**	640964.0 E 263603.1 N	**Ground Level**	25.15 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.50 - 10.89		10.20 (4.70)		S50/ 236mm				
10.50 - 10.89	D							
10.50 - 11.00	B							
11.10	D							
					Between 11.80-11.85m, Driller notes presence of grey silty sand layer.			
12.00	D							
12.05 - 12.46		12.00 (4.70)		S50/ 260mm				
12.05 - 12.46	D							
12.05 - 12.50	B				Below 12.50m, gravel is chalk, mudstone, siltstone, sandstone and flint. Between 12.50-13.00m, recovered as firm to stiff with pockets (up to 30mm in size) of grey silty fine sand.			
13.00	D		w: 25 %					
13.55 - 13.93		13.00 (9.40)		S50/ 233mm				
13.55 - 13.93	D							
13.55 - 14.00	B							
14.00	D							
15.00 - 15.39		13.00 (14.10)		S50/ 241mm				
15.00	D							
15.00 - 15.39	D				End of Borehole	15.39		9.76

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
				13.00	12.50	6.10	04/09/24	08:00						
				15.39	13.00	14.10	04/09/24	18:00						

Remarks

A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 7.00m to 9.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 9.00m, gravel filter up to 7.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB05
Client	National Grid Ventures	**National Grid Coordinates**	641235.1 E 263809.1 N	**Ground Level**	20.86 m OD

Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B				TOPSOIL: Very stiff (desiccated) dark brown slightly gravelly sandy clay. Gravel is angular to subangular fine to coarse flint and chalk.			
0.20	D							
0.30	AG				Very stiff (desiccated) orangish brown mottled bluish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse flint, chalk and quartzite.	0.35		20.51
0.30	ES							
0.30			PID: <0.1 ppm		Stiff grey mottled orangish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	0.65		20.21
0.35 - 0.65	B							
0.50	AG							
0.50	D							
0.50	ES				Stiff grey mottled orangish brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	1.30		19.56
0.50			PID: <0.1 ppm					
0.65 - 1.00	B							
0.80	D							
1.00	AG							
1.00	ES							
1.00			PID: <0.1 ppm					
1.30	D							
1.55 - 2.00		1.50 (DRY)		S19				
1.55 - 2.00	B							
1.55 - 2.00	D							
2.20	D		w: 22 %					
2.55 - 3.00	B							
2.55 - 3.00	UT	2.00	10 blows					
2.55 - 3.00		(DRY)	cu: 117 kPa					
3.20	D							
3.55 - 4.00		2.00 (DRY)		S28				
3.55 - 4.00	B				Stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium chalk, mudstone, sandstone and flint.	4.00		16.86
3.55 - 4.00	D							
4.20	D							
4.55 - 5.00	B							
4.55 - 5.00	UT	2.00 (DRY)	30 blows					
5.00 - 5.10	D				Below 5.00m, very stiff.			
5.55 - 6.00		2.00 (DRY)		S41	Between 5.55-6.00m, with rare shell fragments (up to 2mm in size).			
5.55 - 6.00	B							
5.55 - 6.00	D							
6.20	D							
6.55 - 7.00		6.50 (DRY)		S36	Dense light brown silty fine and medium SAND. Between 6.55-7.00m, with occasional pockets (up to 30mm in size) of soft brown clay.	6.40		14.46
6.55 - 7.00	B							
6.55 - 7.00	D							
7.20	D							
7.55 - 7.84		7.50 (7.20)		S50/ 136mm	Below 7.55m, very dense. Below 7.70m, slightly gravelly. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
7.55 - 7.84	D							
7.55 - 8.00	B							
8.20	D							
8.55 - 8.80		8.50 (DRY)		S50/ 102mm	Very dense brown slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.	8.50		12.36
8.55 - 8.80	D							
8.55 - 9.00	B							
9.20	D							
9.55 - 9.80		9.50 (9.30)		S50/ 103mm				
9.55 - 10.00	B							
9.55 - 9.80	D							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	CR/BB
6.50	0.20	Cable Percussion	CR/BB
15.35	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			05/09/24	08:00
13.50	13.50	12.70	05/09/24	18:00
13.40	13.50	12.70	06/09/24	08:00
15.35	15.00	14.10	06/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Water was added to assist boring below 4.50m.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 6.50m depth and reducing casing diameter to 150mm.
A 50mm standpipe was installed to 13.00m with a geowrapped slotted section from 7.00m to 13.00m with a up-standing cover and
Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB05
Client	National Grid Ventures	**National Grid Coordinates**	641235.1 E 263809.1 N	**Ground Level**	20.86 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.20	D							
10.55 - 10.75		10.50 (10.30)		S50/ 80mm				
10.55 - 10.75	D							
10.55 - 11.00	B							
12.05 - 12.40		12.00 (11.90)		S50/ 205mm				
12.05 - 12.40	D							
12.05 - 12.50	B							
13.00	D							
13.30	D				Very dense grey silty fine and medium SAND.	13.20		7.66
13.55 - 13.92		13.50 (12.70)		S50/ 223mm				
13.55 - 13.92	D							
13.55 - 14.00	B							
14.50	D							
15.05 - 15.35		15.00 (14.10)		S50/ 148mm				
15.05 - 15.35	D				End of Borehole	15.35		5.51

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

protective fence installed.
Backfill details from base of hole: bentonite seal up to 13.00m, gravel filter up to 7.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure
Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB06
Client	National Grid Ventures	**National Grid Coordinates**	641300.7 E 263884.0 N	**Ground Level**	21.58 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.10	ES							
0.10 - 0.40	B					0.40		21.18
0.10			PID: <0.1 ppm		Very stiff (desiccated) brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.50	ES							
0.50 - 0.80	B					0.80		20.78
0.50			PID: <0.1 ppm		Stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint. Between 0.80-1.20m, with occasional pockets (up to 20mm in size) of orangish brown clayey sand. Between 1.20-1.65m, with occasional rootlets and pockets (up to 20mm in size) of dark brown decomposed organic matter.			
0.60	D							
0.90 - 1.20	B							
1.00	D		w: 15 %					
1.00	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S17		2.00		19.58
1.20 - 1.65	B				Stiff grey mottled dark brown slightly sandy slightly gravelly CLAY with rare shell fragments (up to 3mm in size). Gravel is subangular to subrounded fine to coarse chalk and flint. Below 2.45m, shell fragments are absent.			
1.20 - 1.65	D							
1.70	D							
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00 (DRY)	18 blows cu: 89 kPa					
2.45 - 2.50	D							
3.00 - 3.45		3.00 (DRY)		S21				
3.00 - 3.45	B							
3.50	D							
4.00	UTF	3.00 (DRY)	100 blows		Below 4.00m, becoming orangish brown.			
4.00 - 4.45	B							
4.50	D		w: 19 %		Firm dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	4.50		17.08
					End of Borehole	5.00		16.58

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
5.00	0.20	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			05/09/24	08:00
5.00	4.00	DRY	05/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
At 3.00m, no sample from SPT as split-spoon was lost down borehole.
At 4.00m, UT had no recovery as bouncing on lost split-spoon.
Borehole terminated at 5.00m depth on the instruction of the Engineer due to the SPT Spoon becoming detached and wedged down the borehole. The drilling equipment was moved to BHB06A.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB06
Client	National Grid Ventures	**National Grid Coordinates**	641300.7 E 263884.0 N	**Ground Level**	21.58 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)

Boring				**Progress**					**Groundwater**					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 1.20m, arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB06A
Client	National Grid Ventures	**National Grid Coordinates**	641295.3 E 263889.0 N	**Ground Level**	21.56 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.10	ES					0.30		21.26
0.10 - 0.40	B				Very stiff (desiccated) brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subanuglar to subrounded fine to coarse chalk and flint.			
0.10			PID: <0.1 ppm			0.80		20.76
0.50	D				Firm grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint. At 1.00m, with rare lenses (up to 1mm thick and 60mm in length) of white calcareous silt.			
0.50	ES							
0.50			PID: <0.1 ppm					
0.90 - 1.20	B							
1.00	D		w: 16 %					
1.00	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S12				
1.20 - 1.65	B				Stiff grey mottled dark greenish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint, ironstone and mudstone.	2.00		19.56
1.20 - 1.65	D							
1.50	D							
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00 (DRY)	18 blows					
2.45 - 2.50	D							
3.00 - 3.45		3.00 (DRY)		S28				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00 (DRY)	51 blows cu: 278 kPa					
4.45 - 4.50	D							
5.00 - 5.45		5.00 (DRY)		S45	Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	5.00		16.56
5.00 - 5.45	B							
5.00 - 5.45	D		w: 15 %					
5.50	D							
6.00 - 6.40	B							
6.00 - 6.40	UT	6.00 (DRY)	100 blows w: 17 %					
6.40 - 6.45	D							
7.00 - 7.45		7.00 (DRY)		S38				
7.00 - 7.45	B							
7.50	D							
8.00 - 8.36		8.00 (DRY)		S50/ 215mm	Very dense light brown very silty fine and medium SAND, locally slightly gravelly. Gravel is subangular to subrounded fine to medium flint and quartzite.	8.00		13.56
8.00 - 8.36	D							
8.00 - 8.45	B							
8.50	D							
9.00 - 9.45		9.00 (5.00)		S32	Below 9.00m, dense, brown and silty.			
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (6.00)		S39				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
8.00	0.20	Cable Percussion	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			06/09/24	08:00
8.00	8.00	DRY	06/09/24	18:00
8.00	8.00	7.00	09/09/24	08:00
15.45	15.00	13.00	09/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 8.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 8.00m.
A 50mm standpipe was installed to 8.00m with a geowrapped slotted section from 2.00m to 8.00m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB06A
Client	National Grid Ventures	**National Grid Coordinates**	641295.3 E 263889.0 N	**Ground Level**	21.56 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (7.00)		S45				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (10.00)		S42				
13.00 - 13.45	B							
13.00 - 13.45	D							
13.70	D							
14.50	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (13.00)		S47				
15.00 - 15.45	D				End of Borehole	15.45		6.11

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 8.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB07
Client	National Grid Ventures	**National Grid Coordinates**	641500.9 E 263980.9 N	**Ground Level**	23.76 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Very stiff (desiccated) dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and chalk.	0.30		23.46
0.10	ES							
0.10 - 0.30	B							
0.10			PID: <0.1 ppm		Very stiff (desiccated) orangish brown mottled grey slightly sandy slightly gravelly CLAY with occasional rootlets and a low cobble content of subangular to subrounded flint. Gravel is angular to subrounded fine to coarse chalk and flint.	0.70		23.06
0.40 - 0.70	B							
0.50	D		w: 16 %					
0.50	ES							
0.50			PID: 0.3 ppm		Stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	1.20		22.56
0.90 - 1.20	B							
1.00	D				Stiff greenish brown mottled grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 30mm in size) of dark orangish brown clayey silt. Gravel is subangular to subrounded fine to coarse chalk, mudstone and flint.			
1.00	ES							
1.00			PID: 0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S19				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.20 - 1.70	D							
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00	23 blows					
2.00 - 2.45		(DRY)	cu: 111 kPa					
2.45 - 2.50	D		w: 19 %					
3.00 - 3.45		3.00 (DRY)		S17				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00	28 blows					
4.00 - 4.45		(DRY)	cu: 134 kPa					
4.45 - 4.50	D				Between 4.45-6.00m, with occasional fine to coarse sand sized selenite crystals.			
5.00 - 5.45		5.00 (DRY)		S52				
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D		w: 21 %					
6.00 - 6.45	B							
6.00 - 6.45	UT	6.00	52 blows					
		(DRY)	w: 18 %					
6.45 - 6.50	D							
7.00 - 7.45		7.00 (DRY)		S31	Very stiff grey slightly sandy slightly gravelly CLAY with occasional pockets and lenses (up to 30mm in size) of brown fine sand. Gravel is subangular to subrounded fine to coarse chalk, flint, mudstone and sandstone.	7.00		16.76
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45		8.00 (DRY)		S34				
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
8.50 - 8.95	UTF	8.00 (DRY)	24 blows					
9.00 - 9.45		9.00 (DRY)		S35	Dense brown silty fine and medium SAND, slightly gravelly in parts, with rare pockets (up to 20mm in size) of soft brown clay. Gravel is angular to subrounded fine to medium flint.	9.00		14.76
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		9.00 (5.00)		S33				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	BS/KS
9.00	0.20	Cable Percussion	BS/KS
15.34	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			09/09/24	15:00
1.20	1.20	DRY	09/09/24	16:00
1.20	1.20	DRY	10/09/24	08:00
15.34	15.00	12.00	10/09/24	16:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the clay strata.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 9.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 9.00m.
A 50mm standpipe was installed to 14.50m with a geowrapped slotted section from 10.00m to 14.50m with a up-standing cover and protective fencing installed.
Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB07
Client	National Grid Ventures	**National Grid Coordinates**	641500.9 E 263980.9 N	**Ground Level**	23.76 m OD

Scale 1:50

Sampling			Properties	Strata				
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (6.00)		S41				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (7.00)		S44				
13.00 - 13.45	B							
13.00 - 13.45	D							
13.70	D				Below 13.50m, becoming dark grey			
14.50	D							
14.50 - 15.00	B				At 14.50m, slightly silty.			
15.00 - 15.34		15.00 (12.00)		S50/ 195mm	Below 15.00m, becoming very dense and greyish brown.			
15.00 - 15.34	D							
					End of Borehole	15.34		8.42

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 10.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB08
Client	National Grid Ventures	**National Grid Coordinates**	641552.9 E 264067.1 N	**Ground Level**	23.20 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse flint, quartzite and brick.			
0.10	D					0.30		22.90
0.10	ES				Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.10			PID: <0.1 ppm					
0.25	HV		>130/>130/ >130 kPa			0.80		22.40
			R: 54 kPa		Stiff dark greenish brown mottled dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse chalk and flint.			
0.50	D							
0.50	ES							
0.50 - 0.80	B							
0.50			PID: <0.1 ppm					
0.50	HV		110 kPa					
			R: 40 kPa					
0.90 - 1.00	B							
1.00	D							
1.00	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S19				
1.20 - 1.65	B							
1.20 - 1.65	D				Below 3.00m, very stiff.			
1.70	D		w: 31 %					
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00	25 blows					
2.00 - 2.45		(DRY)	cu: 149 kPa					
2.45 - 2.50	D							
3.00 - 3.45		3.00 (DRY)		S31				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00	34 blows					
4.00 - 4.45		(DRY)	cu: 89 kPa					
4.45 - 4.50	D							
5.00 - 5.45		5.00 (DRY)		S35				
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D		w: 25 %					
6.00 - 6.45	B							
6.00 - 6.45	UT	6.00 (DRY)	46 blows					
6.45 - 6.50	D							
7.00 - 7.45		7.00 (DRY)		S39				
7.00 - 7.45	B				Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	7.00		16.20
7.00 - 7.45	D		w: 16 %					
7.50	D							
8.00 - 8.45		8.00 (DRY)		S41				
8.00 - 8.45	B							
8.00 - 8.45	D					8.50		14.70
8.50	D				Very stiff brown slightly gravelly sandy SILT. Gravel is subangular to subrounded fine to medium flint.			
9.00 - 9.45		9.00 (7.00)		S51				
9.00 - 9.45	B							
9.00 - 9.45	D							
10.00 - 10.45		10.00 (6.00)		S46				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	BS/KS
8.50	0.20	Cable Percussion	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			11/09/24	08:00
13.00	13.00	10.00	11/09/24	18:00
13.00	13.00	11.00	13/09/24	08:00
15.45	15.00	14.00	13/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 8.50m depth and reducing casing diameter to 150mm. Water was added to assist boring below 8.50m.
A 50mm standpipe was installed to 8.00m with a geowrapped slotted section from 2.00m to 8.00m with a up-standing cover and protective fencing installed.
Backfill details from base of hole: bentonite seal up to 8.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB08
Client	National Grid Ventures	**National Grid Coordinates**	641552.9 E 264067.1 N	**Ground Level**	23.20 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (7.00)		S32				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D		w: 22 %		At 12.20m, recovered as soft very sandy clay			
13.00 - 13.45		13.00 (11.00)		S47				
13.00 - 13.45	B							
13.00 - 13.45	D							
13.70	D							
14.50	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (14.00)		S51				
15.00 - 15.45	D							
					End of Borehole	15.45		7.75

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB09
Client	National Grid Ventures	**National Grid Coordinates**	641695.0 E 264381.8 N	**Ground Level**	21.02 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to rounded fine to coarse flint, quartzite and chalk.			
0.10	ES							
0.10 - 0.40	B					0.40		20.62
0.10			PID: <0.1 ppm		Orangish brown gravelly clayey SAND with occasional pockets (up to 50mm in size) of soft brown clay. Gravel is angular to rounded fine to coarse quartzite and flint.			
0.50	AG							
0.50	D							
0.50	ES							
0.50 - 0.80	B							
0.50			PID: <0.1 ppm		At 1.20m, medium dense.			
1.00	AG							
1.00	D					1.60		19.42
1.00	ES				Firm brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse chalk, flint and quartz.			
1.00			PID: <0.1 ppm					
1.20 - 1.65		1.20 (DRY)		S12				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.70	D							
2.00 - 2.45		2.00 (DRY)		S12				
2.00 - 2.45	B					3.00		18.02
2.00 - 2.65	D				Firm brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse flint and chalk.			
2.50	D							
3.00 - 3.45	B							
3.00 - 3.45	UT	3.00 (DRY)	21 blows w: 20 % cu: 12 kPa					
3.00 - 3.45					At 4.00m, stiff.			
3.50	D							
4.00 - 4.45		4.00 (DRY)		S19				
4.00 - 4.45	B					4.60		16.42
4.00 - 4.45	D				Medium dense brown slightly gravelly silty to very silty SAND. Gravel is angular to subrounded fine to coarse fine to coarse flint.			
4.50	D							
5.00 - 5.45		5.00 (2.00)		S20				
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D							
6.00 - 6.45		6.00 (3.00)		S24				
6.00 - 6.45	B							
6.00 - 6.45	D							
6.50	D							
7.00 - 7.45		7.00 (6.50)		S30	At 7.00m, dense.			
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45		8.00 (5.00)		S27				
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
9.00 - 9.45		9.00 (6.00)		S36		9.00		12.02
9.00 - 9.45	B				Dense orangish brown slightly gravelly silty fine and medium SAND with rare pockets (up to 35mm in size) of very soft brown and grey mottled clay. Gravel is angular to subrounded fine to coarse sandstone and flints			
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (7.00)		S33				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
4.70	0.20	Cable Percussion	BS/KS
15.00	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			16/09/24	08:00
8.00	8.00	7.00	16/09/24	18:00
8.00	8.00	7.00	17/09/24	08:00
15.45	15.00	12.00	17/09/24	14:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 4.70m depth and reducing casing diameter to 150mm.
Water was added to assist boring between 4.70m and 14.00m.
A 50mm standpipe was installed to 14.50m with a geowrapped slotted section from 5.00m to 14.50m with a up-standing cover and
Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB09
Client	National Grid Ventures	**National Grid Coordinates**	641695.0 E 264381.8 N	**Ground Level**	21.02 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (8.00)		S41				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (10.00)		S41				
13.00 - 13.45	B							
13.00 - 13.45	D							
13.70	D							
14.50	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (12.00)		S42				
15.00 - 15.45	D							
					End of Borehole	15.45		5.57

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 5.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure
Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB10
Client	National Grid Ventures	**National Grid Coordinates**	641746.2 E 264466.9 N	**Ground Level**	21.52 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Stiff dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to rounded fine to coarse chalk, flint and quartzite.	0.30		21.22
0.10	D							
0.10	ES							
0.10			PID: <0.1 ppm		Stiff grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.	0.70		20.82
0.40 - 0.70	B							
0.50	D				Stiff dark brownish grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
0.50	ES							
0.50			PID: <0.1 ppm					
0.50	HV		>130 kPa					
0.90 - 1.20	B							
1.00	D							
1.00	ES							
1.00			PID: <0.1 ppm					
1.00	HV		>130 kPa					
1.20 - 1.65		1.20 (DRY)		S18				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.70	D		w: 22 %					
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00	21 blows					
2.00 - 2.45		(DRY)	cu: 124 kPa					
2.50	D							
3.00 - 3.45		3.00 (DRY)		S19				
3.00 - 3.45	B							
3.00 - 3.45	D					4.00		17.52
3.50	D				Firm brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to medium flint, chalk and quartzite.			
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00 (DRY)	28 blows					
4.50	D							
5.00 - 5.45		5.00 (DRY)		S43	At 5.00m, very stiff.			
5.00 - 5.45	B					5.30		16.22
5.00 - 5.45	D				Medium dense brown slightly gravelly silty fine and medium SAND. Gravel is angular subangular fine to medium of flint.			
5.50	D							
6.00 - 6.45		6.00 (4.00)		S22				
6.00 - 6.45	B							
6.00 - 6.45	D							
6.50	D							
7.00 - 7.45		7.00 (5.00)		S30				
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45		8.00 (6.00)		S37	Below 7.00m, dense.			
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
9.00 - 9.45		9.00 (7.00)		S30	Below 9.00m, with occasional pockets (up to 50mm in size) of soft to firm brown mottled grey clay.			
9.00 - 9.45	B							
9.00 - 9.45	D		w: 14 %					
9.50	D							
10.00 - 10.45		10.00 (8.00)		S50				

Boring

Depth	Hole Dia.	Technique	Crew
0.00	0.50	Inspection Pit	BS/KS
5.50	0.20	Cable Percussion	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			17/09/24	08:00
3.00	3.00	DRY	17/09/24	17:00
3.00	3.00	DRY	18/09/24	08:00
15.45	15.00	14.00	18/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 4.50m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 5.50m.
A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.00m to 5.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 5.50m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB10
Client	National Grid Ventures	**National Grid Coordinates**	641746.2 E 264466.9 N	**Ground Level**	21.52 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (10.00)		S30				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (10.00)		S38				
13.00 - 13.45	B							
13.00 - 13.45	D							
14.00	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (14.00)		S38				
15.00 - 15.45	D				End of Borehole	15.45		6.07

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB11
Client	National Grid Ventures	**National Grid Coordinates**	641889.4 E 264694.1 N	**Ground Level**	26.33 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.33	B				TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to rounded fine to coarse flint and quartzite.	0.33		26.00
0.25	HV		50/46/50 kPa R: 24 kPa		Stiff orangish brown mottled bluish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.30	AG							
0.30	D							
0.30	ES							
0.30			PID: <0.1 ppm					
0.33 - 0.60	B				Stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	1.10		25.23
0.50	AG							
0.50	D		w: 16 %					
0.50	ES							
0.50			PID: <0.1 ppm					
0.50	HV		120/120/120 kPa R: 38 kPa		Stiff dark grey mottled greyish brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	2.00		24.33
0.60 - 1.10	B							
0.80	D							
1.00	AG							
1.00	ES							
1.00			PID: <0.1 ppm					
1.15	D							
1.55 - 2.00		1.20 (DRY)		S23				
1.55 - 2.00	B				Between 3.55-4.20m, with occasional pockets (up to 30mm in size) of orangish brown sandy silt.			
1.55 - 2.00	D							
2.20	D							
2.55 - 3.00	UT	2.00 (DRY)	19 blows					
2.55 - 3.10	B							
3.00 - 3.10	D							
3.55 - 4.00		2.00 (DRY)		S18				
3.55 - 4.00	B							
3.55 - 4.00	D		w: 21 %					
4.20	D							
4.55 - 5.00	UT	2.00 (DRY)	24 blows		Very stiff dark grey slightly sandy slightly gravelly CLAY with rare pockets (up to 30 mm in size) of light grey silt and rare shell fragments. Gravel is subangular to subrounded fine to coarse chalk and mudstone.	5.30		21.03
4.55 - 5.10	B							
4.55 - 5.00			cu: 267 kPa					
5.00 - 5.10	D							
5.55 - 6.00		2.00 (DRY)		S41				
5.55 - 6.00	B							
5.55 - 6.00	D							
6.20	D		w: 17 %					
6.55 - 7.00	B							
6.55 - 7.00	UT	2.00 (DRY)	37 blows cu: 271 kPa					
7.20	D							
7.55 - 8.00		2.00 (DRY)		S50/ 297mm				
7.55 - 8.00	B							
7.55 - 8.00	D				Very stiff greyish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to subrounded chalk, mudstone and sandstone.	8.00		18.33
8.20	D							
8.40	D							
8.55 - 9.00	UT	2.00 (DRY)	42 blows					
8.55 - 9.10	B							
8.55 - 9.00			cu: 231 kPa					
9.00 - 9.10	D							
9.40	D				Very dense brown silty fine to medium SAND.	9.40		16.93
9.55 - 9.89		9.50 (DRY)		S50/ 187mm				
9.55 - 10.00	B							
9.55 - 9.89	D							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	CR/BB
9.50	0.20	Cable Percussion	CR/BB
15.24	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			12/09/24	08:00
12.05	12.00	11.50	12/09/24	18:00
12.05	12.00	11.90	13/09/24	08:00
15.24	15.00	14.60	13/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 9.50m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 9.50m.
A 50mm standpipe was installed to 9.00m with a geowrapped slotted section from 9.00m to 2.00m with a up-standing cover and protective fencing installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB11
Client	National Grid Ventures	**National Grid Coordinates**	641889.4 E 264694.1 N	**Ground Level**	26.33 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.55 - 10.88		10.50 (10.20)		S50/ 179mm				
10.55 - 10.88	D							
10.55 - 11.00	B							
12.05 - 12.42		12.00 (11.50)		S50/ 216mm				
12.05 - 12.42	D							
12.05 - 12.50	B							
12.60	D							
13.55 - 13.87		13.50 (13.20)		S50/ 167mm				
13.55 - 13.87	D							
13.55 - 14.00	B							
15.05 - 15.24		15.00 (14.60)		S50/ 42mm				
15.05 - 15.24	D							
					Very dense brown slightly gravelly SAND. Gravel is subangular to subrounded fine to medium flint and quirtzite	12.40		13.93
					End of Borehole	15.24		11.09

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 9.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB12
Client	National Grid Ventures	**National Grid Coordinates**	641961.0 E 264760.1 N	**Ground Level**	26.66 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.20	D					0.30		26.36
0.20	ES				Firm orangish brown mottled light bluish grey slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.20			PID: <0.1 ppm			0.60		26.06
0.30 - 0.60	B							
0.50	D				Firm dark orangish brown mottled bluish grey slightly sandy slightly slightly gravelly CLAY with occasional lenses and pockets (up to 30mm in size) of orangish brown fine sand. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.50	ES							
0.50			PID: <0.1 ppm					
0.50	HV		116 kPa R: 58 kPa					
0.60 - 1.00	B							
0.75	D							
1.00	ES							
1.00			PID: <0.1 ppm			2.00		24.66
1.25	D				Stiff dark orangish brown and grey slightly sandy slightly gravelly to gravelly CLAY with occasional pockets (up to 30mm in size) of dark orangish brown clayey silt. Gravel is subangular to subrounded fine to coarse chalk, flint, mudstone and sandstone.			
1.55 - 2.00	UT	(DRY)	15 blows					
1.55 - 2.10	B							
1.55 - 2.00			cu: 147 kPa					
2.00 - 2.10	D							
2.30	D		w: 21 %					
2.55 - 3.00		2.00 (DRY)		S21				
2.55 - 3.00	B							
2.55 - 3.00	D							
3.25	D							
3.55 - 4.00	B							
3.55 - 4.00	UT	2.00 (DRY)	27 blows cu: 145 kPa					
4.00 - 4.10	D							
4.25	D							
4.55 - 5.00		2.00 (DRY)		S31	Below 4.55m, very stiff.			
4.55 - 5.00	B							
4.55 - 5.00	D							
5.25	D							
5.55 - 6.00	UT	2.00 (DRY)	41 blows					
5.55 - 6.10	B					5.80		20.86
6.00 - 6.10	D		w: 16 %		Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and mudstone. Between 6.00-6.10m, with dark brown surface staining on gravels.			
6.55 - 7.00		2.00 (DRY)		S50/ 295mm				
6.55 - 7.00	B							
6.55 - 7.00	D							
7.25	D							
7.55 - 8.10	B							
7.55 - 8.10	UT	2.00 (DRY)	37 blows					
8.35	D				Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk.	8.30		18.36
8.55 - 9.00		2.00 (DRY)		S33				
8.55 - 9.00	B							
8.55 - 9.00	D							
9.25	D		w: 12 %					
9.60	D					9.60		17.06
9.65 - 10.10		9.60 (DRY)		S35	Very stiff brown sandy SILT.			
9.65 - 10.00	D							
9.65 - 10.10	B							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	CR/BB
9.60	0.20	Cable Percussion	CR/BB
15.31	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			11/09/24	08:00
15.31	15.00	14.10	11/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly obscured by added water.

Remarks

AGS

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vane at 0.25m due to high consistency of the soil.
At 7.5m, UT shoe damaged during sampling.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 9.60m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 9.60m.
A 50mm standpipe was installed to 14.50m with a geowrapped slotted section from 9.50m to 14.50m with a up-standing cover and
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB12
Client	National Grid Ventures	**National Grid Coordinates**	641961.0 E 264760.1 N	**Ground Level**	26.66 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.55 - 11.00		10.50 (10.20)		S49				
10.55 - 11.00	B							
10.55 - 11.00	D							
12.05 - 12.44		12.00 (11.80)		S50/ 241mm				
12.05 - 12.44	D							
12.05 - 12.50	B							
12.75	D							
					Very dense brown slightly gravelly silty SAND. Gravel is subrounded fine flint.	13.40		13.26
13.55 - 13.94		13.50 (13.00)		S50/ 235mm				
13.55 - 13.94	D							
13.55 - 14.00	B							
14.50	D							
15.05 - 15.31		15.00 (14.10)		S50/ 107mm				
15.05 - 15.31	D				End of Borehole	15.31		11.35

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 9.60m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB13
Client	National Grid Ventures	**National Grid Coordinates**	642679.0 E 265112.8 N	**Ground Level**	23.71 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to rounded fine to coarse flint.			
0.20	D					0.30		23.41
0.20	ES				Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	0.50		23.21
0.20			PID: <0.1 ppm					
0.25	HV		90/84/85 kPa R: 30 kPa		Stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.30 - 0.50	B							
0.40	D							
0.40	ES							
0.40			PID: <0.1 ppm					
0.45	HV		120/120/120 kPa R: 35 kPa					
0.50 - 1.00	B					2.00		21.71
0.80	D		w: 19 %		Stiff greenish grey and grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and mudstone.			
0.80	ES							
0.80			PID: <0.1 ppm					
1.20	D							
1.55 - 2.00		1.50 (DRY)		S21				
1.55 - 2.00	B							
1.55 - 2.00	D							
2.25	D							
2.55 - 3.00	UT	1.50 (DRY)	22 blows					
2.55 - 3.10	B							
2.55 - 3.00			cu: 138 kPa					
3.00 - 3.10	D							
3.55 - 4.00		1.50 (DRY)		S27	Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flint and mudstone.	4.20		19.51
3.55 - 4.00	B							
3.55 - 4.00	D		w: 20 %					
4.25	D							
4.55 - 5.00	UT	1.50 (DRY)	30 blows		Between 5.00-5.10m, with rare shell fragments (up to 10mm in size).			
4.55 - 5.10	B							
4.55 - 5.00			cu: 267 kPa					
5.00 - 5.10	D							
5.55 - 6.00		1.80 (DRY)		S44				
5.55 - 6.00	B							
5.55 - 6.00	D							
6.25	D							
6.55 - 7.00	UT	1.80 (DRY)	27 blows					
6.55 - 7.10	B							
7.25	D							
7.55 - 7.96		1.80 (DRY)		S50/ 263mm				
7.55 - 7.96	D							
7.55 - 8.00	B							
8.25	D							
8.55 - 9.00	UT	1.80 (DRY)	48 blows					
8.55 - 9.10	B							
9.00 - 9.10	D		w: 16 %					
9.55 - 9.99		1.80 (DRY)		S50/ 290mm	Very dense brown silty fine to medium SAND, slightly gravelly in parts. Gravel is subangular to subrounded fine to medium flint.	9.50		14.21
9.55 - 10.00	B							
9.55 - 9.99	D							

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	CR/BB
9.50	0.20	Cable Percussion	CR/BB
15.41	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			09/09/24	08:00
7.50	1.80	DRY	09/09/24	18:00
7.50	1.80	DRY	10/09/24	08:00
15.41	15.00	14.10	10/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 9.50m depth and reducing casing diameter to 150mm. Water was added to assist boring below 9.50m.
A 50mm standpipe was installed to 8.00m with a geowrapped slotted section from 2.00m to 8.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 8.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by AA
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB13
Client	National Grid Ventures	**National Grid Coordinates**	642679.0 E 265112.8 N	**Ground Level**	23.71 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.25	D				At 10.25m, with a angular coarse flint gravel.			
10.65 - 11.09		10.50 (10.30)		S50/ 287mm				
10.65 - 11.09	D							
10.65 - 11.10	B							
12.05 - 12.41		12.00 (11.80)		S50/ 208mm				
12.05 - 12.41	D							
12.05 - 12.50	B							
						12.70		11.01
13.00	D				Very dense dark orangish brown slightly gravelly fine SAND. Gravel is subangular to subrounded fine to medium flint. Between 13.00-13.50m, with rare pockets (up to 10mm in size) of soft brown clay.			
13.55 - 13.81		13.50 (13.10)		S50/ 110mm	Below 13.50m, orangish brown. Gravel is absent.			
13.55 - 13.81	D							
13.55 - 14.00	B							
14.50	D							
15.05 - 15.41		15.00 (14.10)		S50/ 210mm				
15.05 - 15.41	D							
					End of Borehole	15.41		8.30

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by AA
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB15
Client	National Grid Ventures	**National Grid Coordinates**	642979.8 E 265810.1 N	**Ground Level**	21.09 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Stiff (desiccated) dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to rounded fine to coarse flint, chalk and quartzite.	0.20		20.89
0.10	ES							
0.10			PID: <0.1 ppm					
0.20	B				Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
0.30	D							
0.50	B							
0.50	ES					1.00		20.09
0.50			PID: <0.1 ppm		Firm, locally stiff, grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
0.50	HV		>130 kPa					
1.00	D							
1.00	ES							
1.00			PID: <0.1 ppm					
1.00	HV		92 kPa					
1.20 - 1.65		(DRY)	R: 32 kPa	S10	At 2.00m, stiff.			
1.20 - 1.50	B							
1.20 - 1.65	D							
2.00 - 2.45		(DRY)		S15				
2.00 - 2.45	D							
2.50 - 3.00	D		w: 21 %					
3.00 - 3.50	B				Very stiff greyish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to rounded fine to coarse of chalk, flint and quartzite.	3.00		18.09
3.50 - 3.95	UT	(DRY)	23 blows					
3.50 - 3.95			cu: 236 kPa					
3.95 - 4.00	D							
4.00 - 4.45		(DRY)		S36				
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.45		2.00 (DRY)		S28				
5.00 - 5.45	D							
5.00 - 5.50	B							
5.50 - 5.80	D							
5.80 - 6.00	B		w: 36 %		CHALK recovered as white sandy gravelly SILT with occasional pockets (up to 20mm in size) of soft brown clay. Gravel is extremely weak, low density, white and subangular.	5.80		15.29
6.00 - 6.45	UT	2.00	30 blows					
6.00 - 6.45		(DRY)	cu: 258 kPa					
6.50 - 7.00	D							
7.00 - 7.45		2.00 (DRY)		S34	Very stiff grey, locally mottled reddish brown, slightly sandy slightly gravelly CLAY with rare gypsum crystals (up to 10mm in size). Gravel is subangular to rounded fine to coarse of flints and quartzite.	7.00		14.09
7.00 - 7.45	D					7.30		13.79
7.00 - 7.50	B				Dense brown slightly gravelly silty to very silty fine to coarse SAND. Gravel is subangular to rounded fine to coarse of flint and quartzite.			
7.30	D							
7.30 - 8.00	B							
8.00 - 8.45		7.50 (7.60)		S38				
8.00 - 8.45	D							
8.50 - 9.00	D							
9.00 - 9.45		9.00 (8.80)		S45				
9.00 - 9.45	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (9.60)		S43				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	CR/BB
7.50	0.20	Cable Percussion	CR/BB
15.31	0.15	Cable Percussion	CR/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			16/09/24	08:00
8.00	7.50	DRY	16/09/24	17:00
8.00	7.50	7.60	17/09/24	08:00
15.31	15.00	14.80	17/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during drilling, possibly masked by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 7.50m depth and reducing casing diameter to 150mm. Water was added to assist boring below 7.50m.
A 50mm standpipe was installed to 7.00m with a geowrapped slotted section from 3.00m to 7.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 5.00m, bentonite seal up to 0.50m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB15
Client	National Grid Ventures	**National Grid Coordinates**	642979.8 E 265810.1 N	**Ground Level**	21.09 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D							
10.00 - 10.50	B							
10.50 - 11.00	D							
11.50 - 11.86		11.50 (11.30)		S50/ 210mm	At 11.50, very dense.			
11.50 - 11.86	D							
11.50 - 12.00	B					12.00		9.09
12.00 - 13.00	B				Very dense brown slightly gravelly silty fine to coarse SAND with occasional pockets (up to 45mm in size) of soft brown mottled grey clay. Gravel is subangular to rounded fine to coarse of flint.			
13.00 - 13.32		13.00 (11.60)		S50/ 165mm				
13.00 - 13.32	D							
13.00 - 13.50	B							
13.50 - 14.50	D							
14.50 - 15.00	B							
14.50 - 15.00	D							
15.00 - 15.31		15.00 (14.80)		S50/ 160mm				
15.00 - 15.30	D				End of Borehole	15.31		5.78

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB18
Client	National Grid Ventures	**National Grid Coordinates**	642734.1 E 266176.8 N	**Ground Level**	19.92 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.25	B				TOPSOIL: Stiff dark brown slightly gravelly sandy clay with many rootlets. Gravel is angular to subrounded fine to coarse chalk, flint and quartzite.			
0.10	AG					0.25		19.68
0.10	D				Stiff brown mottled grey and orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.10	ES							
0.10			PID: <0.1 ppm					
0.40	AG					0.80		19.12
0.40	D				Stiff grey mottled brownish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.50	ES							
0.50 - 0.80	B							
0.50			PID: <0.1 ppm					
0.50	HV		>130 kPa					
0.90 - 1.20	B							
1.00	D							
1.00	ES							
1.00			PID: <0.1 ppm					
1.00	HV		>130 kPa					
1.20 - 1.65		1.20 (DRY)		S15				
1.20 - 1.65	B							
1.70	D							
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00	24 blows					
2.00 - 2.45		(DRY)	cu: 116 kPa					
2.50	D		w: 19 %					
3.00 - 3.45		3.00 (DRY)		S19				
3.00 - 3.45	B					4.00		15.92
3.00 - 3.45	D				Stiff grey, with rare orangish brown mottling, slightly sandy slightly gravelly CLAY with rare shell fragments (up to 15mm in size). Gravel is subangular to subrounded fine to coarse chalk and flint.			
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00	31 blows					
4.00 - 4.45		(DRY)	cu: 210 kPa					
4.45 - 4.50	D		w: 16 %					
5.00 - 5.45		5.00 (DRY)		S28				
5.00 - 5.45	B							
5.00 - 5.45	D					5.50		14.42
5.50	D				Medium dense silty fine to medium SAND, slightly gravelly in parts, with occasional pockets (up to 40mm in size) of very soft brown mottled grey clay. Gravel is subangular fine to medium sandstone and flint.			
6.00 - 6.45		6.00 (4.00)		S29				
6.00 - 6.45	B							
6.00 - 6.45	D							
6.50	D							
7.00 - 7.45		7.00 (5.00)		S32				
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45		8.00 (6.00)		S34				
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
9.00 - 9.45		9.00 (6.00)		S38				
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (6.00)		S39				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
6.00	0.20	Cable Percussion	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			19/09/24	08:00
6.00	6.00	DRY	19/09/24	18:00
6.00	6.00	DRY	20/09/24	08:00
15.45	15.00	13.00	20/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 6.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 6.00m.
A 50mm standpipe was installed to 14.50m with a geowrapped slotted section from 6.50m to 14.50m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB18
Client	National Grid Ventures	**National Grid Coordinates**	642734.1 E 266176.8 N	**Ground Level**	19.92 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (9.00)		S44				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (9.00)		S44				
13.00 - 13.45	D							
14.00	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (13.00)		S41				
					End of Borehole	15.45		4.47

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 6.50m, bentonite seal up to 0.50m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB19
Client	National Grid Ventures	**National Grid Coordinates**	642604.9 E 266325.2 N	**Ground Level**	20.87 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Stiff dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.00 - 0.30	D					0.30		20.57
0.00 - 0.30	ES				Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY with rare pockets (up to 5mm in size) of organic material and a low cobble content of subangular chalk. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.30	AG					0.60		20.27
0.30	ES				Very stiff brown mottled grey and orangish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flints.			
0.30 - 0.60	AG							
0.30 - 0.60	B							
0.30 - 0.60	D							
0.30			PID: <0.1 ppm					
0.50	HV		>130 kPa					
0.60 - 1.20	AG							
0.60 - 1.20	B							
0.60 - 1.20	D		w: 21 %					
0.60 - 1.20	ES					2.00		18.87
0.60			PID: <0.1 ppm		Stiff grey mottled brownish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint.			
1.00	HV		115/35 kPa					
1.20 - 1.65	UT	(DRY)	22 blows					
1.20			PID: <0.1 ppm					
2.00 - 2.45		2.00 (DRY)		S17				
2.00 - 2.45	D							
2.00 - 2.50	B							
2.50 - 3.00	D							
3.00 - 3.45	UT	2.00 (DRY)	33 blows					
3.00 - 3.50	B							
3.00 - 3.45			cu: 239 kPa			4.00		16.87
3.50 - 4.00	D				Stiff brownish grey mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint.			
4.00 - 4.45		2.00 (DRY)		S24				
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D		w: 21 %					
5.00 - 5.45	UT	2.00 (DRY)	36 blows					
5.00 - 5.50	B							
5.50 - 6.00	D							
6.00 - 6.45		2.00 (DRY)		S34	At 6.00m, very stiff.			
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.45	UT	2.00 (DRY)	40 blows			7.00		13.87
7.00 - 7.50	B				Very stiff brownish grey mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint. With occasional orangish brown stains and rare gypsum crystals (up to 5mm in size).			
7.00 - 7.45			cu: 209 kPa					
7.50 - 8.00	D							
8.00 - 8.45		2.00 (DRY)		S38				
8.00 - 8.45	D					8.30		12.57
8.00 - 8.50	B				Very dense brown, locally orangish brown, slightly gravelly silty fine and medium SAND with occasional pockets (up to 55mm in size) of very soft to soft brown mottled grey clay. Gravel is subangular fine to medium of sandstone and flint.			
8.50 - 9.00	B							
8.50 - 9.00	D							
9.00 - 9.44		9.00 (8.80)		S50/ 285mm				
9.00 - 9.44	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (9.60)		S56				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	LC/BB
8.50	0.20	Cable Percussion	LC/BB
15.00	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			19/09/24	08:00
15.45	15.00	14.5	19/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring., possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 8.50m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 8.50m.
A 50mm standpipe was installed to 8.00m with a geowrapped slotted section from 2.00m to 8.00m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB19
Client	National Grid Ventures	**National Grid Coordinates**	642604.9 E 266325.2 N	**Ground Level**	20.87 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D							
10.00 - 10.50	B				Below 10.30m, slightly clayey/clay bands.**			
10.50 - 11.50	D							
11.50 - 12.00	B							
12.00 - 12.38		12.00 (11.40)		S50/ 225mm				
12.00 - 13.00	D							
13.00 - 13.34		13.00 (12.00)		S60/ 190mm				
13.00 - 13.50	B							
13.50 - 14.50	D							
14.50 - 15.00	B							
14.50 - 15.00	D							
15.00 - 15.34		15.00 (14.50)		S50/ 190mm				
15.00 - 15.34	D							
					End of Borehole	15.45		5.42

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Backfill details from base of hole: bentonite seal up to 8.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.

** Drillers description.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB20
Client	National Grid Ventures	**National Grid Coordinates**	642489.3 E 266419.2 N	**Ground Level**	16.65 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B				TOPSOIL: Stiff dark brown slightly gravelly sandy clay. Gravel is subangular to rounded fine to coarse flint, chalk and quartzite.			
0.00 - 0.40	D							
0.00 - 0.40	ES					0.40		16.25
0.40 - 0.60	B				Very stiff brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.	0.60		16.05
0.40 - 0.60	D		w: 11 %					
0.40 - 0.60	ES				Very stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.40			PID: <0.1 ppm			1.00		15.65
0.50	HV		>130 kPa		Brown slightly gravelly silty fine to medium SAND with occasional pockets (up to 65mm in size) of very soft brown and grey clay. Gravel is subangular to subrounded fine to medium flint.			
0.60 - 1.00	B				At 1.20m, loose.			
0.60 - 1.00	D							
0.60 - 1.00	ES							
0.60			PID: <0.1 ppm					
1.00 - 1.20	B							
1.00 - 1.20	D				Below 2.00m, medium dense.			
1.00			PID: <0.1 ppm					
1.00	HV		>130 kPa					
1.20 - 1.65		(DRY)		S9				
1.20 - 1.65	D							
2.00 - 2.45		2.00		S10				
		(1.80)						
2.00 - 2.45	D							
2.00 - 2.50	B							
2.50 - 3.00	D							
3.00 - 3.45		3.00		S13				
		(2.20)						
3.00 - 3.45	D							
3.00 - 3.50	B					4.00		12.65
3.50 - 4.00	D				Dense brown silty fine to medium SAND, slightly gravelly in parts, with rare pockets (up to 45mm in size) of very soft brown and grey clay. Gravel is subangular fine to medium of sandstone and flints.			
4.00 - 4.45		4.00		S42				
		(3.60)						
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.38		5.00		S50/	Below 5.00m, very dense.			
		(4.40)		225mm				
5.00 - 5.38	D							
5.00 - 5.50	B							
5.50 - 6.00	D							
6.00 - 6.43		6.00		S50/				
		(5.50)		280mm				
6.00 - 6.42	D							
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.30		7.00		S50/				
		(6.20)		150mm				
7.00 - 7.30	D							
7.00 - 7.50	B							
7.50 - 8.00	D							
8.00 - 8.28		8.00		S50/				
		(7.20)		135mm				
8.00 - 8.28	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.45		9.00		S47	At 9.00m, dense.			
		(8.80)						
9.00 - 9.45	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.42		10.00		S60/				
		(9.15)		265mm				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	LC/BB
15.45	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			23/09/24	08:00
8.00	7.50	6.20	23/09/24	17:00
8.00	7.50	DRY	24/09/24	08:00
15.45	15.00	14.40	24/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Water was added to assist boring below 1.00m.
A 50mm standpipe was installed to 12.00m with a geowrapped slotted section from 2.00m to 12.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 12.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB20
Client	National Grid Ventures	**National Grid Coordinates**	642489.3 E 266419.2 N	**Ground Level**	16.65 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.42	D							
10.00 - 10.50	B							
10.50 - 11.00	D							
12.00 - 12.45		12.00 (11.20)		S34	At 12.00m, dense.			
12.00 - 12.45	D							
12.00 - 12.50	B							
12.50 - 13.00	D							
13.50 - 13.82		13.50 (13.00)		S50/ 170mm				
13.50 - 13.82	D							
13.50 - 14.00	B							
14.00 - 15.00	B							
14.50 - 15.00	D							
15.00 - 15.45		15.00 (14.40)		S39	At 15.00m, dense.			
15.00 - 15.45	D							
					End of Borehole	15.45		1.20

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB21
Client	National Grid Ventures	**National Grid Coordinates**	642159.4 E 266868.2 N	**Ground Level**	22.56 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	B				TOPSOIL: Stiff dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to rounded fine to coarse chalk, flint and quartzite.	0.30		22.26
0.10	D							
0.30	ES							
0.50	B				Very stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
0.50	D							
0.50	HV		>130 kPa					
0.80	ES							
1.00	B					1.20		21.36
1.00	D				Firm grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.			
1.00	HV		>130 kPa					
1.20	ES							
1.20 - 1.65	UT	(DRY)	24 blows					
1.20 - 1.65			cu: 188 kPa					
2.00 - 2.45		2.00 (DRY)		S14				
2.00 - 2.45	D							
2.00 - 2.50	B							
2.50 - 3.00	D		w: 20 %					
3.00 - 3.45	UT	2.00 (DRY)	36 blows		Below 3.0m, becoming dark grey.			
3.00 - 3.50	B							
3.50 - 4.00	D							
4.00 - 4.45		2.00 (DRY)		S25	At 4.0m, stiff.			
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.45	UT	2.00 (DRY)	36 blows					
5.00 - 5.50	B							
5.00 - 5.45			cu: 233 kPa					
5.50 - 6.00	D		w: 17 %					
6.00 - 6.45		2.00 (DRY)		S37	At 6.00m, very stiff.			
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.45		2.00 (DRY)		S35				
7.00 - 7.45	D							
7.00 - 7.50	B							
7.50 - 8.00	D							
8.00 - 8.45		2.00 (DRY)		S40	Dense brown silty fine and medium SAND, slightly gravelly in parts, with occasional pockets (up to 45mm in size) of very soft brown mottled grey clay. Gravel is subangular medium to coarse flint.	8.00		14.56
8.00 - 8.45	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.45		9.00 (8.70)		S43				
9.00 - 9.45	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (9.60)		S34				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	LC/BB
8.00	0.20	Cable Percussion	LC/BB
15.45	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			17/09/24	08:00
5.00	2.00	DRY	17/09/24	17:00
5.00	2.00	DRY	18/09/24	08:00
15.45	15.00		18/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Symbols and abbreviations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 8.00m depth and reducing casing diameter to 150mm. Water was added to assist boring below 8.00m.
A 50mm standpipe was installed to 7.50m with a geowrapped slotted section from 2.00m to 7.50m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 7.50m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to
Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB21
Client	National Grid Ventures	**National Grid Coordinates**	642159.4 E 266868.2 N	**Ground Level**	22.56 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.50	B							
10.00 - 10.50	D							
10.50 - 11.00	D				Very dense light brown slightly gravelly silty SAND. Gravel is subangular medium to coarse sandstone and flints	10.40		12.16
11.50 - 11.88		11.00 (10.80)		S50/ 225mm				
11.50 - 11.88	D							
11.50 - 12.00	B							
13.00 - 13.32		13.50		S50/ 175mm				
13.00 - 13.32	D							
13.00 - 13.50	B							
13.50 - 14.50	D							
14.50 - 15.00	B							
14.50 - 15.00	D							
15.00 - 15.45		15.00		S48				
15.00 - 15.45	D							
					End of Borehole	15.45		7.11

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure

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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB22
Client	National Grid Ventures	**National Grid Coordinates**	641939.1 E 266974.1 N	**Ground Level**	20.33 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Firm dark brown slightly gravelly sandy clay with occasional rootlets. Gravel subangular to rounded fine to coarse flint, chalk and quartzite.			
0.10	ES							
0.10 - 0.40	B					0.40		19.93
0.10			PID: <0.1 ppm		Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangualr to subrounded fine to coarse chalk and flint.			
0.50	D		w: 19 %					
0.50	ES					0.90		19.43
0.50 - 0.80	B				Stiff brownish grey mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk, flints and sandstone.			
0.50			PID: <0.1 ppm					
0.50	HV		>130 kPa					
0.90 - 1.20	B							
1.00	D							
1.00	ES							
1.00			PID: <0.1 ppm					
1.00	HV		>130 kPa					
1.20 - 1.65		1.20 (DRY)		S15				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.70	D		w: 23 %					
2.00 - 2.45	B							
2.00 - 2.45	UT	2.00 (DRY)	28 blows cu: 109 kPa					
2.00 - 2.45								
2.50	D							
3.00 - 3.45		3.00 (DRY)		S22				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45	B							
4.00 - 4.45	UT	4.00 (DRY)	31 blows					
4.45 - 4.50	D							
5.00 - 5.45		5.00 (DRY)		S29				
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D							
6.00 - 6.45	B							
6.00 - 6.45	UT	6.00 (DRY)	42 blows cu: 244 kPa					
6.50	D							
7.00 - 7.44		7.00 (DRY)		S50/ 285mm	Below 7.00m, very stiff.			
7.00 - 7.44	D							
7.00 - 7.45	B							
7.50	D							
8.00 - 8.45	B							
8.00 - 8.45	UT	8.00 (DRY)	73 blows w: 16 %					
8.50	D		w: 14 %					
9.00 - 9.45		9.00 (DRY)		S43	Dense light brown slightly gravelly fine to medium SAND with rare pockets (up to 45mm in size) of very soft brown mottled grey clay. Gravel is subangular fine to medium flint.	9.00		11.33
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (6.00)		S40		10.00		10.33

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.40	Inspection Pit	BS/KS
9.00	0.20	Cable Percussion	BS/KS
15.50	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			23/09/24	08:00
6.00	6.00	DRY	23/09/24	17:00
6.00	6.00	DRY	24/09/24	08:00
15.45	15.00	13.00	24/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 9.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 9.00m.
A 50mm standpipe was installed to 14.50m with a geowrapped slotted section from 9.00m to 14.50m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.50m, gravel filter up to 9.00m, bentonite seal up to 0.50m, concrete up to

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB22
Client	National Grid Ventures	**National Grid Coordinates**	641939.1 E 266974.1 N	**Ground Level**	20.33 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B				Dense brown, locally orangish brown, silty fine to medium SAND, slightly gravelly in parts, with rare pockets (up to 55mm in size) of very stiff brown mottled grey clay. Gravel is subangular to subrounded fine to coarse flint.			
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (7.00)		S47				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (10.00)		S44				
13.00 - 13.45	B							
13.00 - 13.45	D							
14.00	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (13.00)		S48				
15.00 - 15.45	D				End of Borehole	15.45		4.88

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB23
Client	National Grid Ventures	**National Grid Coordinates**	641812.1 E 267297.1 N	**Ground Level**	12.21 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.10	D				TOPSOIL: Dark brown gravelly clayey sand with occasional rootlets. Gravel is angular to rounded fine to coarse flint and quartzite.			
0.10	ES							
0.10 - 0.40	B							
0.50	ES					0.50		11.71
0.50			PID: <0.1 ppm		Brown slightly gravelly fine to medium SAND. Gravel is angular to rounded fine to coarse flint and quartzite.			
0.60	D							
0.90 - 1.20	B				Light brown and orangish brown slightly gravelly fine to medium SAND with occasional pockets (up to 35mm in size) of soft brown clay. Gravel is subangular to subrounded fine to coarse flint.	0.90		11.31
1.00	D					1.20		11.01
1.00	ES							
1.00			PID: <0.1 ppm		Medium dense to dense orangish brown locally light brown slightly gravelly silty fine to medium SAND with rare pockets (up to 55mm in size) of very soft brown mottled grey clay. Gravel is angular to subangular fine to coarse flint.			
1.20 - 1.65		1.20 (1.00)		S17				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.70	D							
2.00 - 2.45		2.00 (1.00)		S20				
2.00 - 2.45	B							
2.00 - 2.45	D							
2.50	D							
3.00 - 3.45		3.00 (2.00)		S23				
3.00 - 3.45	B							
3.00 - 3.45	D							
3.50	D							
4.00 - 4.45		4.00 (3.00)		S28				
4.00 - 4.45	B							
4.00 - 4.45	D							
4.50	D							
5.00 - 5.45		5.00 (3.00)		S34	Below 5.00m, becoming dense.			
5.00 - 5.45	B							
5.00 - 5.45	D							
5.50	D							
6.00 - 6.45		6.00 (4.50)		S31				
6.00 - 6.45	B							
6.00 - 6.45	D							
6.50	D							
7.00 - 7.45		7.00 (5.00)		S43				
7.00 - 7.45	B							
7.00 - 7.45	D							
7.50	D							
8.00 - 8.45		8.00 (6.00)		S47				
8.00 - 8.45	B							
8.00 - 8.45	D							
8.50	D							
9.00 - 9.45		9.00 (8.00)		S46				
9.00 - 9.45	B							
9.00 - 9.45	D							
9.50	D							
10.00 - 10.45		10.00 (7.00)		S42				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	BS/KS
15.45	0.15	Cable Percussion	BS/KS

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			26/09/24	08:00
13.00	13.00	11.00	26/09/24	18:00
13.00	13.00	11.00	27/09/24	08:00
15.45	15.00	13.00	27/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring below 1.20m.
A 50mm standpipe was installed to 12.00m with a geowrapped slotted section from 2.00m to 12.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 12.00m, gravel filter up to 2.00m, bentonite seal up to 0.50m, concrete up to

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB23
Client	National Grid Ventures	**National Grid Coordinates**	641812.1 E 267297.1 N	**Ground Level**	12.21 m OD

Sampling			Properties	Strata			Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	B							
10.00 - 10.45	D							
10.70	D							
11.50 - 11.95		11.50 (8.00)		S46				
11.50 - 11.95	B							
11.50 - 11.95	D							
12.20	D							
13.00 - 13.45		13.00 (11.00)		S35				
13.00 - 13.45	B							
13.00 - 13.45	D							
14.00	D							
14.50 - 15.00	B							
15.00 - 15.45		15.00 (13.00)		S42				
15.00 - 15.45	D				End of Borehole	15.45		-3.24

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB24
Client	National Grid Ventures	**National Grid Coordinates**	641892.0 E 267509.2 N	**Ground Level**	13.04 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B				TOPSOIL: Dark brown gravelly clayey sand with occasional rootlets. Gravel is angular to rounded fine to coarse flint and quartzite.			
0.00 - 0.35	D							
0.00 - 0.35	ES				Brown gravelly silty fine to medium SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.	0.35		12.69
0.35 - 1.00	B							
0.35 - 1.00	D							
0.35 - 1.00	ES							
0.35			PID: <0.1 ppm					
					Light brown gravelly silty fine to medium SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.	1.00		12.04
1.00 - 1.20	B					1.20		11.84
1.00 - 1.20	D				Medium dense to dense light brown and orangish brown slightly gravelly silty fine to medium SAND with occasional pockets (up to 70mm in size) of very soft to soft brown mottled grey clay. Gravel is angular to subangular fine to coarse of flint.			
1.00 - 1.20	ES							
1.00			PID: <0.1 ppm					
1.20 - 1.65				S9				
1.20 - 1.65	D							
1.20			PID: <0.1 ppm					
1.50 - 2.00	D							
2.00 - 2.45		2.00 (1.80)		S16				
2.00 - 2.45	D							
2.00 - 2.50	B							
3.00 - 3.45		3.00 (2.22)		S26				
3.00 - 3.45	D							
3.00 - 3.50	B							
3.50 - 4.00	D							
4.00 - 4.38		4.00 (3.00)		S50/ 235mm	Below 4.00m, very dense.			
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D							
5.00 - 5.33		5.00 (4.20)		S50/ 180mm				
5.00 - 5.33	D							
5.00 - 5.50	B							
5.50 - 6.00	D							
6.00 - 6.45		6.00 (5.50)		S42		6.00		7.04
					Dense orangish brown slightly gravelly silty fine to medium SAND with occasional pockets (up to 55mm in size) of very soft to soft brown mottled grey clay. Gravel is angular to subangular fine to coarse flint.			
6.00 - 6.33	D							
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.45		7.00 (6.60)		S56				
7.00 - 7.45	D							
7.00 - 7.50	B							
7.50 - 8.00	D							
8.00 - 8.40		8.00 (7.20)		S50/ 255mm	Below 8.00m, very dense.			
8.00 - 8.45	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.41		9.00 (8.10)		S56/ 265mm				
9.00 - 9.42	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.38		10.00 (9.20)		S50/ 225mm				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	LC/BB
15.45	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			25/09/24	15:00
1.65	1.50	DRY	25/09/24	18:00
1.65	1.50	DRY	26/09/24	08:00
10.38	10.00	9.20	26/09/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring below 1.20m.
A 50mm standpipe was installed to 14.00m with a geowrapped slotted section from 4.00m to 14.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.00m, gravel filter up to 4.00m, bentonite seal up to 0.50m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHB24
Client	National Grid Ventures	**National Grid Coordinates**	641892.0 E 267509.2 N	**Ground Level**	13.04 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.38	D							
10.00 - 10.50	B							
10.50 - 12.00	D							
12.00 - 12.45		12.00 (11.80)		S34	Between 12.00-15.00m, dense.			
12.00 - 12.45	D							
12.00 - 12.50	B							
12.50 - 13.50	D							
13.50 - 13.95		13.50 (13.00)		S37				
13.50 - 13.95	D							
13.50 - 14.00	B							
14.00 - 15.00	B							
14.00 - 15.00	D							
15.00 - 15.45		15.00 (14.40)		S53				
15.00 - 15.45	D							
					End of Borehole	15.45		-2.41

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
				10.38	10.00	DRY	30/09/24	08:00						
				15.45	15.00	14.40	30/09/24	18:00						

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Checked by TNH
Figure

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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC01
Client	National Grid Ventures	**National Grid Coordinates**	642436.0 E 268206.1 N	**Ground Level**	5.23 m OD

Scale 1:50

Sampling: Depth	Sample Type	Depth Cased & (to Water)	Properties: Results	SPT N	Strata: Description	Depth	Legend	Level (m OD)
0.00 - 0.40	AG				TOPSOIL: Stiff (desiccated) brown slightly gravelly sandy clay with with many rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite	0.20		5.03
0.00 - 0.40	B							
0.20	D							
0.20	ES				Firm to stiff brown slightly gravelly sandy CLAY with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.20			PID: <0.1 ppm					
0.40 - 0.80	AG				Below 0.30m, rootlets are absent.	0.80		4.43
0.40 - 0.80	B				Dark brown mottled yellowish brown slightly clayey SAND.			
0.50	D		w: 8 %		Below 1.10m, light brown.			
0.50	ES				At 1.20m, very loose.			
0.50			PID: <0.1 ppm					
0.80 - 1.20	AG							
0.80 - 1.20	B							
1.00	D							
1.00	ES					2.00		3.23
1.00			PID: <0.1 ppm		Firm bluish grey mottled brown slightly sandy slightly gravelly CLAY with rare pockets (up to 40mm in size) of calcareous silt. Gravel is subangular to subrounded fine to coarse chalk and flint.			
1.20 - 1.65		(DRY)		S2				
1.20 - 1.65	D							
1.20 - 1.70	B							
1.90 - 2.00	D							
2.00 - 2.45	UT	(DRY)	35 blows					
2.00 - 2.45			cu: 75 kPa		Below 3.00m, silt pockets are absent. Gravel includes quartzite and sandstone.			
2.45 - 2.50	D		w: 17 %					
2.90 - 3.00	D							
2.90 - 6.40	W							
3.00 - 3.45		2.90 (DRY)		S12				
3.00 - 3.45	D							
3.00 - 3.50	B							
3.90 - 4.00	D							
4.00 - 4.45	UT	2.90 (DRY)	50 blows					
4.45 - 4.50	D							
4.90 - 5.00	D		w: 17 %					
5.00 - 5.45		2.90 (DRY)		S13	Below 4.90m, with rare pockets (up to 10mm in size) of white calcareous silt.			
5.00 - 5.45	D				Between 5.00-6.00m, with rare pockets (up to 15mm in size) of brown and dark brown sand.			
5.00 - 5.50	B							
5.90 - 6.00	D							
6.00 - 6.45	UT	2.90 (DRY)	40 blows cu: 92 kPa					
6.00 - 6.45								
6.45 - 6.50	D					6.40		-1.17
					Firm grey to greenish grey slightly gravelly sandy SILT grading in parts to very silty sand. Gravel is angular to subangular flint.			
6.90 - 7.00	D							
7.00 - 7.45		6.90 (3.50)		S8				
7.00 - 7.45	D							
7.00 - 7.50	B				Below 7.50m, gravel is angular to subrounded.			
7.90 - 8.00	D							
8.00 - 8.45		7.90 (4.50)		S9				
8.00 - 8.45	D							
8.00 - 8.50	B				Between 8.50-8.90m, clayey.			
8.90 - 9.00	D							
9.00 - 9.45		8.90 (5.50)		S19	Below 9.00m, stiff.			
9.00 - 9.45	D							
9.00 - 9.50	B							
9.90 - 10.00	D							
10.00 - 10.45		9.90 (1.30)		S22				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	JM/MD
6.50	0.20	Cable Percussion	JM/MD
15.00	0.15	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			25/09/24	08:00
10.00	9.90	6.20	25/09/24	17:00
10.00	9.90	1.30	26/09/24	08:00
15.00	15.00	4.00	26/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
6.40	2.90	2.90	20		

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to high consistency of the soil.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 6.50m depth and reducing casing diameter to 150mm.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 6.50m to 15.00m with a up-standing cover installed.
Below 10.00m, driller notes sand as "blowing".
Backfill details from base of hole: gravel filter up to 6.50m, bentonite seal up to 0.20m, concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by RC
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC01
Client	National Grid Ventures	**National Grid Coordinates**	642436.0 E 268206.1 N	**Ground Level**	5.23 m OD

Scale 1:50

Sampling			Properties		Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D				Below 10.00m, with rare pockets (up to 6mm in size) of soft clay.			
10.00 - 10.50	B							
					Between 10.50-11.00m, with occasional fossil shell fragments (up to 10mm in size).			
10.90 - 11.00	D							
11.50 - 11.95		11.40 (2.70)		S8	Below 11.50m, firm.			
11.50 - 11.95	D							
11.50 - 12.00	B							
12.00 - 12.10	D							
12.90 - 13.00	D							
13.00 - 13.45		12.90 (4.00)		S7				
13.00 - 13.45	D							
13.00 - 13.50	B							
13.90 - 14.00	D							
14.50 - 14.95		14.40 (4.00)		S9				
14.50 - 15.00	B							
					End of Borehole	15.00		-9.77

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC02
Client	National Grid Ventures	**National Grid Coordinates**	642613.1 E 268517.0 N	**Ground Level**	7.26 m OD

Sampling			Properties	Strata				Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	AG				TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse flint. Below 0.25m, rootlets are absent.			
0.00 - 0.50	B							
0.10 - 0.20	AG							
0.20	D							
0.20	ES							
0.20			PID: <0.1 ppm					
0.30	HV		38/27/33 kPa					
0.50	ES							
0.50 - 0.90	AG							
0.50 - 0.90	B							
0.60	D							
0.60			PID: <0.1 ppm					
0.90 - 1.20	B							
1.00	D							
1.00	ES							
1.20 - 1.65		(DRY)		S33				
1.20 - 1.65	B							
1.20 - 1.65	D							
1.90 - 2.00	D							
2.20 - 2.65		2.00 (1.80)		S5				
2.20 - 2.65	B							
2.20 - 2.65	D							
2.90 - 3.00	D							
3.20 - 3.65		3.00 (2.50)		S12				
3.20 - 3.65	B							
3.20 - 3.65	D							
3.90 - 4.00	D							
4.20 - 4.65		4.00 (3.00)		S9				
4.20 - 4.65	B							
4.20 - 4.65	D							
4.90 - 5.00	D							
5.20 - 5.65		5.00 (4.00)		S24				
5.20 - 5.65	B							
5.20 - 5.65	D							
5.90 - 6.00	D							
6.20 - 6.65		6.00 (3.00)		S20				
6.20 - 6.65	B							
6.20 - 6.65	D							
6.90 - 7.00	D							
7.20 - 7.65		7.00 (2.00)		S24				
7.20 - 7.65	B							
7.20 - 7.65	D							
7.90 - 8.00	D							
8.20 - 8.65		8.00 (2.00)		S23				
8.20 - 8.65	B							
8.20 - 8.65	D							
8.90 - 9.00	D							
9.20 - 9.65		9.00 (1.50)		S18				
9.20 - 9.65	B							
9.20 - 9.65	D							
9.90 - 10.00	D							
						0.50		6.76
						0.90		6.36
						2.90		4.36

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	NH/JT
15.00	0.20	Cable Percussion	NH/JT

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			26/09/24	08:00
1.20		DRY	26/09/24	18:00
1.20		DRY	27/09/24	08:00
6.00	5.80	4.50	27/09/24	16:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Water was added to assist boring below 1.20m.
A 50mm standpipe was installed to 8.00m with a geowrapped slotted section from 2.00m to 8.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 8.00m, gravel filter up to 2.00m, bentonite seal up to 0.20m, concrete up to
Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC02
Client	National Grid Ventures	**National Grid Coordinates**	642613.1 E 268517.0 N	**Ground Level**	7.26 m OD

Sampling			Properties	Strata			Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.20 - 10.65		10.00 (1.00)		S9	Firm bluish grey sandy SILT.	10.10		-2.84
10.20 - 10.65	B							
10.20 - 10.65	D							
10.90 - 11.00	D		w: 45 %					
11.50 - 11.95		11.30 (1.00)		S30				
11.50 - 11.95	D					11.70		-4.44
11.70 - 11.90	B				Grey to greenish grey slightly gravelly silty SAND with many angular shell fragments (up to 2mm in size). Gravel is angular to subangular fine to medium quartzite.			
11.90 - 12.00	D							
13.00 - 13.34		12.80 (0.50)		S50/ 195mm	Below 13.00m, very dense.			
13.00 - 13.34	D							
13.00 - 13.45	B				Below 13.50m, becoming greenish grey.			
13.90 - 14.00	D							
14.50 - 14.81		14.50 (5.00)		S50/ 160mm				
14.50 - 14.81	D							
14.50 - 14.95	B							
14.90 - 15.00	D				End of Borehole	15.00		-7.74

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
				6.00	5.80	3.10	30/09/24	08:00						
				15.00	15.00	7.00	30/09/24	17:00						

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC03
Client	National Grid Ventures	**National Grid Coordinates**	642681.9 E 268641.0 N	**Ground Level**	12.84 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B				TOPSOIL: Stiff (desiccated) brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.20 - 0.30	D							
0.20 - 0.30	ES					0.40		12.44
0.30			PID: <0.1 ppm		Orangish brown slightly gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse flint and chalk.			
0.40 - 0.70	B					0.70		12.14
0.50 - 0.60	D				Yellowish brown silty SAND.			
0.50 - 0.60	ES				Below 0.90m, becoming light yellowish brown.			
0.60			PID: <0.1 ppm					
0.70 - 0.90	B				Below 1.20m, dense.			
0.80 - 0.90	D				Between 1.20-2.50m, slightly gravelly. Gravel is subangular to subrounded fine to medium chalk.			
0.80 - 0.90	ES							
0.90 - 1.20	B							
0.90			PID: <0.1 ppm					
1.00 - 1.10	D				Between 2.00-4.00m, very dense.			
1.20 - 1.65		(DRY)		S40				
1.20 - 1.65	D							
1.20 - 1.70	B							
1.90 - 2.00	D							
2.00 - 2.42		1.90 (1.50)		S50/ 265mm				
2.00 - 2.42	D							
2.00 - 2.50	B							
2.90 - 3.00	D							
3.00 - 3.38		2.90 (2.00)		S50/ 225mm				
3.00 - 3.38	D							
3.00 - 3.50	B				Below 3.90m, light yellowish brown.			
3.90 - 4.00	D							
4.00 - 4.45		3.90 (3.00)		S44				
4.00 - 4.45	D							
4.00 - 4.50	B							
4.90 - 5.00	D							
5.00 - 5.45		4.90 (4.50)		S25				
5.00 - 5.45	D							
5.00 - 5.50	B							
5.90 - 6.00	D							
6.00 - 6.45		5.90 (5.00)		S36				
6.00 - 6.45	D							
6.00 - 6.50	B							
6.90 - 7.00	D							
7.00 - 7.40		6.90 (6.00)		S50/ 245mm	Below 7.00m, very dense and slightly gravelly. Gravel is subangular to subrounded fine to medium flint.			
7.00 - 7.40	D							
7.00 - 7.50	B							
7.90 - 8.00	D				Dense yellowish brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	7.80		5.04
8.00 - 8.45		7.90 (7.50)		S31	Below 8.00m, orangish brown.			
8.00 - 8.45	D							
8.00 - 8.50	B							
8.90 - 9.00	D							
9.00 - 9.45		8.90 (8.50)		S36				
9.00 - 9.45	D							
9.00 - 9.50	B							
9.90 - 10.00	D				Below 9.90m, light orangish brown.			
10.00 - 10.45		9.90 (9.50)		S41				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	JM/MD
15.00	0.20	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			26/09/24	08:00
1.20		DRY	26/09/24	17:00
1.20		DRY	27/09/24	08:00
7.00	6.90	6.00	27/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

AGS

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring between 1.20m and 14.00m.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 10.00m to 15.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: gravel filter up to 10.00m, bentonite seal up to 0.20m, concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by CS
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC03
Client	National Grid Ventures	**National Grid Coordinates**	642681.9 E 268641.0 N	**Ground Level**	12.84 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D							
10.00 - 10.50	B							
10.90 - 11.00	D				Dense light brown silty SAND.	10.90		1.94
11.50 - 11.95		11.40 (11.00)		S43				
11.50 - 11.95	D							
11.50 - 12.00	B							
12.00 - 12.10	D							
12.90 - 13.00	D							
13.00 - 13.32		12.90 (12.00)		S50/ 170mm	At 13.00m, very dense.			
13.00 - 13.32	D							
13.00 - 13.50	B							
13.90 - 14.00	D							
14.50 - 14.95		14.40 (13.50)		S43				
14.50 - 14.95	D							
14.50 - 15.00	B				End of Borehole	15.00		-2.16

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
7.00	6.90	6.00	30/09/24	08:00
15.00	15.00	13.50	30/09/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 2 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC04
Client	National Grid Ventures	**National Grid Coordinates**	642826.0 E 268767.1 N	**Ground Level**	17.08 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B				TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is subangular to subrounded fine to coarse flint.			
0.10 - 0.20	D					0.30		16.78
0.10 - 0.20	ES				Firm to stiff brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint.			
0.20			PID: <0.1 ppm			0.60		16.48
0.20	HV		36/28/34 kPa R: 16/14/14 kPa		Orangish brown slightly gravelly clayey SAND. Gravel is subangular to subrounded fine to coarse flint.	0.80		16.28
0.30 - 0.60	B				Firm grey mottled light brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.40 - 0.50	D							
0.40 - 0.50	ES							
0.50			PID: <0.1 ppm					
0.60 - 0.80	B							
0.70 - 0.80	D							
0.70 - 0.80	ES							
0.80 - 1.20	B							
0.80			PID: <0.1 ppm					
1.00 - 1.10	D		w: 20 %					
1.20 - 1.65		(DRY)		S10				
1.20 - 1.65	D							
1.20 - 1.70	B							
1.90 - 2.00	D							
2.00 - 2.45	UT	(DRY)	70 blows		Between 3.00-3.50m, with a low cobble content of subangular flint.			
2.00 - 2.45			cu: 174 kPa					
2.45 - 2.50	D							
2.90 - 3.00	D							
3.00 - 3.45		(DRY)		S11				
3.00 - 3.45	D							
3.00 - 3.50	B							
3.90 - 4.00	D							
4.00 - 4.45	UT	3.00 (DRY)	100 blows w: 4 % cu: 0 kPa		Very dense creamish brown silty fine to medium SAND.	4.30		12.78
4.00 - 4.45								
4.45 - 4.50	D							
4.90 - 5.00	D				Below 4.90m, light yellowish brown.			
5.00 - 5.41		4.90 (4.70)		S50/ 260mm				
5.00 - 5.41	D							
5.00 - 5.50	B							
5.90 - 6.00	D							
6.00 - 6.38		5.90 (5.80)		S50/ 225mm				
6.00 - 6.38	D							
6.00 - 6.50	B							
6.90 - 7.00	D							
7.00 - 7.36		6.90 (6.60)		S50/ 205mm				
7.00 - 7.36	D							
7.00 - 7.50	B							
7.90 - 8.00	D							
8.00 - 8.36		7.90 (7.50)		S50/ 215mm				
8.00 - 8.36	D							
8.00 - 8.50	B							
8.90 - 9.00	D							
9.00 - 9.45		8.90 (8.80)		S50	Dense yellowish brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	9.00		8.08
9.00 - 9.45	D							
9.00 - 9.50	B				Dense orangish brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	9.50		7.58
9.90 - 10.00	D							
10.00 - 10.45		9.90 (9.50)		S33				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	JM/MD
4.50	0.20	Cable Percussion	JM/MD
15.00	0.15	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			01/10/24	08:00
7.50	7.50	7.00	01/10/24	17:30
7.50	7.50	7.00	02/10/24	08:00
15.00	15.00	13.50	02/10/24	17:30

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Water was added to assist boring between 4.30m and 14.00m.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 4.50m depth and reducing casing diameter to 150mm.
A 50mm standpipe was installed to 14.00m with a geowrapped slotted section from 5.00m to 14.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.00m, gravel filter up to 5.00m, bentonite seal up to 0.20m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by CS
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC04
Client	National Grid Ventures	**National Grid Coordinates**	642826.0 E 268767.1 N	**Ground Level**	17.08 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D							
10.00 - 10.50	B							
10.90 - 11.00	D				Dense yellowish brown silty SAND.	10.90		6.18
11.50 - 11.95		11.40 (11.30)		S49				
11.50 - 11.95	D							
11.50 - 12.00	B							
12.00 - 12.10	D				Dense orangish brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	12.00		5.08
12.90 - 13.00	D							
13.00 - 13.45		12.90 (11.90)		S41				
13.00 - 13.45	D							
13.00 - 13.50	B							
13.90 - 14.00	D				Medium dense yellowish brown silty SAND. Between 13.90-14.00m, with occasional pockets (up to 50mm in size) of clay.	13.90		3.18
14.50 - 14.95		14.40 (12.50)		S23				
14.50 - 14.95	D							
14.50 - 15.00	B				End of Borehole	15.00		2.08

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC07
Client	National Grid Ventures	**National Grid Coordinates**	643054.0 E 269902.1 N	**Ground Level**	22.48 m OD

Scale 1:50

Sampling Depth	Sample Type	Depth Cased & (to Water)	Properties Results	SPT N	Strata Description	Depth	Legend	Level (m OD)
0.00 - 0.40	AG				TOPSOIL: Stiff dark brown slightly gravelly sandy clay with occasional rootlets. Gravel is angular to rounded fine to coarse flint, chalk and quartzite.			
0.00 - 0.40	B							
0.00 - 0.40	D					0.40		22.08
0.00 - 0.40	ES				Stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	0.60		21.88
0.40 - 0.60	AG							
0.40 - 0.60	B				Stiff grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.40 - 0.60	D							
0.40 - 0.60	ES					1.20		21.28
0.40			PID: <0.1 ppm		Orangish brown silty fine to medium SAND.			
0.50	HV		>130 kPa					
0.60 - 1.20	AG							
0.60 - 1.20	B							
0.60 - 1.20	D		w: 15 %					
0.60 - 1.20	ES					2.00		20.48
0.60			PID: <0.1 ppm		Stiff, locally firm, brownish grey mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
1.00	HV		>130 kPa					
1.20 - 1.65		(DRY)		S17				
1.20 - 1.65	D							
1.20 - 2.00	B							
1.20			PID: <0.1 ppm					
2.00 - 2.45		2.00 (DRY)		S22				
2.00 - 2.45	D							
2.00 - 2.50	D							
3.00 - 3.45		2.00 (DRY)		S28				
3.00 - 3.45	D							
3.00 - 3.50	B				At 4.00m very stiff.			
3.50 - 4.00	D							
4.00 - 4.45		2.00 (DRY)		S30				
4.00 - 4.45	D							
4.00 - 4.50	B							
4.50 - 5.00	D		w: 21 %					
5.00 - 5.45		2.00 (DRY)		S25				
5.00 - 5.45	D							
5.00 - 5.50	B							
5.50 - 6.00	D							
6.00 - 6.45		2.00 (DRY)		S24				
6.00 - 6.45	D							
6.00 - 6.50	B							
6.50 - 7.00	D							
7.00 - 7.45		7.00 (DRY)		S13				
7.00 - 7.45	D				CHALK, recovered as white sandy gravelly silt with occasional pockets (up to 70mm in size) of very soft grey clay. Gravel is extremely weak to weak, low and medium density, white angular to subangular and fine to coarse.	7.10		15.38
7.10 - 7.50	B							
7.50 - 8.00	D		w: 21 %					
8.00 - 8.45		8.00 (7.60)		S29	Medium dense greyish brown silty fine to medium SAND with occasional pockets (up to 50mm in size) of very soft clay.	8.00		14.48
8.00 - 8.45	D							
8.00 - 8.50	B							
8.50 - 9.00	D							
9.00 - 9.45		9.00 (8.50)		S36	Dense dark brown very silty fine to medium SAND with occasional pockets (up to 120mm in size) of dark brown and light brown silt.	9.00		13.48
9.00 - 9.45	D							
9.00 - 9.50	B							
9.50 - 10.00	D							
10.00 - 10.45		10.00 (9.80)		S23				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.50	Inspection Pit	LC/BB
8.00	0.20	Cable Percussion	LC/BB
15.21	0.15	Cable Percussion	LC/BB

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			01/01/24	08:00
8.00	2.00	DRY	01/10/24	17:00
8.00	2.00	DRY	02/10/24	08:00
15.21	15.00	14.40	02/10/24	17:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
Aquifer protection undertaken by installing a 1.00m thick bentonite seal at 8.00m depth and reducing casing diameter to 150mm.
Water was added to assist boring below 8.00m.
A 50mm standpipe was installed to 6.50m with a geowrapped slotted section from 2.00m to 6.50m with a up-standing cover and protective fence installed.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by PO
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC07
Client	National Grid Ventures	**National Grid Coordinates**	643054.0 E 269902.1 N	**Ground Level**	22.48 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D				Below 10.00m, medium dense.			
10.00 - 10.50	B							
10.50 - 12.00	D							
11.00 - 12.50	B							
12.00 - 12.45		12.00 (11.20)		S22				
12.00 - 12.45	D							
12.50 - 13.50	D							
13.50 - 13.90		13.50 (13.00)		S50/ 255mm	Below 13.50m, very dense.			
13.50 - 13.90	D							
13.50 - 14.00	B							
14.00 - 15.00	B							
14.00 - 15.00	D							
15.00 - 15.21		15.00 (14.40)		S50/ 115mm				
15.00 - 15.21	D				End of Borehole	15.21		7.27

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Backfill details from base of hole: bentonite seal up to 6.50m, gravel filter up to 2.00m, bentonite seal up to 0.20m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by PO
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC08
Client	National Grid Ventures	**National Grid Coordinates**	643076.9 E 271307.1 N	**Ground Level**	20.94 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B				TOPSOIL: Brown slightly gravelly clayey sand. Gravel is subangular to subrounded fine to coarse flint and chalk.			
0.20 - 0.30	D							
0.20 - 0.30	ES					0.40		20.54
0.30			PID: <0.1 ppm		Light yellowish brown slightly gravelly slightly silty to silty SAND. Gravel is subangular to subrounded fine to coarse flint.			
0.40 - 0.80	B							
0.60 - 0.70	D							
0.60 - 0.70	ES							
0.70			PID: <0.1 ppm					
0.80 - 1.20	B				Below 1.20m, medium dense.			
1.00 - 1.10	D				Between 1.20-1.70m, with rare pockets (up to 30mm in size) of soft clay.			
1.00 - 1.10	ES				Gravel is fine to medium.			
1.10			PID: <0.1 ppm					
1.20 - 1.65		(DRY)		S16				
1.20 - 1.65	D							
1.20 - 1.70	B							
1.90 - 2.00	D							
2.00 - 2.45		1.90 (1.80)		S12				
2.00 - 2.45	D							
2.00 - 2.50	B							
2.90 - 3.00	D				Below 3.00m, with occasional pockets (up to 40mm in size) of firm clay.			
3.00 - 3.45		2.90 (2.50)		S15				
3.00 - 3.45	D							
3.00 - 3.50	B							
3.90 - 4.00	D					3.90		17.04
4.00 - 4.45		3.90 (3.00)		S25	Medium dense light yellowish brown silty fine to medium SAND with occasional pockets (up to 40mm in size) of firm clay. Below 4.00m, medium dense. Clay pockets are absent.			
4.00 - 4.45	D							
4.00 - 4.50	B							
4.90 - 5.00	D				Between 4.90-5.00m, grading to a very soft sandy silt.			
5.00 - 5.45		4.50 (4.50)		S18				
5.00 - 5.45	D							
5.00 - 5.50	B							
5.90 - 6.00	D							
6.00 - 6.45		5.90 (5.00)		S44	Below 6.00m, dense.			
6.00 - 6.45	D							
6.00 - 6.50	B							
6.90 - 7.00	D							
7.00 - 7.45		6.90 (6.10)		S46				
7.00 - 7.45	D							
7.00 - 7.50	B							
7.90 - 8.00	D							
8.00 - 8.38		7.90 (7.00)		S50/ 225mm	At 8.00m, very dense.			
8.00 - 8.38	D							
8.00 - 8.50	B							
8.90 - 9.00	D							
9.00 - 9.45		8.90 (8.50)		S29	At 9.00m, medium dense.			
9.00 - 9.45	D							
9.00 - 9.50	B				Below 9.50m, yellowish brown with occasional pockets (up to 20mm in size) of soft clay.			
9.90 - 10.00	D							
10.00 - 10.45		9.90 (9.70)		S43				

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	JM/MD
15.00	0.15	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			07/10/24	08:00
4.50	4.50	4.00	07/10/24	18:00
4.50	4.50	DRY	08/10/24	08:00
15.00	15.00	13.50	08/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring, possibly obscured by added water.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
Unable to obtain Hand Vanes due to granular material present.
Water was added to assist boring between 1.20m and 14.00m.
A 50mm standpipe was installed to 14.00m with a geowrapped slotted section from 5.00m to 14.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 14.00m, gravel filter up to 5.00m, bentonite seal up to 0.20m, concrete up to

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by CS
Checked by TNH
Figure Sheet 1 of 2
23/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Borehole	BHC08
Client	National Grid Ventures	**National Grid Coordinates**	643076.9 E 271307.1 N	**Ground Level**	20.94 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45	D							
10.00 - 10.50	B							
10.90 - 11.00	D							
11.50 - 11.88		11.40 (10.90)		S50/ 225mm	At 11.50m, very dense.			
11.50 - 11.88	D							
11.50 - 12.00	B							
12.00 - 12.10	D							
12.90 - 13.00	D							
13.00 - 13.45		12.90 (12.20)		S47				
13.00 - 13.45	D							
13.00 - 13.50	B				Below 13.50m, clay pockets are absent.			
13.90 - 14.00	D							
14.50 - 14.95		14.40 (13.00)		S33				
14.50 - 14.95	D							
14.50 - 15.00	B				End of Borehole	15.00		5.94

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks AGS ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB01	1.50	15.88	S		4	6	4	5	5	5	19	
BHB01	2.50	14.88	S		2	2	3	2	3	3	11	
BHB01	3.50	13.88	S		1	1	2	2	1	2	7	
BHB01	4.50	12.88	S		2	2	2	2	2	3	9	
BHB01	6.00	11.38	S		1	2	2	3	7	9	21	
BHB01	7.50	9.88	S		2	2	2	2	3	3	10	
BHB01	9.00	8.38	S		5	7	10	11	20	9/27	50/252	
BHB01	10.55	6.83	S		7	13	18	19	13/46		50/196	
BHB01	12.05	5.33	S		4	5	6	7	12	18	43	
BHB01	13.55	3.83	S		7	9	14	24	12/41		50/191	
BHB01	15.05	2.33	S		7	12	24	26/38			50/113	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB02	1.20	18.14	S		5	7	7	9	11	12	39	
BHB02	2.00	17.34	S		6	8	9	11	11	12	43	
BHB02	3.00	16.34	S		5	6	6	7	7	8	28	
BHB02	4.00	15.34	S		5	8	8	10	11	14	43	
BHB02	5.00	14.34	S		5	9	11	11	12	14	48	
BHB02	6.00	13.34	S		3	3	3	5	5	5	18	
BHB02	7.00	12.34	S		3	5	6	7	7	9	29	
BHB02	8.00	11.34	S		4	6	7	9	9	11	36	
BHB02	9.00	10.34	S		6	7	7	9	10	11	37	
BHB02	10.00	9.34	S		7	9	15	15	20/40		50/190	
BHB02	11.50	7.84	S		5	9	9	11	15	16	51	
BHB02	13.00	6.34	S		4	6	8	8	9	10	35	
BHB02	15.00	4.34	S		7	9	9	8	8	9	34	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB03A	1.20	24.72	S		3	3	3	4	5	5	17	
BHB03A	3.00	22.92	S		3	4	6	6	7	7	26	
BHB03A	5.00	20.92	S		4	6	8	8	9	9	34	
BHB03A	7.00	18.92	S		6	7	7	10	10	12	39	
BHB03A	9.00	16.92	S		5	9	11	12	12	13	48	
BHB03A	11.50	14.42	S		5	7	9	11	11	13	44	
BHB03A	15.00	10.92	S		6	10	10	15	18	8/10	51/235	

Hammer No.:	ADS MID2
Energy Ratio, Er (%):	68

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB04	2.10	23.05	S		3	4	5	6	6	9	26	
BHB04	4.10	21.05	S		3	3	5	6	7	9	27	
BHB04	6.10	19.05	S		4	6	10	17	13	10/58	50/283	
BHB04	7.00	18.15	C		1	2	2	3	3	2	10	
BHB04	8.10	17.05	C		1	2	3	4	5	5	17	
BHB04	9.10	16.05	C		4	3	4	23	27/41		54/191	
BHB04	10.50	14.65	S		6	10	12	15	18	5/11	50/236	
BHB04	12.05	13.10	S		6	10	11	14	15	10/35	50/260	
BHB04	13.55	11.60	S		9	10	13	15	19	3/8	50/233	
BHB04	15.00	10.15	S		9	10	13	14	17	6/16	50/241	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB06	1.20	20.38	S		1	3	3	3	5	6	17	
BHB06	3.00	18.58	S		3	3	5	5	5	6	21	

Hammer No.:	ADS MID2
Energy Ratio, Er (%):	68

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB05	1.55	19.31	S		3	3	3	4	5	7	19	
BHB05	3.55	17.31	S		2	3	4	6	7	11	28	
BHB05	5.55	15.31	S		5	6	7	11	11	12	41	
BHB05	6.55	14.31	S		3	3	4	6	11	15	36	
BHB05	7.55	13.31	S		6	12	20	30/61			50/136	
BHB05	8.55	12.31	S		11	14	31	19/27			50/102	
BHB05	9.55	11.31	S		10	15/70	30	20/28			50/103	
BHB05	10.55	10.31	S		9	16/44	43	7/5			50/80	
BHB05	12.05	8.81	S		7	8	14	17	19/55		50/205	
BHB05	13.55	7.31	S		4	8	12	16	22/73		50/223	
BHB05	15.05	5.81	S		6	8	17	33/73			50/148	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

AGS *Printed: 13/12/2024*

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB06A	1.20	20.36	S		2	2	3	3	3	3	12	
BHB06A	3.00	18.56	S		3	4	6	4	9	9	28	
BHB06A	5.00	16.56	S		5	7	10	11	12	12	45	
BHB06A	7.00	14.56	S		3	6	8	8	10	12	38	
BHB06A	8.00	13.56	S		7	11	15	15	20/65		50/215	
BHB06A	9.00	12.56	S		4	7	7	7	8	10	32	
BHB06A	10.00	11.56	S		4	8	8	9	11	11	39	
BHB06A	11.50	10.06	S		6	8	10	10	12	13	45	
BHB06A	13.00	8.56	S		7	9	9	9	11	13	42	
BHB06A	15.00	6.56	S		5	9	9	11	13	14	47	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB07	1.20	22.56	S		2	2	5	4	5	5	19	
BHB07	3.00	20.76	S		2	2	2	4	5	6	17	
BHB07	5.00	18.76	S		7	12	12	13	13	14	52	
BHB07	7.00	16.76	S		4	4	8	7	7	9	31	
BHB07	8.00	15.76	S		4	4	6	9	9	10	34	
BHB07	9.00	14.76	S		4	6	6	9	9	11	35	
BHB07	10.00	13.76	S		4	6	7	8	9	9	33	
BHB07	11.50	12.26	S		5	7	9	10	11	11	41	
BHB07	13.00	10.76	S		4	6	9	11	12	12	44	
BHB07	15.00	8.76	S		9	12	12	18	20/45		50/195	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB08	1.20	22.00	S		3	3	3	4	6	6	19	
BHB08	3.00	20.20	S		3	5	7	7	8	9	31	
BHB08	5.00	18.20	S		4	7	7	8	9	11	35	
BHB08	7.00	16.20	S		7	9	9	9	10	11	39	
BHB08	8.00	15.20	S		6	8	10	11	10	10	41	
BHB08	9.00	14.20	S		9	11	11	13	13	14	51	
BHB08	10.00	13.20	S		6	9	9	12	12	13	46	
BHB08	11.50	11.70	S		3	6	6	8	8	10	32	
BHB08	13.00	10.20	S		7	9	11	11	12	13	47	
BHB08	15.00	8.20	S		5	9	11	13	13	14	51	

Hammer No.:	ADS MID2
Energy Ratio, Er (%):	68

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB09	1.20	19.82	S		3	3	3	3	3	3	12	
BHB09	2.00	19.02	S		2	3	3	3	3	3	12	
BHB09	4.00	17.02	S		3	4	5	5	4	5	19	
BHB09	5.00	16.02	S		3	4	5	5	5	5	20	
BHB09	6.00	15.02	S		5	6	6	6	6	6	24	
BHB09	7.00	14.02	S		5	6	7	7	8	8	30	
BHB09	8.00	13.02	S		4	6	6	6	7	8	27	
BHB09	9.00	12.02	S		4	7	7	9	10	10	36	
BHB09	10.00	11.02	S		6	7	7	8	8	10	33	
BHB09	11.50	9.52	S		6	8	9	9	11	12	41	
BHB09	13.00	8.02	S		7	7	7	9	11	14	41	
BHB09	15.00	6.02	S		5	8	8	9	11	14	42	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB10	1.20	20.32	S		2	4	4	4	5	5	18	
BHB10	3.00	18.52	S		3	3	4	5	5	5	19	
BHB10	5.00	16.52	S		4	6	9	10	11	13	43	
BHB10	6.00	15.52	S		2	5	6	2	7	7	22	
BHB10	7.00	14.52	S		3	5	6	7	7	10	30	
BHB10	8.00	13.52	S		3	3	4	7	11	15	37	
BHB10	9.00	12.52	S		3	4	5	7	9	9	30	
BHB10	10.00	11.52	S		5	9	9	13	13	15	50	
BHB10	11.50	10.02	S		3	5	6	6	8	10	30	
BHB10	13.00	8.52	S		3	5	8	9	10	11	38	
BHB10	15.00	6.52	S		5	7	7	9	11	11	38	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB11	1.55	24.78	S		3	3	4	5	7	7	23	
BHB11	3.55	22.78	S		2	3	3	4	5	6	18	
BHB11	5.55	20.78	S		5	6	7	10	11	13	41	
BHB11	7.55	18.78	S		4	6	8	11	14	17/72	50/297	
BHB11	9.55	16.78	S		6	9	19	20	11/37		50/187	
BHB11	10.55	15.78	S		8	10	10	16	24/29		50/179	
BHB11	12.05	14.28	S		5	8	12	18	20/66		50/216	
BHB11	13.55	12.78	S		7	7	13	22	15/17		50/167	
BHB11	15.05	11.28	S		8	16	50/42				50/42	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB12	2.55	24.11	S		3	3	4	4	5	8	21	
BHB12	4.55	22.11	S		4	6	6	7	8	10	31	
BHB12	6.55	20.11	S		6	7	9	10	12	19/70	50/295	
BHB12	8.55	18.11	S		4	5	6	7	7	13	33	
BHB12	9.65	17.01	S		2	3	4	4	11	16	35	
BHB12	10.55	16.11	S		3	4	6	11	13	19	49	
BHB12	12.05	14.61	S		8	11	11	16	18	5/16	50/241	
BHB12	13.55	13.11	S		7	8	9	10	20	11/10	50/235	
BHB12	15.05	11.61	S		8	11	16	34/32			50/107	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB13	1.55	22.16	S		1	2	3	5	6	7	21	
BHB13	3.55	20.16	S		2	4	5	6	7	9	27	
BHB13	5.55	18.16	S		4	7	8	10	10	16	44	
BHB13	7.55	16.16	S		6	8	8	12	13	17/38	50/263	
BHB13	9.55	14.16	S		5	6	9	14	15	12/65	50/290	
BHB13	10.65	13.06	S		8	9	14	14	12	10/62	50/287	
BHB13	12.05	11.66	S		10	11	15	18	17/58		50/208	
BHB13	13.55	10.16	S		8	17/72	31	19/35			50/110	
BHB13	15.05	8.66	S		8	10	11	19	20/60		50/210	

Hammer No.:	AR665
Energy Ratio, Er (%):	70

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB15	1.20	19.89	S		1	2	2	2	3	3	10	
BHB15	2.00	19.09	S		2	3	3	3	4	5	15	
BHB15	4.00	17.09	S		4	5	8	10	8	10	36	
BHB15	5.00	16.09	S		6	7	6	7	7	8	28	
BHB15	7.00	14.09	S		6	8	10	7	8	9	34	
BHB15	8.00	13.09	S		4	5	6	10	12	10	38	
BHB15	9.00	12.09	S		7	8	9	10	12	14	45	
BHB15	10.00	11.09	S		6	6	7	8	10	18	43	
BHB15	11.50	9.59	S		4	7	10	20	20/60		50/210	
BHB15	13.00	8.09	S		8	10	19	24	7/15		50/165	
BHB15	15.00	6.09	S		6	10	20	25	5/10		50/160	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

AGS *Printed: 13/12/2024*

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB18	1.20	18.73	S		2	3	3	4	4	4	15	
BHB18	3.00	16.93	S		3	3	3	4	6	6	19	
BHB18	5.00	14.93	S		3	5	5	6	8	9	28	
BHB18	6.00	13.93	S		3	6	6	7	7	9	29	
BHB18	7.00	12.93	S		4	6	6	8	8	10	32	
BHB18	8.00	11.93	S		5	7	8	8	9	9	34	
BHB18	9.00	10.93	S		6	6	6	9	11	12	38	
BHB18	10.00	9.93	S		6	6	7	9	11	12	39	
BHB18	11.50	8.43	S		6	8	9	10	12	13	44	
BHB18	13.00	6.93	S		6	8	9	11	12	12	44	
BHB18	15.00	4.93	S		5	8	8	9	11	13	41	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB19	2.00	18.87	S		3	4	3	5	5	4	17	
BHB19	4.00	16.87	S		2	3	3	5	7	9	24	
BHB19	6.00	14.87	S		3	4	8	8	8	10	34	
BHB19	8.00	12.87	S		6	5	7	7	10	14	38	
BHB19	9.00	11.87	S		8	9	10	12	18	10/60	50/285	
BHB19	10.00	10.87	S		7	10	11	13	14	18	56	
BHB19	12.00	8.87	S		10	8	12	17	21		50/225	
BHB19	13.00	7.87	S		3	9	18	22	20/40		60/190	
BHB19	15.00	5.87	S		3	12	16	23	11/40		50/190	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB20	1.20	15.45	S		1	2	2	2	3	2	9	
BHB20	2.00	14.65	S		1	2	3	2	2	3	10	
BHB20	3.00	13.65	S		3	2	3	3	4	3	13	
BHB20	4.00	12.65	S		3	6	8	10	10	14	42	
BHB20	5.00	11.65	S		2	5	10	18	22		50/225	
BHB20	6.00	10.65	S		3	7	12	10	18	10/55	50/280	
BHB20	7.00	9.65	S		4	12	21	26	3/0		50/150	
BHB20	8.00	8.65	S		10	12	26	24/60			50/135	
BHB20	9.00	7.65	S		3	4	7	10	10	20	47	
BHB20	10.00	6.65	S		5	12	10	16	24	10/40	60/265	
BHB20	12.00	4.65	S		2	3	6	8	10	10	34	
BHB20	13.50	3.15	S		4	14	19	22	9/20		50/170	
BHB20	15.00	1.65	S		6	8	8	7	10	14	39	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB21	2.00	20.56	S		3	4	3	4	3	4	14	
BHB21	4.00	18.56	S		6	6	5	6	7	7	25	
BHB21	6.00	16.56	S		7	7	9	9	9	10	37	
BHB21	7.00	15.56	S		7	7	7	8	10	10	35	
BHB21	8.00	14.56	S		8	7	10	10	10	10	40	
BHB21	9.00	13.56	S		3	6	7	12	10	14	43	
BHB21	10.00	12.56	S		2	5	7	8	9	10	34	
BHB21	11.50	11.06	S		3	5	10	18	20	2/0	50/225	
BHB21	13.00	9.56	S		6	12	15	22	13/25		50/175	
BHB21	15.00	7.56	S		2	3	4	12	18	14	48	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHB22	1.20	19.13	S		1	3	3	3	4	5	15	
BHB22	3.00	17.33	S		3	3	3	5	7	7	22	
BHB22	5.00	15.33	S		4	5	5	7	7	10	29	
BHB22	7.00	13.33	S		7	9	12	15	15	8/60	50/285	
BHB22	9.00	11.33	S		4	6	7	12	12	12	43	
BHB22	10.00	10.33	S		4	7	7	9	11	13	40	
BHB22	11.50	8.83	S		6	8	8	10	14	15	47	
BHB22	13.00	7.33	S		6	9	9	11	12	12	44	
BHB22	15.00	5.33	S		5	8	10	12	12	14	48	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB23	1.20	11.01	S		3	3	3	4	5	5	17	
BHB23	2.00	10.21	S		3	4	4	5	5	6	20	
BHB23	3.00	9.21	S		4	5	5	6	6	6	23	
BHB23	4.00	8.21	S		4	6	6	7	7	8	28	
BHB23	5.00	7.21	S		4	6	7	9	9	9	34	
BHB23	6.00	6.21	S		6	6	6	7	8	10	31	
BHB23	7.00	5.21	S		5	8	8	10	12	13	43	
BHB23	8.00	4.21	S		7	9	11	11	12	13	47	
BHB23	9.00	3.21	S		7	9	10	10	12	14	46	
BHB23	10.00	2.21	S		5	8	8	9	11	14	42	
BHB23	11.50	0.71	S		4	8	9	11	11	15	46	
BHB23	13.00	-0.79	S		5	6	7	7	9	12	35	
BHB23	15.00	-2.79	S		5	6	8	9	12	13	42	

Hammer No.:	ADS MID2	**Remarks**
Energy Ratio, Er (%):	68	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHB24	1.20	11.84	S		3	3	2	3	2	2	9	
BHB24	2.00	11.04	S		3	4	4	3	3	6	16	
BHB24	3.00	10.04	S		4	4	4	4	8	10	26	
BHB24	4.00	9.04	S		6	8	10	16	20	4/10	50/235	
BHB24	5.00	8.04	S		10	15	18	24	8/30		50/180	
BHB24	6.00	7.04	S		4	4	4	4	10	24	42	
BHB24	7.00	6.04	S		2	8	10	11	16	19	56	
BHB24	8.00	5.04	S		4	4	12	12	18	8/30	50/255	
BHB24	9.00	4.04	S		4	4	6	17	24	9/40	56/265	
BHB24	10.00	3.04	S		3	4	10	13	27		50/225	
BHB24	12.00	1.04	S		6	6	8	9	8	9	34	
BHB24	13.50	-0.46	S		3	4	3	8	10	16	37	
BHB24	15.00	-1.96	S		2	4	8	12	15	18	53	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHC01	1.20	4.03	S		-	1	1	-	1	-	2	
BHC01	3.00	2.23	S		1	1	2	3	4	3	12	
BHC01	5.00	0.23	S		1	2	2	3	3	5	13	
BHC01	7.00	-1.77	S		2	2	2	2	2	2	8	
BHC01	8.00	-2.77	S		2	2	2	2	2	3	9	
BHC01	9.00	-3.77	S		2	1	3	3	6	7	19	
BHC01	10.00	-4.77	S		1	3	4	4	7	7	22	
BHC01	11.50	-6.27	S		1	1	2	1	2	3	8	
BHC01	13.00	-7.77	S		2	2	2	1	2	2	7	
BHC01	14.50	-9.27	S		4	3	3	2	2	2	9	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHC02	1.20	6.06	S		3	5	6	8	9	10	33	
BHC02	2.20	5.06	S		2	1	1	1	1	2	5	
BHC02	3.20	4.06	S		1	2	3	3	3	3	12	
BHC02	4.20	3.06	S		2	2	2	2	2	3	9	
BHC02	5.20	2.06	S		3	4	5	7	8	4	24	
BHC02	6.20	1.06	S		2	2	4	7	5	4	20	
BHC02	7.20	0.06	S		4	6	6	7	6	5	24	
BHC02	8.20	-0.94	S		3	4	6	6	6	5	23	
BHC02	9.20	-1.94	S		4	3	3	5	6	4	18	
BHC02	10.20	-2.94	S		1	1	1	2	3	3	9	
BHC02	11.50	-4.24	S		1	2	4	6	9	11	30	
BHC02	13.00	-5.74	S		4	5	11	18	21/45		50/195	
BHC02	14.50	-7.24	S		6	10	20	26	4/10		50/160	

Hammer No.:	BHDS08	**Remarks**
Energy Ratio, Er (%):	74	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHC03	1.20	11.64	S		4	5	8	9	11	12	40	
BHC03	2.00	10.84	S		2	5	9	13	16	12/40	50/265	
BHC03	3.00	9.84	S		3	9	14	18	18	0/0	50/225	
BHC03	4.00	8.84	S		3	4	7	10	12	15	44	
BHC03	5.00	7.84	S		2	2	5	5	7	8	25	
BHC03	6.00	6.84	S		2	4	6	8	10	12	36	
BHC03	7.00	5.84	S		5	9	11	14	20	5/20	50/245	
BHC03	8.00	4.84	S		2	2	4	7	8	12	31	
BHC03	9.00	3.84	S		2	3	6	8	9	13	36	
BHC03	10.00	2.84	S		3	4	6	9	14	12	41	
BHC03	11.50	1.34	S		3	3	6	7	14	16	43	
BHC03	13.00	-0.16	S		3	7	15	28	7/20		50/170	
BHC03	14.50	-1.66	S		2	2	6	8	13	16	43	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHC04	1.20	15.88	S		1	1	2	2	3	3	10	
BHC04	3.00	14.08	S		2	1	2	3	3	3	11	
BHC04	5.00	12.08	S		4	7	8	13	18	11/35	50/260	
BHC04	6.00	11.08	S		5	11	13	18	19	0/0	50/225	
BHC04	7.00	10.08	S		2	6	12	18	20/55	0/0	50/205	
BHC04	8.00	9.08	S		4	9	14	20	16/65	0/0	50/215	
BHC04	9.00	8.08	S		3	5	5	9	15	21	50	
BHC04	10.00	7.08	S		5	7	8	8	8	9	33	
BHC04	11.50	5.58	S		4	6	9	12	13	15	49	
BHC04	13.00	4.08	S		2	7	8	9	11	13	41	
BHC04	14.50	2.58	S		3	6	6	4	5	8	23	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BHC07	1.20	21.28	S		3	4	4	4	5	4	17	
BHC07	2.00	20.48	S		4	5	6	5	5	6	22	
BHC07	3.00	19.48	S		5	6	7	7	7	7	28	
BHC07	4.00	18.48	S		4	7	7	8	7	8	30	
BHC07	5.00	17.48	S		4	5	4	6	8	7	25	
BHC07	6.00	16.48	S		4	4	4	6	7	7	24	
BHC07	7.00	15.48	S		3	2	3	4	3	3	13	
BHC07	8.00	14.48	S		4	5	5	6	8	10	29	
BHC07	9.00	13.48	S		9	8	6	10	10	10	36	
BHC07	10.00	12.48	S		3	4	5	5	6	7	23	
BHC07	12.00	10.48	S		5	4	5	5	6	6	22	
BHC07	13.50	8.98	S		4	4	10	12	20	8/30	50/255	
BHC07	15.00	7.48	S		10	15/20	28	22/40			50/115	

Hammer No.:	AR665	**Remarks**
Energy Ratio, Er (%):	70	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Cable Route Sections B & C **Engineer** BakerHicks **Project No.** PC248770

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BHC08	1.20	19.74	S		2	3	3	4	4	5	16	
BHC08	2.00	18.94	S		1	1	2	2	3	5	12	
BHC08	3.00	17.94	S		1	2	2	2	4	7	15	
BHC08	4.00	16.94	S		3	4	5	6	5	9	25	
BHC08	5.00	15.94	S		3	4	5	4	4	5	18	
BHC08	6.00	14.94	S		4	6	7	9	13	15	44	
BHC08	7.00	13.94	S		2	3	6	9	13	18	46	
BHC08	8.00	12.94	S		2	5	11	16	23	0/0	50/225	
BHC08	9.00	11.94	S		3	4	5	6	8	10	29	
BHC08	10.00	10.94	S		4	6	11	13	10	9	43	
BHC08	11.50	9.44	S		4	9	13	16	21	0/0	50/225	
BHC08	13.00	7.94	S		3	5	7	8	12	20	47	
BHC08	14.50	6.44	S		3	2	3	6	9	15	33	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

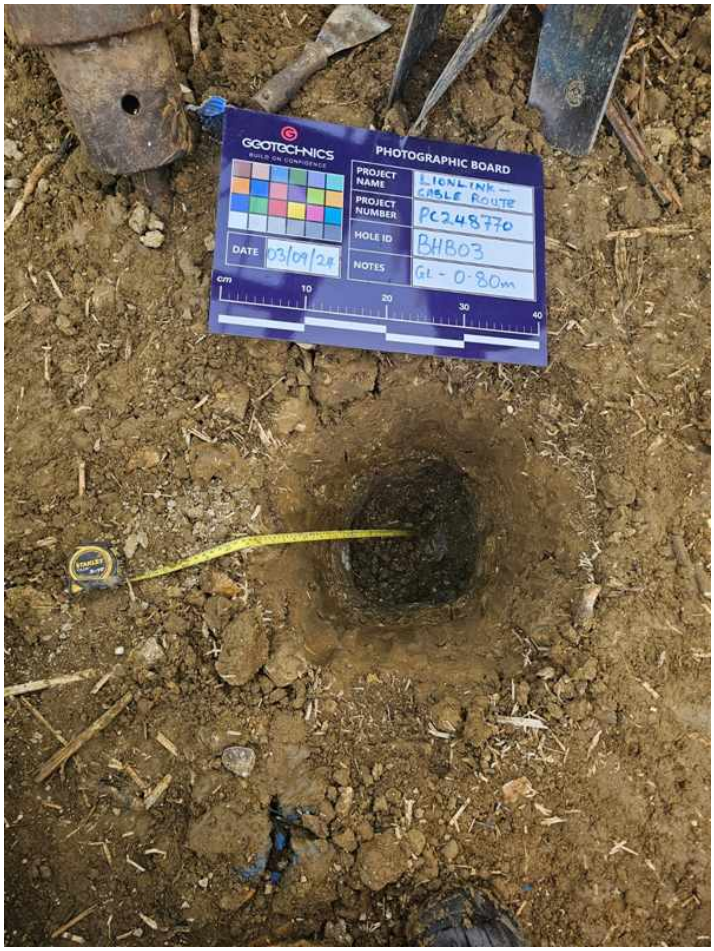
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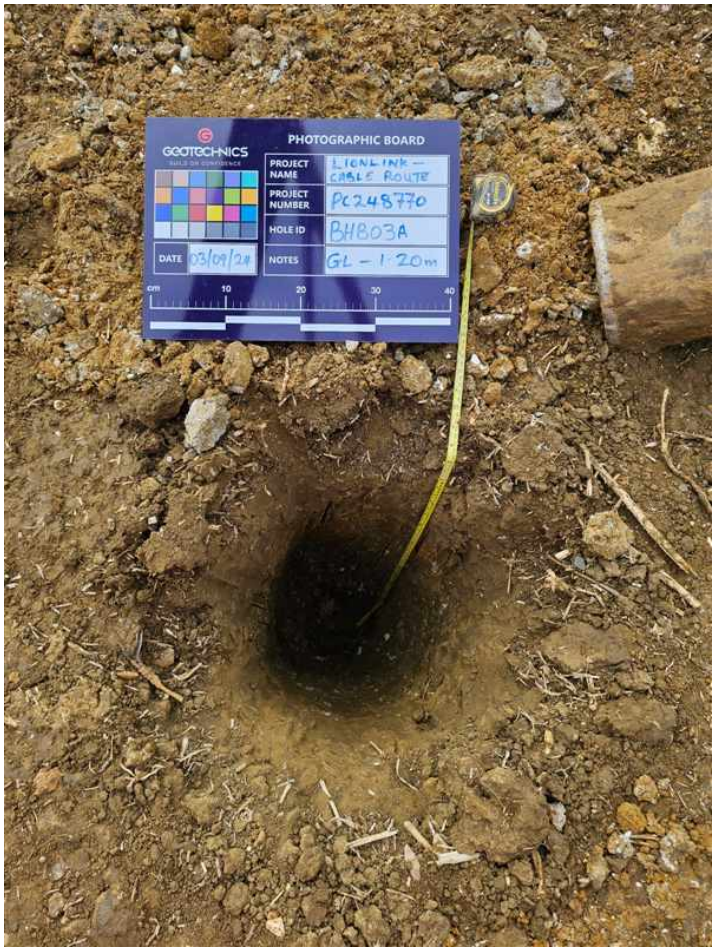
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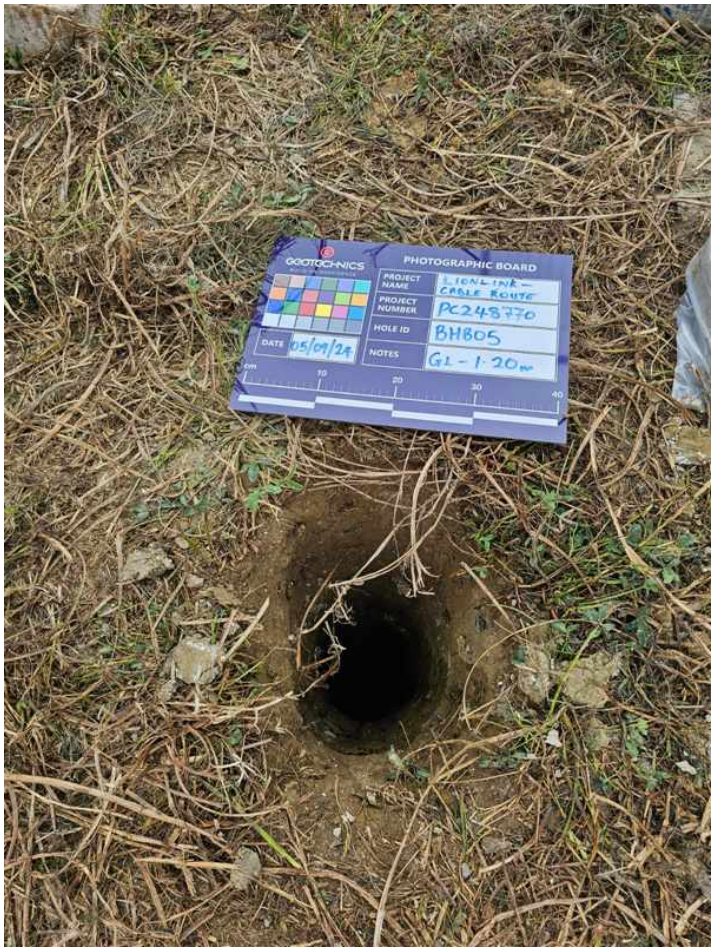
BHB03



BHB03A



BHB05 Pit



BHB06 Pit



BHB07


PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK – CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB07
DATE
09/09/24
NOTES
GL – 1·20m

BHB08


PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK – CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB08
DATE
11/09/24
NOTES
GL – 1·20m

BHB09


PHOTOGRAPHIC BOARD
GEOTECHNICS
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB10
DATE
16/09/2024
NOTES
0.00-1.20

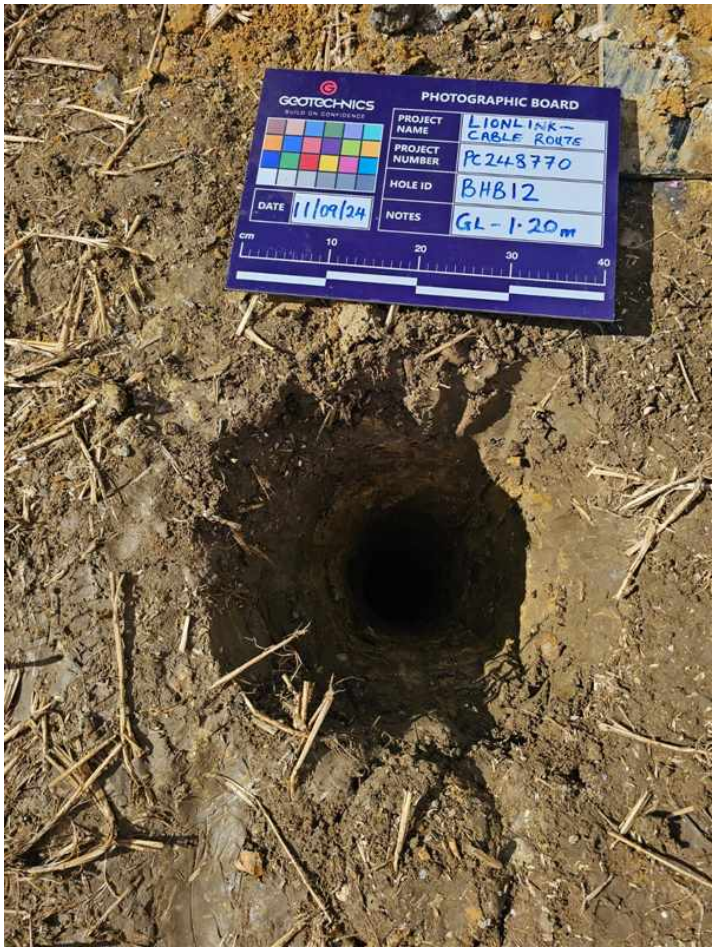
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PHOTOGRAPHIC BOARD
GEOTECHNICS
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB10A
DATE
17/09/2024
NOTES
0.00-1.20

BHB11


GEOTECHNICS
BUILD ON CONFIDENCE
PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB11
DATE
12/09/2024
NOTES
GL - 1·20m
cm
10
20
30
40

BHB12


GEOTECHNICS
BUILD ON CONFIDENCE
PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK- CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB12
DATE
11/09/24
NOTES
GL - 1·20m
cm
10
20
30
40

BHB13


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK – CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB13
DATE
09/09/24
NOTES
GL - 1·20m
cm
10
20
30
40

BHB15


GEOTECHNICS
BUILD ON CONFIDENCE
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB15
DATE
16/09/2024
NOTES
0·00 – 1·20
cm
10
20
30
40

BHB18


PHOTOGRAPHIC BOARD
GEOTECHNICS
BUILD ON CONFIDENCE
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB18
DATE
19/09/2024
NOTES
0.00 – 1.20
cm
10
20
30
40

BHB19


PHOTOGRAPHIC BOARD
GEOTECHNICS
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB19
DATE
19/09/2024
NOTES
0.00 – 1.20

HB20


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
PC248770
HOLE ID
BHB20
NOTES
1.20

BHB21


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
PC248770
HOLE ID
BHB21
NOTES
1.20

BHB22


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB22
DATE
23/09/2024
NOTES
0.00 – 1.20

BHB23


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB23
DATE
25/09/2024
NOTES
1.20

BHB24


PHOTOGRAPHIC BOARD
GEOTECHNICS
PROJECT NAME
LIONLINK CABLE ROUTE
PROJECT NUMBER
PC248770
HOLE ID
BHB24
DATE
25/09/2024
NOTES
1.20
cm
10
20
30
40

BHC01


PHOTOGRAPHIC BOARD
GEOTECHNICS
PROJECT NAME
LL- Cable Route
PROJECT NUMBER
PC248770
HOLE ID
BHC01
DATE
25/09
NOTES
0 – 1.20 m
cm
10
20
30
40

BHC02


PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
HOLE ID
DATE
NOTES

BHC03


GEOTECHNICS
BUILD ON CONFIDENCE
PHOTOGRAPHIC BOARD
PROJECT NAME
Lionlink Cable route
PROJECT NUMBER
PC248770
HOLE ID
BHC03
DATE
26/09
NOTES
0-1.20M
cm
10
20
30
40

BHC04


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
PC248770
HOLE ID
BHC04
DATE
01/10
NOTES
0-1.20m
cm
10
20
30
40

BHC08


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
PROJECT NUMBER
PC248770
HOLE ID
BHC08
DATE
07/10
NOTES
0-1.20m
cm
10
20
30
40

APPENDIX 5

Trial Pit Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



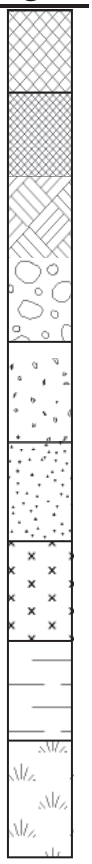
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

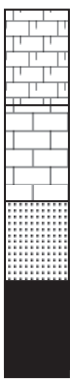
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



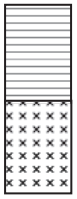
Chalk

Limestone

Sandstone

Coal

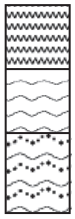
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

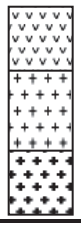


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB01
Client	National Grid Ventures	**National Grid Coordinates**	640409.0 E 262851.8 N	**Ground Level**	21.69 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.20	AG				0.40		21.29
0.20	D			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 20mm in size) of calcereous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.20	ES				0.85		20.84
0.40 - 0.85	B			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 50mm) of calcereous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk. Below 1.00m, becomes dark bluish grey.			
0.60	AG						
0.60	D						
0.60	ES						
0.60	HV		140+/140+/140+ kPa R: 30/31/27 kPa				
0.85 - 1.20	B						
1.20	AG						
1.20	D						
1.20 - 2.00	B						
1.50	D						
2.00 - 3.00	B						
2.50	D		w: 21 %				
				End of Excavation	3.00		18.69

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	02/09/2024	**Length (C)**	1.80
Shoring	None.	**Orientation (degrees)**	316
		Date Backfilled	02/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
23/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB02
Client	National Grid Ventures	**National Grid Coordinates**	640541.2 E 262993.2 N	**Ground Level**	22.56 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.	0.30		22.26
0.15	AG			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.90		21.66
0.15	D			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.15	ES						
0.30 - 0.90	B			Below 1.50m, becomes dark bluish grey.			
0.60	HV		140+/140+/140+ kPa R: 34/32/29 kPa				
0.75	AG						
0.75	D						
0.75	ES						
0.90 - 1.20	B						
1.20	AG						
1.20	D		w: 15 %				
1.20 - 2.00	B						
1.50	D						
2.00 - 3.00	B						
2.50	D						
				End of Excavation	3.00		19.56

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	02/09/2024	**Length (C)**	1.95
Shoring	None.	**Orientation (degrees)**	176
		Date Backfilled	02/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub..
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
23/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB03
Client	National Grid Ventures	**National Grid Coordinates**	640592.0 E 263181.2 N	**Ground Level**	23.85 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.	0.30		23.55
0.15	AG			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.15	D						
0.15	ES						
0.30 - 1.30	B						
0.60	HV		140+/140+/140+ kPa R: 26/27/29 kPa				
0.70	AG			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 60mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk. Below 1.70m, becomes dark bluish grey.	1.30		22.55
0.70	D						
0.70	ES						
1.30 - 2.00	B						
1.50	AG						
1.50	D						
2.00 - 3.00	B						
2.50	D		w: 19 %				
				End of Excavation	3.00		20.85

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	02/09/2024	**Length (C)**	2.70
Shoring	None.	**Orientation (degrees)**	07
		Date Backfilled	02/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
23/01/2025

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB04
Client	National Grid Ventures	**National Grid Coordinates**	640612.2 E 263385.8 N	**Ground Level**	25.50 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.20	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.	0.20		25.30
0.10	D						
0.10	ES						
0.20 - 1.20	B			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 20mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.60	D		w: 19 %				
0.60	ES						
0.60	HV		140+/140+/140+ kPa R: 27/31/32 kPa				
1.70 - 2.50	B			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.70		23.80
2.00	D						
2.50 - 3.00	B			Below 2.50m, becomes dark blulsh grey.			
2.75	D						
				End of Excavation	3.00		22.50

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	03/09/2024	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	359
		Date Backfilled	03/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
Checked by TNH
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB05
Client	National Grid Ventures	**National Grid Coordinates**	640731.1 E 263534.1 N	**Ground Level**	26.63 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.15	AG				0.30		26.33
0.15	D			MADE GROUND: Very stiff orangish brown mottled light grey slightly sandy slightly gravelly clay with occasional pockets (up to 20mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite, chalk and red brick.			
0.15	ES						
0.30 - 0.85	B						
0.60	HV		140+/140+/140+ kPa R: 24/30/31 kPa		0.85		25.78
0.75	AG			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt and a low cobble content of subrounded flint. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.75	D						
0.75	ES						
0.85 - 1.20	B						
1.20	AG						
1.20	D		w: 16 %				
1.20	ES						
1.20 - 2.00	B			Below 2.30m, becomes bluish grey mottled orangish brown.			
1.50	D						
2.30 - 3.00	B						
2.50	D						
				End of Excavation	3.00		23.63

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	03/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	310
		Date Backfilled	03/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB06
Client	National Grid Ventures	**National Grid Coordinates**	641111.0 E 263668.8 N	**Ground Level**	23.66 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.25	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.25		23.41
0.10	AG			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 20mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.75		22.91
0.10	D			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.10	ES						
0.25 - 0.75	B						
0.50	AG						
0.50	D						
0.50	ES						
0.75 - 1.20	B						
1.20	AG						
1.20	D						
1.20	ES						
1.50 - 2.50	B						
2.00	D						
2.50 - 3.00	B						
2.75	D		w: 17 %				
				End of Excavation	3.00		20.66

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	03/09/2024	**Length (C)**	1.80
Shoring	None.	**Orientation (degrees)**	332
		Date Backfilled	03/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB07
Client	National Grid Ventures	**National Grid Coordinates**	641421.0 E 263943.8 N	**Ground Level**	23.77 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.10	AG				0.30		23.47
0.10	D			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.45		23.32
0.10	ES						
0.30 - 0.45	B						
0.45	AG			Very stiff orangish brown mottled white slightly sandy slightly gravelly CLAY with many pockets (up to 100mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.45	D						
0.45	ES						
0.45 - 1.00	B						
0.75	AG						
0.75	D		w: 14 %				
1.00 - 2.00	B						
1.50	AG						
1.50	D				2.00		21.77
2.00 - 3.00	B			Stiff dark blueish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 45mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
2.50	D						
2.50	HV		110/100/108 kPa R: 30/22/32 kPa				
				End of Excavation	3.00		20.77

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	05/09/2024	**Length (C)**	2.00
Shoring	None.	**Orientation (degrees)**	161
		Date Backfilled	05/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit. Due to the very stiff consistency of the material at 1.50m it was not possible to insert the probe. Instructed by Engineer to undertake test on the loose material returned to surface.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB08
Client	National Grid Ventures	**National Grid Coordinates**	641601.3 E 264200.9 N	**Ground Level**	22.76 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.30		22.46
0.15	AG						
0.15	D						
0.15	ES						
0.30 - 0.75	B			Firm orangish brown slightly sandy to sandy slightly gravelly CLAY with occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.75		22.01
0.50	AG						
0.50	D			Firm light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.00		21.76
0.50	ES						
0.50	HV		65/61/71 kPa R: 35/20/30 kPa				
0.75 - 1.00	B			Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.			
1.00	AG						
1.00	D						
1.00	ES						
1.00 - 2.00	B						
1.50	AG						
1.50	D						
1.50	HV		121/98/118 kPa R: 29/21/22 kPa				
2.00 - 3.00	B			End of Excavation	3.00		19.76
2.50	D		w: 19 %				

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	05/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	125
		Date Backfilled	05/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections E & F	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB09
Client	National Grid Ventures	**National Grid Coordinates**	641676.9 E 264353.1 N	**Ground Level**	22.04 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite, brick and concrete.	0.30		21.74
0.10	AG			Firm orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 200mm in size) of slightly clayey sand. Gravel is angular to subrounded fine to coarse flint and quartzite. At 0.45m, possible service scar running 50 degrees through the northeast end of the pit consisting of greyish brown clayey gravel of subrounded to rounded medium to coarse quartzite.	1.15		20.89
0.10	D						
0.10	ES						
0.30 - 1.15	B						
0.50	AG						
0.50	D						
0.50	ES						
0.50	HV		41/61/62 kPa R: 24/31/32 kPa				
1.15 - 2.00	B			Firm light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk. Below 1.50m, silt pockets up to 55mm in size.	2.10		19.94
1.20	AG						
1.20	D						
1.20	ES						
1.50	HV		42/22/45 kPa R: 22/15/25 kPa	Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 65mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
2.00 - 3.00	B						
2.50	D		w: 19 %				
				End of Excavation	3.00		19.04

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	05/09/2024	**Length (C)**	2.00
Shoring	None.	**Orientation (degrees)**	237
		Date Backfilled	05/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB10
Client	National Grid Ventures	**National Grid Coordinates**	641799.9 E 264553.2 N	**Ground Level**	25.02 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.30		24.72
0.10	AG			Very stiff orangish brown slightly sandy gravelly CLAY with occasional pockets (up to 19mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.70		24.32
0.10	D			Very stiff light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.10	ES						
0.30 - 0.70	B						
0.50	AG						
0.50	D		w: 12 %		1.50		23.52
0.50	ES			Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.70 - 1.50	B						
1.20	AG						
1.20	D						
1.20	ES						
1.50 - 2.50	B						
1.50	HV		124/112/101 kPa R: 34/54/31 kPa				
2.00	D						
2.50 - 3.00	B						
2.75	D						
				End of Excavation	3.00		22.02

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	06/09/2024	**Length (C)**	1.50
Shoring	None.	**Orientation (degrees)**	231
		Date Backfilled	06/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB11
Client	National Grid Ventures	**National Grid Coordinates**	642049.1 E 264841.0 N	**Ground Level**	26.48 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.	0.35		26.13
0.15	AG						
0.15	D						
0.15	ES			Very stiff orangish brown mottled light grey slightly sandy to sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 300mm) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.60		25.88
0.35 - 0.60	B						
0.50	AG						
0.50	D		w: 14 %				
0.50	ES			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 150mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.50		24.98
0.60 - 1.50	B						
1.20	AG						
1.20	D			Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 75mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
1.20	ES						
1.50 - 2.50	B						
1.50	HV		102/92/103 kPa R: 41/41/42 kPa				
2.00	D						
2.50 - 3.00	B						
2.75	D		w: 20 %				
				End of Excavation	3.00		23.48

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	10/09/2024	**Length (C)**	1.95
Shoring	None.	**Orientation (degrees)**	045
		Date Backfilled	10/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB12
Client	National Grid Ventures	**National Grid Coordinates**	642160.7 E 264942.0 N	**Ground Level**	25.91 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and brick.			
0.20	AG						
0.20	D				0.35		25.56
0.20	ES			Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.35 - 0.75	B				0.75		25.16
0.50	AG			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 30mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.50	D						
0.50	ES			Below 1.20m, with occasional pockets (up to 350mm in size) of orangish brown slightly clayey sand.			
0.75 - 1.20	B						
1.20	AG						
1.20	D		w: 20 %				
1.20	ES			Very stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 150mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.70		24.21
1.20 - 1.70	B						
1.50	D						
1.70 - 2.50	B						
2.00	D						
2.50 - 3.00	B						
2.75	D						
				End of Excavation	3.00		22.91

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	09/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	311
		Date Backfilled	09/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB13
Client	National Grid Ventures	**National Grid Coordinates**	642377.8 E 264976.2 N	**Ground Level**	25.22 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite, brick, concrete and porcelain fragments.			
0.15	AG				0.30		24.92
0.15	D			Very stiff orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.15	ES				0.75		24.47
0.30 - 0.75	B			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt and rare pockets (up to 550mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.50	AG						
0.50	D		w: 21 %				
0.50	ES						
0.60	HV		140+/140+/140+ kPa R: 31/25/35 kPa		1.50		23.72
0.75 - 1.50	B			Very stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 45mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
1.20	AG						
1.20	D						
1.20	ES						
1.50 - 2.50	B						
2.00	D						
2.50 - 3.00	B						
2.75	D		w: 57 %				
				End of Excavation	3.00		22.22

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	09/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	344
		Date Backfilled	09/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB14
Client	National Grid Ventures	**National Grid Coordinates**	642559.0 E 265038.8 N	**Ground Level**	25.55 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.20	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite, brick, concrete and porcelain fragments.	0.20		25.35
0.10	AG			Firm to stiff brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.80		24.75
0.10	D			Below 0.50m, becomes orangish brown.			
0.10	ES			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt and occasional pockets (up to 450mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.20 - 0.80	B			Below 1.50m, pockets of orangish brown slightly clayey sand absent.			
0.50	AG						
0.50	D						
0.50	ES						
0.50	HV		79/84/82 kPa R: 51/48/36 kPa				
0.80 - 1.90	B						
1.20	AG						
1.20	D		w: 13 %				
1.20	ES						
1.50	HV		112/120/117 kPa R: 32/32/29 kPa				
1.90 - 3.00	B			Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.90		23.65
2.50	D						
				End of Excavation	3.00		22.55

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	09/09/2024	**Length (C)**	2.00
Shoring	None.	**Orientation (degrees)**	075
		Date Backfilled	09/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB16
Client	National Grid Ventures	**National Grid Coordinates**	643043.2 E 265305.8 N	**Ground Level**	17.06 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.	0.30		16.76
0.15	AG			Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 5mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.70		16.36
0.15	D			Very stiff bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 75mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk. Below 1.20m, becoming dark bluish grey.			
0.15	ES						
0.30 - 0.70	B						
0.50	AG						
0.50	D						
0.50	ES						
0.70 - 1.20	B						
1.20	AG						
1.20	D		w: 19 %				
1.20	ES						
1.20 - 2.00	B						
1.50	AG						
1.50	D						
2.00 - 3.00	B						
2.50	D						
				End of Excavation	3.00		14.06

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	10/09/2024	**Length (C)**	1.95
Shoring	None.	**Orientation (degrees)**	054
		Date Backfilled	10/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB18
Client	National Grid Ventures	**National Grid Coordinates**	642998.8 E 265689.9 N	**Ground Level**	20.00 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.30		19.70
0.15	AG			Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 55mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.70		19.30
0.15	D			Very stiff bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 50mm in size) of calcareous silt and occasional pockets (up to 300mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.50		18.50
0.15	ES			Very stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 65mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.30 - 0.70	B						
0.50	AG						
0.50	D						
0.50	ES						
0.70 - 1.50	B						
1.20	AG						
1.20	D		w: 18 %				
1.50 - 1.70	B						
2.00	D						
2.50 - 3.00	B						
2.75	D		w: 20 %				
				End of Excavation	3.00		17.00

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	11/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	090
		Date Backfilled	11/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB20
Client	National Grid Ventures	**National Grid Coordinates**	642472.9 E 266442.0 N	**Ground Level**	15.73 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		15.33
0.20	AG						
0.20	D						
0.20	ES			Orangish brown gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.20			PID: <0.1 ppm				
0.40 - 1.40	B						
0.60	AG						
0.60	D		w: 6 %				
0.60	ES						
0.60			PID: <0.1 ppm		1.40		14.33
1.40	AG			Orangish brown slightly gravelly clayey SAND. Gravel is angular to subrounded fine to coarse flint and sandstone.			
1.40	D						
1.40	ES						
1.40 - 2.40	B						
1.40			PID: <0.1 ppm				
2.40 - 3.00	B						
2.60	D			Below 2.50m, becoming mottled light cream with occasional organic layers (up to 10mm thick).			
				End of Excavation	3.00		12.73

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	16/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	094
		Date Backfilled	16/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at a depth of 1.50m in the pit. Due to the very stiff consistency of the material at 0.60m it was not possible to insert the probe. Instructed by the Engineer to undertake test on the loose material returned to surface.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB21
Client	National Grid Ventures	**National Grid Coordinates**	642440.1 E 266513.2 N	**Ground Level**	12.03 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		11.63
0.20	D						
0.20	ES						
0.20			PID: <0.1 ppm	Orangish brown gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.40 - 1.00	B						
0.60	D		w: 4 %				
0.60	ES				1.00		11.03
0.60			PID: <0.1 ppm	Orangish brown mottled light cream slightly gravelly clayey SAND with occasional pockets (up to 100mm in size) of reddish brown sandy clay. Gravel is angular to subrounded fine to coarse flint and sandstone.			
1.00 - 2.00	B						
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
2.00 - 3.00	B			Below 2.00m becoming orangish brown. Clay pockets are absent.			
2.50	D						
				End of Excavation	3.00		9.03

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	16/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	087
		Date Backfilled	16/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB22
Client	National Grid Ventures	**National Grid Coordinates**	642422.9 E 266548.0 N	**Ground Level**	11.09 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		10.69
0.20	D						
0.20	ES						
0.20			PID: <0.1 ppm	Orangish brown slightly gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.40 - 1.00	B						
0.60	D		w: 7 %				
0.60	ES						
0.60			PID: <0.1 ppm				
1.00 - 2.00	B						
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
2.00 - 3.00	B			Orangish brown slightly gravelly clayey SAND with rare pockets (up to 50mm in size) of reddish brown sandy clay. Gravel is angular to subrounded fine to coarse flint and sandstone.	2.00		9.09
2.50	D						
				End of Excavation	3.00		8.09

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	16/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	275
		Date Backfilled	16/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Due to the very stiff consistency of the material at 0.60m and 1.50m depth, it was not possible to insert the probe to undertake in situ resistivity tests. Instructed by the Engineer to undertake tests on the loose material returned to surface.

DCP test undertaken adjacent to this pit.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.

All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB22
Client	National Grid Ventures	**National Grid Coordinates**	642422.9 E 266548.0 N	**Ground Level**	11.09 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend		Level (m OD)

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	16/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	275
		Date Backfilled	16/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB23
Client	National Grid Ventures	**National Grid Coordinates**	642396.0 E 266574.0 N	**Ground Level**	12.01 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		11.61
0.20	AG						
0.20	D						
0.20	ES			MADE GROUND: Very stiff dark orangish brown slightly sandy slightly gravelly clay varying in parts to slightly gravelly very clayey sand. Gravel is angular to subrounded fine to coarse flint, brick and quartzite.			
0.20			PID: <0.1 ppm				
0.40 - 1.60	B						
0.60	AG						
0.60	D		w: 6 %				
0.60	ES						
0.60			PID: <0.1 ppm				
1.50	AG				1.60		10.41
1.50	D			Orangish brown slightly gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse flint and sandstone.			
1.50	ES						
1.50			PID: <0.1 ppm				
1.60 - 2.30	B						
2.00	D				2.30		9.71
2.00	ES			Orangish brown mottled light grey gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
2.30 - 2.70	B				2.70		9.31
2.50	D		w: 22 %	Orangish brown slightly gravelly slightly clayey SAND with rare pockets (up to 25mm in size) of reddish brown sandy clay. Gravel is angular to subrounded fine to coarse flint and sandstone.			
2.50	HV		50/49/46 kPa R: 29/24/28 kPa		3.00		9.01
2.70 - 3.00	B			End of Excavation			
2.80	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	17/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	264
		Date Backfilled	17/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit. Due to the very stiff consistency of the material at 1.50m it was not possible to insert the probe. Instructed by the Engineer to undertake test on the loose material returned to surface.
DCP test undertaken adjacent to this pit.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB23
Client	National Grid Ventures	**National Grid Coordinates**	642396.0 E 266574.0 N	**Ground Level**	12.01 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend		Level (m OD)

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	17/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	264
		Date Backfilled	17/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB24
Client	National Grid Ventures	**National Grid Coordinates**	642358.8 E 266609.0 N	**Ground Level**	13.88 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		13.48
0.20	D						
0.20	ES						
0.20			PID: <0.1 ppm	MADE GROUND: Very stiff dark orangish brown slightly sandy slightly gravelly clay with occasional pockets (up to 20mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.80		13.08
0.40 - 0.80	B						
0.60	D		w: 4 %				
0.60	ES			Orangish brown slightly clayey SAND, gravelly in parts. Gravel is angular to subrounded fine to coarse flint and sandstone.			
0.60			PID: <0.1 ppm				
0.80 - 1.50	B						
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
1.50 - 2.50	B						
2.00	D						
2.50 - 3.00	B			Below 2.50m, with occasional pockets (up to 60mm in size) of reddish brown sandy clay.			
2.75	D						
				End of Excavation	3.00		10.88

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	17/09/2024	**Length (C)**	1.90
Shoring	None.	**Orientation (degrees)**	284
		Date Backfilled	17/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB25
Client	National Grid Ventures	**National Grid Coordinates**	642296.0 E 266663.1 N	**Ground Level**	16.14 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.70	B			MADE GROUND: Soft to firm brown slightly sandy to sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.			
0.30	AG						
0.30	D						
0.30	ES			Below 0.50m, becoming very stiff. Rootlets are absent.			
0.30			PID: <0.1 ppm				
0.70 - 1.70	B						
1.20	AG						
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
1.70 - 2.50	B				1.70		14.44
				Orangish brown slightly clayey SAND, slightly gravelly in parts. Gravel is angular to subrounded fine to coarse flint, quartzite and sandstone.			
2.20	D						
2.20	ES			Below 2.20m, becoming light cream.			
2.20			PID: <0.1 ppm				
2.50 - 3.00	B						
2.75	D						
				End of Excavation	3.00		13.14

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	17/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	290
		Date Backfilled	17/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit. Due to the very stiff consistency of the material at 1.50m it was not possible to insert the probe. Instructed by the Engineer to undertake test on the loose material returned to surface.
DCP test undertaken adjacent to this pit.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 2
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB25
Client	National Grid Ventures	**National Grid Coordinates**	642296.0 E 266663.1 N	**Ground Level**	16.14 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend		Level (m OD)

Excavation				**Groundwater**				
Plant	CAT 432F2	**Width (B)**	0.60	Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
Date	17/09/2024	**Length (C)**	2.20					None encountered during excavation.
Shoring	None.	**Orientation (degrees)**	290					
		Date Backfilled	17/09/2024					
Stability	Stable during excavation.							

Remarks Backfill details from base of hole: arisings up to ground level.

Logged by JC
Checked by TNH
Figure Sheet 2 of 2
23/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB26
Client	National Grid Ventures	**National Grid Coordinates**	642194.1 E 266810.0 N	**Ground Level**	22.49 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)	
0.00 - 0.30	B			MADE GROUND: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets and occasional pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.30		22.19	
0.10	AG							
0.10	D							
0.10	ES			Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.80		21.69	
0.10			PID: <0.1 ppm					
0.30 - 0.80	B							
0.50	AG			Very stiff grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 45mm in size) of calcareous silt and pockets (up to 150mm in size) of reddish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	1.60		20.89	
0.50	D							
0.50	ES							
0.50			PID: <0.1 ppm					
0.80 - 1.60	B							
1.00	AG			Stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 75mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.				
1.00	D		w: 14 %					
1.00	ES							
1.00			PID: <0.1 ppm					
1.50	AG							
1.50	D							
1.60 - 2.50	B							
2.00	D							
2.00	HV		100/95/90 kPa R: 30/28/20 kPa	End of Excavation	3.00		19.49	
2.50	D							
2.50 - 3.00	B							
3.00	D		w: 21 %					

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	17/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	271
		Date Backfilled	17/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB27
Client	National Grid Ventures	**National Grid Coordinates**	641862.9 E 267016.9 N	**Ground Level**	19.56 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.25	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.	0.25		19.30
0.10	AG			Firm orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.	0.70		18.86
0.10	D			Very stiff bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 35mm in size) of calcareous silt and occasional pockets (up to 170mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.10	ES						
0.25 - 0.70	B						
0.50	AG						
0.50	D						
0.50	ES						
0.50	HV		65/90/92 kPa R: 25/34/32 kPa	Below 0.90m, becoming dark bluish grey.			
0.90 - 1.50	B			Below 1.40m, pockets of clayey sand are absent.			
1.20	AG						
1.20	D						
1.50 - 2.50	B						
2.00	D		w: 19 %				
2.50 - 3.00	B						
2.80	D						
				End of Excavation	3.00		16.56

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	10/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	167
		Date Backfilled	10/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB29
Client	National Grid Ventures	**National Grid Coordinates**	641807.8 E 267259.7 N	**Ground Level**	13.52 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft to firm brown slightly sandy slightly gravelly clay with occasional rootlets . Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.20	D						
0.20	ES				0.40		13.12
0.40 - 0.60	B			Dense light orangish brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite. Below 0.60m, becoming light cream in colour.			
0.50	D						
0.50	ES						
0.60 - 1.00	B						
0.75	D						
1.00 - 2.00	B						
1.50	D						
2.00 - 3.00	B			Below 2.00m, gravel is absent.			
2.50	D						
				End of Excavation	3.00		10.52

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	11/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	069
		Date Backfilled	11/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
23/01/2025

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB30
Client	National Grid Ventures	**National Grid Coordinates**	641837.1 E 267367.4 N	**Ground Level**	8.52 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		8.12
0.10	ES			Orangish brown gravelly very clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.10			PID: <0.1 ppm		0.80		7.72
0.40 - 0.80	B			Light orangish brown gravelly clayey SAND. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.50	AG						
0.50	D		w: 11 %				
0.50	ES						
0.50			PID: <0.1 ppm		1.40		7.12
0.50	HV		52/47/56 kPa R: 22/21/22 kPa	Firm to stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint.			
0.80 - 1.40	B			Orangish brown gravelly very clayey SAND. Gravel is angular to rounded fine to coarse flint.	1.80		6.72
1.00	AG						
1.00	D						
1.00	ES						
1.00			PID: 0.3 ppm				
1.40 - 1.80	B						
1.50	AG						
1.50	D						
1.80 - 2.50	B			End of Excavation	3.00		5.52
2.00	D						
2.50	D		w: 13 %				
2.50 - 3.00	B						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	18/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	136
		Date Backfilled	18/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
2.80	2.80			Slow seepage

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB31
Client	National Grid Ventures	**National Grid Coordinates**	641892.9 E 267534.2 N	**Ground Level**	14.37 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.40		13.97
0.10	AG						
0.10	D						
0.10	ES			Orangish brown gravelly very clayey SAND with rare pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.10			PID: 0.1 ppm				
0.40 - 1.30	B			Below 1.00m, with occasional pockets (up to 200mm in size) of calcareous silt.			
0.60	AG						
0.60	D						
0.60	ES				1.30		13.07
0.60			PID: <0.1 ppm	Soft orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse flint.			
1.00	AG						
1.00	D		w: 7 %				
1.30 - 2.00	B						
1.50	AG				2.00		12.37
1.50	D			Orangish brown mottled light cream slightly gravelly clayey SAND. Gravel is angular to subrounded fine to coarse flint.			
1.50	ES						
1.50			PID: 1.7 ppm				
1.50	HV		21/20/25 kPa R: 12/10/9 kPa				
2.00	D						
2.00 - 3.00	B			End of Excavation	3.00		11.37
2.50	D						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	18/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	110
		Date Backfilled	18/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB32
Client	National Grid Ventures	**National Grid Coordinates**	641896.0 E 267643.1 N	**Ground Level**	16.64 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		16.24
0.10	ES			Very stiff brown slightly sandy slightly gravelly CLAY with rare pockets (up to 15mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, quartzite and chalk.			
0.10			PID: <0.1 ppm				
0.40 - 0.80	B				0.80		15.84
0.50	AG			Very stiff grey mottled orangish brown slightly sandy slightly gravelly CLAY with many pockets (up to 350mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm		1.40		15.24
0.80 - 1.40	B			Very stiff dark bluish grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 50mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
1.20	AG						
1.20	D						
1.20	ES			Below 2.00m, with occasional pockets (up to 50mm in size) of calcareous silt.			
1.20			PID: <0.1 ppm				
1.40 - 2.40	B				2.40		14.24
1.50	AG			Orangish brown slightly gravelly clayey SAND. Gravel is angular to subrounded fine to coarse flint.			
1.50	D						
2.00	D		w: 19 %				
2.00	HV		140+/140+/140+ kPa R: 22/25/27 kPa		3.00		13.64
				End of Excavation			
2.40 - 3.00	B						
2.50	D						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	18/09/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	010
		Date Backfilled	18/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPB33
Client	National Grid Ventures	**National Grid Coordinates**	641899.2 E 267716.1 N	**Ground Level**	16.80 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.			
0.10	D						
0.10	ES				0.40		16.40
0.10			PID: <0.1 ppm	Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 50mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.			
0.40 - 1.00	B						
0.50	D						
0.50	ES			Below 1.00m, becoming light grey mottled orangish brown.			
0.50			PID: <0.1 ppm				
1.00	D		w: 18 %				
1.00	ES						
1.00 - 2.00	B						
1.00			PID: <0.1 ppm				
1.50	D						
2.00	D				2.00		14.80
2.00 - 3.00	B			Orangish brown slightly gravelly clayey SAND. Gravel is angular to subrounded fine to coarse sandstone and flint.			
2.50	D			Below 2.60m, becoming light cream.			
3.00	D			End of Excavation	3.00		13.80

Excavation

Plant	CAT 432F2	**Width (B)**	0.60
Date	19/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	225
		Date Backfilled	19/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC01
Client	National Grid Ventures	**National Grid Coordinates**	641903.0 E 267826.0 N	**Ground Level**	15.60 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Firm to stiff dark brown slightly sandy slightly gravelly clay with occasional rootlets and with rare pockets (up to 10mm in size) of calcareous silt. Gravel is subangular to rounded fine to coarse quartzite, flint and chalk.	0.40		15.20
0.10	AG						
0.10	D						
0.10	ES						
0.10			PID: <0.1 ppm	Orangish brown gravelly very clayey SAND with rare pockets (up to 50mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.			
0.40 - 1.00	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D		w: 12 %		1.80		13.80
1.00 - 1.80	B			Light cream slightly gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse sandstone and flint.			
1.00	HV		48/52/48 kPa R: 14/11/17 kPa				
1.50	AG						
1.50	D						
1.80 - 3.00	B						
2.00	D						
2.50	D						
3.00	D			End of Excavation	3.00		12.60

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	19/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	056
		Date Backfilled	19/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC02
Client	National Grid Ventures	**National Grid Coordinates**	641905.9 E 267923.8 N	**Ground Level**	16.14 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Stiff dark brown slightly sandy slightly gravelly clay with occasional rootlets and with rare pockets (up to 10mm in size) of calcareous silt. Gravel is subangular to rounded fine to coarse quartzite, flint and chalk.	0.40		15.74
0.10	D						
0.10	ES						
0.10			PID: <0.1 ppm	Very stiff orangish brown mottled light grey slightly gravelly sandy CLAY with occasional pockets (up to 55mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.			
0.40 - 1.00	B						
0.60	D		w: 17 %				
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	D						
1.00 - 2.30	B						
1.50	D						
1.50	HV		140+/140+/140+ kPa R: 35/40/32 kPa				
2.00	D						
2.30 - 3.00	B			Light cream slightly gravelly clayey SAND. Gravel is angular to subrounded fine to coarse sandstone and flint.	2.30		13.84
2.50	D						
3.00	D			End of Excavation	3.00		13.14

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	19/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	102
		Date Backfilled	19/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC03
Client	National Grid Ventures	**National Grid Coordinates**	642020.0 E 268069.9 N	**Ground Level**	16.07 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)	
0.00 - 0.40	B			TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and with rare pockets (up to 10mm in size) of calcareous silt. Gravel is subangular to rounded fine to coarse quartzite, flint and chalk.	0.40		15.67	
0.10	AG							
0.10	D							
0.10	ES			Very stiff orangish brown slightly sandy slightly gravelly CLAY with rare pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.				
0.10			PID: <0.1 ppm					
0.40 - 1.40	B							
0.60	AG							
0.60	D		w: 15 %					
0.60	ES							
0.60			PID: <0.1 ppm		1.40		14.67	
1.00	AG			Very stiff light grey mottled brown slightly gravelly sandy CLAY with occasional pockets (up to 100mm in size) of calcareous silt and occasional pockets (up to 200mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.				
1.00	D							
1.40 - 2.00	B							
1.50	D				2.00		14.07	
2.00	D			Stiff brown mottled grey slightly gravelly sandy CLAY with occasional pockets (up to 50mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.				
2.00 - 3.00	B							
2.50	D							
2.50	HV		51/42/46 kPa R: 31/31/37 kPa					
3.00	D		w: 15 %		3.00		13.07	
				End of Excavation				

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	19/09/2024	**Length (C)**	2.60
Shoring	None.	**Orientation (degrees)**	021
		Date Backfilled	19/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC04
Client	National Grid Ventures	**National Grid Coordinates**	642246.2 E 268074.9 N	**Ground Level**	14.71 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B			MADE GROUND: Very stiff brown slightly gravelly sandy clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.35		14.36
0.10	AG						
0.10	D						
0.10	ES						
0.10			PID: <0.1 ppm	Orangish brown gravelly slightly clayey SAND with rare pockets (up to 25mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.	0.70		14.01
0.35 - 0.70	B						
0.50	AG			Light cream mottled orangish brown slightly gravelly slightly clayey SAND. Gravel is angular to subrounded fine to coarse sandstone and flint.			
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm				
0.70 - 1.50	B			Below 1.50m, gravel is absent.			
1.20	AG						
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
1.50 - 2.50	B						
2.00	D						
2.50	D						
2.50 - 3.00	B						
3.00	D			End of Excavation	3.00		11.71

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	20/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	188
		Date Backfilled	20/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC05
Client	National Grid Ventures	**National Grid Coordinates**	642750.0 E 268700.0 N	**Ground Level**	15.91 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			MADE GROUND: Stiff brown slightly sandy slightly gravelly clay with occasional rootlets and rare pockets (up to 10mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, brick, chalk and quartzite.	0.30		15.61
0.10	AG						
0.10	D						
0.10	ES			Very stiff light grey mottled brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 45mm in size) of calcareous silt and occasional pockets (up to 250mm in size) of orangish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, sandstone and chalk. Below 0.75m, clay pockets are absent.			
0.10			PID: <0.1 ppm				
0.30 - 0.70	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm		1.50		14.41
0.70 - 1.50	B			Very stiff dark grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 250mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
1.20	AG						
1.20	D		w: 19 %		2.00		13.91
1.20	ES			Very stiff dark grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of calcareous silt and a low cobble content of subangular flint. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
1.20			PID: <0.1 ppm				
1.50	AG						
1.50	D						
1.50 - 2.00	B						
1.50	HV		140+/140+/140+ kPa R: 32/35/37 kPa	Below 2.80m, with occasional pockets (up to 250mm in size) of orangish brown sandy clay.	3.00		12.91
1.75	D			End of Excavation			
2.00 - 3.00	B						
2.50	D		w: 14 %				
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	23/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	177
		Date Backfilled	23/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC06
Client	National Grid Ventures	**National Grid Coordinates**	643089.7 E 269143.2 N	**Ground Level**	16.16 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, brick and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		15.66
0.10			PID: <0.1 ppm	Firm orangish brown slightly gravelly sandy CLAY with rare pockets (up to 50mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, sandstone, quartzite and chalk.	0.70		15.46
0.50 - 0.70	B						
0.60	AG			Stiff light orangish brown slightly gravelly slightly sandy to sandy CLAY with occasional pockets (up to 100mm in size) of calcareous silt and rare pockets (up to 100mm in size) of orangish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.70 - 1.50	B						
0.75	HV		81/72/76 kPa R: 23/21/23 kPa				
1.10	AG						
1.10	D						
1.10	ES						
1.10			PID: <0.1 ppm				
1.25	HV		110/115/107 kPa R: 20/23/27 kPa				
1.50	D						
1.50 - 2.50	B			End of Excavation	3.00		13.16
2.00	D		w: 19 %				
2.50	D						
2.50 - 3.00	B						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	24/09/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	287
		Date Backfilled	24/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC07
Client	National Grid Ventures	**National Grid Coordinates**	643135.0 E 269326.0 N	**Ground Level**	18.49 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	B			TOPSOIL: Soft to firm brown slightly slightly gravelly sandy clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.	0.10		18.39
0.10	AG			Firm to stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 35mm in size) of calcareous silt and occasional pockets (up to 25mm in size) of orangish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
0.10	D						
0.10	ES						
0.10 - 1.20	B						
0.10			PID: <0.1 ppm				
0.50	HV		66/70/69 kPa R: 22/30/27 kPa				
0.60	AG			Stiff to very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 35mm in size) of calcareous silt and rare pockets (up to 50mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.	1.20		17.29
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.10	AG			Below 1.80m, becomes dark bluish grey mottled orangish brown.			
1.10	D						
1.20 - 2.20	B						
1.50	AG						
1.50	D						
1.50	HV		120/131/121 kPa R: 21/32/25 kPa				
2.00	D			Below 2.70m, becomes orangish brown mottled brown.			
2.20 - 3.00	B			End of Excavation	3.00		15.49
2.50	D		w: 15 %				
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	25/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	234
		Date Backfilled	25/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC08
Client	National Grid Ventures	**National Grid Coordinates**	643159.0 E 269479.1 N	**Ground Level**	20.37 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.10	AG						
0.10	D				0.40		19.97
0.10	ES			Firm to stiff light orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of calcareous silt and rare pockets (up to 100mm in size) of orangish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone. Below 1.00m, becomes grey mottled orangish brown.			
0.10			PID: <0.1 ppm				
0.40 - 1.00	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D		w: 19 %		1.80		18.57
1.00 - 1.80	B			Very stiff dark blueish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 110mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.			
1.00	HV		58/62/67 kPa R: 18/23/17 kPa				
1.50	AG						
1.50	D						
1.80 - 3.00	B						
2.00	D						
2.50	D						
3.00	D			End of Excavation	3.00		17.37

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	24/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	010
		Date Backfilled	24/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC09
Client	National Grid Ventures	**National Grid Coordinates**	643207.9 E 269673.0 N	**Ground Level**	20.43 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, brick and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		19.93
0.10			PID: <0.1 ppm	Firm to stiff orangish brown mottled grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of calcareous silt and occasional pockets (up to 100mm in size) of orangish brown sandy clay. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone. Below 0.70m, becomes light grey mottled orangish brown.			
0.50 - 1.00	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
1.00 - 1.90	B						
1.00	HV		70/75/70 kPa R: 24/22/23 kPa		1.90		18.53
1.20	AG			Very stiff dark bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 110mm in size) of calcareous silt. Gravel is angular to subrounded fine to coarse flint, mudstone, ironstone, quartzite and chalk.			
1.20	D						
1.20	ES						
1.20			PID: <0.1 ppm				
1.90 - 3.00	B						
2.00	D						
2.50	D		w: 18 %				
3.00	D			End of Excavation	3.00		17.43

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	24/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	08
		Date Backfilled	24/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC10
Client	National Grid Ventures	**National Grid Coordinates**	642825.0 E 269943.0 N	**Ground Level**	24.38 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Firm to stiff brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		23.98
0.10	ES			Stiff to very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 45mm in size) of calcareous silt and occasional pockets (up to 400mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone. Below 0.80m, becomes light grey mottled orangish brown.			
0.10			PID: <0.1 ppm				
0.40 - 0.80	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.80 - 1.50	B				1.50		22.88
1.00	AG			Very stiff dark bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 110mm in size) of calcareous silt and rare pockets (up to 25mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk. Below 1.50m, becomes dark bluish grey mottled brown.			
1.00	D		w: 18 %				
1.00	HV		112/131/122 kPa R: 24/20/21 kPa				
1.50	AG						
1.50	D						
1.50 - 2.50	B						
2.00	D						
2.50	D						
2.50 - 3.00	B			End of Excavation	3.00		21.38
3.00	D		w: 20 %				

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	25/09/2024	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	323
		Date Backfilled	25/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC11
Client	National Grid Ventures	**National Grid Coordinates**	642720.0 E 270101.0 N	**Ground Level**	24.33 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			MADE GROUND: Firm to stiff brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk, brick and quartzite.			
0.10	AG						
0.10	D				0.40		23.93
0.10	ES			Stiff to very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of calcareous silt and occasional pockets (up to 250mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.10			PID: <0.1 ppm				
0.40 - 0.60	B						
0.50	AG						
0.50	D						
0.50	ES			Below 0.60m, becomes light grey mottled orangish brown.			
0.50			PID: <0.1 ppm				
0.60 - 1.50	B			Below 1.50m, becomes dark bluish grey.			
1.20	AG						
1.20	D		w: 17 %				
1.20	ES			Below 2.00m, with rare pockets (up to 10mm in size) of orangish brown slightly clayey sand.			
1.20			PID: <0.1 ppm				
1.50	AG						
1.50	D						
1.50 - 2.50	B						
1.50	HV		140+/140+/140+ kPa R: 31/34/24 kPa				
				End of Excavation	3.00		21.33
2.00	D						
2.50	D						
2.50 - 3.00	B						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	25/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	055
		Date Backfilled	24/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC12
Client	National Grid Ventures	**National Grid Coordinates**	642703.0 E 270299.0 N	**Ground Level**	25.05 m OD

Samples and Tests				Strata				Scale 1:50
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)	
0.00 - 0.30	B			TOPSOIL: Firm brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.				
0.10	AG				0.30		24.75	
0.10	D			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 50mm in size) of calcareous silt and occasional pockets (up to 600mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.				
0.10	ES							
0.10			PID: <0.1 ppm					
0.30 - 1.30	B							
0.60	AG							
0.60	D							
0.60	ES				1.30		23.75	
0.60			PID: <0.1 ppm	Very stiff dark bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 150mm in size) of calcareous silt and rare pockets (up to 50mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.				
1.00	AG							
1.00	D							
1.00	HV		140+/140+/140+ kPa R: 32/21/32 kPa					
1.30 - 2.00	B							
1.50	AG							
1.50	D							
2.00	D		w: 21 %					
2.00 - 3.00	B							
2.50	D			End of Excavation	3.00		22.05	
3.00	D							

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	26/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	325
		Date Backfilled	26/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC13
Client	National Grid Ventures	**National Grid Coordinates**	642687.0 E 270500.0 N	**Ground Level**	26.19 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		25.79
0.10	ES			Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt and occasional pockets (up to 500mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone. Below 0.70m, becomes light grey mottled orangish brown.			
0.10			PID: <0.1 ppm				
0.40 - 0.70	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.70 - 1.50	B				1.50		24.69
1.00	HV		140+/140+/140+ kPa R: 23/32/24 kPa	Very stiff dark blueish grey mottled brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 100mm in size) of calcareous silt and rare pockets (up to 25mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.			
1.20	AG						
1.20	D						
1.50	AG						
1.50	D		w: 16 %				
1.50 - 2.50	B						
2.00	D						
2.00	HV		140+/140+/140+ kPa R: 24/25/36 kPa	End of Excavation	3.00		23.19
2.50	D						
2.50 - 3.00	B						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	26/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	307
		Date Backfilled	26/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC14
Client	National Grid Ventures	**National Grid Coordinates**	642688.0 E 270706.0 N	**Ground Level**	27.45 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		27.05
0.10	ES			Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 40mm in size) of calcareous silt and occasional pockets (up to 250mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone. Below 0.70m, becomes light grey mottled orangish brown.			
0.10			PID: <0.1 ppm				
0.40 - 0.70	B						
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.70 - 1.50	B				1.50		25.95
1.00	HV		140+/140+/140+ kPa	Very stiff dark bluish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 135mm in size) of calcareous silt and rare pockets (up to 45mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.			
			R: 25/27/35 kPa				
1.20	AG						
1.20	D						
1.50	AG						
1.50	D						
1.50 - 2.50	B						
2.00	D		w: 20 %				
2.50	D			End of Excavation	3.00		24.45
2.50 - 3.00	B						
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	26/09/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	299
		Date Backfilled	26/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC15
Client	National Grid Ventures	**National Grid Coordinates**	642793.0 E 270882.0 N	**Ground Level**	26.42 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		26.02
0.10	ES			Very stiff light grey mottled orangish brown slightly sandy to sandy slightly gravelly CLAY with occasional pockets (up to 50mm in size) of calcareous silt and occasional pockets (up to 250mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
0.10			PID: <0.1 ppm				
0.40 - 1.20	B						
0.60	AG						
0.60	D				1.20		25.22
0.60	ES			Very stiff dark blueish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 500mm in size) of calcareous silt and rare pockets (up to 15mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.			
0.60			PID: <0.1 ppm				
1.00	AG						
1.00	D		w: 15 %				
1.20 - 2.20	B						
1.50	AG						
1.50	D						
1.50	HV		140+/140+/140+ kPa R: 25/28/31 kPa				
2.00	D						
2.20 - 3.00	B						
2.50	D			End of Excavation	3.00		23.42
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	27/09/2024	**Length (C)**	2.61
Shoring	None.	**Orientation (degrees)**	236
		Date Backfilled	27/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC16
Client	National Grid Ventures	**National Grid Coordinates**	642919.0 E 271088.0 N	**Ground Level**	22.21 m OD

Samples and Tests				Strata			
						Scale 1:50	
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D				0.40		21.81
0.10	ES			Very stiff orangish brown mottled light grey slightly gravelly sandy CLAY with occasional pockets (up to 15mm in size) of calcareous silt and occasional pockets (up to 200mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
0.10			PID: <0.1 ppm		0.70		21.51
0.40 - 0.70	B			Very stiff light grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 55mm in size) of calcareous silt and occasional pockets (up to 240mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk and sandstone.			
0.60	AG						
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm		1.40		20.81
0.70 - 1.40	B			Very stiff dark blueish grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 150mm in size) of calcareous silt and rare pockets (up to 10mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, mudstone, quartzite and chalk.			
1.20	AG						
1.20	D						
1.40 - 2.00	B						
1.50	AG						
1.50	D						
1.50	HV		140+/140+/140+ kPa R: 31/28/21 kPa				
2.00	D						
2.00 - 3.00	B			End of Excavation	3.00		19.21
2.50	D		w: 22 %				
3.00	D						

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	30/09/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	103
		Date Backfilled	30/09/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC17
Client	National Grid Ventures	**National Grid Coordinates**	643015.0 E 271221.9 N	**Ground Level**	22.28 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite.			
0.10	AG				0.30		21.98
0.10	D			Orangish brown gravelly clayey SAND. Gravel is subangular to rounded fine to coarse flint and quartzite.			
0.10	ES						
0.10			PID: <0.1 ppm				
0.30 - 1.10	B						
0.60	AG						
0.60	D			Below 1.10m, becomes light cream.			
0.60	ES						
0.60			PID: <0.1 ppm				
1.10	AG						
1.10	D			Below 1.70m, becomes orangish brown			
1.10 - 1.70	B						
1.50	AG						
1.50	D						
1.70 - 2.70	B						
2.00	D						
2.50	D						
2.70 - 3.00	B				2.70		19.58
3.00	D			Light cream slightly gravelly slightly clayey SAND with occasional pockets (up to 100mm in size) of light grey mottled reddish brown slightly sandy clay. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.	3.00		19.28
				End of Excavation			

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	01/10/2024	**Length (C)**	2.15
Shoring	None.	**Orientation (degrees)**	145
		Date Backfilled	01/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC19
Client	National Grid Ventures	**National Grid Coordinates**	643543.0 E 271464.0 N	**Ground Level**	19.10 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Soft brown slightly gravelly sandy clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		18.60
0.10			PID: <0.1 ppm	Orangish brown gravelly slightly clayey SAND. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.			
0.50 - 1.10	B						
0.60	AG				1.10		18.00
0.60	D			Orangish brown very gravelly clayey SAND. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.			
0.60	ES						
0.60			PID: <0.1 ppm				
1.00	D				1.60		17.50
1.10 - 1.60	B			Orangish brown gravelly slightly clayey SAND. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.			
1.50	D						
1.60 - 2.20	B						
2.00	D				2.20		16.90
				End of Excavation			

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	08/10/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	357
		Date Backfilled	08/10/2024
Stability	Unstable below 0.50m.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
DCP test undertaken adjacent to this pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by JC
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Cable Route Sections B & C	**Engineer**	BakerHicks	**Project No.**	PC248770
				Location ID	TPC20
Client	National Grid Ventures	**National Grid Coordinates**	643634.0 E 271488.0 N	**Ground Level**	22.67 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Soft brown slightly gravelly sandy clay with rare rootlets. Gravel is angular to subrounded fine to coarse flint, chalk and quartzite.			
0.10	AG						
0.10	D						
0.10	ES				0.50		22.17
0.10			PID: <0.1 ppm	Very stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 15mm in size) of calcareous silt and many pockets (up to 250mm in size) of orangish brown slightly clayey sand. Gravel is angular to subrounded fine to coarse flint, chalk, mudstone and sandstone.			
0.50 - 1.50	B						
0.60	AG						
0.60	D		w: 15 %				
0.60	ES						
0.60			PID: <0.1 ppm				
0.75	HV		140+/140+/140+ kPa R: 31/32/33 kPa		1.50		21.17
1.00	AG			Orangish brown very sandy slightly clayey GRAVEL of angular to rounded fine to coarse flint, sandstone and quartzite.			
1.00	D				2.10		20.57
1.50	AG			Light cream slightly gravelly very clayey SAND. Gravel is angular to rounded fine to coarse flint, sandstone and quartzite.			
1.50	D						
1.50 - 2.10	B						
2.00	D						
2.10 - 3.00	B						
2.50	D				3.00		19.67
3.00	D			End of Excavation			

Excavation

Plant	CAT 432F2	**Width (B)**	0.59
Date	08/10/2024	**Length (C)**	2.25
Shoring	None.	**Orientation (degrees)**	139
		Date Backfilled	08/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

AG sample for agricultural analysis by third party comprising 1 x 1 litre plastic tub.

In situ Resistivity Tests carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.

DCP test undertaken adjacent to this pit.

Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by JC
Checked by TNH
Figure Sheet 1 of 1
23/01/2025

GEOTECHNICS

1. TPB01



2. TPB01 Side



3. TPB01 Topsoil



4. TPB01 Spoil



5. TPB02



6. TPB02 Side



7. TPB02 Topsoil



8. TPB02 Spoil



9. TPB03



10. TPB03 Side



11. TPB03 Topsoil



12. TPB03 Spoil



13. TPB04



14. TPB04 Side



15. TPB04 Topsoil



16. TPB04 Spoil



17. TPB05



18. TPB05 Side



19. TPB05 Topsoil



20. TPB05 Spoil



21. TPB06



22. TPB06 Side



23. TPB06 Topsoil



24. TPB06 Spoil



25. TPB07



26. TPB07 Side



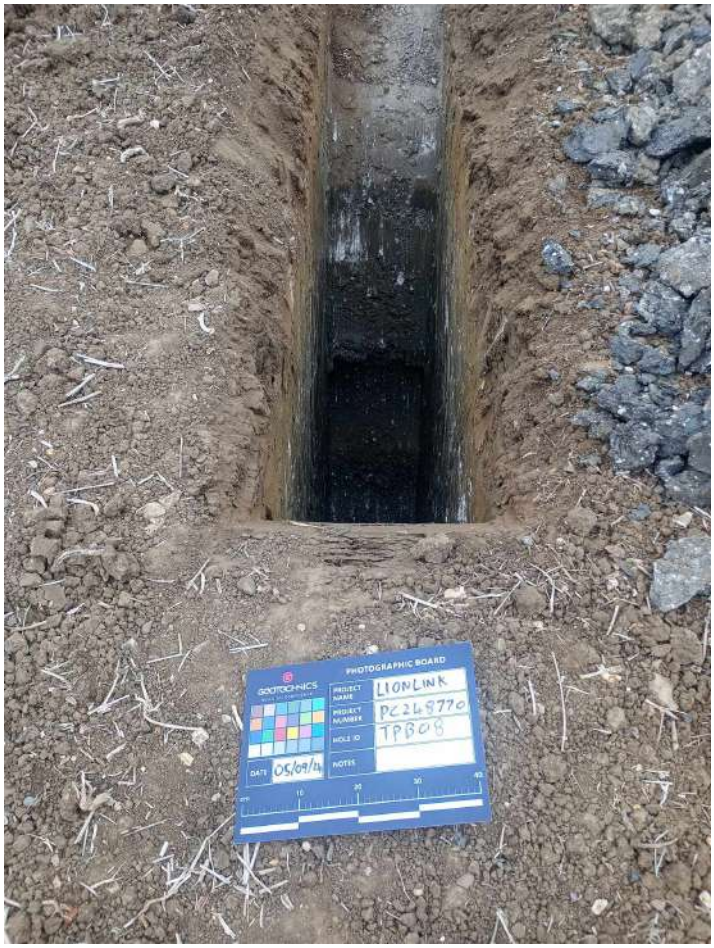
27. TPB07 Topsoil



28. TPB07 Spoil



29. TPB08



30. TPB08 Side



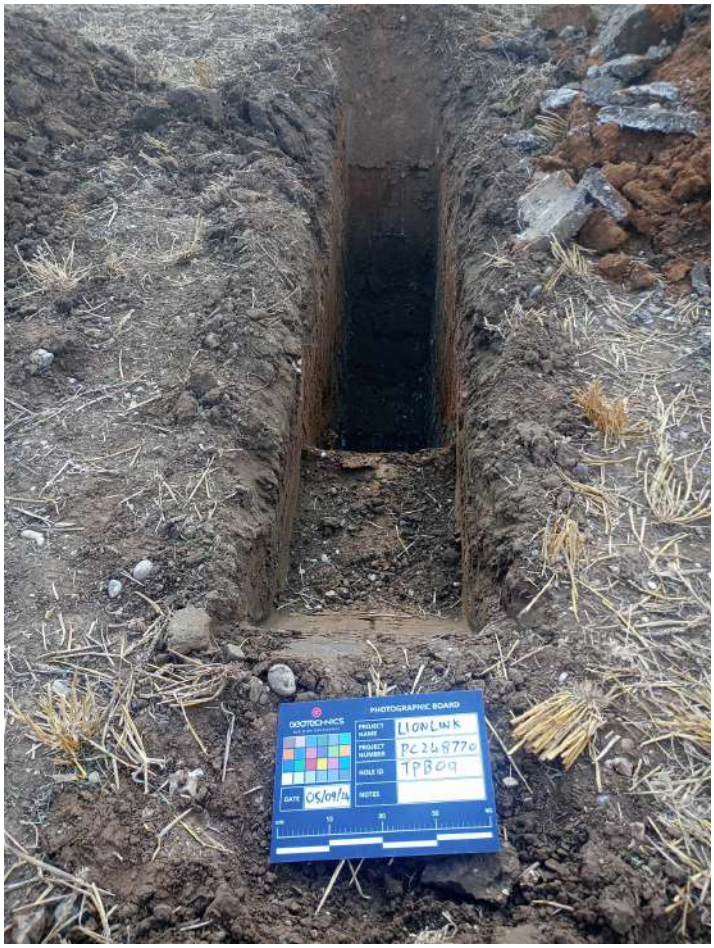
31. TPB08 Topsoil



32. TPB08 Spoil



33. TPB09



34. TPB09 Side



35. TPB09 Possible Service Scar



36. TPB09 Topsoil



37. TPB09 Spoil



38. TPB10



39. TPB10 Side



40. TPB10 Topsoil



41. TPB10 Spoil



42. TPB11



43. TPB11 Side



44. TPB11 Topsoil



45. TPB11 Spoil



46. TPB12



47. TPB12 Side



48. TPB12 Topsoil



49. TPB12 Spoil



50. TPB13



51. TPB13 Side



52. TPB13 Topsoil



53. TPB13 Spoil



54. TPB14



55. TPB14 Side



56. TPB14 Topsoil



57. TPB14 Spoil



58. TPB16



59. TPB16 Side



60. TPB16 Toposil



61. TPB16 Spoil



62. TPB18



63. TPB18 Side



64. TPB18 Toposil



65. TPB18 Spoil



66. TPB20



67. TPB20 Side



68. TPB20 Topsoil



69. TPB20 Spoil



70. TPB21



71. TPB21 Side



72. TPB21 Topsoil



73. TPB21 Spoil



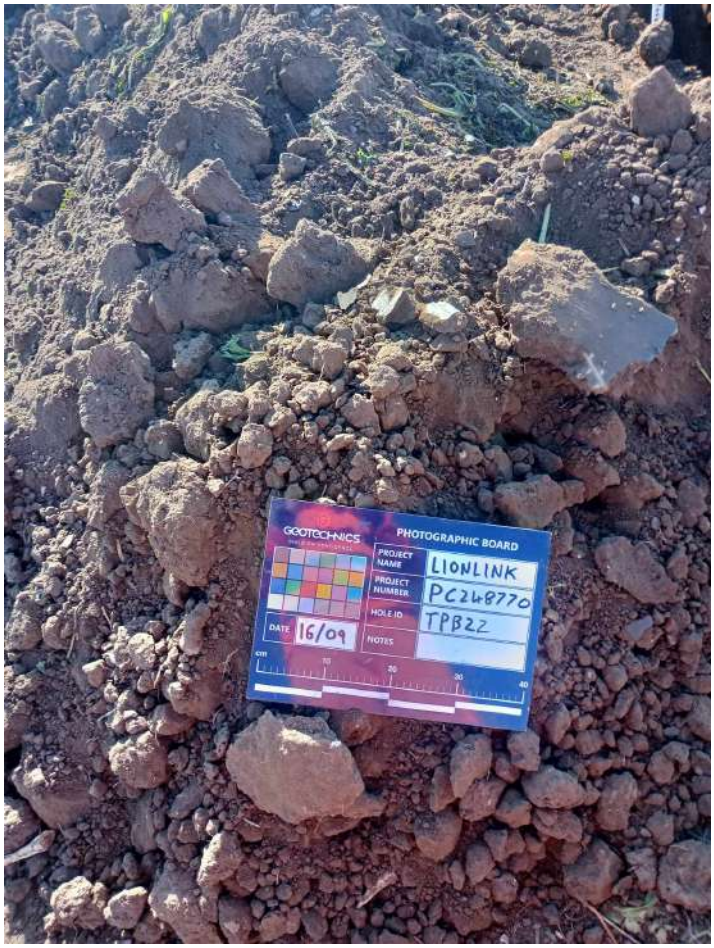
74. TPB22



75. TPB22 Side



76. TPB22 Topsoil



77. TPB22 Spoil



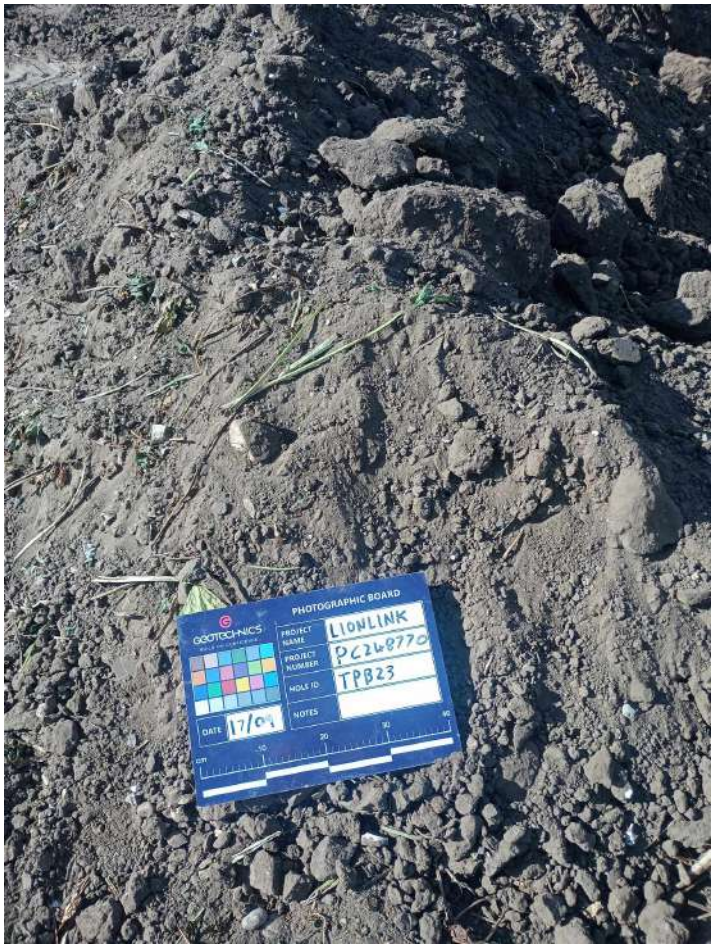
78. TPB23



79. TPB23 Side



80. TPB23 Topsoil



81. TPB23 Spoil



82. TPB24



83. TPB24 Side



84. TPB24 Topsoil



85. TPB24 Spoil



86. TPB25



87. TPB25 Side



88. TPB25 Topsoil



89. TPB25 Spoil



90. TPB26



91. TPB26 Side



92. TPB26 Topsoil



93. TPB26 Spoil



94. TPB27



95. TPB27 Side



96. TPB27 Topsoil



97. TPB27 Spoil



98. TPB29



99. TPB29 Side



100. TPB29 Topsoil



101. TPB29 Spoil



102. TPB30



103. TPB30 Side



104. TPB30 Side Collapse



105. TPB30 Topsoil



106. TPB30 Spoil



107. TPB31



108. TPB31 Side



109. TPB31 Topsoil



110. TPB31 Spoil



111. TPB32



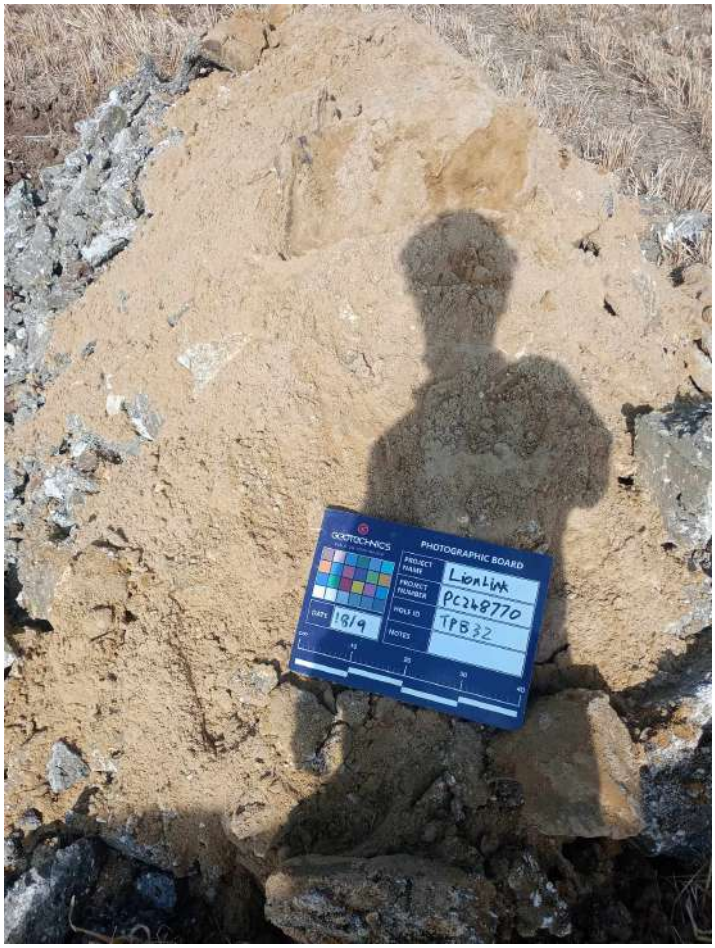
112. TPB32 Side



113. TPB32 Topsoil



114. TPB32 Spoil



115. TPB33



116. TPB33 Side



117. TPB33 Topsoil



118. TPB33 Spoil



1. TPC01



2. TPC01 Side



3. TPC01 Topsoil



4. TPC01 Spoil



5. TPC02



6. TPC02 Side



7. TPC02 Topsoil



8. TPC02 Spoil



9. TPC03



10. TPC03 Side



11. TPC03 Topsoil



12. TPC03 Spoil



13. TPC04



14. TPC04 Side



15. TPC04 Topsoil



16. TPC04 Spoil



17. TPC05



18. TPC05 Side



19. TPC05 Topsoil



20. TPC05 Spoil



21. TPC06



22. TPC06 Side



23. TPC06 Topsoil



24. TPC06 Spoil



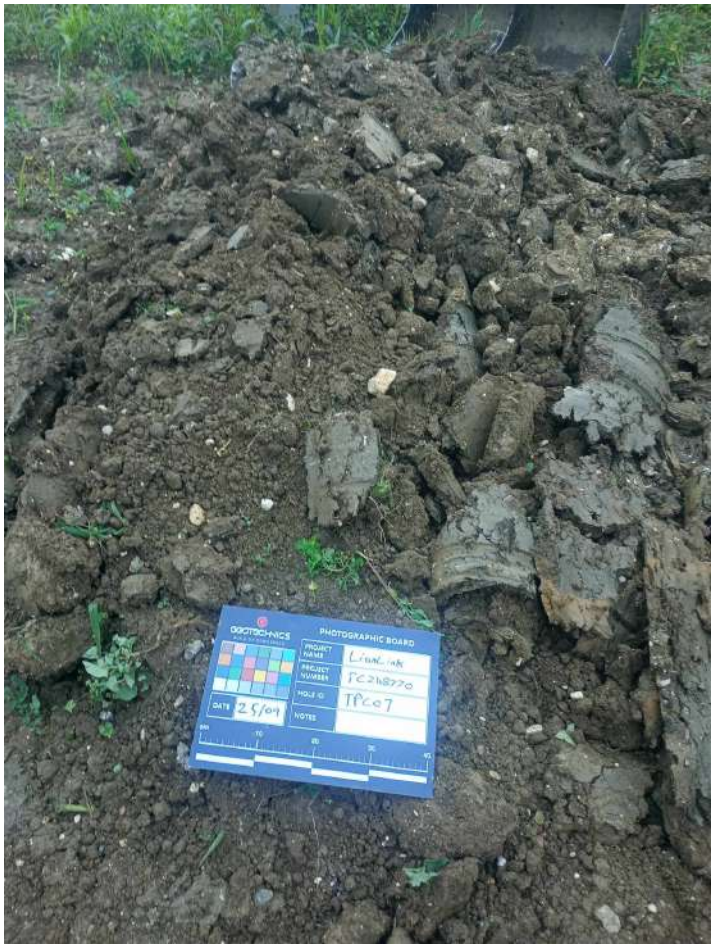
25. TPC07



26. TPC07 Side



27. TPC07 Topsoil



28. TPC07 Spoil



29. TPC08



30. TPC08 Side



31. TPC08 Topsoil



32. TPC08 Spoil



33. TPC09



34. TPC09 Side



35. TPC09 Service



36. TPC09 Topsoil



37. TPC09 Spoil



38. TPC10



39. TPC10 Side



40. TPC10 Topsoil



41. TPC10 Spoil



42. TPC11



43. TPC11 Side



44. TPC11 Topsoil



45. TPC11 Spoil



46. TPC12



47. TPC12 Side



48. TPC12 Topsoil



49. TPC12 Spoil



50. TPC13



51. TPC13 Side



52. TPC13 Topsoil



53. TPC13 Spoil



54. TPC14



55. TPC14 Side



56. TPC14 Topsoil



57. TPC14 Spoil



58. TPC15



59. TPC15 Side



60. TPC15 Topsoil



61. TPC15 Spoil



62. TPC16



63. TPC16 Side



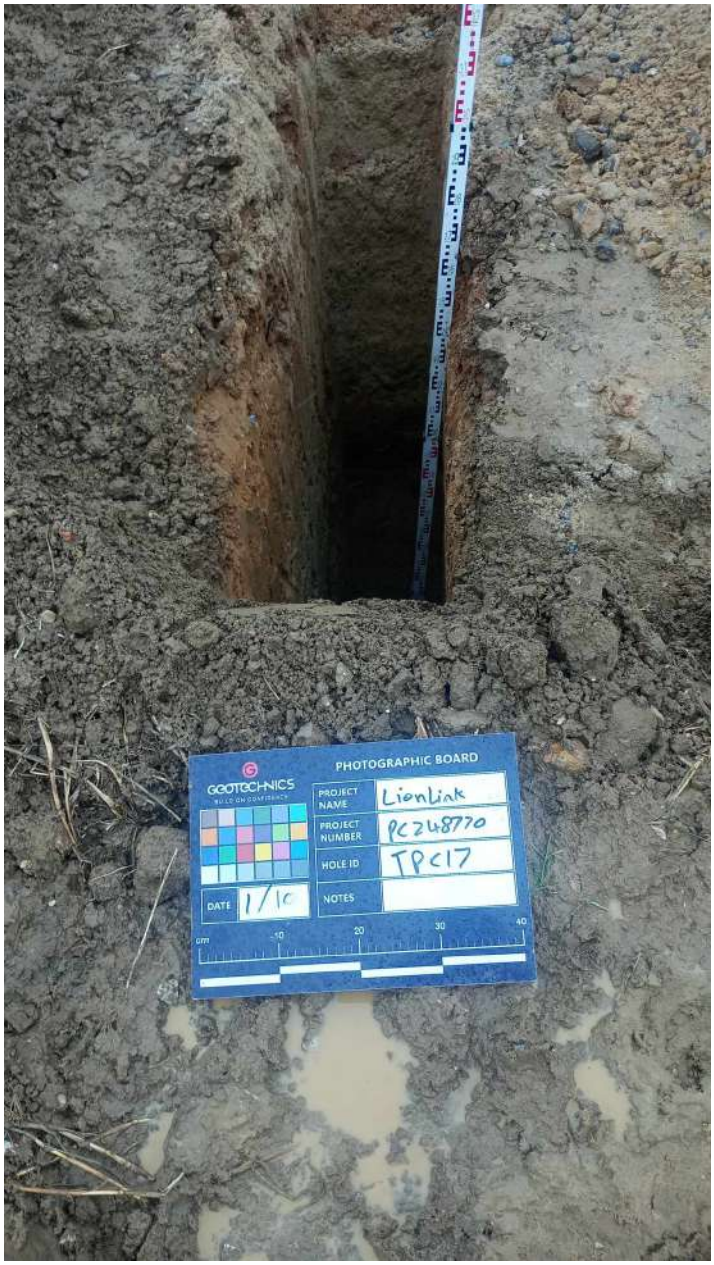
64. TPC16 Topsoil



65. TPC16 Spoil



66. TPC17



67. TPC17 Side



68. TPC17 Topsoil



69. TPC17 Spoil



70. TPC19



71. TPC19 Side



72. TPC19 Side Collapse



73. TPC19 Topsoil



74. TPC19 Spoil



75. TPC20



76. TPC20 Side



77. TPC20 Topsoil

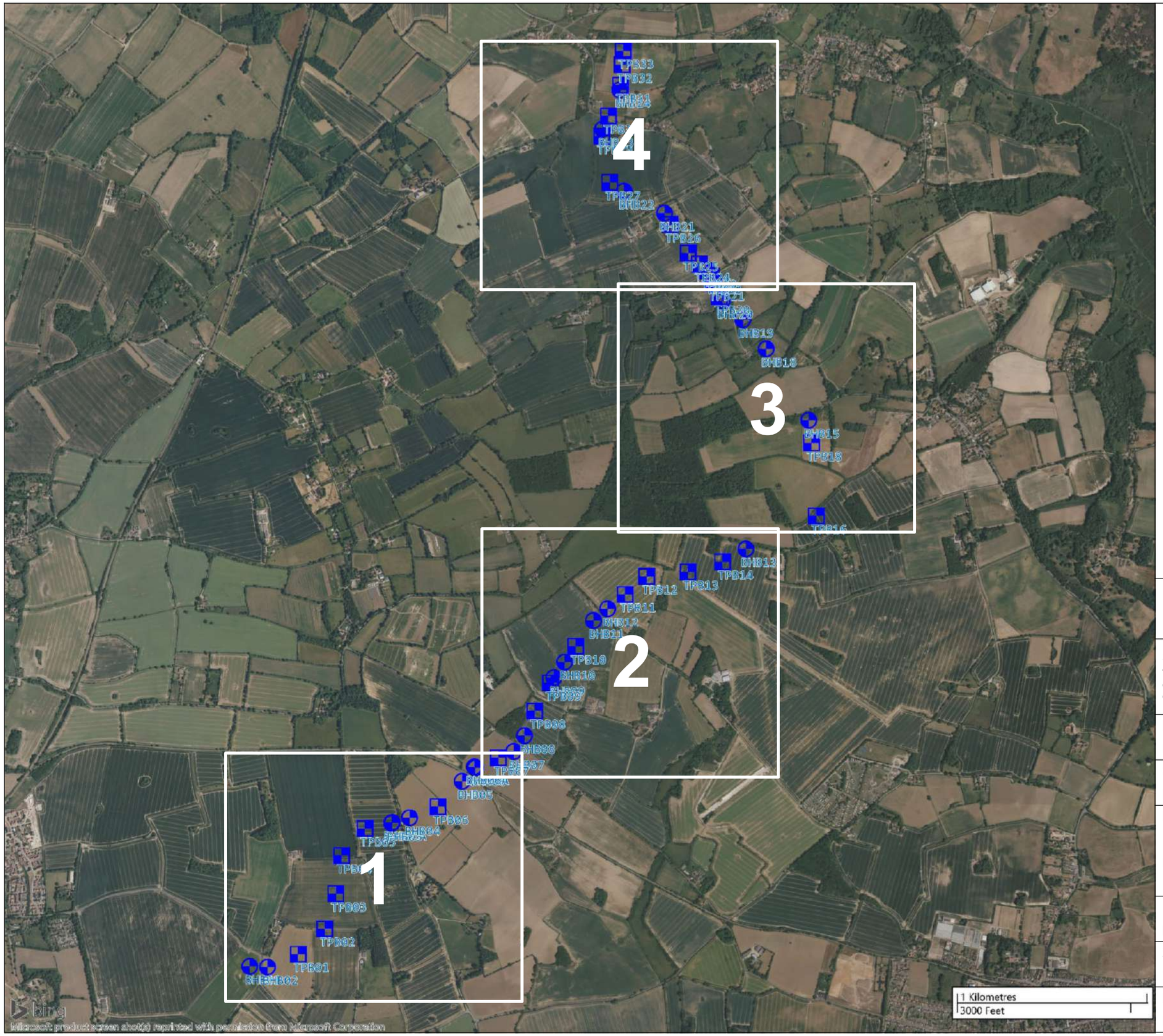


78. TPC20 Spoil



APPENDIX 6

Exploratory Hole Location Plan



N

GEOTECHNICS

203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
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Engineer:
BakerHicks

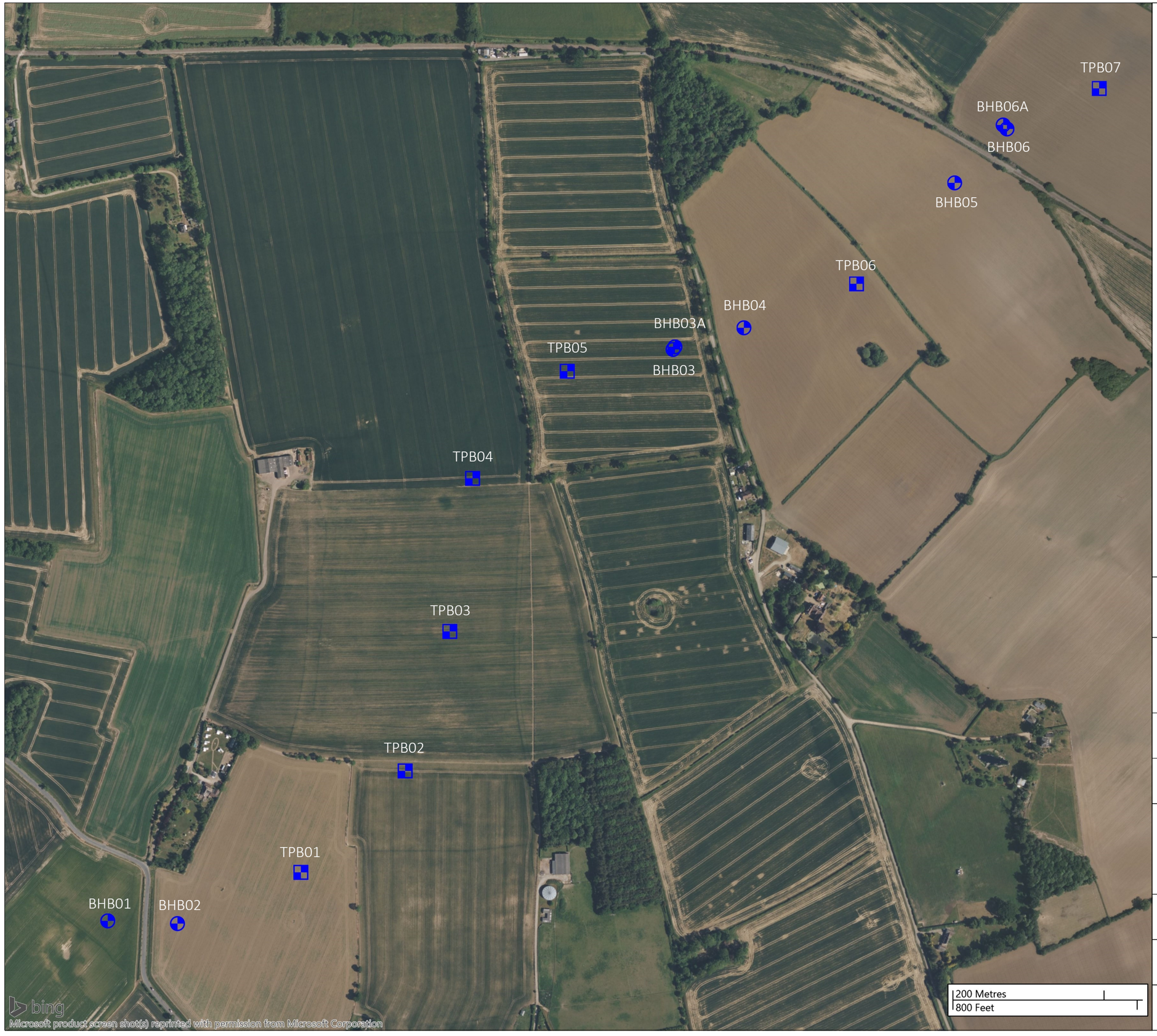
Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Base Plan - Section B

Scale:	Date:
1:20000 at A3	**12/12/2024**

Project No.:	
PC248770	**Exploratory Hole Location Base Plan**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

203 Torrington Avenue
Tile Hill
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Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan B1

Scale:	Date:
1:5000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan B1**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan B2

Scale:	Date:
1:5000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan B2**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

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Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan B3

Scale:	Date:
1:5000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan B3**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

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CV4 9AP

Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
www.geotechnics.co.uk

Engineer:
BakerHicks

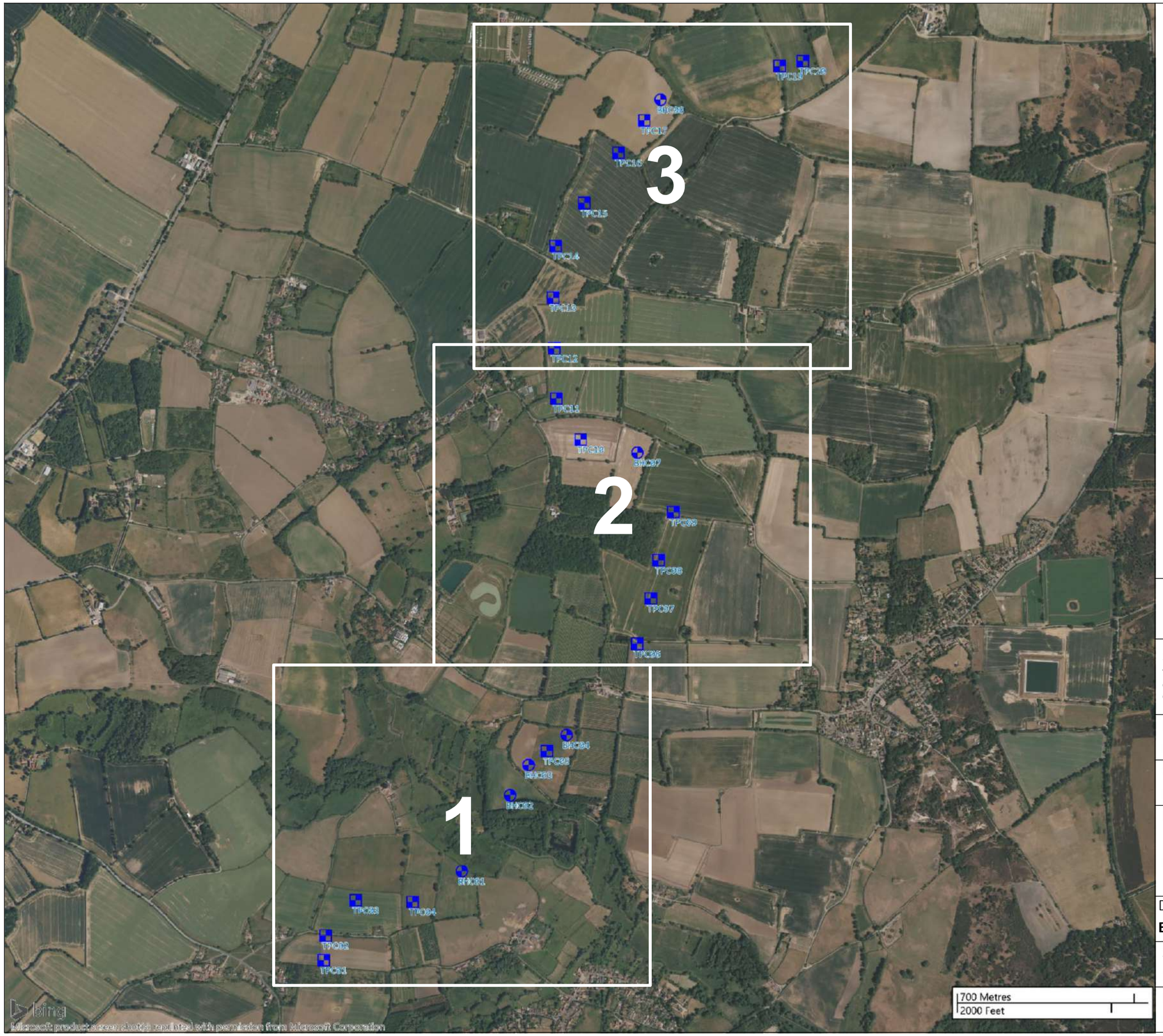
Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan B4

Scale:	Date:
1:5000 at A3	**12/12/2024**

Project No.:	
PC248770	**Exploratory Hole Location Plan B4**



N

GEOTECHNICS

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Email: mail@geotechnics.co.uk
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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Base Plan - Section C

Scale:	Date:
1:15000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan C1

Scale:	Date:
1:5000 at A3	**12/12/2024**

Project No.:	
PC248770	**Exploratory Hole Location Plan C1**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan C2

Scale:	Date:
1:5000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan C2**



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

203 Torrington Avenue
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Phone: 024 7669 4664
Email: mail@geotechnics.co.uk
www.geotechnics.co.uk

Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Cable Route Sections B & C

Drawing Title:
Exploratory Hole Location Plan C3

Scale:	Date:
1:5000 at A3	**12/12/2024**
Project No.: **PC248770**	**Exploratory Hole Location Plan C3**

APPENDIX 7

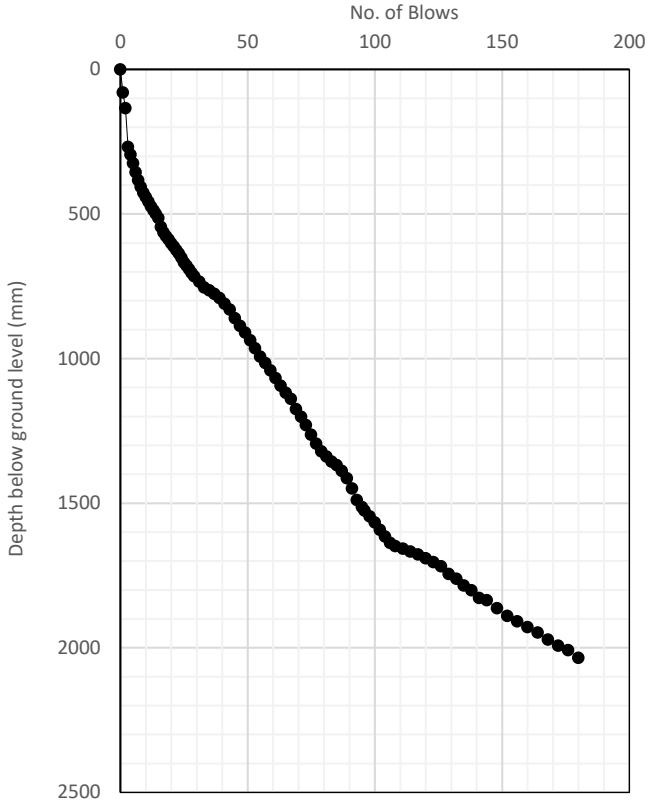
Dynamic Cone Penetration Test Results

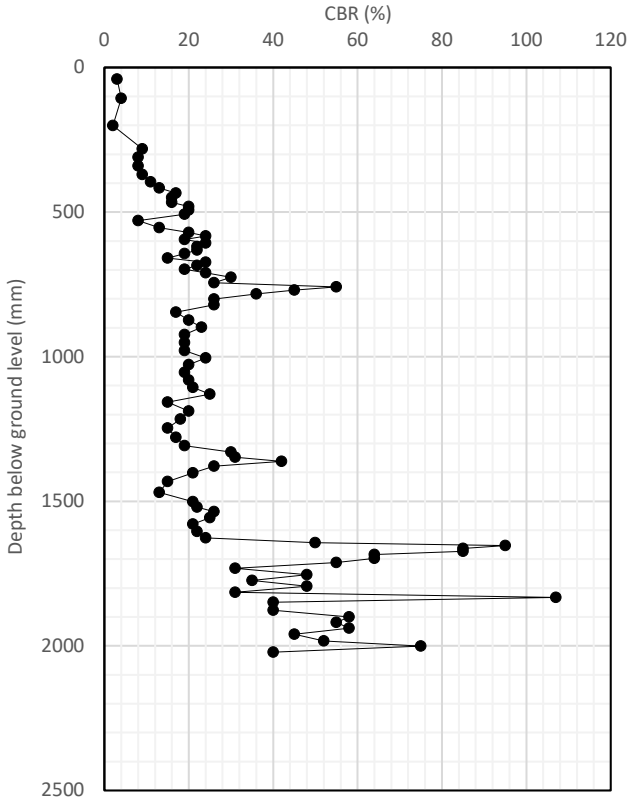
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB01
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	640409.0 E, 262851.8 N **Ground Level** 21.69 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	227	0	1	20	829	602	2	51	1164	937
1	1	307	80	1	21	840	613	2	53	1192	965
1	2	361	134	1	22	852	625	2	55	1220	993
1	3	495	268	1	23	864	637	2	57	1242	1015
1	4	522	295	1	24	878	651	2	59	1268	1041
1	5	552	325	1	25	895	668	2	61	1295	1068
1	6	583	356	1	26	906	679	2	63	1321	1094
1	7	611	384	1	27	918	691	2	65	1346	1119
1	8	634	407	1	28	932	705	2	67	1367	1140
1	9	654	427	1	29	943	716	2	69	1402	1175
1	10	669	442	2	31	961	734	2	71	1428	1201
1	11	685	458	2	33	981	754	2	73	1457	1230
1	12	701	474	2	35	991	764	2	75	1491	1264
1	13	714	487	2	37	1003	776	2	77	1521	1294
1	14	727	500	2	39	1018	791	2	79	1548	1321
1	15	741	514	2	41	1038	811	2	81	1566	1339
1	16	772	545	2	43	1058	831	2	83	1583	1356
1	17	791	564	2	45	1088	861	2	85	1596	1369
1	18	804	577	2	47	1114	887	2	87	1616	1389
1	19	815	588	2	49	1137	910	2	89	1641	1414





Remarks

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

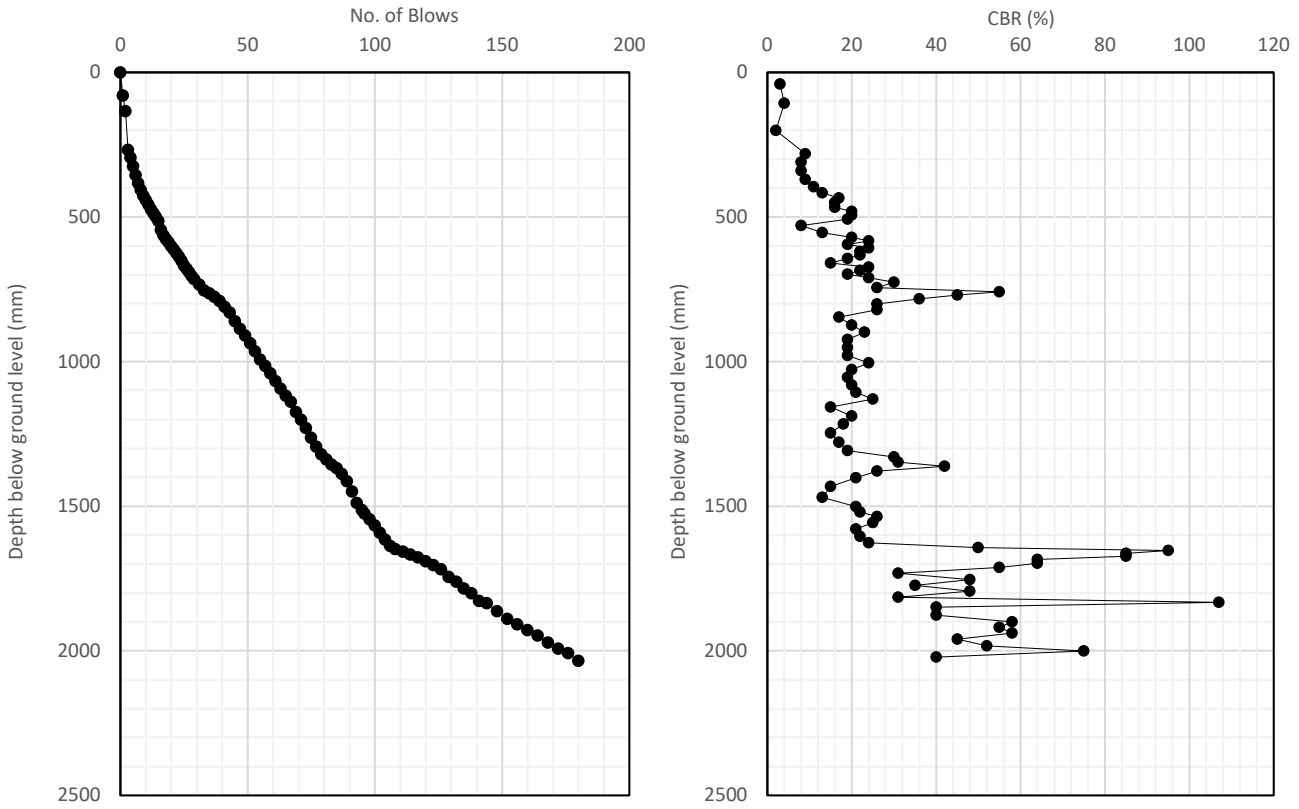
Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB01
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	640409.0 E, 262851.8 N **Ground Level** 21.69 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl

Operator	JC

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	91	1676	1449	3	141	2055	1828				
2	93	1716	1489	3	144	2063	1836				
2	95	1741	1514	4	148	2090	1863				
1	96	1753	1526	4	152	2117	1890				
2	98	1773	1546	4	156	2136	1909				
2	100	1794	1567	4	160	2156	1929				
2	102	1819	1592	4	164	2175	1948				
2	104	1843	1616	4	168	2199	1972				
2	106	1865	1638	4	172	2220	1993				
2	108	1876	1649	4	176	2235	2008				
3	111	1885	1658	4	180	2262	2035				
3	114	1895	1668								
3	117	1905	1678								
3	120	1918	1691								
3	123	1931	1704								
3	126	1946	1719								
3	129	1972	1745								
3	132	1989	1762								
3	135	2012	1785								
3	138	2029	1802								



Remarks

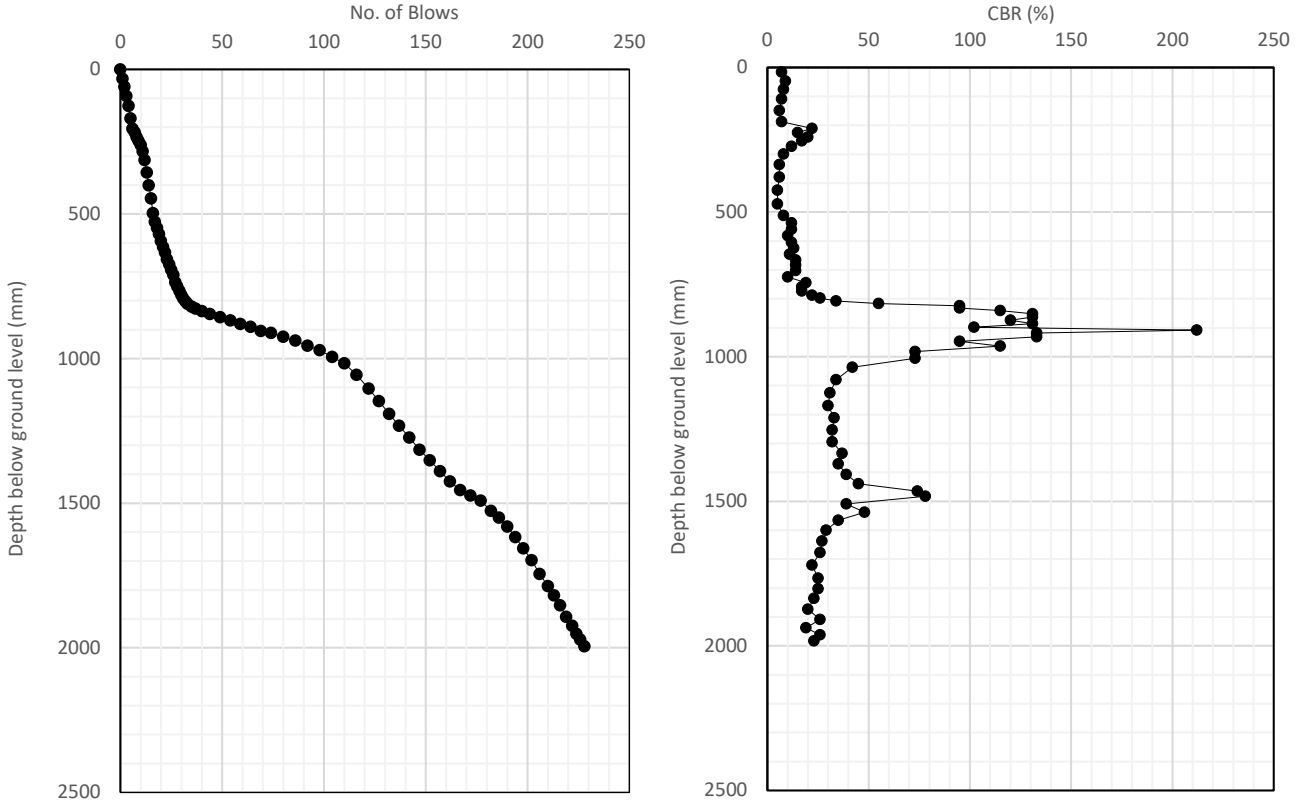
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB02
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	640541.2 E, 262993.2 N	**Ground Level**	22.56 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	157	0	1	20	751	594	5	59	1037	880
1	1	190	33	1	21	772	615	5	64	1048	891
1	2	217	60	1	22	791	634	5	69	1062	905
1	3	249	92	1	23	814	657	5	74	1069	912
1	4	284	127	1	24	832	675	6	80	1082	925
1	5	327	170	1	25	850	693	6	86	1095	938
1	6	362	205	1	26	868	711	6	92	1113	956
1	7	374	217	1	27	894	737	6	98	1128	971
1	8	391	234	1	28	908	751	6	104	1151	994
1	9	404	247	1	29	923	766	6	110	1174	1017
1	10	419	262	1	30	938	781	6	116	1213	1056
1	11	441	284	1	31	950	793	6	122	1261	1104
1	12	471	314	1	32	960	803	5	127	1304	1147
1	13	514	357	1	33	968	811	5	132	1348	1191
1	14	558	401	2	35	978	821	5	137	1389	1232
1	15	604	447	2	37	984	827	5	142	1431	1274
1	16	654	497	3	40	993	836	5	147	1473	1316
1	17	684	527	4	44	1003	846	5	152	1509	1352
1	18	705	548	5	49	1014	857	5	157	1547	1390
1	19	727	570	5	54	1025	868	5	162	1582	1425



Remarks

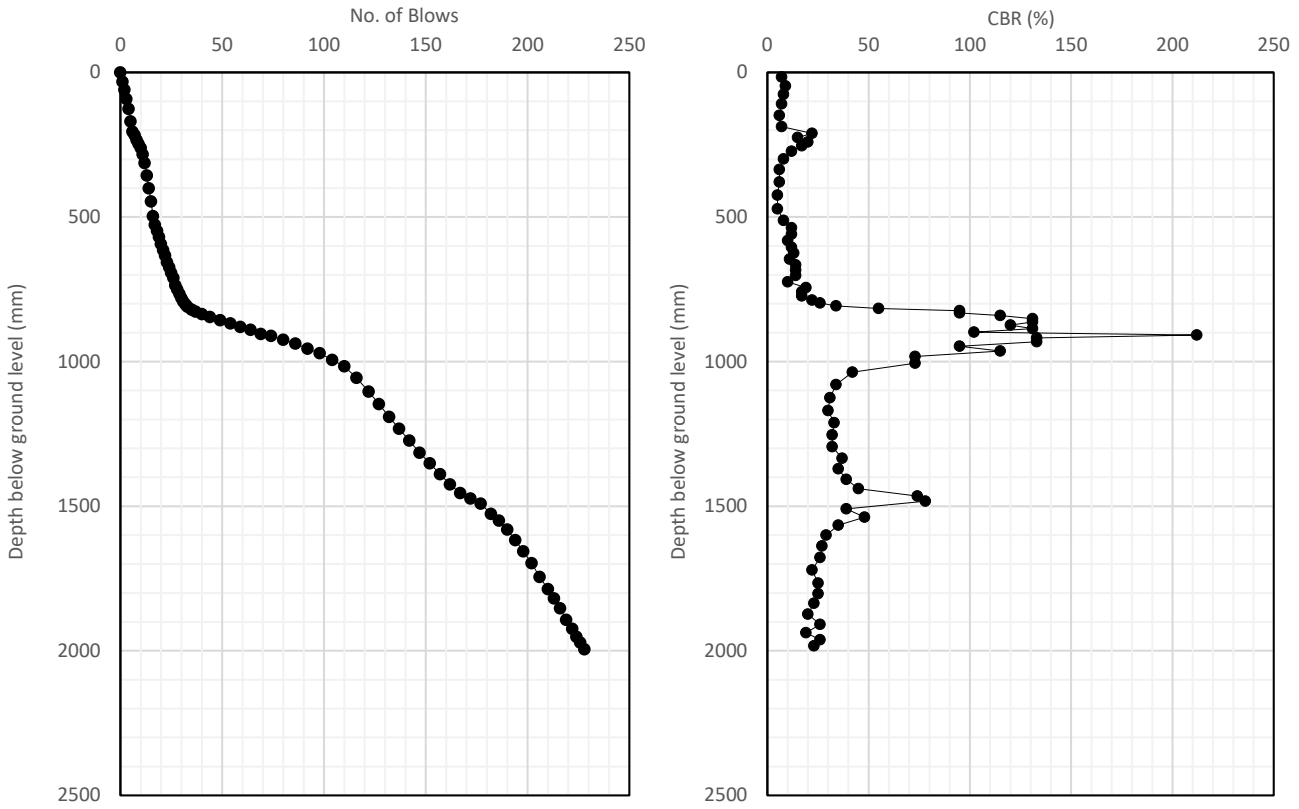
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB02
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	640541.2 E, 262993.2 N	**Ground Level**	22.56 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
5	167	1612	1455								
5	172	1631	1474								
5	177	1649	1492								
5	182	1684	1527								
4	186	1707	1550								
4	190	1738	1581								
4	194	1775	1618								
4	198	1814	1657								
4	202	1854	1697								
4	206	1902	1745								
4	210	1944	1787								
3	213	1976	1819								
3	216	2010	1853								
3	219	2050	1893								
3	222	2081	1924								
2	224	2109	1952								
2	226	2129	1972								
2	228	2152	1995								



Remarks

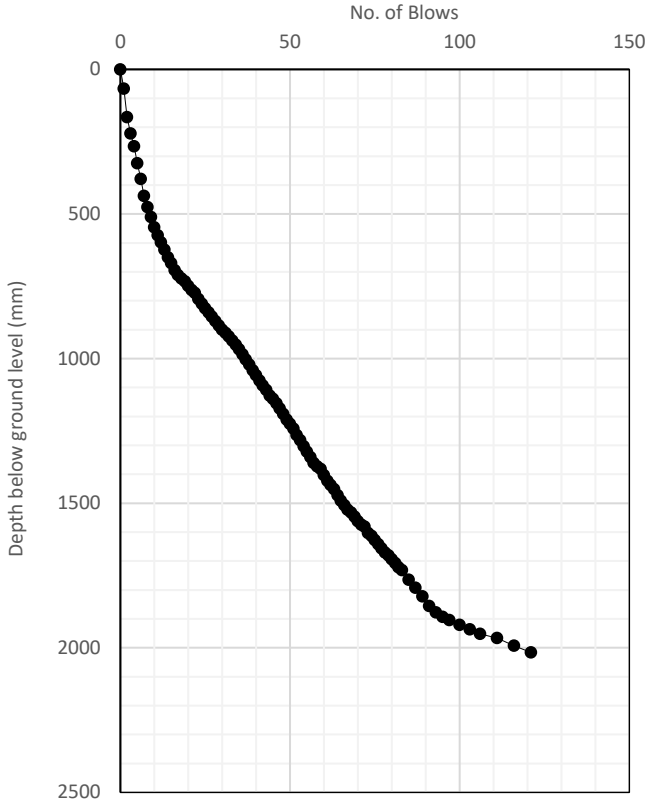
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

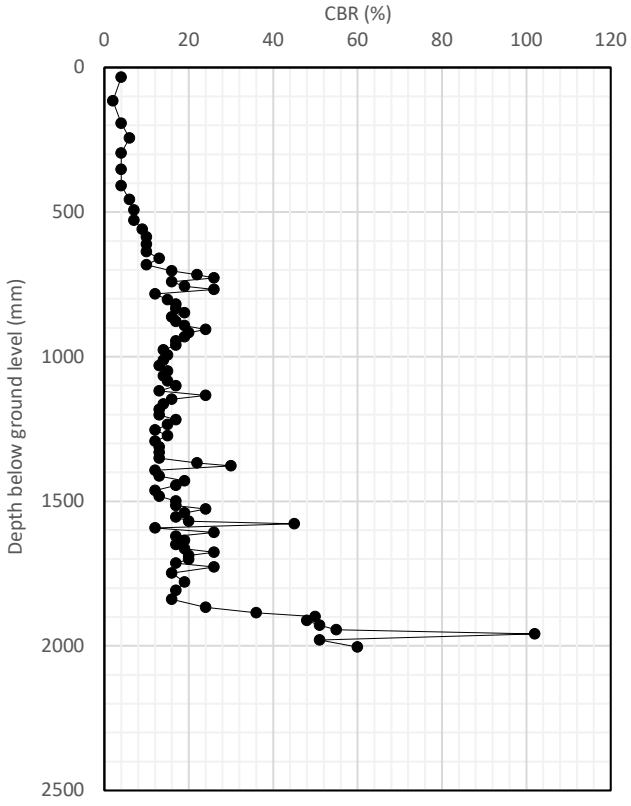
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB03
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	640592.0 E, 263181.2 N **Ground Level** 23.85 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	186	0	1	20	935	749	1	40	1244	1058
1	1	253	67	1	21	949	763	1	41	1262	1076
1	2	351	165	1	22	959	773	1	42	1279	1093
1	3	408	222	1	23	980	794	1	43	1294	1108
1	4	452	266	1	24	997	811	1	44	1314	1128
1	5	511	325	1	25	1012	826	1	45	1325	1139
1	6	565	379	1	26	1027	841	1	46	1341	1155
1	7	624	438	1	27	1041	855	1	47	1359	1173
1	8	662	476	1	28	1057	871	1	48	1378	1192
1	9	697	511	1	29	1072	886	1	49	1397	1211
1	10	732	546	1	30	1086	900	1	50	1412	1226
1	11	760	574	1	31	1097	911	1	51	1429	1243
1	12	784	598	1	32	1110	924	1	52	1451	1265
1	13	810	624	1	33	1124	938	1	53	1468	1282
1	14	836	650	1	34	1139	953	1	54	1489	1303
1	15	856	670	1	35	1154	968	1	55	1508	1322
1	16	881	695	1	36	1172	986	1	56	1527	1341
1	17	897	711	1	37	1189	1003	1	57	1547	1361
1	18	909	723	1	38	1207	1021	1	58	1559	1373
1	19	919	733	1	39	1227	1041	1	59	1568	1382





Remarks

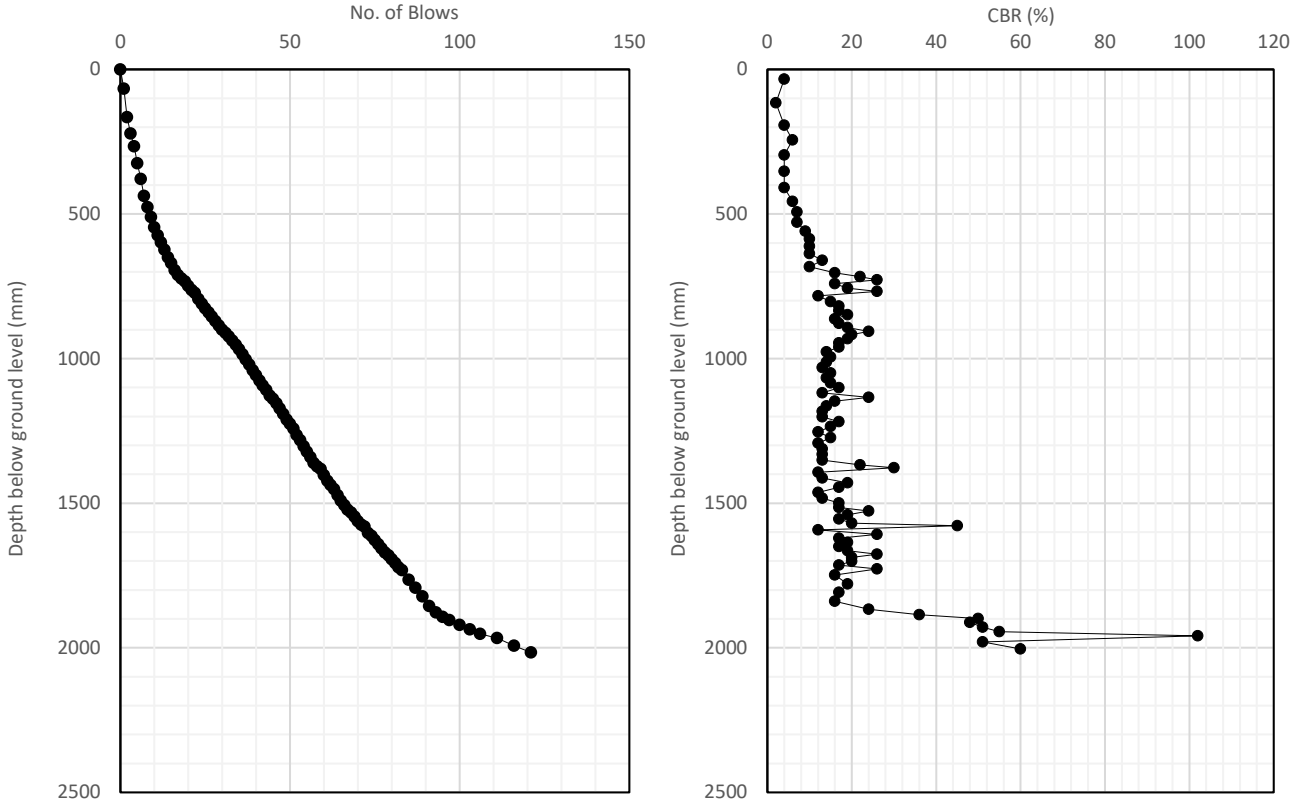
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB03
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	640592.0 E, 263181.2 N **Ground Level** 23.85 m OD	**Test Date**	02/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
1	60	1589	1403	1	80	1880	1694				
1	61	1609	1423	1	81	1893	1707				
1	62	1623	1437	1	82	1908	1722				
1	63	1638	1452	1	83	1918	1732				
1	64	1659	1473	2	85	1951	1765				
1	65	1678	1492	2	87	1979	1793				
1	66	1693	1507	2	89	2009	1823				
1	67	1708	1522	2	91	2042	1856				
1	68	1719	1533	2	93	2064	1878				
1	69	1733	1547	2	95	2079	1893				
1	70	1748	1562	2	97	2090	1904				
1	71	1761	1575	3	100	2107	1921				
1	72	1767	1581	3	103	2123	1937				
1	73	1789	1603	3	106	2138	1952				
1	74	1799	1613	5	111	2152	1966				
1	75	1814	1628	5	116	2179	1993				
1	76	1828	1642	5	121	2202	2016				
1	77	1843	1657								
1	78	1857	1671								
1	79	1867	1681								



Remarks

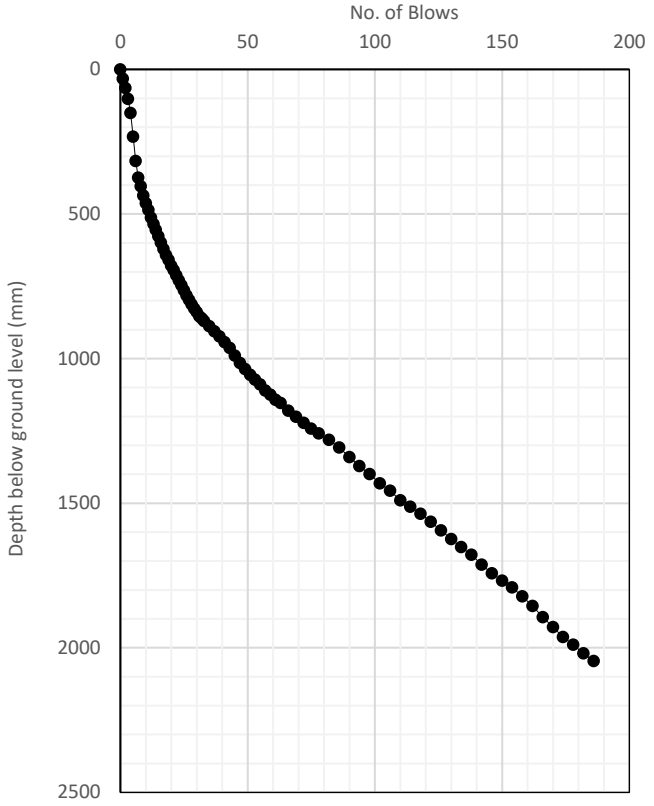
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

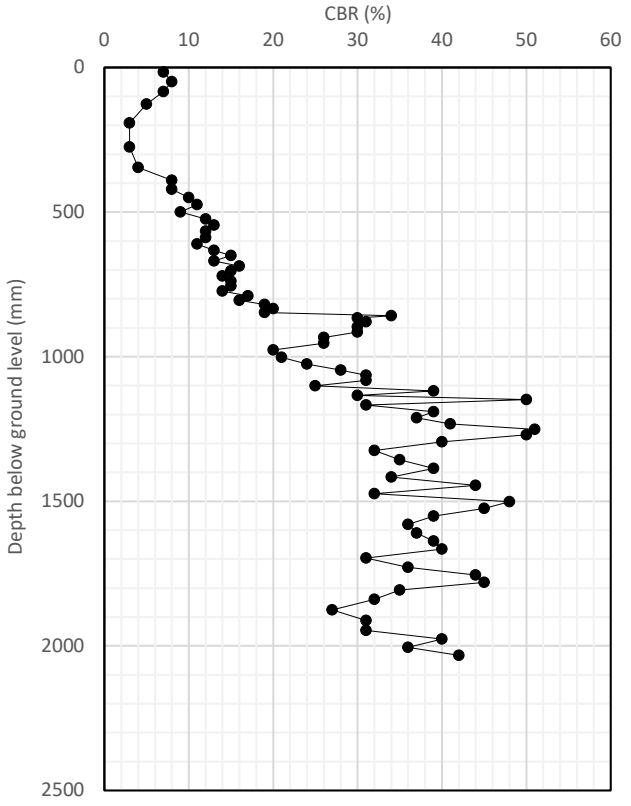
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB04
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	640612.2 E, 263385.8 N	**Ground Level**	25.50 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	159	0	1	20	838	679	2	47	1174	1015
1	1	192	33	1	21	854	695	2	49	1196	1037
1	2	224	65	1	22	871	712	2	51	1215	1056
1	3	261	102	1	23	889	730	2	53	1232	1073
1	4	310	151	1	24	906	747	2	55	1249	1090
1	5	392	233	1	25	923	764	2	57	1270	1111
1	6	476	317	1	26	941	782	2	59	1284	1125
1	7	534	375	1	27	956	797	2	61	1302	1143
1	8	564	405	1	28	972	813	2	63	1313	1154
1	9	596	437	1	29	986	827	3	66	1339	1180
1	10	622	463	1	30	999	840	3	69	1360	1201
1	11	645	486	1	31	1013	854	3	72	1382	1223
1	12	672	513	1	32	1021	862	3	75	1402	1243
1	13	694	535	1	33	1030	871	3	78	1418	1259
1	14	714	555	2	35	1047	888	4	82	1440	1281
1	15	736	577	2	37	1065	906	4	86	1467	1308
1	16	758	599	2	39	1083	924	4	90	1500	1341
1	17	781	622	2	41	1103	944	4	94	1531	1372
1	18	801	642	2	43	1123	964	4	98	1559	1400
1	19	818	659	2	45	1149	990	4	102	1591	1432





Remarks

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB04
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	640612.2 E, 263385.8 N **Ground Level** 25.50 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl

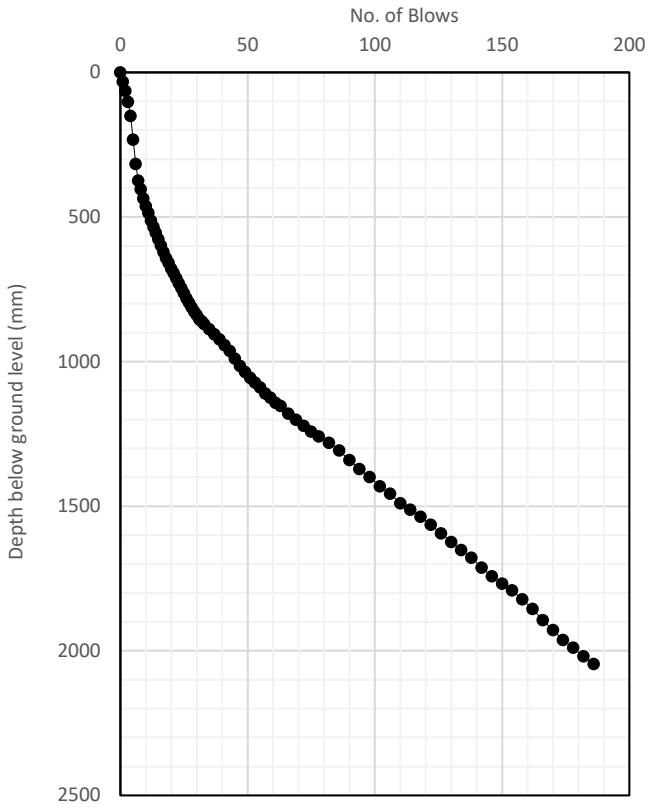
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	106	1616	1457
4	110	1649	1490
4	114	1672	1513
4	118	1696	1537
4	122	1724	1565
4	126	1754	1595
4	130	1783	1624
4	134	1811	1652
4	138	1838	1679
4	142	1872	1713
4	146	1902	1743
4	150	1927	1768
4	154	1951	1792
4	158	1982	1823
4	162	2015	1856
4	166	2054	1895
4	170	2088	1929
4	174	2122	1963
4	178	2149	1990
4	182	2179	2020

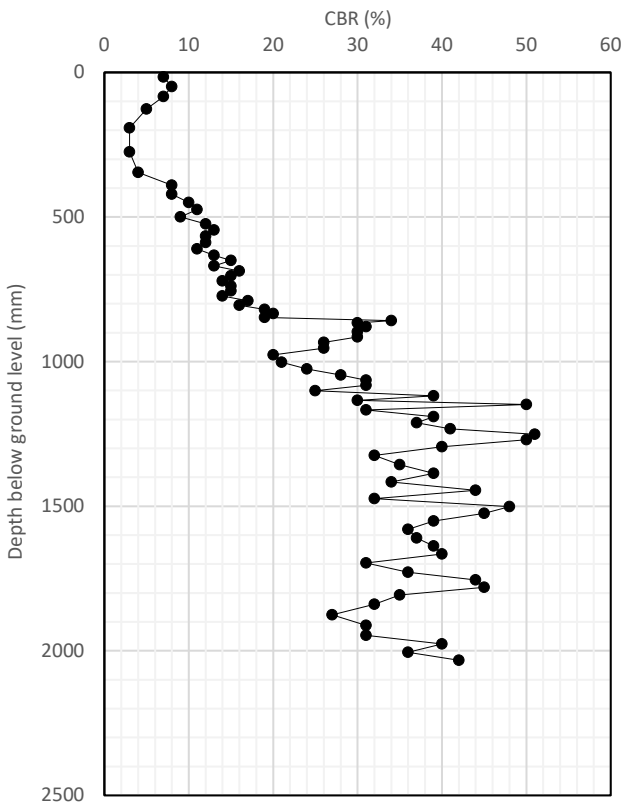
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	186	2205	2046

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

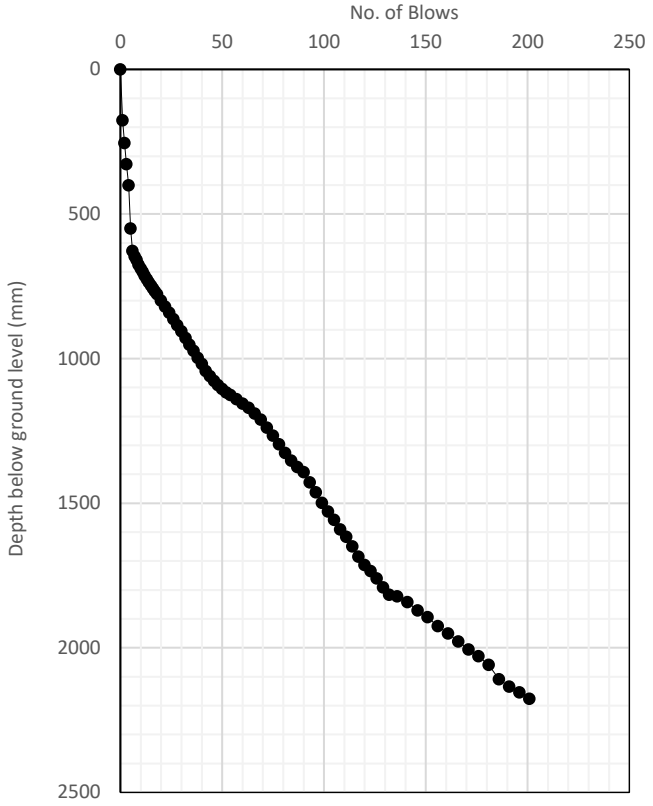
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

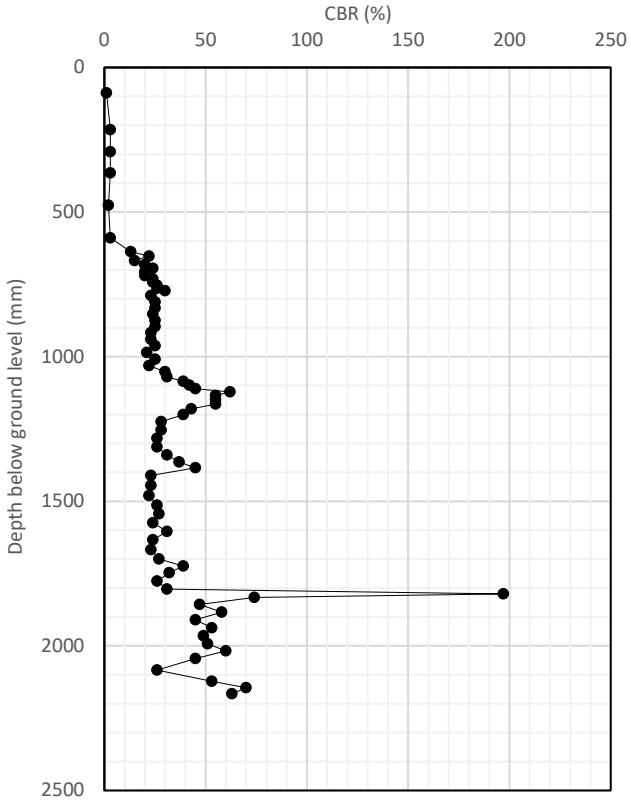
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB05
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	640731.1 E, 263534.1 N	**Ground Level**	26.63 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	194	0	2	22	1015	821	3	66	1384	1190
1	1	370	176	2	24	1036	842	3	69	1405	1211
1	2	449	255	2	26	1058	864	3	72	1433	1239
1	3	522	328	2	28	1079	885	3	75	1461	1267
1	4	595	401	2	30	1100	906	3	78	1491	1297
1	5	745	551	2	32	1123	929	3	81	1521	1327
1	6	822	628	2	34	1146	952	3	84	1547	1353
1	7	841	647	2	36	1167	973	3	87	1569	1375
1	8	853	659	2	38	1192	998	3	90	1587	1393
1	9	870	676	2	40	1213	1019	3	93	1622	1428
1	10	883	689	2	42	1237	1043	3	96	1657	1463
1	11	894	700	2	44	1255	1061	3	99	1693	1499
1	12	907	713	2	46	1272	1078	3	102	1723	1529
1	13	920	726	2	48	1286	1092	3	105	1752	1558
1	14	931	737	2	50	1299	1105	3	108	1785	1591
1	15	942	748	2	52	1311	1117	3	111	1811	1617
1	16	952	758	2	54	1320	1126	3	114	1844	1650
1	17	962	768	3	57	1335	1141	3	117	1879	1685
1	18	971	777	3	60	1350	1156	3	120	1908	1714
2	20	994	800	3	63	1365	1171	3	123	1929	1735





Remarks

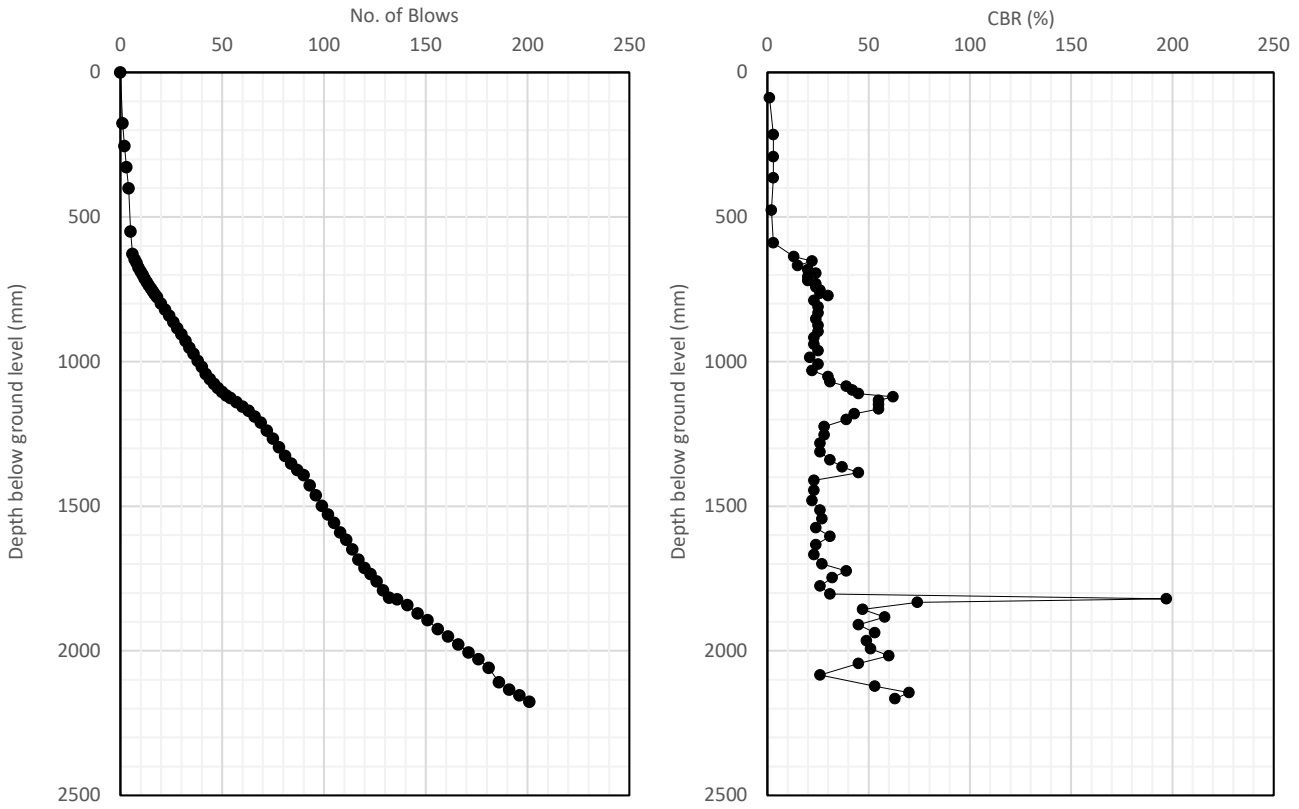
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB05
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	640731.1 E, 263534.1 N	**Ground Level**	26.63 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	126	1954	1760								
3	129	1985	1791								
3	132	2011	1817								
4	136	2017	1823								
5	141	2036	1842								
5	146	2065	1871								
5	151	2089	1895								
5	156	2119	1925								
5	161	2145	1951								
5	166	2173	1979								
5	171	2200	2006								
5	176	2223	2029								
5	181	2253	2059								
5	186	2303	2109								
5	191	2329	2135								
5	196	2349	2155								
5	201	2371	2177								



Remarks

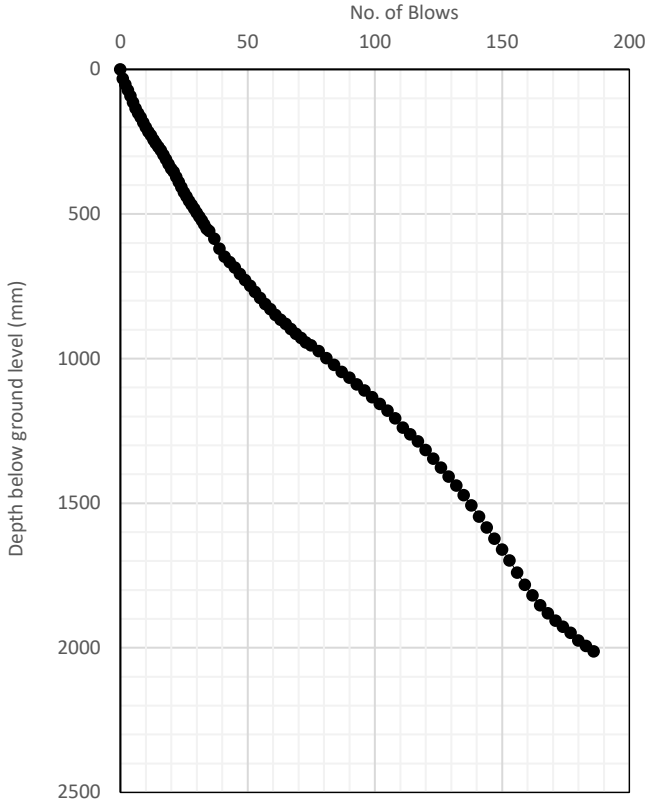
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

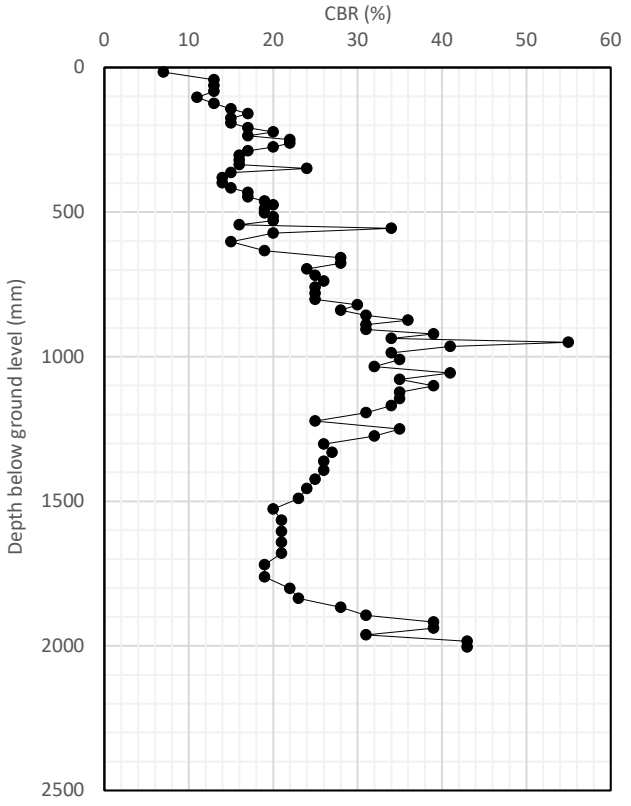
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB06
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641111.0 E, 263668.8 N **Ground Level** 23.66 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	156	0	1	20	500	344	2	45	842	686
1	1	189	33	1	21	511	355	2	47	864	708
1	2	209	53	1	22	528	372	2	49	885	729
1	3	228	72	1	23	546	390	2	51	905	749
1	4	248	92	1	24	564	408	2	53	926	770
1	5	271	115	1	25	581	425	2	55	947	791
1	6	291	135	1	26	596	440	2	57	968	812
1	7	308	152	1	27	611	455	2	59	986	830
1	8	323	167	1	28	625	469	2	61	1005	849
1	9	340	184	1	29	638	482	2	63	1022	866
1	10	357	201	1	30	652	496	2	65	1037	881
1	11	372	216	1	31	666	510	2	67	1054	898
1	12	385	229	1	32	679	523	2	69	1071	915
1	13	400	244	1	33	692	536	2	71	1085	929
1	14	412	256	1	34	708	552	2	73	1101	945
1	15	424	268	1	35	716	560	2	75	1111	955
1	16	437	281	2	37	742	586	3	78	1131	975
1	17	452	296	2	39	776	620	3	81	1155	999
1	18	468	312	2	41	804	648	3	84	1178	1022
1	19	484	328	2	43	823	667	3	87	1203	1047





Remarks

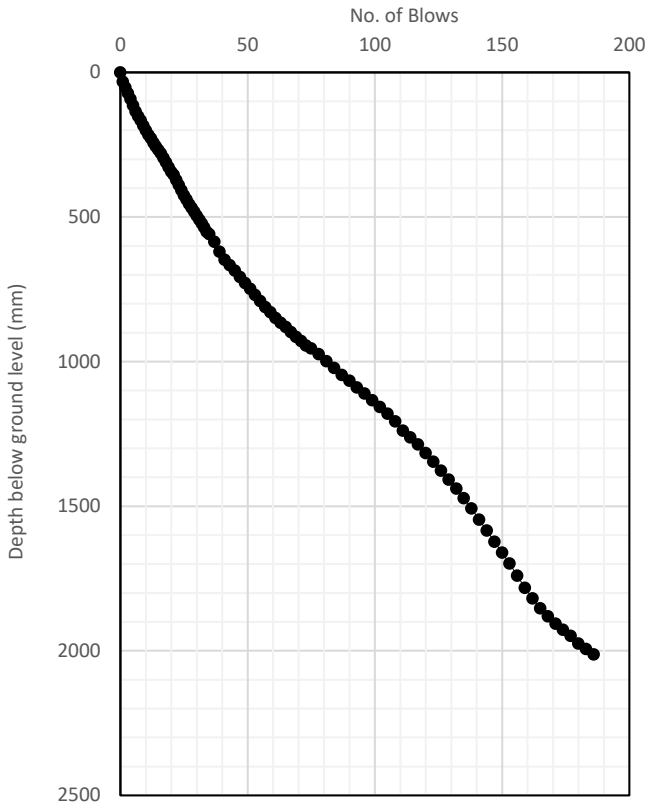
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

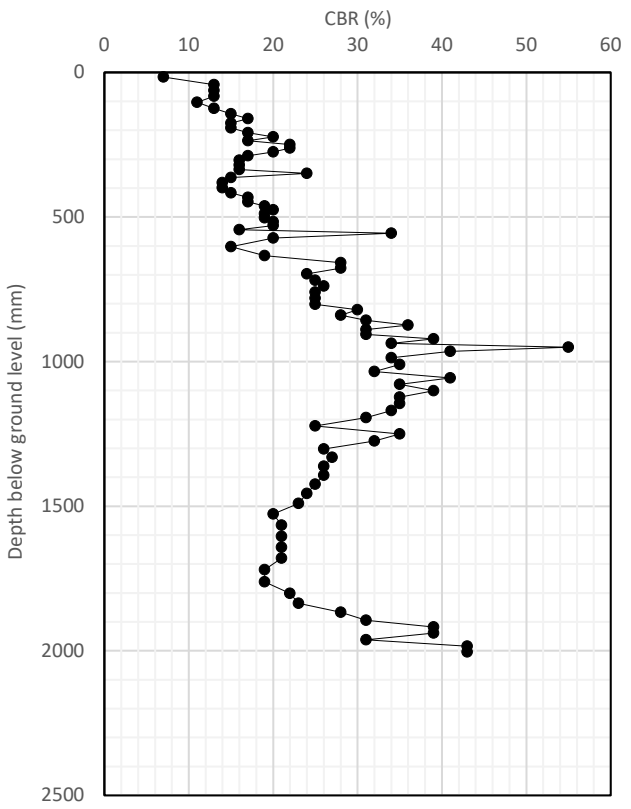
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB06
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641111.0 E, 263668.8 N **Ground Level** 23.66 m OD	**Test Date**	03/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	90	1223	1067	3	150	1817	1661				
3	93	1246	1090	3	153	1855	1699				
3	96	1267	1111	3	156	1897	1741				
3	99	1290	1134	3	159	1939	1783				
3	102	1313	1157	3	162	1975	1819				
3	105	1337	1181	3	165	2009	1853				
3	108	1363	1207	3	168	2037	1881				
3	111	1395	1239	3	171	2063	1907				
3	114	1418	1262	3	174	2084	1928				
3	117	1443	1287	3	177	2105	1949				
3	120	1473	1317	3	180	2131	1975				
3	123	1502	1346	3	183	2150	1994				
3	126	1533	1377	3	186	2169	2013				
3	129	1564	1408								
3	132	1596	1440								
3	135	1629	1473								
3	138	1664	1508								
3	141	1703	1547								
3	144	1741	1585								
3	147	1779	1623								





Remarks

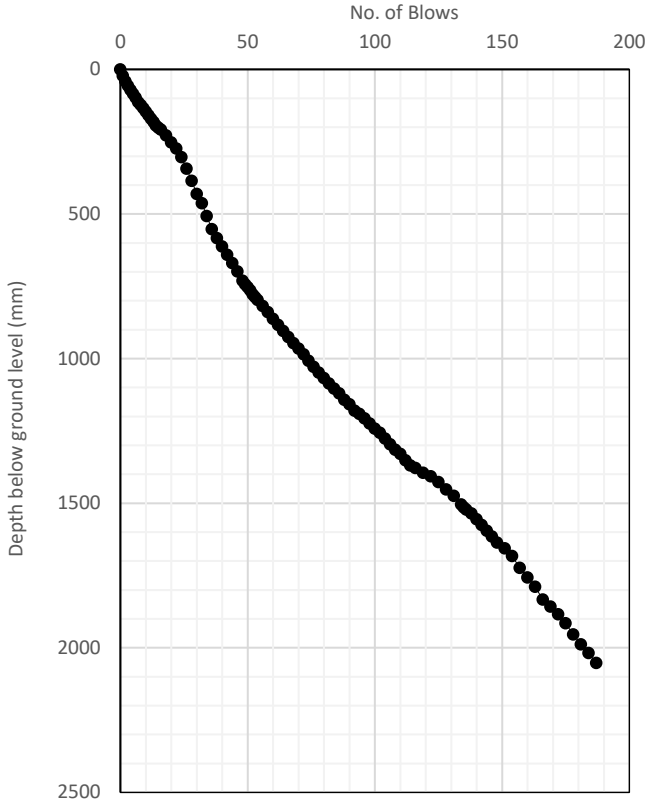
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

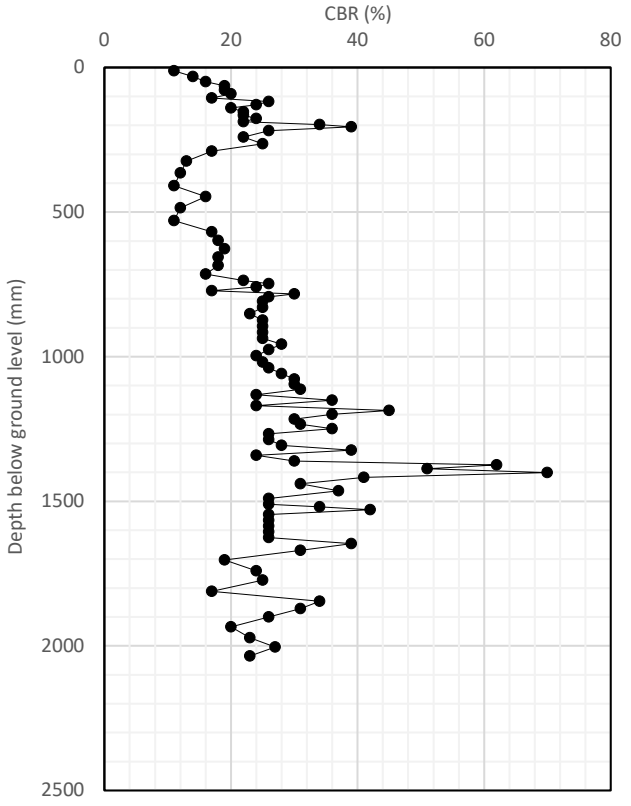
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB07
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641421.0 E, 263943.8 N	**Ground Level**	23.77 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	161	0	2	24	465	304	2	58	1001	840
1	1	184	23	2	26	505	344	2	60	1024	863
1	2	202	41	2	28	547	386	2	62	1045	884
1	3	218	57	2	30	592	431	2	64	1066	905
1	4	232	71	2	32	624	463	2	66	1087	926
1	5	246	85	2	34	668	507	2	68	1108	947
1	6	259	98	2	36	714	553	2	70	1127	966
1	7	274	113	2	38	745	584	2	72	1147	986
1	8	284	123	2	40	774	613	2	74	1169	1008
1	9	295	134	2	42	802	641	2	76	1190	1029
1	10	308	147	2	44	831	670	2	78	1210	1049
1	11	320	159	2	46	860	699	2	80	1229	1068
1	12	332	171	2	48	892	731	2	82	1247	1086
1	13	343	182	1	49	904	743	2	84	1265	1104
1	14	355	194	1	50	914	753	2	86	1282	1121
1	15	363	202	1	51	925	764	2	88	1304	1143
1	16	370	209	1	52	940	779	2	90	1319	1158
2	18	390	229	1	53	949	788	2	92	1341	1180
2	20	414	253	1	54	959	798	2	94	1353	1192
2	22	435	274	2	56	980	819	2	96	1368	1207





Remarks

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

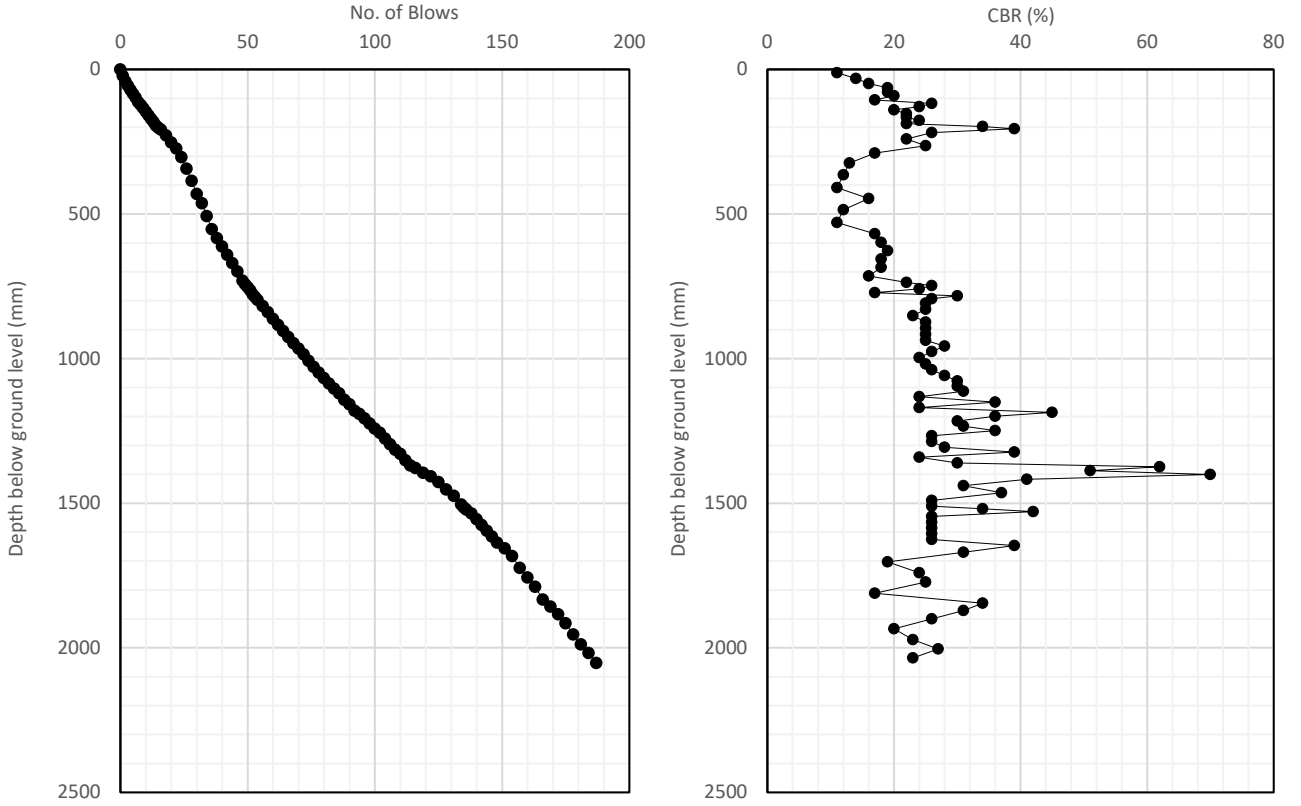
Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB07
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641421.0 E, 263943.8 N **Ground Level** 23.77 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl

Operator	JC

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	98	1386	1225	2	142	1737	1576				
2	100	1403	1242	2	144	1757	1596				
2	102	1418	1257	2	146	1777	1616				
2	104	1438	1277	2	148	1797	1636				
2	106	1458	1297	3	151	1818	1657				
2	108	1477	1316	3	154	1844	1683				
2	110	1491	1330	3	157	1885	1724				
2	112	1513	1352	3	160	1918	1757				
2	114	1531	1370	3	163	1950	1789				
2	116	1540	1379	3	166	1995	1834				
3	119	1556	1395	3	169	2019	1858				
3	122	1568	1407	3	172	2045	1884				
3	125	1588	1427	3	175	2076	1915				
3	128	1614	1453	3	178	2115	1954				
3	131	1636	1475	3	181	2150	1989				
3	134	1666	1505	3	184	2179	2018				
1	135	1676	1515	3	187	2214	2053				
1	136	1684	1523								
2	138	1697	1536								
2	140	1717	1556								



Remarks

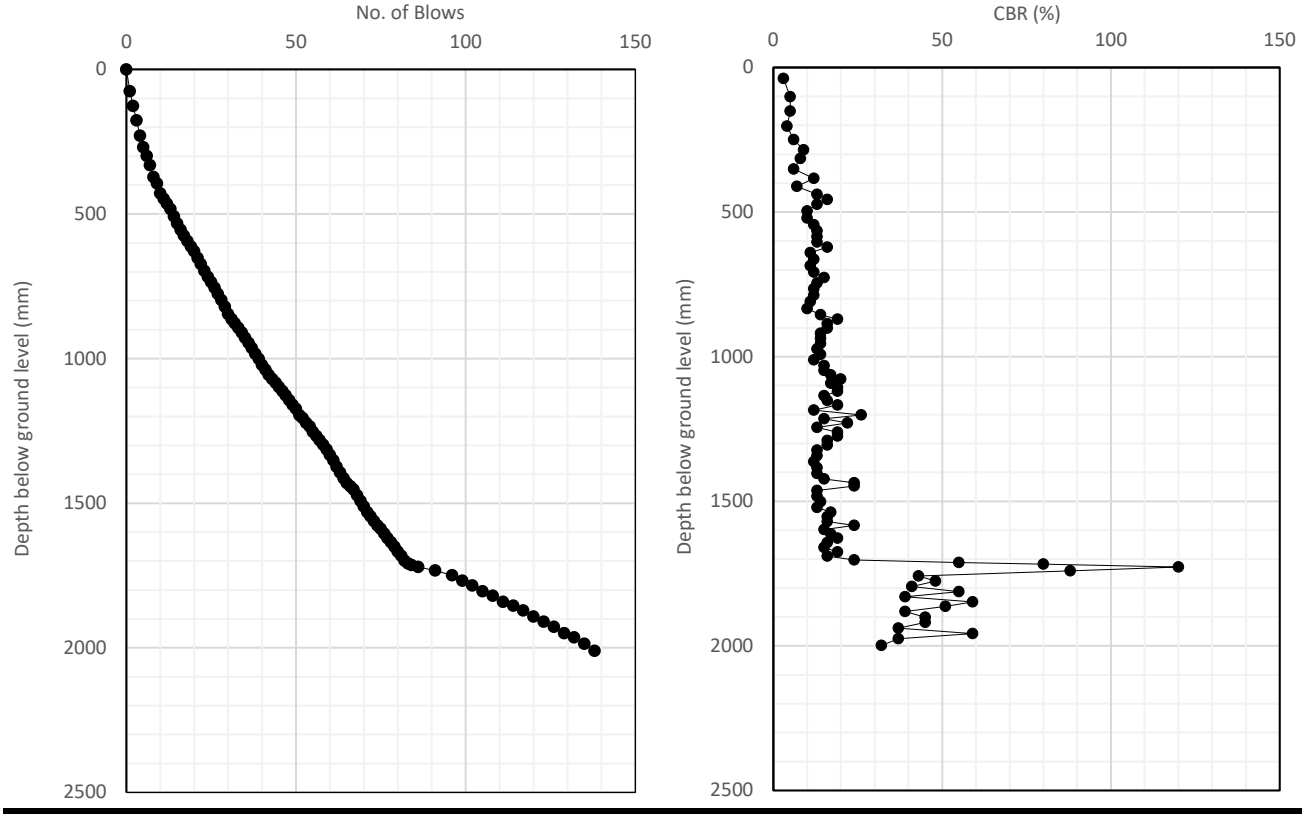
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB08
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641601.3 E, 264200.9 N	**Ground Level**	22.76 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	155	0	1	20	784	629	1	40	1177	1022
1	1	231	76	1	21	807	652	1	41	1194	1039
1	2	282	127	1	22	829	674	1	42	1211	1056
1	3	331	176	1	23	852	697	1	43	1226	1071
1	4	385	230	1	24	873	718	1	44	1239	1084
1	5	425	270	1	25	890	735	1	45	1254	1099
1	6	454	299	1	26	910	755	1	46	1268	1113
1	7	486	331	1	27	931	776	1	47	1282	1127
1	8	527	372	1	28	953	798	1	48	1299	1144
1	9	549	394	1	29	976	821	1	49	1315	1160
1	10	584	429	1	30	1001	846	1	50	1329	1174
1	11	603	448	1	31	1019	864	1	51	1351	1196
1	12	619	464	1	32	1033	878	1	52	1361	1206
1	13	638	483	1	33	1049	894	1	53	1378	1223
1	14	664	509	1	34	1065	910	1	54	1390	1235
1	15	688	533	1	35	1083	928	1	55	1409	1254
1	16	710	555	1	36	1101	946	1	56	1423	1268
1	17	730	575	1	37	1119	964	1	57	1437	1282
1	18	749	594	1	38	1138	983	1	58	1453	1298
1	19	768	613	1	39	1156	1001	1	59	1469	1314



Remarks

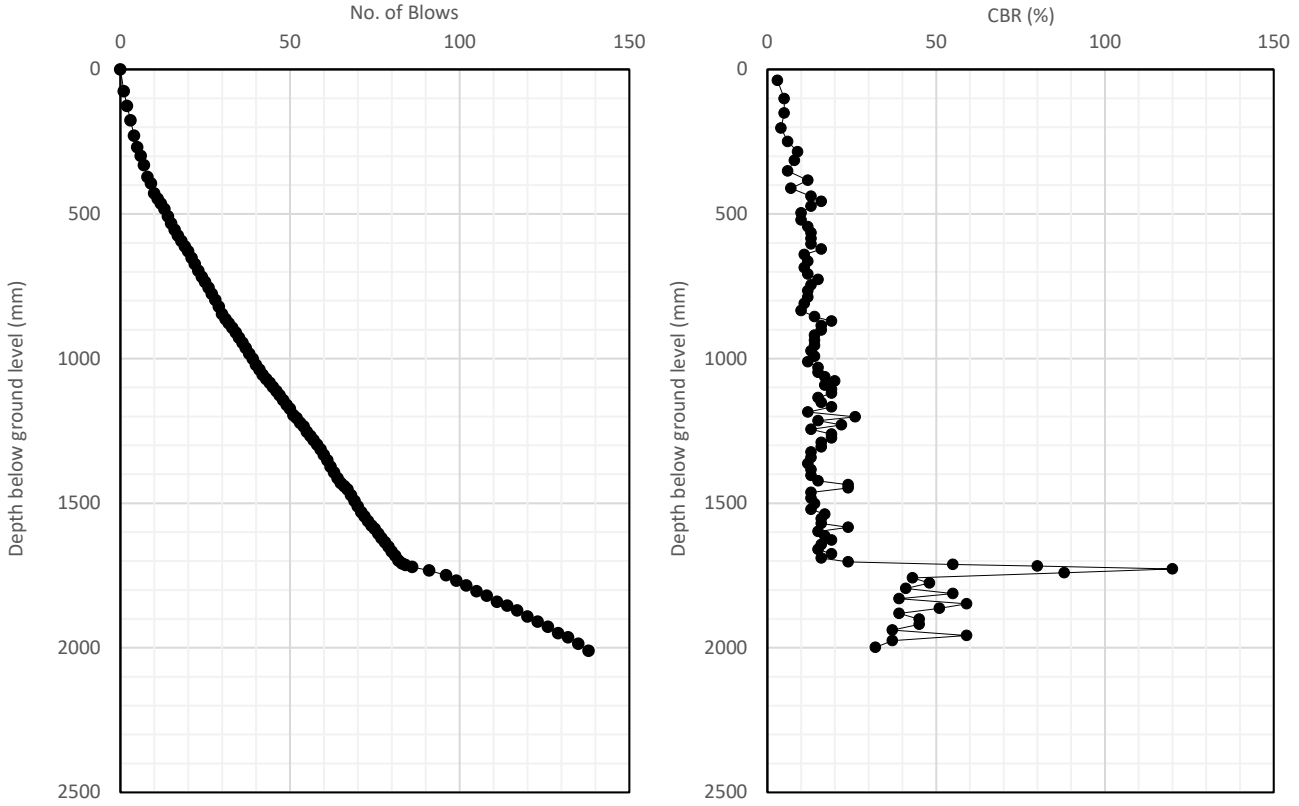
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB08
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641601.3 E, 264200.9 N	**Ground Level**	22.76 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
1	60	1488	1333	1	80	1823	1668	3	135	2141	1986
1	61	1507	1352	1	81	1837	1682	3	138	2166	2011
1	62	1529	1374	1	82	1853	1698				
1	63	1549	1394	1	83	1864	1709				
1	64	1569	1414	1	84	1869	1714				
1	65	1586	1431	2	86	1876	1721				
1	66	1597	1442	5	91	1888	1733				
1	67	1608	1453	5	96	1904	1749				
1	68	1628	1473	3	99	1923	1768				
1	69	1648	1493	3	102	1940	1785				
1	70	1666	1511	3	105	1960	1805				
1	71	1686	1531	3	108	1975	1820				
1	72	1701	1546	3	111	1996	1841				
1	73	1717	1562	3	114	2010	1855				
1	74	1733	1578	3	117	2026	1871				
1	75	1744	1589	3	120	2047	1892				
1	76	1761	1606	3	123	2065	1910				
1	77	1776	1621	3	126	2083	1928				
1	78	1790	1635	3	129	2105	1950				
1	79	1806	1651	3	132	2119	1964				



Remarks

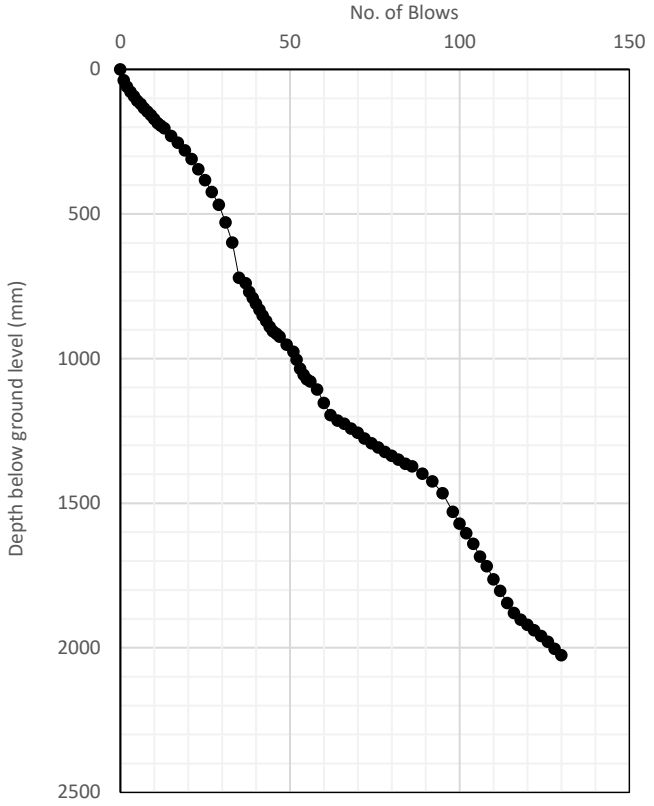
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

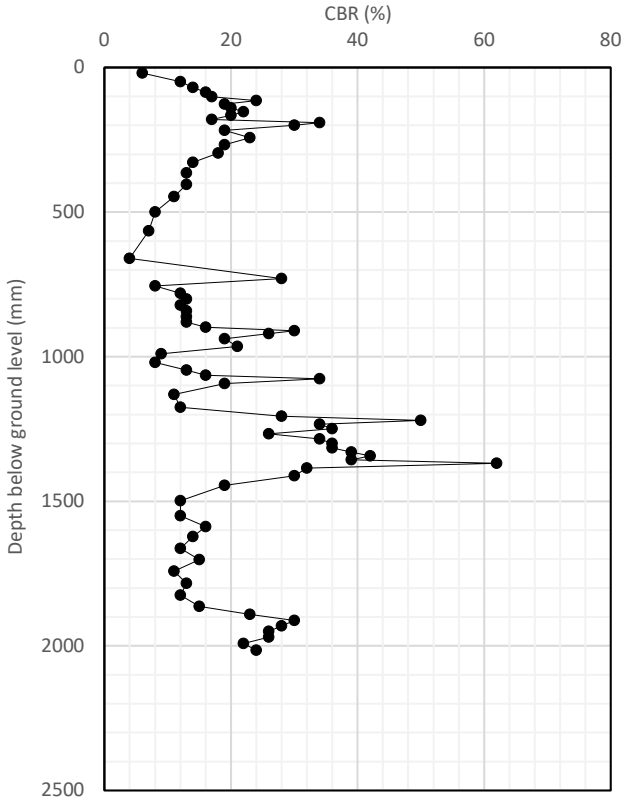
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB09
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641676.9 E, 264353.1 N	**Ground Level**	22.04 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	151	0	2	27	575	424	1	54	1207	1056
1	1	189	38	2	29	620	469	1	55	1223	1072
1	2	211	60	2	31	681	530	1	56	1231	1080
1	3	229	78	2	33	750	599	2	58	1258	1107
1	4	245	94	2	35	872	721	2	60	1305	1154
1	5	260	109	2	37	891	740	2	62	1347	1196
1	6	271	120	1	38	921	770	2	64	1366	1215
1	7	285	134	1	39	942	791	2	66	1377	1226
1	8	298	147	1	40	962	811	2	68	1393	1242
1	9	310	159	1	41	983	832	2	70	1408	1257
1	10	323	172	1	42	1003	852	2	72	1428	1277
1	11	338	187	1	43	1022	871	2	74	1444	1293
1	12	346	195	1	44	1041	890	2	76	1459	1308
1	13	355	204	1	45	1057	906	2	78	1474	1323
2	15	382	231	1	46	1066	915	2	80	1488	1337
2	17	405	254	1	47	1076	925	2	82	1501	1350
2	19	432	281	2	49	1103	952	2	84	1515	1364
2	21	461	310	2	51	1128	977	2	86	1524	1373
2	23	497	346	1	52	1155	1004	3	89	1549	1398
2	25	535	384	1	53	1187	1036	3	92	1576	1425





Remarks

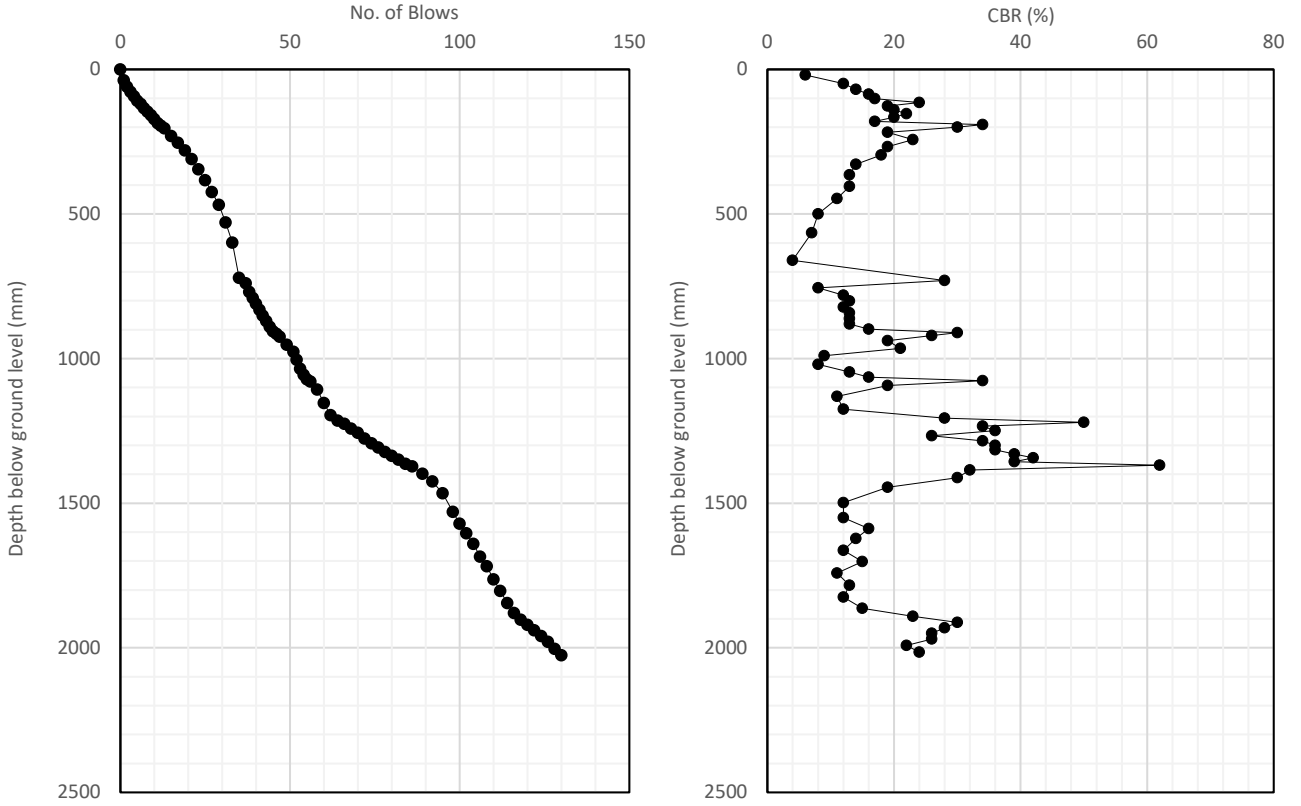
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB09
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641676.9 E, 264353.1 N	**Ground Level**	22.04 m OD	**Test Date**	05/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	95	1617	1466								
3	98	1681	1530								
2	100	1722	1571								
2	102	1755	1604								
2	104	1792	1641								
2	106	1836	1685								
2	108	1870	1719								
2	110	1915	1764								
2	112	1955	1804								
2	114	1997	1846								
2	116	2031	1880								
2	118	2054	1903								
2	120	2072	1921								
2	122	2091	1940								
2	124	2111	1960								
2	126	2131	1980								
2	128	2155	2004								
2	130	2177	2026								



Remarks

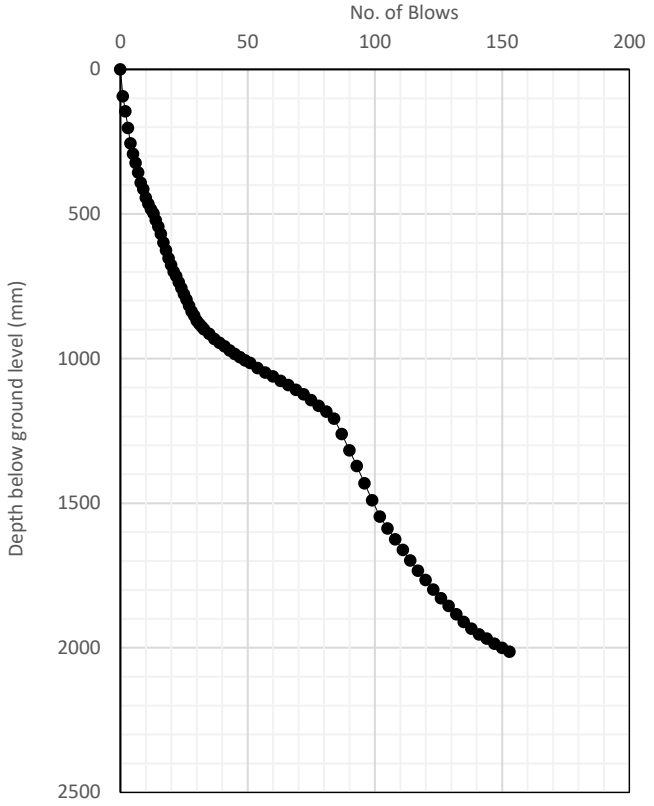
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

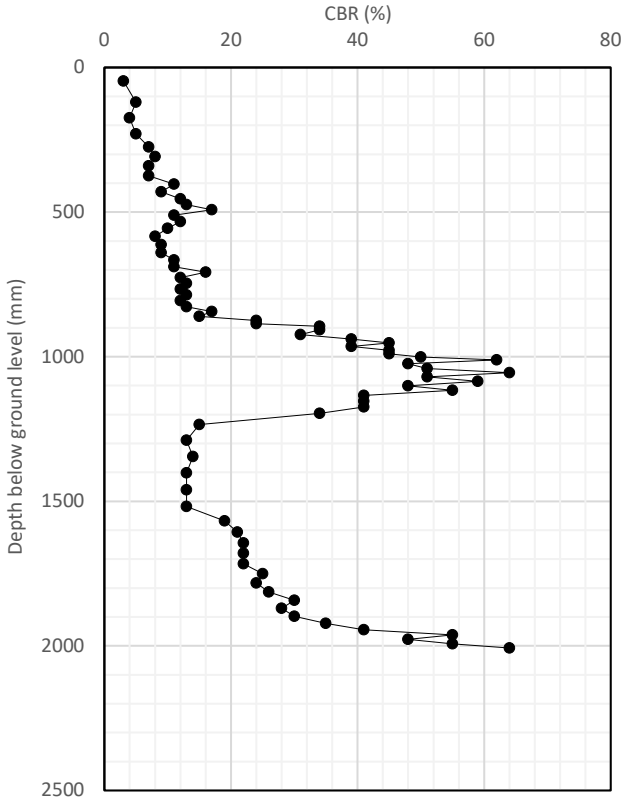
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB10
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641799.9 E, 264553.2 N **Ground Level** 25.02 m OD	**Test Date**	06/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	198	0	1	20	875	677	2	47	1194	996
1	1	291	93	1	21	898	700	2	49	1205	1007
1	2	344	146	1	22	914	716	2	51	1214	1016
1	3	401	203	1	23	935	737	3	54	1231	1033
1	4	454	256	1	24	954	756	3	57	1247	1049
1	5	491	293	1	25	975	777	3	60	1260	1062
1	6	522	324	1	26	994	796	3	63	1276	1078
1	7	555	357	1	27	1015	817	3	66	1290	1092
1	8	590	392	1	28	1035	837	3	69	1307	1109
1	9	613	415	1	29	1050	852	3	72	1322	1124
1	10	642	444	1	30	1067	869	3	75	1342	1144
1	11	663	465	1	31	1078	880	3	78	1362	1164
1	12	682	484	1	32	1089	891	3	81	1382	1184
1	13	697	499	1	33	1097	899	3	84	1406	1208
1	14	720	522	2	35	1113	915	3	87	1459	1261
1	15	742	544	2	37	1130	932	3	90	1516	1318
1	16	767	569	2	39	1144	946	3	93	1570	1372
1	17	797	599	2	41	1156	958	3	96	1630	1432
1	18	824	626	2	43	1170	972	3	99	1688	1490
1	19	852	654	2	45	1182	984	3	102	1745	1547





Remarks

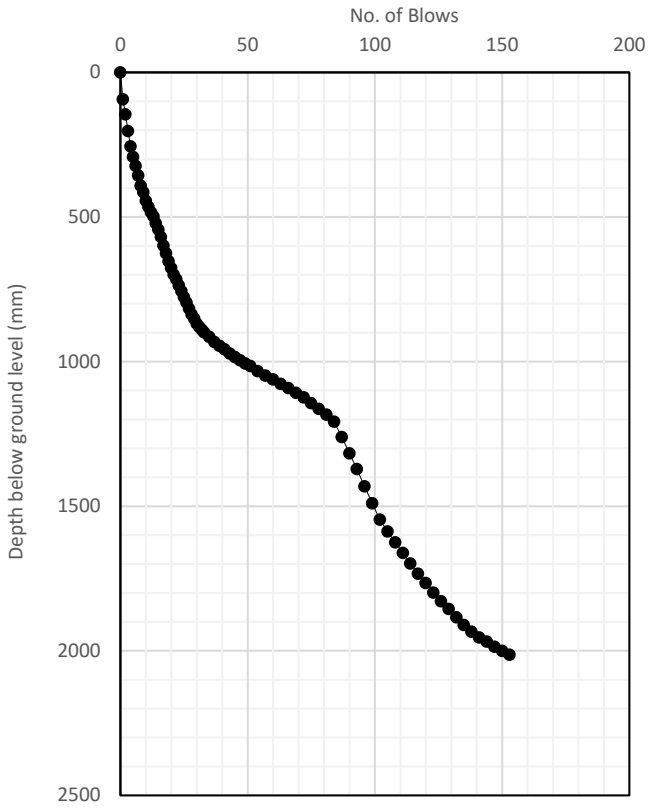
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

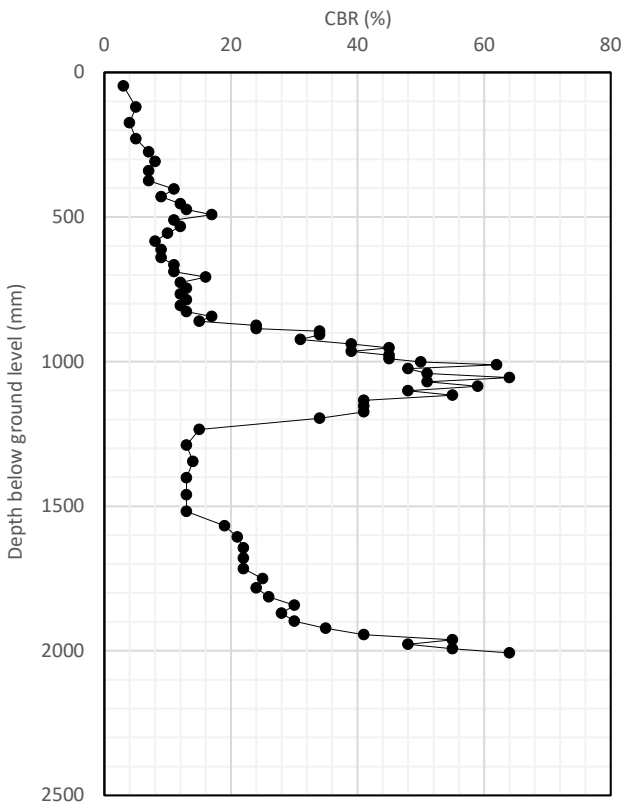
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB10
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641799.9 E, 264553.2 N	**Ground Level**	25.02 m OD	**Test Date**	06/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	105	1786	1588								
3	108	1824	1626								
3	111	1860	1662								
3	114	1896	1698								
3	117	1932	1734								
3	120	1964	1766								
3	123	1997	1799								
3	126	2027	1829								
3	129	2054	1856								
3	132	2082	1884								
3	135	2109	1911								
3	138	2132	1934								
3	141	2152	1954								
3	144	2167	1969								
3	147	2184	1986								
3	150	2199	2001								
3	153	2212	2014								





Remarks

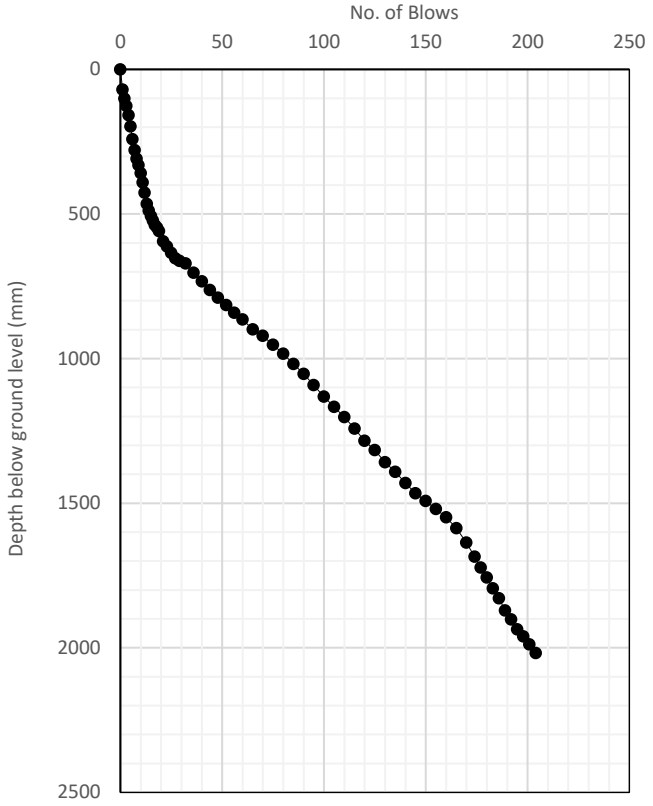
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

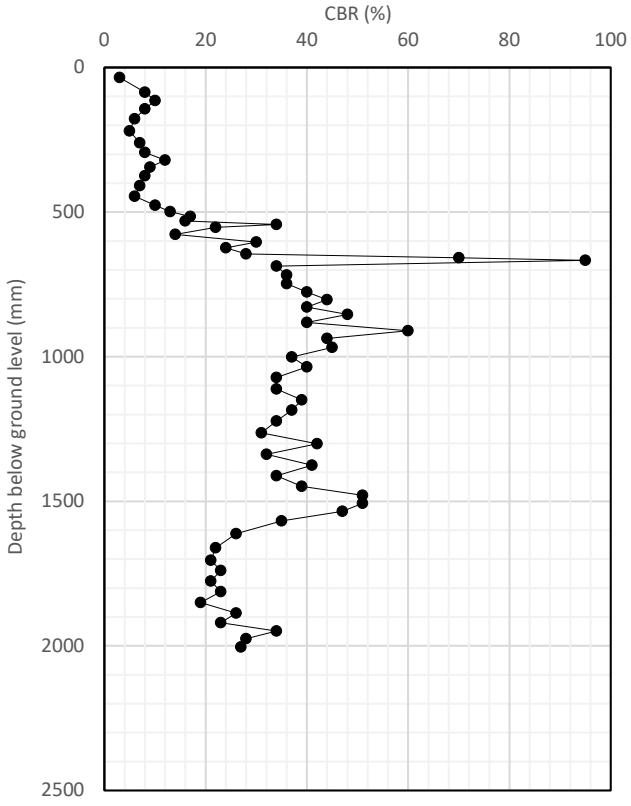
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB11
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642049.1 E, 264841.0 N **Ground Level** 26.48 m OD	**Test Date**	10/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	115	0	2	21	710	595	5	100	1247	1132
1	1	185	70	2	23	728	613	5	105	1282	1167
1	2	216	101	2	25	750	635	5	110	1318	1203
1	3	242	127	2	27	769	654	5	115	1357	1242
1	4	274	159	2	29	777	662	5	120	1400	1285
1	5	312	197	3	32	786	671	5	125	1432	1317
1	6	357	242	4	36	818	703	5	130	1474	1359
1	7	394	279	4	40	848	733	5	135	1507	1392
1	8	424	309	4	44	878	763	5	140	1546	1431
1	9	446	331	4	48	905	790	5	145	1581	1466
1	10	474	359	4	52	930	815	5	150	1608	1493
1	11	506	391	4	56	957	842	5	155	1635	1520
1	12	542	427	4	60	980	865	5	160	1664	1549
1	13	580	465	5	65	1014	899	5	165	1702	1587
1	14	604	489	5	70	1037	922	5	170	1752	1637
1	15	623	508	5	75	1068	953	4	174	1800	1685
1	16	638	523	5	80	1098	983	3	177	1838	1723
1	17	654	539	5	85	1134	1019	3	180	1872	1757
1	18	662	547	5	90	1168	1053	3	183	1910	1795
1	19	674	559	5	95	1207	1092	3	186	1944	1829





Remarks

Fell under own weight 26mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB11
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642049.1 E, 264841.0 N **Ground Level** 26.48 m OD	**Test Date**	10/09/2024

Test started at	0.00m bgl

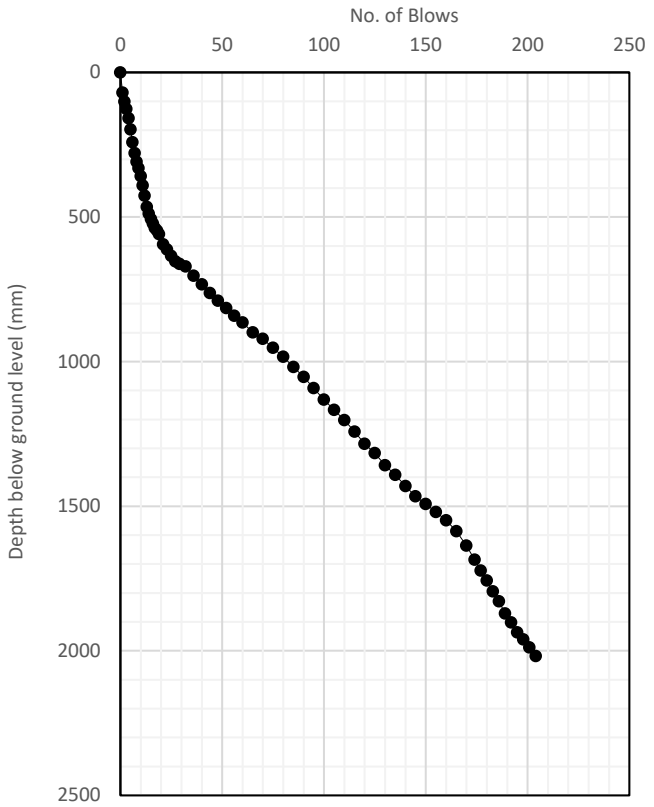
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
3	189	1986	1871
3	192	2017	1902
3	195	2052	1937
3	198	2076	1961
3	201	2104	1989
3	204	2133	2018

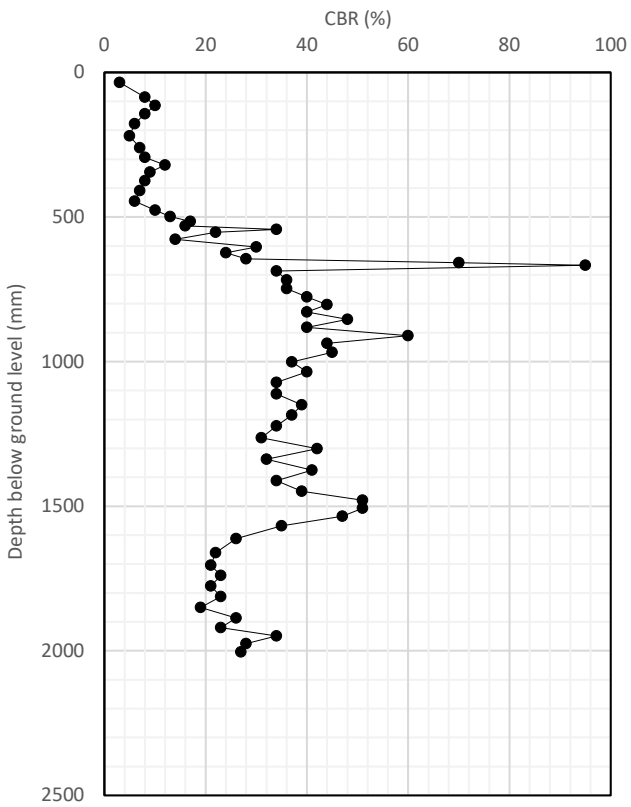
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 26mm.

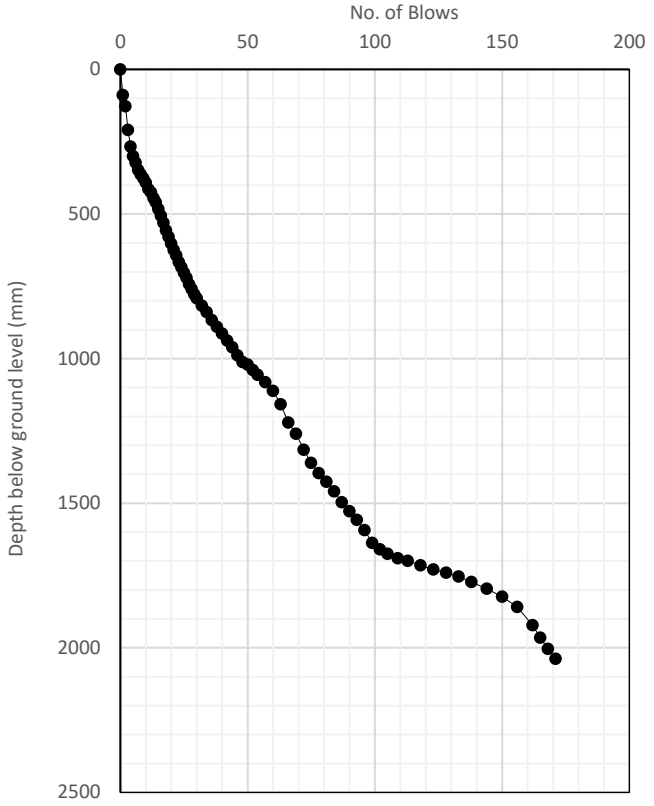
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

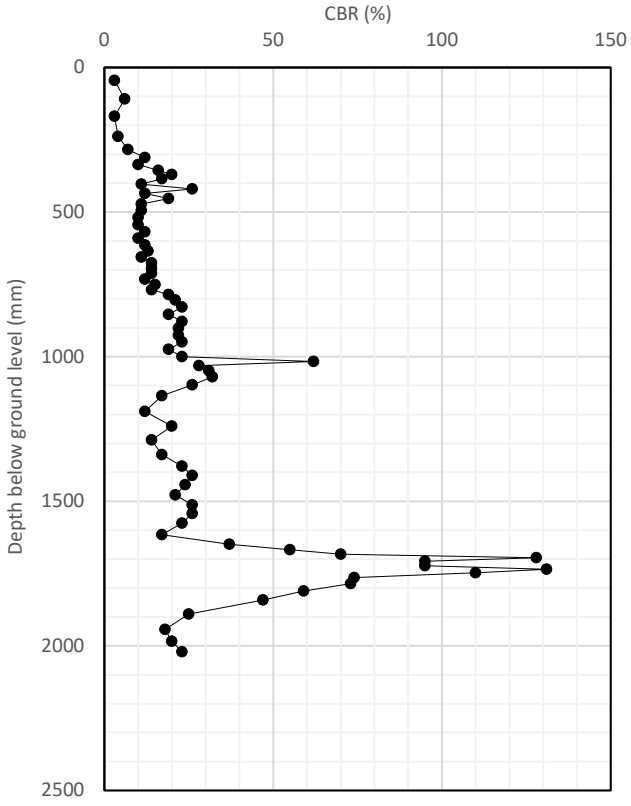
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB12
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642160.7 E, 264942.0 N	**Ground Level**	25.91 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	121	0	1	20	724	603	2	50	1142	1021
1	1	210	89	1	21	746	625	2	52	1161	1040
1	2	249	128	1	22	765	644	2	54	1178	1057
1	3	331	210	1	23	788	667	3	57	1203	1082
1	4	388	267	1	24	806	685	3	60	1233	1112
1	5	422	301	1	25	824	703	3	63	1279	1158
1	6	444	323	1	26	842	721	3	66	1342	1221
1	7	469	348	1	27	864	743	3	69	1381	1260
1	8	485	364	1	28	881	760	3	72	1437	1316
1	9	498	377	1	29	899	778	3	75	1482	1361
1	10	513	392	1	30	913	792	3	78	1517	1396
1	11	536	415	2	32	938	817	3	81	1547	1426
1	12	546	425	2	34	961	840	3	84	1580	1459
1	13	567	446	2	36	988	867	3	87	1618	1497
1	14	581	460	2	38	1011	890	3	90	1649	1528
1	15	604	483	2	40	1035	914	3	93	1679	1558
1	16	627	506	2	42	1059	938	3	96	1714	1593
1	17	652	531	2	44	1082	961	3	99	1759	1638
1	18	678	557	2	46	1110	989	3	102	1781	1660
1	19	700	579	2	48	1133	1012	3	105	1796	1675





Remarks

Fell under own weight 44mm.

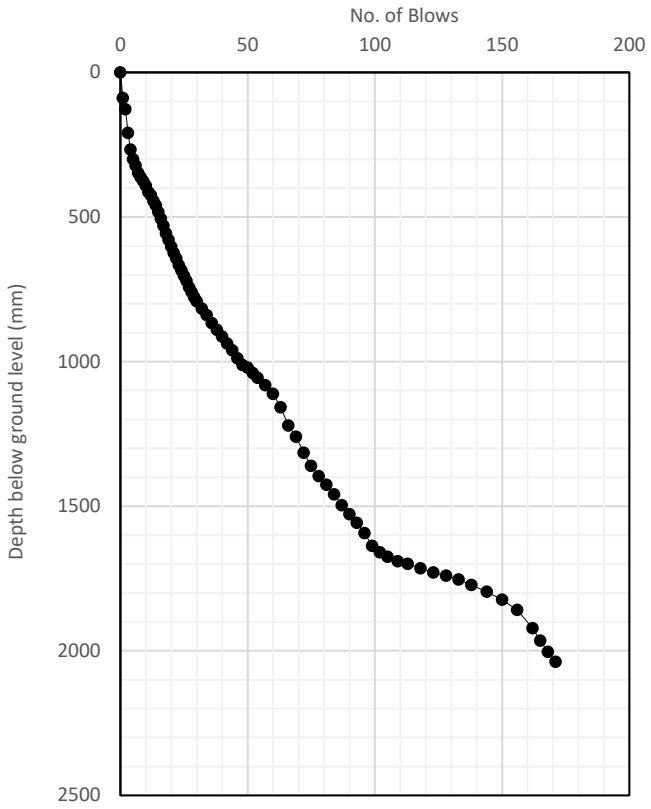
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

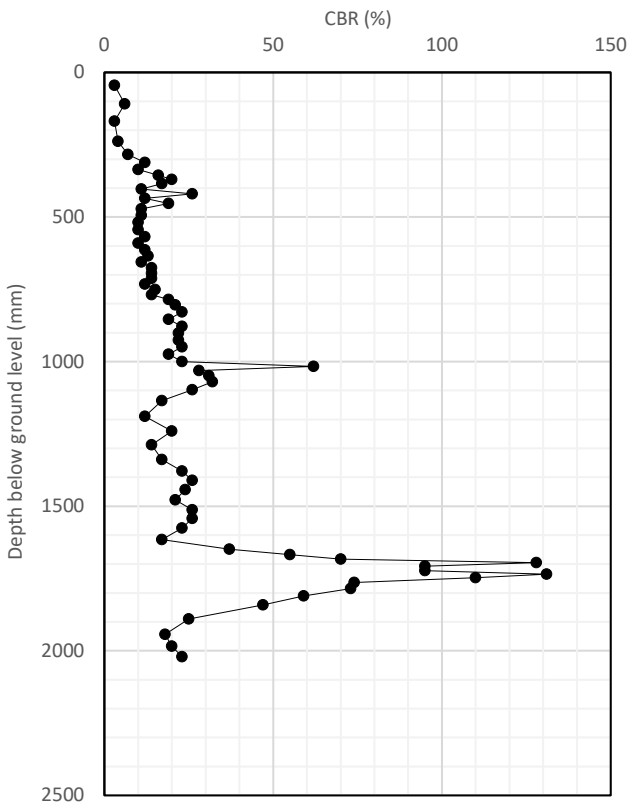
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB12
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642160.7 E, 264942.0 N	**Ground Level**	25.91 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	109	1812	1691								
4	113	1821	1700								
5	118	1836	1715								
5	123	1851	1730								
5	128	1862	1741								
5	133	1875	1754								
5	138	1894	1773								
6	144	1917	1796								
6	150	1945	1824								
6	156	1980	1859								
6	162	2043	1922								
3	165	2086	1965								
3	168	2125	2004								
3	171	2159	2038								





Remarks

Fell under own weight 44mm.

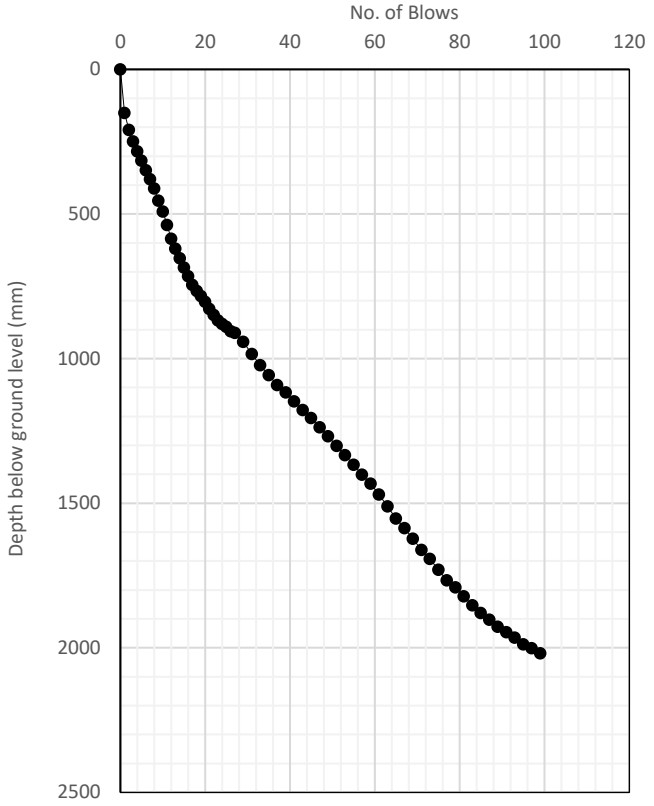
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

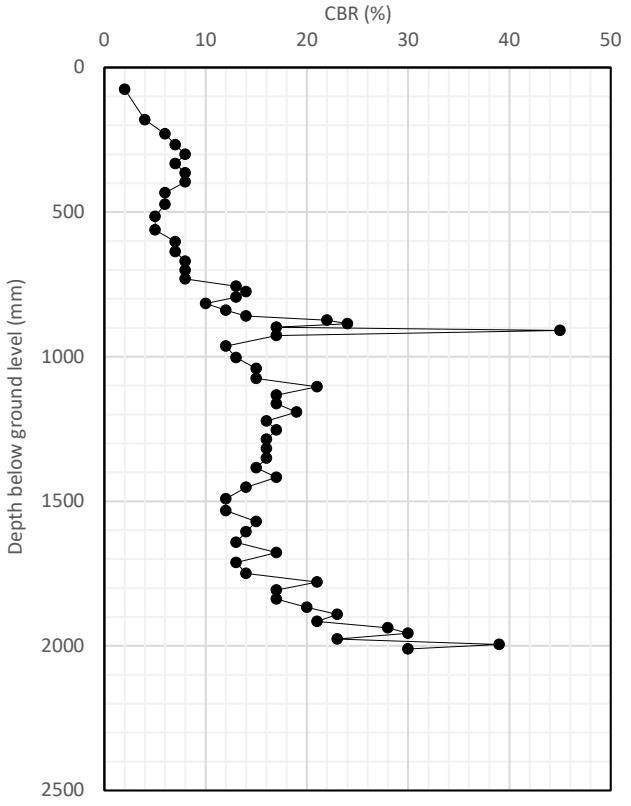
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB13
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642377.8 E, 264976.2 N **Ground Level** 25.22 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	144	0	1	20	948	804	2	53	1478	1334
1	1	295	151	1	21	972	828	2	55	1511	1367
1	2	354	210	1	22	994	850	2	57	1546	1402
1	3	394	250	1	23	1012	868	2	59	1577	1433
1	4	428	284	1	24	1024	880	2	61	1614	1470
1	5	460	316	1	25	1035	891	2	63	1656	1512
1	6	493	349	1	26	1050	906	2	65	1697	1553
1	7	524	380	1	27	1056	912	2	67	1731	1587
1	8	556	412	2	29	1087	943	2	69	1767	1623
1	9	598	454	2	31	1128	984	2	71	1806	1662
1	10	636	492	2	33	1167	1023	2	73	1837	1693
1	11	682	538	2	35	1202	1058	2	75	1875	1731
1	12	730	586	2	37	1236	1092	2	77	1911	1767
1	13	764	620	2	39	1261	1117	2	79	1936	1792
1	14	798	654	2	41	1292	1148	2	81	1967	1823
1	15	830	686	2	43	1322	1178	2	83	1998	1854
1	16	860	716	2	45	1350	1206	2	85	2024	1880
1	17	890	746	2	47	1382	1238	2	87	2047	1903
1	18	910	766	2	49	1413	1269	2	89	2072	1928
1	19	928	784	2	51	1446	1302	2	91	2091	1947





Remarks

Fell under own weight 46mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB13
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642377.8 E, 264976.2 N **Ground Level** 25.22 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl

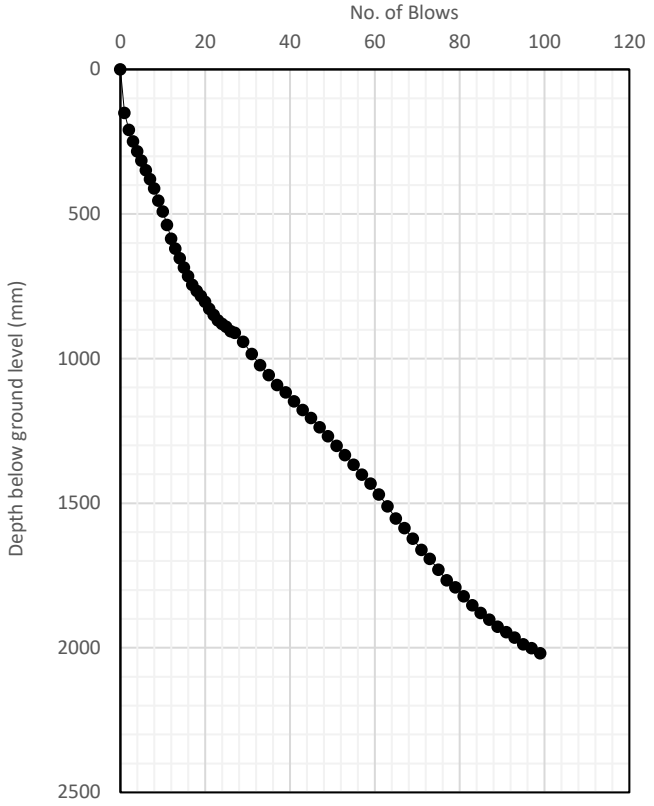
Operator	JC

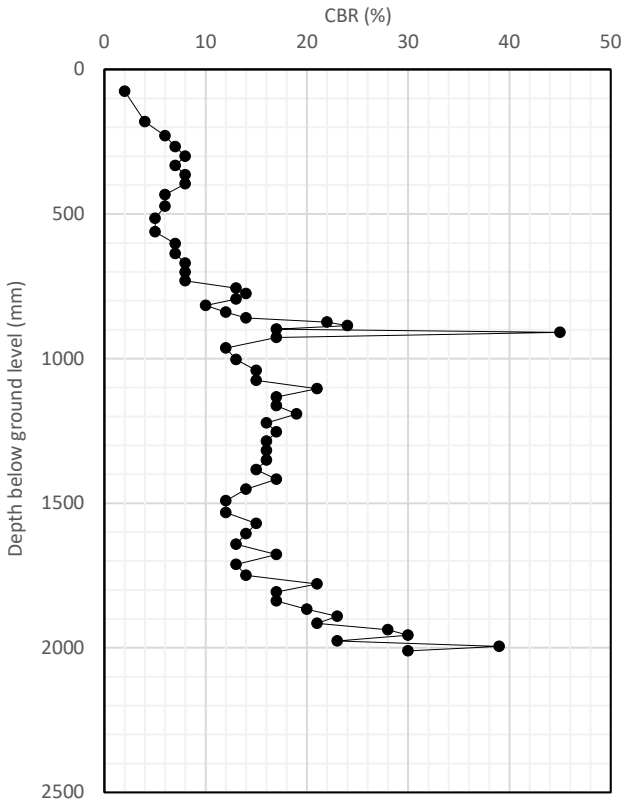
Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	93	2109	1965
2	95	2132	1988
2	97	2146	2002
2	99	2164	2020

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 46mm.

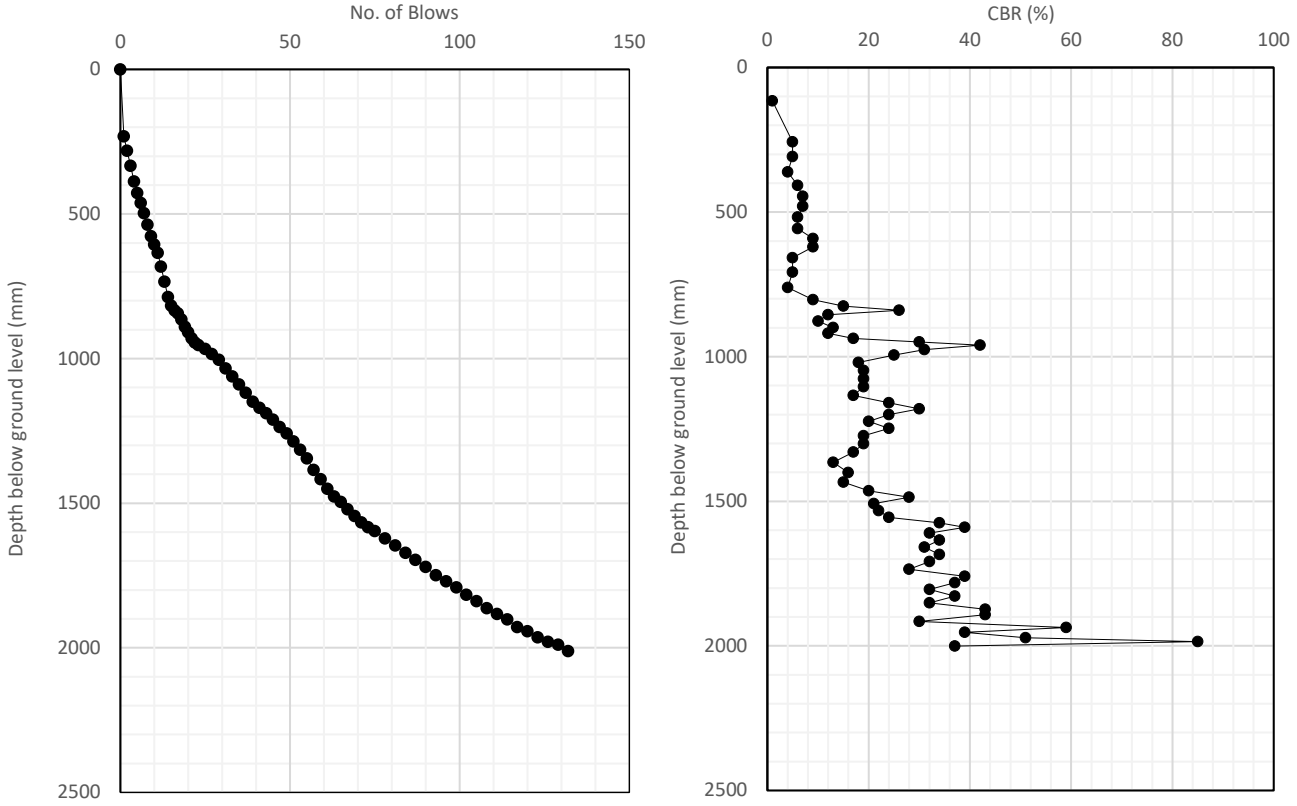
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB14
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642559.0 E, 265038.8 N	**Ground Level**	25.55 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	122	0	1	20	1031	909	2	57	1507	1385
1	1	354	232	1	21	1052	930	2	59	1539	1417
1	2	404	282	1	22	1067	945	2	61	1573	1451
1	3	456	334	1	23	1076	954	2	63	1599	1477
1	4	510	388	2	25	1089	967	2	65	1618	1496
1	5	550	428	2	27	1106	984	2	67	1643	1521
1	6	584	462	2	29	1127	1005	2	69	1667	1545
1	7	619	497	2	31	1156	1034	2	71	1689	1567
1	8	659	537	2	33	1184	1062	2	73	1705	1583
1	9	699	577	2	35	1212	1090	2	75	1719	1597
1	10	728	606	2	37	1240	1118	3	78	1744	1622
1	11	757	635	2	39	1271	1149	3	81	1768	1646
1	12	804	682	2	41	1293	1171	3	84	1794	1672
1	13	856	734	2	43	1311	1189	3	87	1818	1696
1	14	910	788	2	45	1333	1211	3	90	1843	1721
1	15	939	817	2	47	1359	1237	3	93	1871	1749
1	16	956	834	2	49	1381	1259	3	96	1892	1770
1	17	966	844	2	51	1409	1287	3	99	1914	1792
1	18	987	865	2	53	1437	1315	3	102	1939	1817
1	19	1012	890	2	55	1467	1345	3	105	1961	1839



Remarks

Fell under own weight 88mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB14
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642559.0 E, 265038.8 N **Ground Level** 25.55 m OD	**Test Date**	09/09/2024

Test started at	0.00m bgl

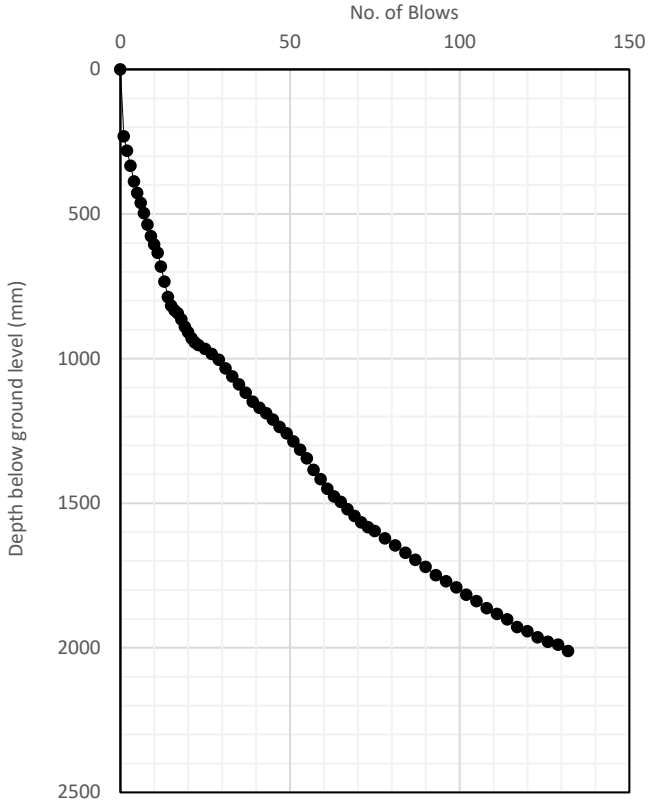
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	108	1986	1864
3	111	2005	1883
3	114	2024	1902
3	117	2051	1929
3	120	2065	1943
3	123	2086	1964
3	126	2102	1980
3	129	2112	1990
3	132	2134	2012

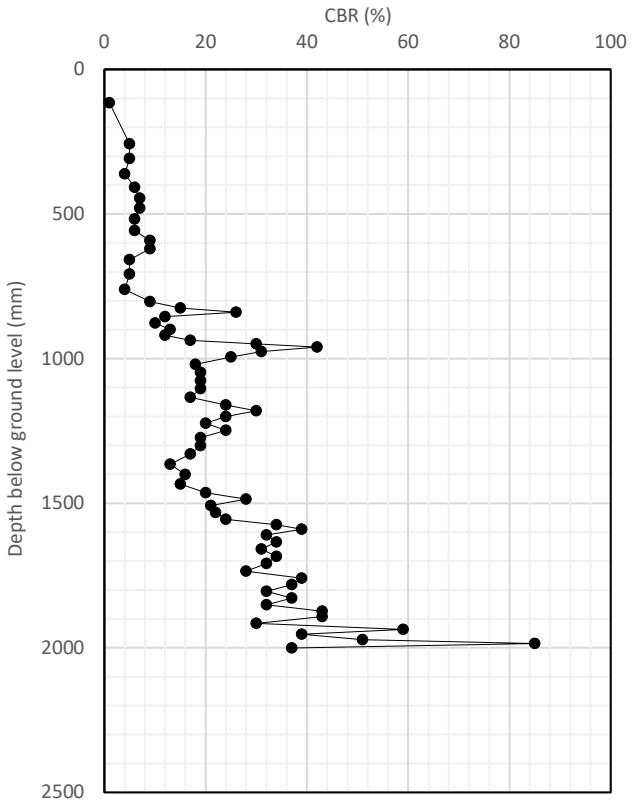
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 88mm.

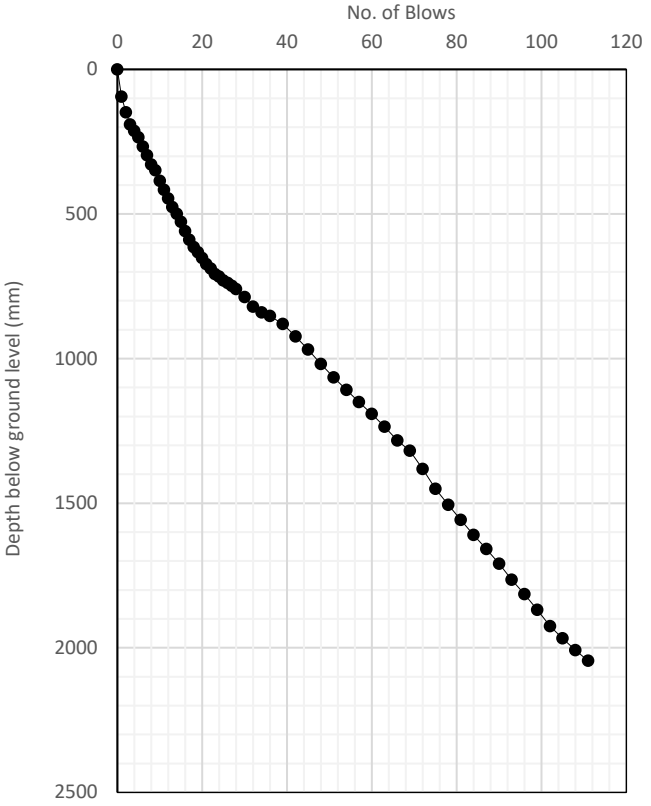
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

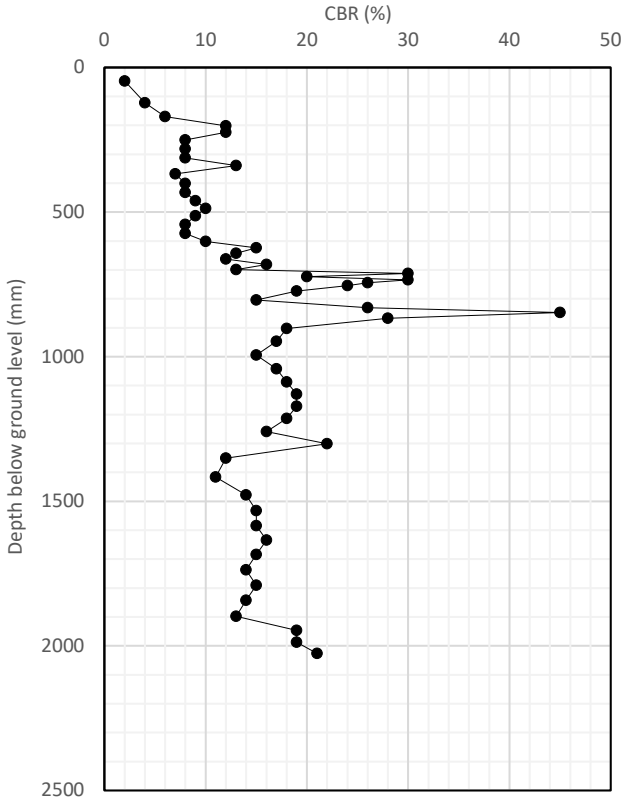
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB16
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	643043.2 E, 265305.8 N	**Ground Level**	17.06 m OD	**Test Date**	10/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	125	0	1	20	777	652	3	60	1317	1192
1	1	220	95	1	21	798	673	3	63	1361	1236
1	2	274	149	1	22	814	689	3	66	1408	1283
1	3	316	191	1	23	833	708	3	69	1444	1319
1	4	338	213	1	24	842	717	3	72	1507	1382
1	5	360	235	1	25	855	730	3	75	1576	1451
1	6	392	267	1	26	864	739	3	78	1631	1506
1	7	422	297	1	27	874	749	3	81	1683	1558
1	8	454	329	1	28	885	760	3	84	1735	1610
1	9	474	349	2	30	912	787	3	87	1784	1659
1	10	511	386	2	32	946	821	3	90	1835	1710
1	11	542	417	2	34	966	841	3	93	1890	1765
1	12	572	447	2	36	978	853	3	96	1940	1815
1	13	601	476	3	39	1006	881	3	99	1994	1869
1	14	625	500	3	42	1049	924	3	102	2051	1926
1	15	652	527	3	45	1094	969	3	105	2092	1967
1	16	684	559	3	48	1144	1019	3	108	2133	2008
1	17	714	589	3	51	1190	1065	3	111	2170	2045
1	18	740	615	3	54	1234	1109				
1	19	757	632	3	57	1276	1151				





Remarks

Fell under own weight 36mm.

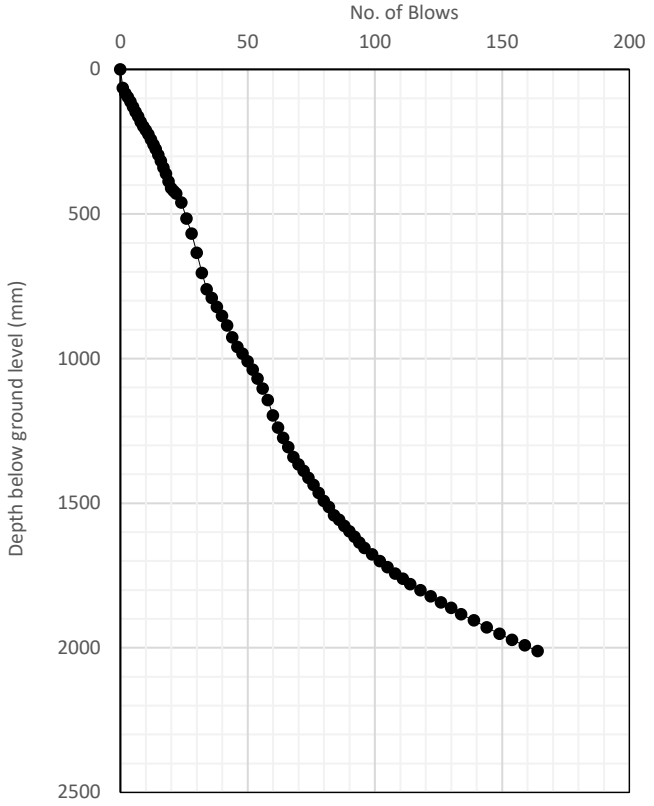
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

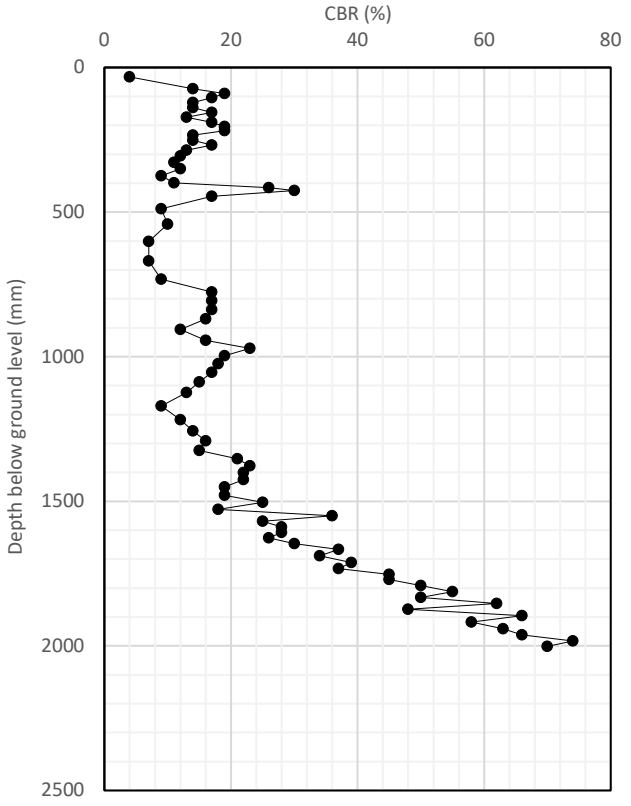
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB18
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642998.8 E, 265689.9 N **Ground Level** 20.00 m OD	**Test Date**	11/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	121	0	1	20	532	411	2	58	1265	1144
1	1	186	65	1	21	542	421	2	60	1318	1197
1	2	204	83	1	22	551	430	2	62	1360	1239
1	3	218	97	2	24	582	461	2	64	1396	1275
1	4	233	112	2	26	637	516	2	66	1428	1307
1	5	251	130	2	28	689	568	2	68	1462	1341
1	6	269	148	2	30	756	635	2	70	1487	1366
1	7	284	163	2	32	825	704	2	72	1510	1389
1	8	303	182	2	34	882	761	2	74	1534	1413
1	9	318	197	2	36	912	791	2	76	1558	1437
1	10	332	211	2	38	943	822	2	78	1586	1465
1	11	346	225	2	40	974	853	2	80	1614	1493
1	12	364	243	2	42	1007	886	2	82	1635	1514
1	13	382	261	2	44	1048	927	2	84	1664	1543
1	14	397	276	2	46	1081	960	2	86	1679	1558
1	15	417	296	2	48	1104	983	2	88	1700	1579
1	16	438	317	2	50	1131	1010	2	90	1719	1598
1	17	461	340	2	52	1160	1039	2	92	1738	1617
1	18	482	361	2	54	1191	1070	2	94	1758	1637
1	19	509	388	2	56	1225	1104	2	96	1776	1655





Remarks

Fell under own weight 26mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

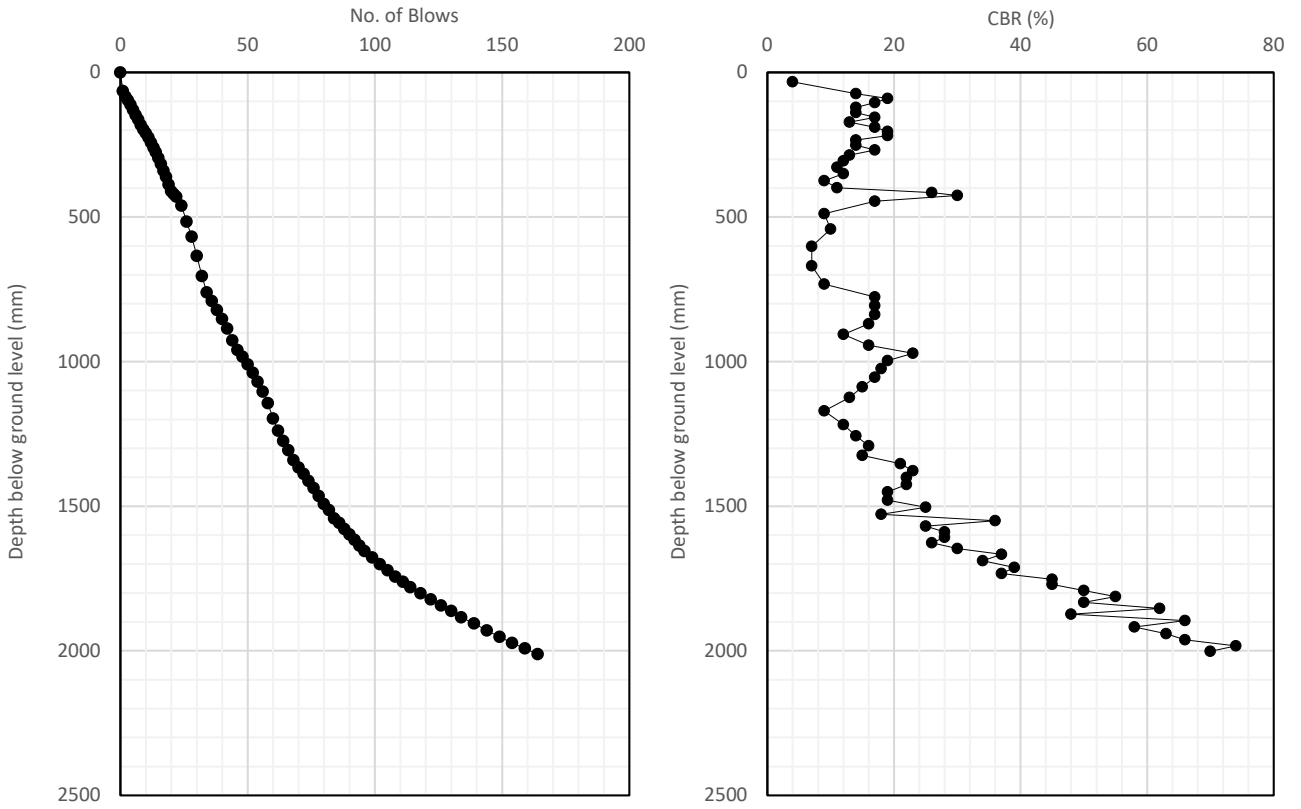
Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB18
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642998.8 E, 265689.9 N **Ground Level** 20.00 m OD	**Test Date**	11/09/2024

Test started at	0.00m bgl

Operator	JC

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	99	1798	1677
3	102	1822	1701
3	105	1843	1722
3	108	1865	1744
3	111	1883	1762
3	114	1901	1780
4	118	1923	1802
4	122	1943	1822
4	126	1965	1844
4	130	1983	1862
4	134	2006	1885
5	139	2027	1906
5	144	2051	1930
5	149	2073	1952
5	154	2094	1973
5	159	2113	1992
5	164	2133	2012



Remarks

Fell under own weight 26mm.

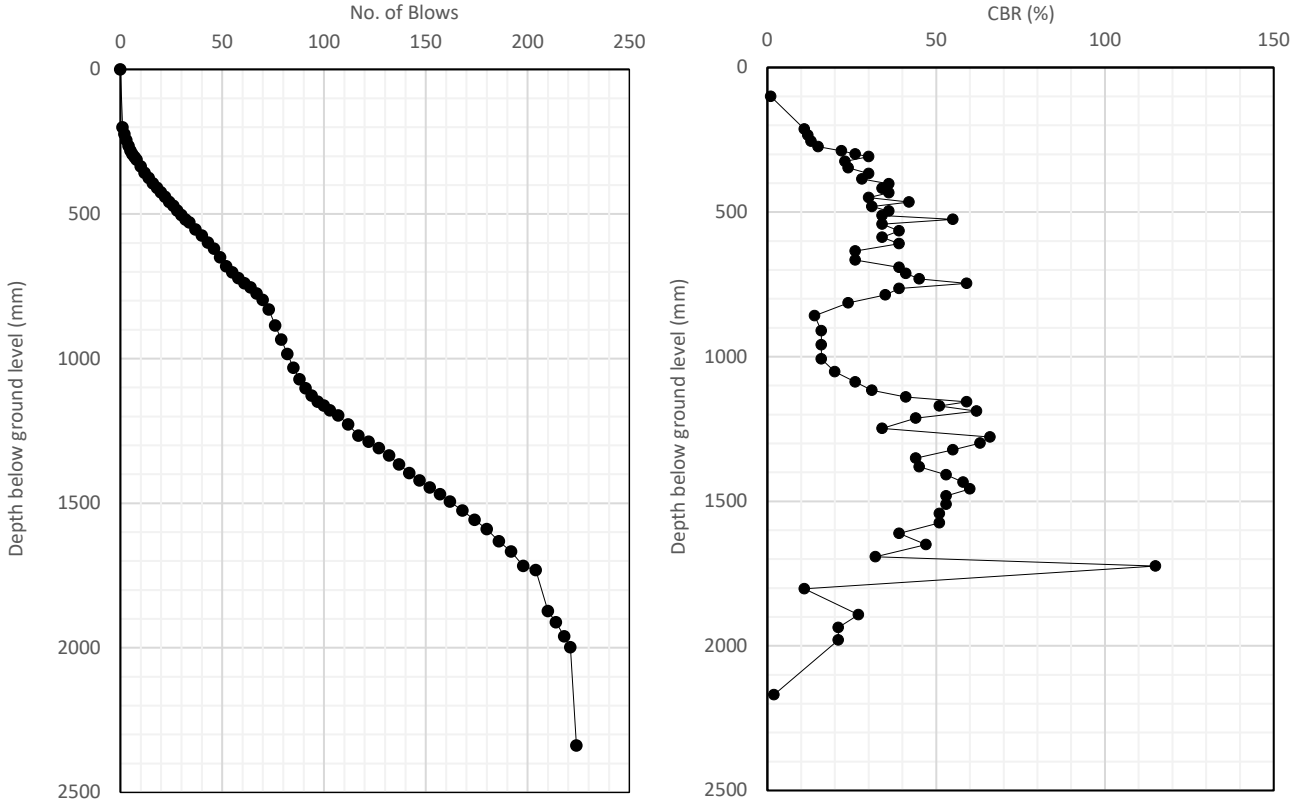
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB20
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642472.9 E, 266442.0 N **Ground Level** 15.73 m OD	**Test Date**	16/09/2021

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	2	32	652	520	3	91	1235	1103
1	1	333	201	2	34	662	530	3	94	1261	1129
1	2	356	224	3	37	686	554	3	97	1281	1149
1	3	377	245	3	40	707	575	3	100	1295	1163
1	4	397	265	3	43	731	599	3	103	1311	1179
1	5	414	282	3	46	752	620	4	107	1329	1197
1	6	426	294	3	49	782	650	5	112	1360	1228
1	7	436	304	3	52	813	681	5	117	1399	1267
1	8	445	313	3	55	834	702	5	122	1420	1288
2	10	468	336	3	58	854	722	5	127	1442	1310
2	12	490	358	3	61	872	740	5	132	1467	1335
2	14	508	376	3	64	886	754	5	137	1498	1366
2	16	527	395	3	67	907	775	5	142	1528	1396
2	18	542	410	3	70	930	798	5	147	1554	1422
2	20	558	426	3	73	963	831	5	152	1578	1446
2	22	573	441	3	76	1018	886	5	157	1601	1469
2	24	591	459	3	79	1067	935	5	162	1627	1495
2	26	604	472	3	82	1116	984	6	168	1658	1526
2	28	621	489	3	85	1164	1032	6	174	1690	1558
2	30	636	504	3	88	1204	1072	6	180	1722	1590



Remarks

Fell under own weight 143mm.

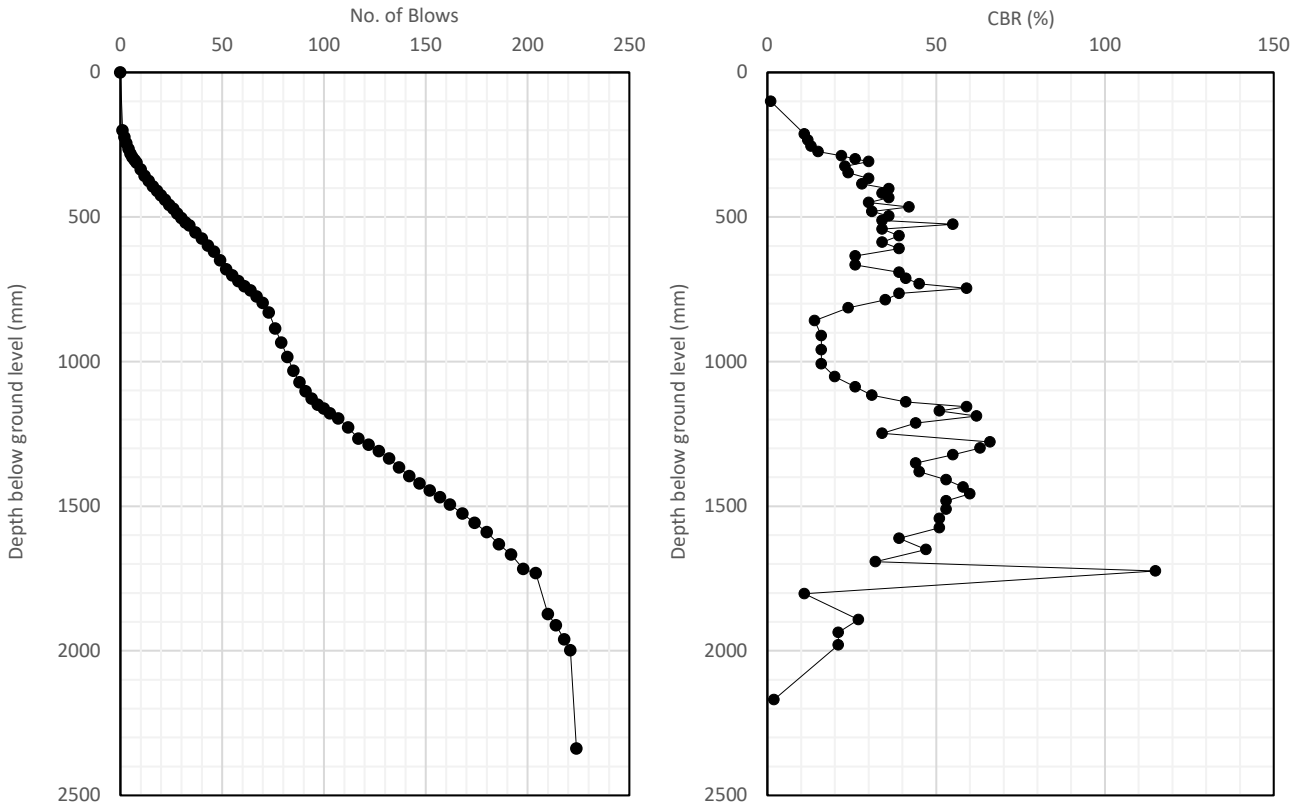
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB20
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642472.9 E, 266442.0 N	**Ground Level**	15.73 m OD	**Test Date**	16/09/2021

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
6	186	1764	1632								
6	192	1799	1667								
6	198	1849	1717								
6	204	1864	1732								
6	210	2005	1873								
4	214	2044	1912								
4	218	2093	1961								
3	221	2131	1999								
3	224	2470	2338								



Remarks

Fell under own weight 143mm.

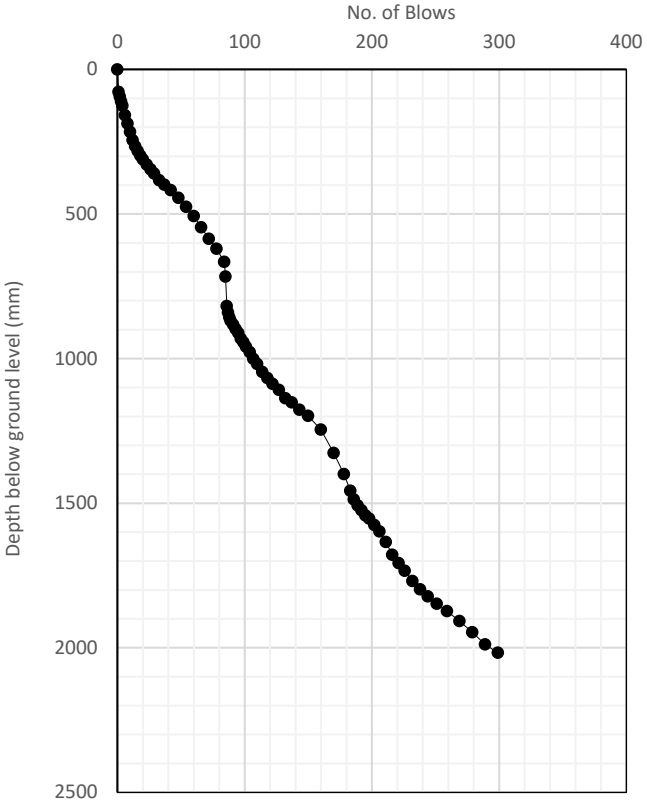
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

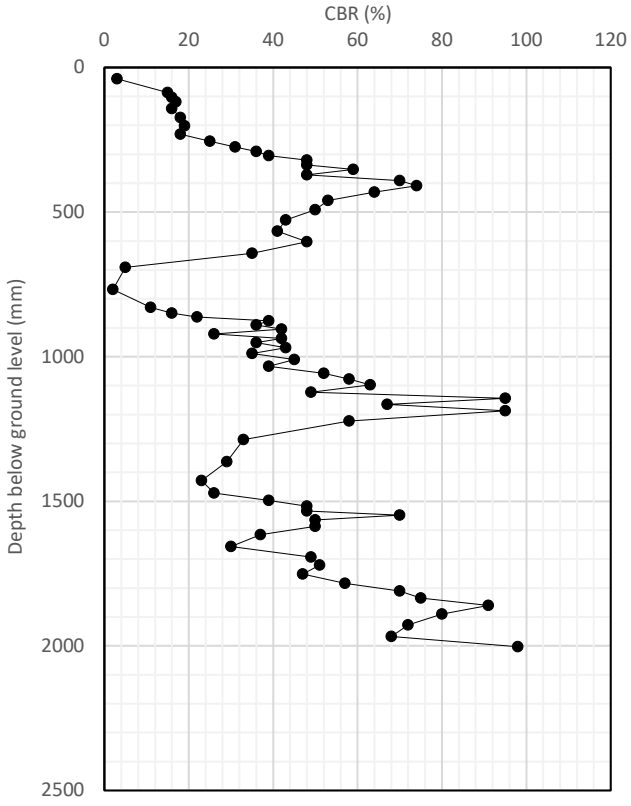
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB21
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642440.1 E, 266513.2 N **Ground Level** 12.03 m OD	**Test Date**	16/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	126	0	6	54	601	475	4	114	1173	1047
1	1	204	78	6	60	634	508	4	118	1194	1068
1	2	221	95	6	66	672	546	4	122	1213	1087
1	3	237	111	6	72	712	586	5	127	1235	1109
1	4	252	126	6	78	746	620	5	132	1263	1137
2	6	285	159	6	84	792	666	5	137	1278	1152
2	8	314	188	1	85	843	717	6	143	1303	1177
2	10	342	216	1	86	944	818	7	150	1324	1198
2	12	371	245	1	87	967	841	10	160	1372	1246
2	14	392	266	1	88	983	857	10	170	1453	1327
2	16	409	283	1	89	995	869	8	178	1526	1400
2	18	424	298	2	91	1009	883	5	183	1583	1457
2	20	438	312	2	93	1024	898	3	186	1613	1487
3	23	455	329	2	95	1037	911	3	189	1634	1508
3	26	472	346	2	97	1057	931	3	192	1651	1525
3	29	486	360	2	99	1070	944	3	195	1668	1542
4	33	509	383	2	101	1085	959	3	198	1680	1554
4	37	525	399	3	104	1104	978	4	202	1702	1576
5	42	544	418	3	107	1127	1001	4	206	1724	1598
6	48	570	444	3	110	1145	1019	5	211	1760	1634





Remarks

Fell under own weight 34mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB21
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642440.1 E, 266513.2 N **Ground Level** 12.03 m OD	**Test Date**	16/09/2024

Test started at	0.00m bgl

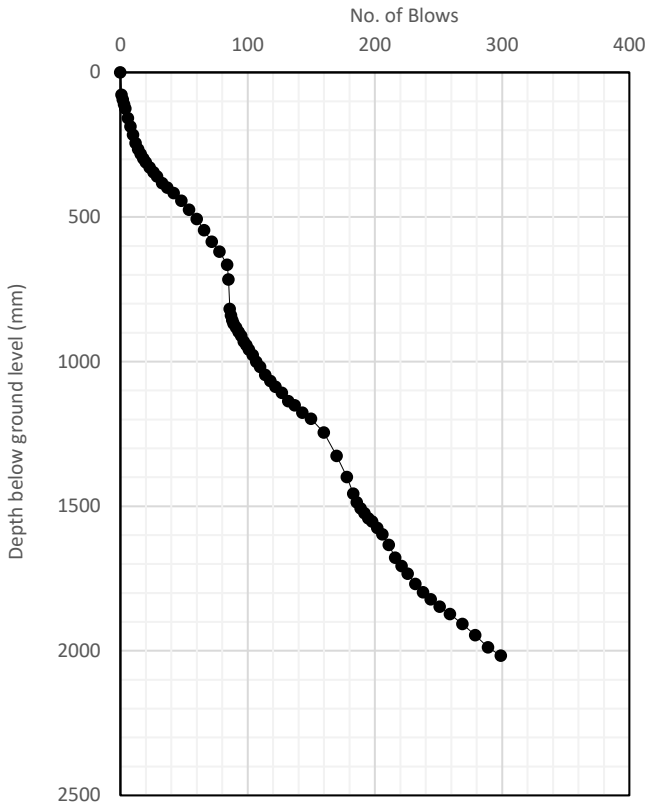
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
5	216	1805	1679
5	221	1833	1707
5	226	1860	1734
6	232	1895	1769
6	238	1924	1798
6	244	1948	1822
7	251	1974	1848
8	259	1999	1873
10	269	2034	1908
10	279	2073	1947
10	289	2114	1988
10	299	2143	2017

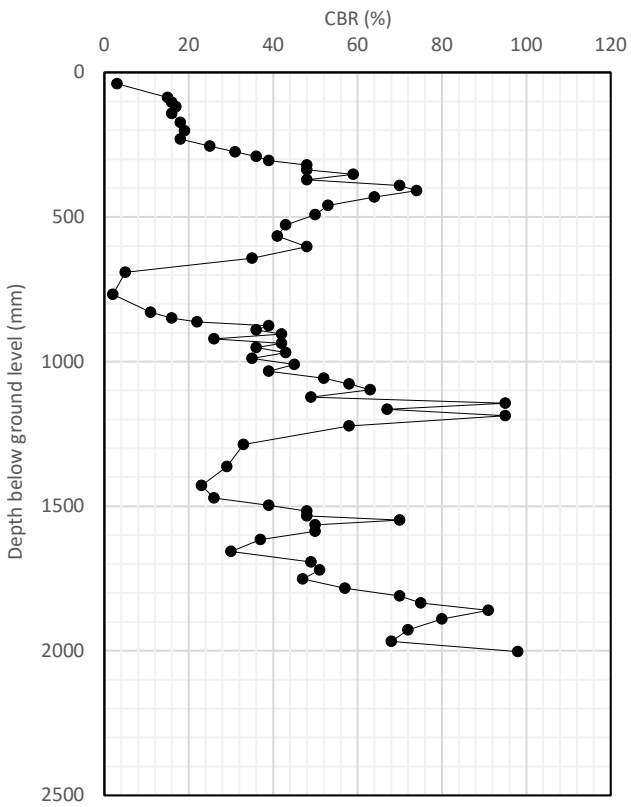
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 34mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB22
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642422.9 E, 266548.0 N **Ground Level** 11.09 m OD	**Test Date**	16/09/2024

Test started at	0.00m bgl

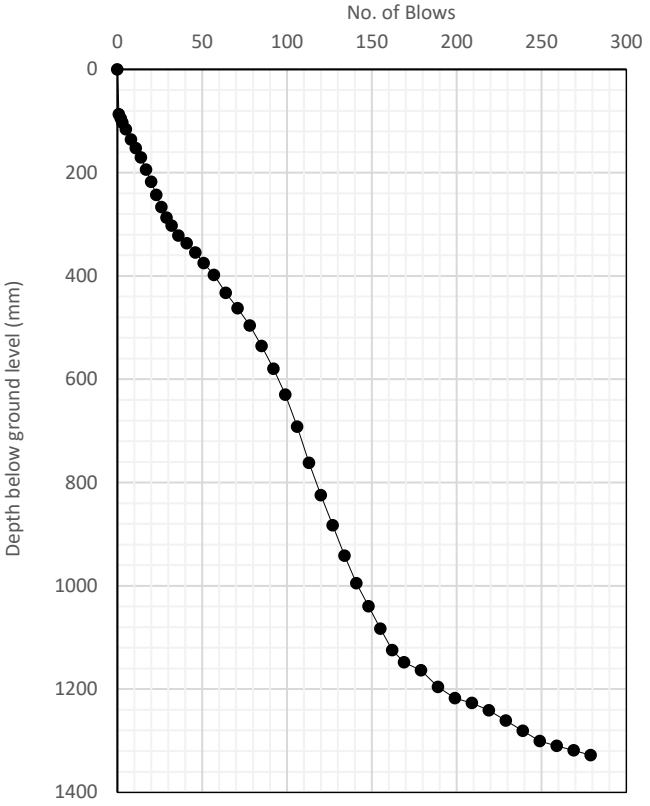
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	127	0
1	1	214	87
1	2	222	95
1	3	230	103
2	5	243	116
3	8	263	136
3	11	280	153
3	14	298	171
3	17	321	194
3	20	345	218
3	23	370	243
3	26	394	267
3	29	414	287
3	32	430	303
4	36	449	322
5	41	464	337
5	46	482	355
5	51	502	375
6	57	525	398
7	64	560	433

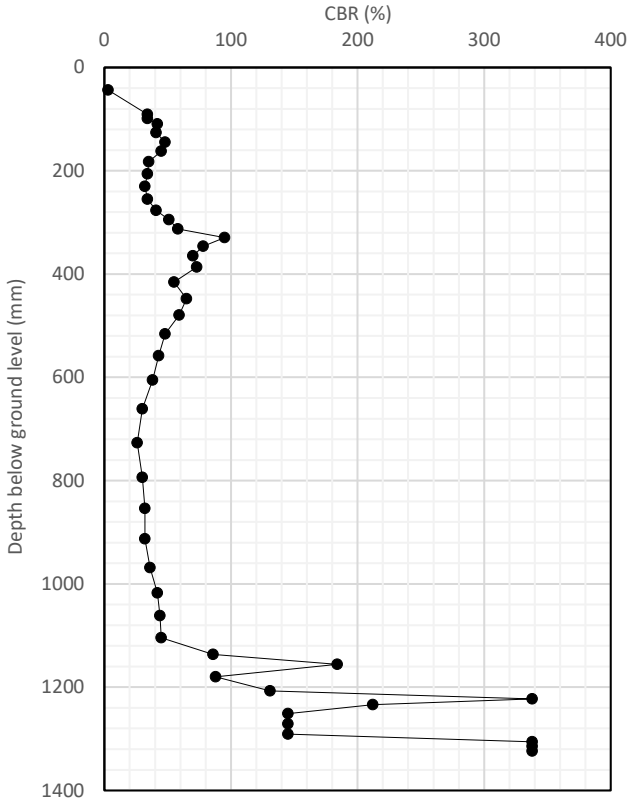
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
7	71	590	463
7	78	623	496
7	85	663	536
7	92	707	580
7	99	757	630
7	106	819	692
7	113	889	762
7	120	952	825
7	127	1010	883
7	134	1069	942
7	141	1122	995
7	148	1167	1040
7	155	1210	1083
7	162	1252	1125
7	169	1275	1148
10	179	1291	1164
10	189	1323	1196
10	199	1345	1218
10	209	1354	1227
10	219	1368	1241

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
10	229	1388	1261
10	239	1408	1281
10	249	1428	1301
10	259	1437	1310
10	269	1446	1319
10	279	1455	1328





Remarks

Fell under own weight 41mm. Refused at 1.33m bgl.

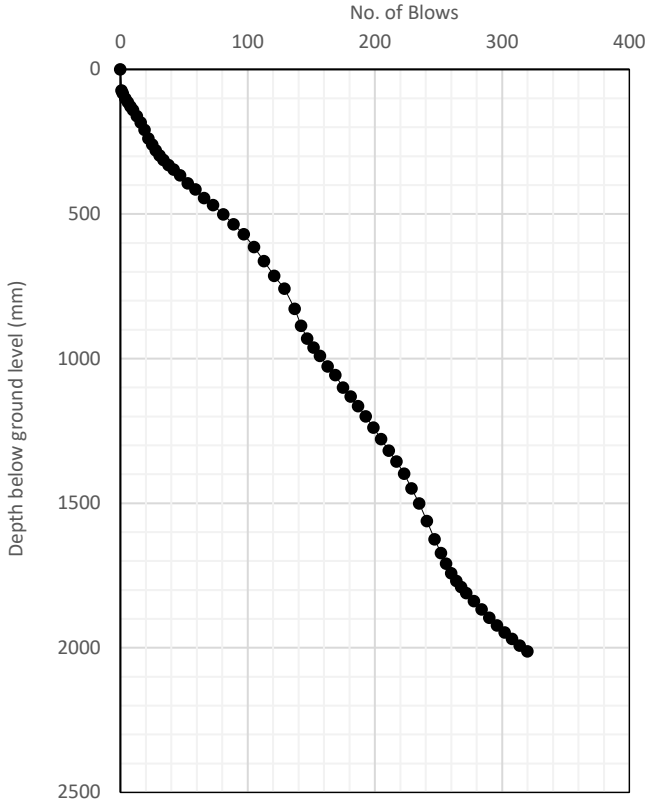
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

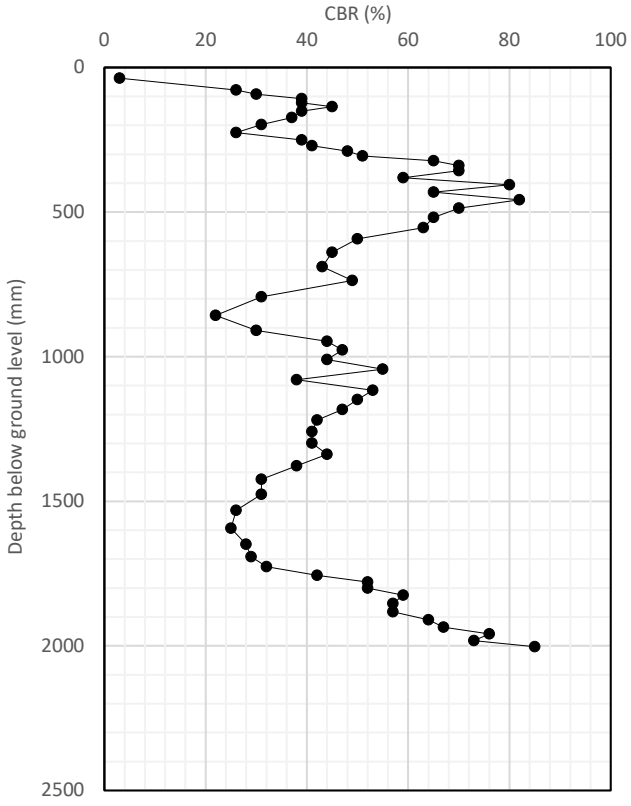
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB23
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642396.0 E, 266574.0 N **Ground Level** 12.01 m OD	**Test Date**	17/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	122	0	7	66	568	446	6	199	1361	1239
1	1	195	73	7	73	592	470	6	205	1401	1279
1	2	205	83	8	81	624	502	6	211	1441	1319
2	4	223	101	8	89	658	536	6	217	1478	1356
2	6	237	115	8	97	693	571	6	223	1521	1399
2	8	251	129	8	105	737	615	6	229	1572	1450
2	10	263	141	8	113	785	663	6	235	1623	1501
3	13	284	162	8	121	836	714	6	241	1684	1562
3	16	306	184	8	129	881	759	6	247	1747	1625
3	19	332	210	8	137	950	828	5	252	1795	1673
3	22	362	240	5	142	1009	887	4	256	1832	1710
3	25	383	261	5	147	1053	931	4	260	1865	1743
3	28	403	281	5	152	1084	962	4	264	1891	1769
3	31	420	298	5	157	1113	991	4	268	1912	1790
3	34	436	314	6	163	1150	1028	4	272	1933	1811
4	38	453	331	6	169	1180	1058	6	278	1961	1839
4	42	469	347	6	175	1223	1101	6	284	1990	1868
5	47	489	367	6	181	1254	1132	6	290	2019	1897
6	53	517	395	6	187	1287	1165	6	296	2045	1923
6	59	538	416	6	193	1322	1200	6	302	2070	1948





Remarks

Fell under own weight 40mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB23
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642396.0 E, 266574.0 N	**Ground Level**	12.01 m OD	**Test Date**	17/09/2024

Test started at	0.00m bgl

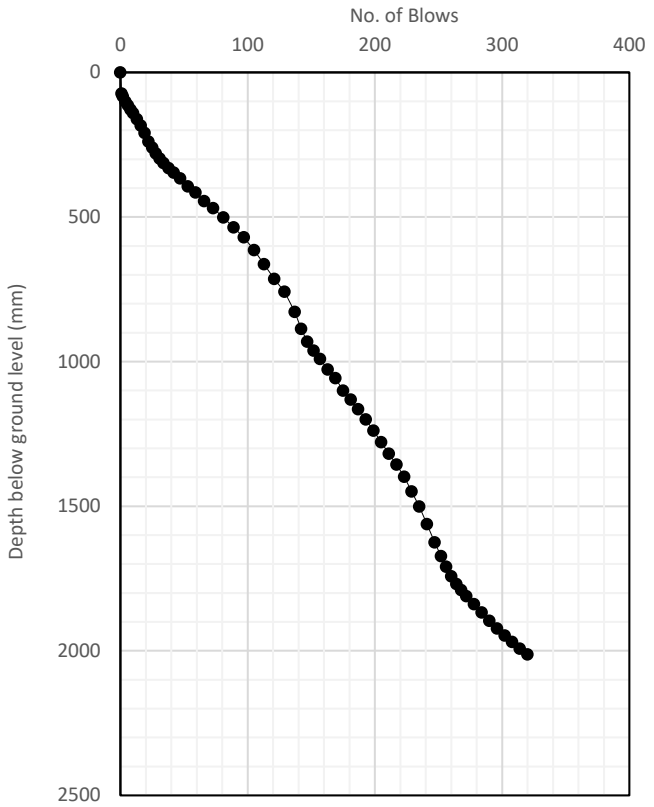
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
6	308	2092	1970
6	314	2115	1993
6	320	2135	2013

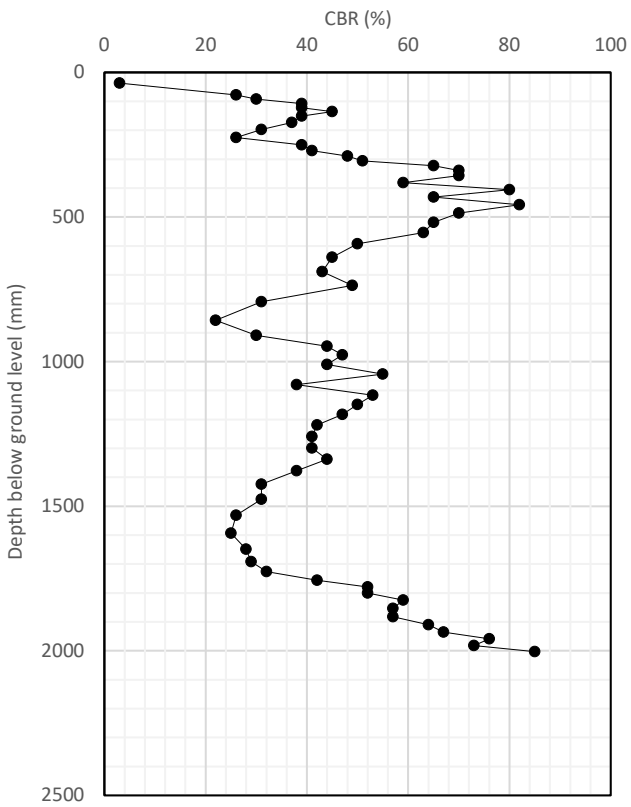
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 40mm.

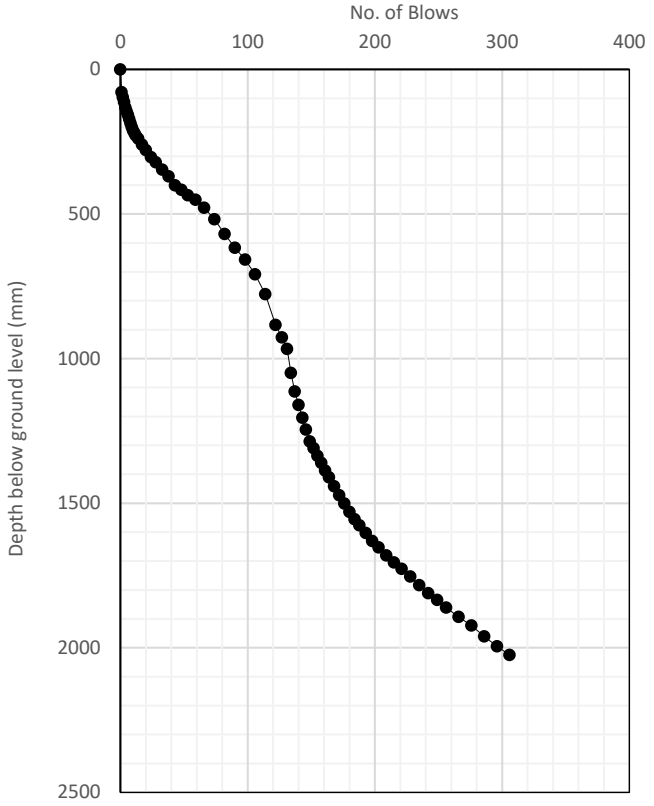
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

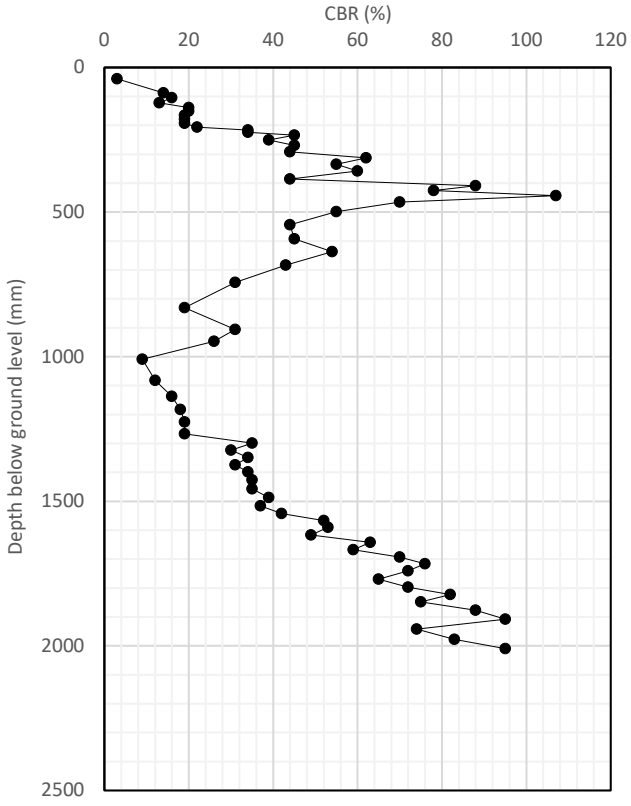
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB24
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642358.8 E, 266609.0 N **Ground Level** 13.88 m OD	**Test Date**	17/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	135	0	5	43	536	401	3	152	1445	1310
1	1	214	79	5	48	552	417	3	155	1472	1337
1	2	232	97	5	53	570	435	3	158	1496	1361
1	3	248	113	6	59	586	451	3	161	1522	1387
1	4	267	132	7	66	614	479	3	164	1546	1411
1	5	280	145	8	74	654	519	4	168	1577	1442
1	6	293	158	8	82	704	569	4	172	1608	1473
1	7	307	172	8	90	752	617	4	176	1636	1501
1	8	321	186	8	98	793	658	4	180	1665	1530
1	9	335	200	8	106	844	709	4	184	1691	1556
1	10	347	212	8	114	912	777	4	188	1712	1577
1	11	355	220	8	122	1019	884	5	193	1738	1603
1	12	363	228	5	127	1062	927	5	198	1766	1631
2	14	375	240	4	131	1102	967	5	203	1788	1653
3	17	396	261	3	134	1185	1050	6	209	1816	1681
3	20	414	279	3	137	1249	1114	6	215	1840	1705
4	24	439	304	3	140	1296	1161	6	221	1862	1727
4	28	457	322	3	143	1340	1205	7	228	1889	1754
5	33	482	347	3	146	1381	1246	7	235	1919	1784
5	38	505	370	3	149	1422	1287	7	242	1946	1811





Remarks

Fell under own weight 48mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB24
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642358.8 E, 266609.0 N	**Ground Level**	13.88 m OD	**Test Date**	17/09/2024

Test started at	0.00m bgl

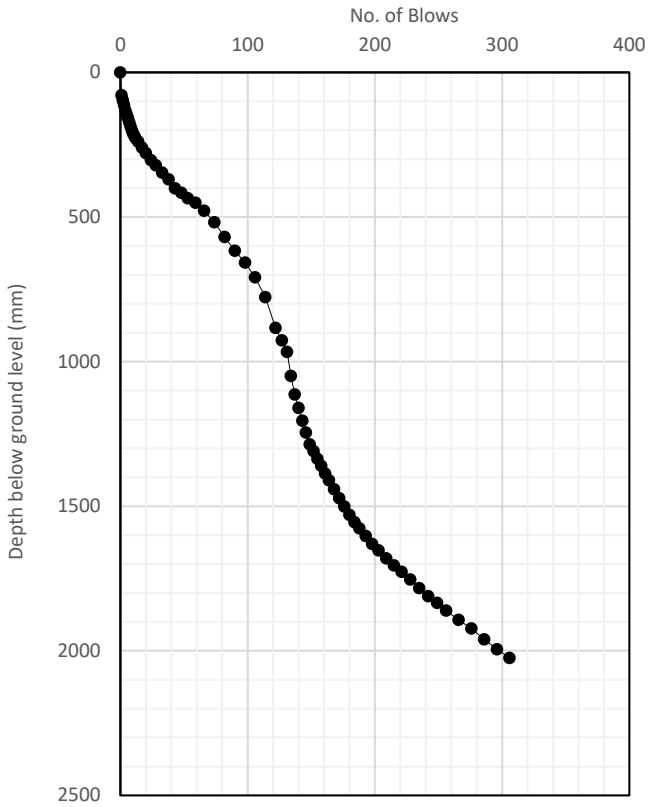
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
7	249	1970	1835
7	256	1996	1861
10	266	2028	1893
10	276	2058	1923
10	286	2096	1961
10	296	2130	1995
10	306	2160	2025

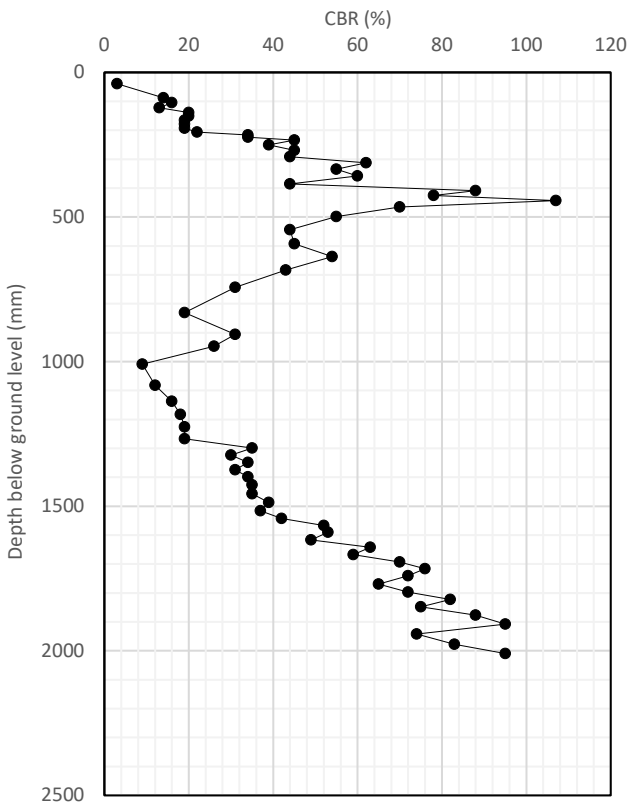
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 48mm.

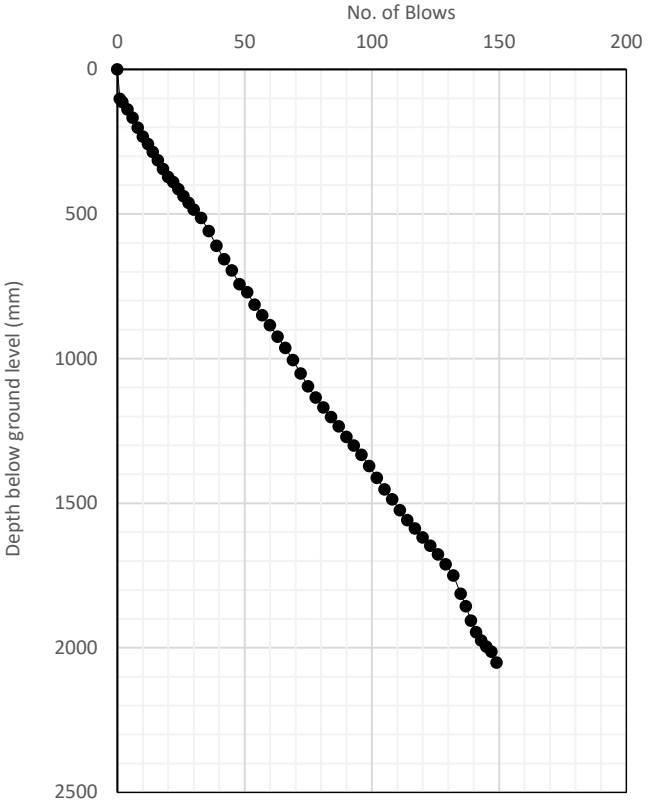
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

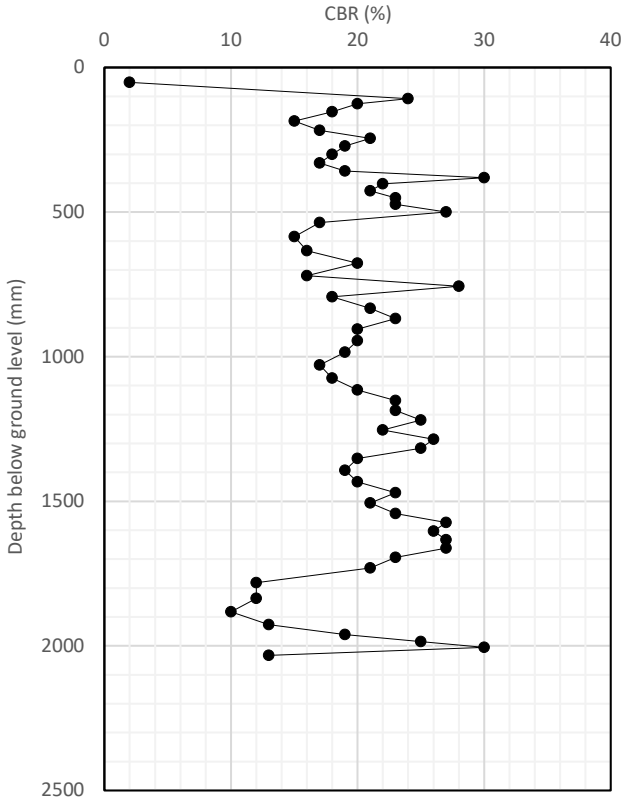
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB25
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642296.0 E, 266663.1 N **Ground Level** 16.14 m OD	**Test Date**	17/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	133	0	3	42	790	657	3	102	1546	1413
1	1	235	102	3	45	829	696	3	105	1586	1453
1	2	246	113	3	48	876	743	3	108	1620	1487
2	4	272	139	3	51	904	771	3	111	1658	1525
2	6	301	168	3	54	947	814	3	114	1692	1559
2	8	335	202	3	57	984	851	3	117	1721	1588
2	10	366	233	3	60	1018	885	3	120	1752	1619
2	12	391	258	3	63	1058	925	3	123	1781	1648
2	14	419	286	3	66	1097	964	3	126	1810	1677
2	16	448	315	3	69	1139	1006	3	129	1845	1712
2	18	478	345	3	72	1185	1052	3	132	1883	1750
2	20	505	372	3	75	1229	1096	3	135	1947	1814
2	22	523	390	3	78	1268	1135	2	137	1990	1857
2	24	547	414	3	81	1302	1169	2	139	2040	1907
2	26	572	439	3	84	1336	1203	2	141	2080	1947
2	28	595	462	3	87	1368	1235	2	143	2108	1975
2	30	618	485	3	90	1404	1271	2	145	2129	1996
3	33	647	514	3	93	1434	1301	2	147	2147	2014
3	36	692	559	3	96	1466	1333	2	149	2185	2052
3	39	743	610	3	99	1505	1372				





Remarks

Fell under own weight 37mm.

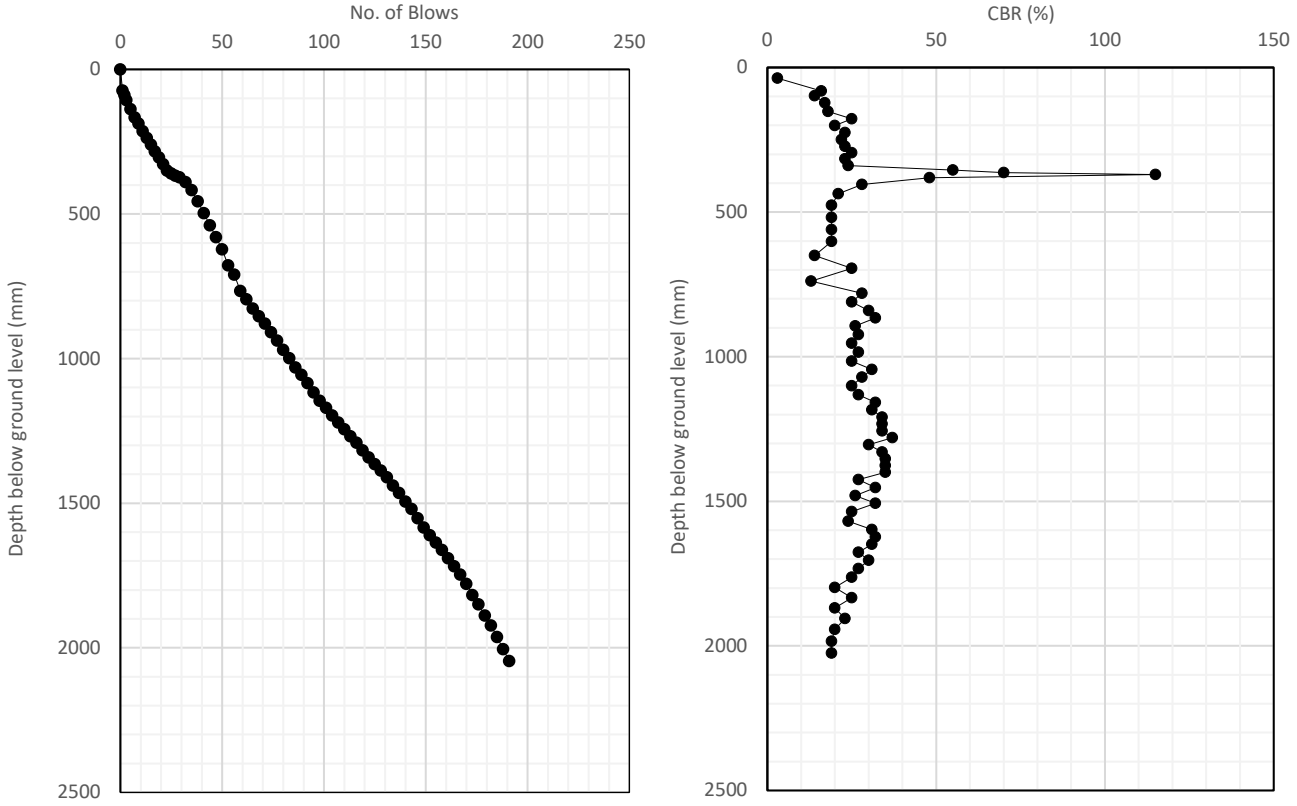
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB26
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642194.1 E, 266810.0 N	**Ground Level**	22.49 m OD	**Test Date**	17/01/1900

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	148	0	3	41	646	498	3	101	1319	1171
1	1	221	73	3	44	688	540	3	104	1345	1197
1	2	237	89	3	47	729	581	3	107	1369	1221
1	3	255	107	3	50	771	623	3	110	1393	1245
2	5	286	138	3	53	826	678	3	113	1417	1269
2	7	315	167	3	56	858	710	3	116	1439	1291
2	9	336	188	3	59	915	767	3	119	1466	1318
2	11	362	214	3	62	943	795	3	122	1490	1342
2	13	385	237	3	65	975	827	3	125	1513	1365
2	15	409	261	3	68	1002	854	3	128	1536	1388
2	17	432	284	3	71	1027	879	3	131	1559	1411
2	19	453	305	3	74	1057	909	3	134	1588	1440
2	21	476	328	3	77	1086	938	3	137	1613	1465
2	23	498	350	3	80	1118	970	3	140	1643	1495
2	25	508	360	3	83	1147	999	3	143	1668	1520
2	27	516	368	3	86	1179	1031	3	146	1700	1552
2	29	521	373	3	89	1205	1057	3	149	1733	1585
3	32	538	390	3	92	1233	1085	3	152	1759	1611
3	35	566	418	3	95	1265	1117	3	155	1784	1636
3	38	604	456	3	98	1294	1146	3	158	1810	1662



Remarks

Fell under own weight 34mm.

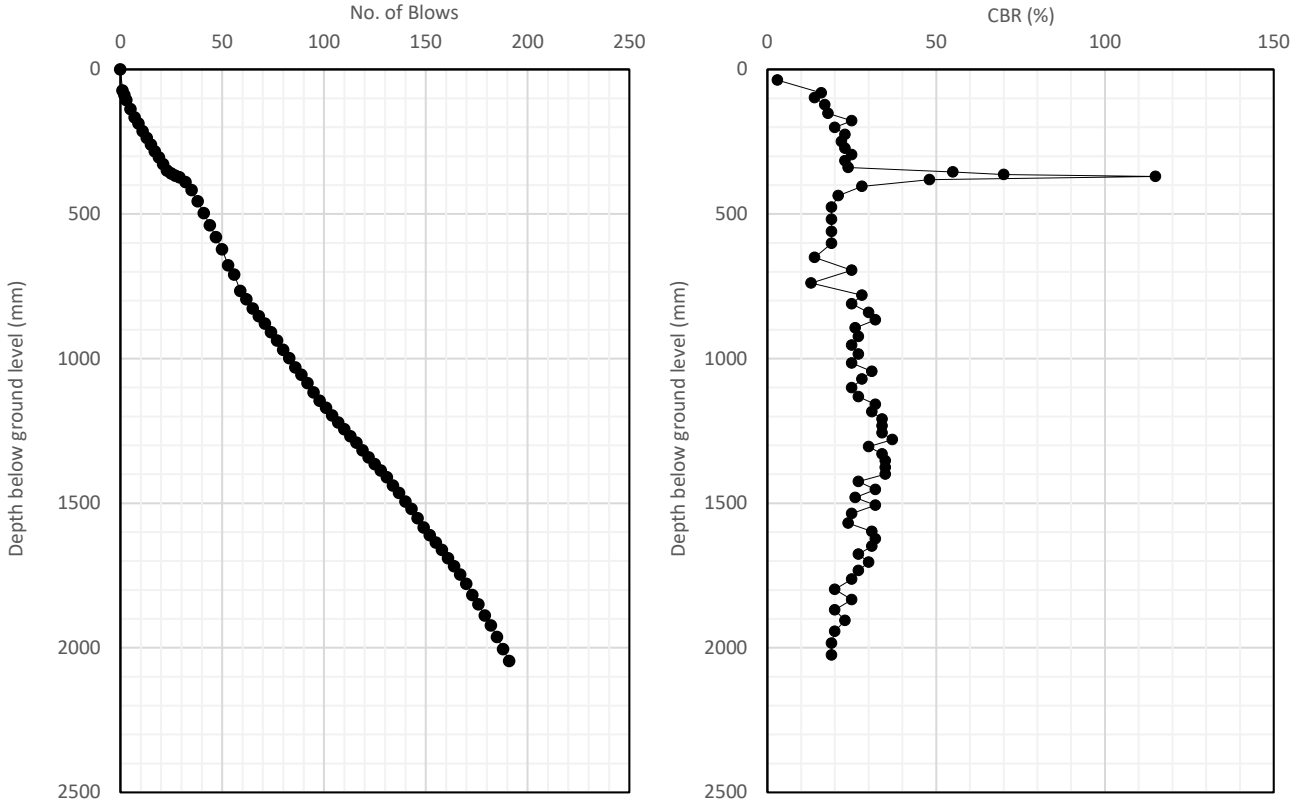
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB26
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642194.1 E, 266810.0 N	**Ground Level**	22.49 m OD	**Test Date**	17/01/1900

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	161	1839	1691								
3	164	1866	1718								
3	167	1895	1747								
3	170	1927	1779								
3	173	1966	1818								
3	176	1998	1850								
3	179	2037	1889								
3	182	2071	1923								
3	185	2111	1963								
3	188	2153	2005								
3	191	2194	2046								



Remarks

Fell under own weight 34mm.

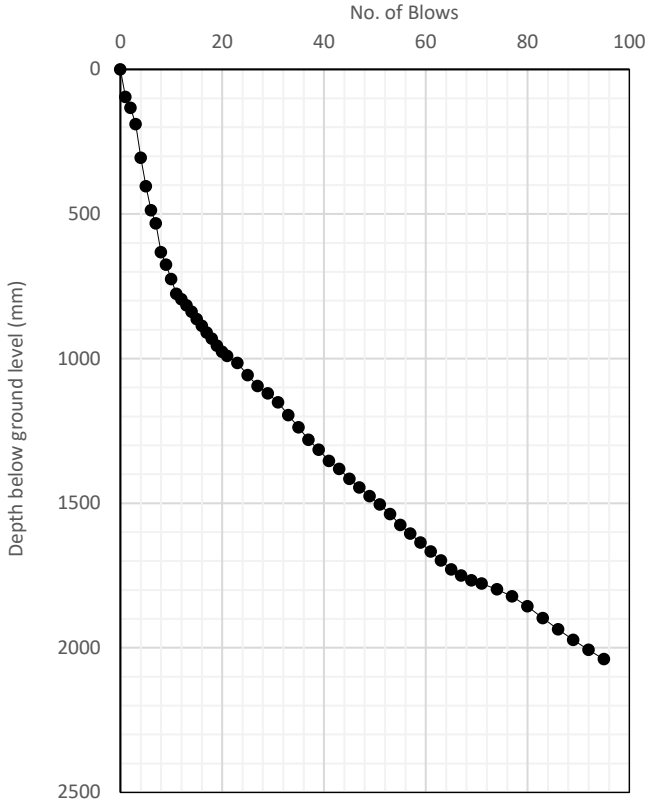
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

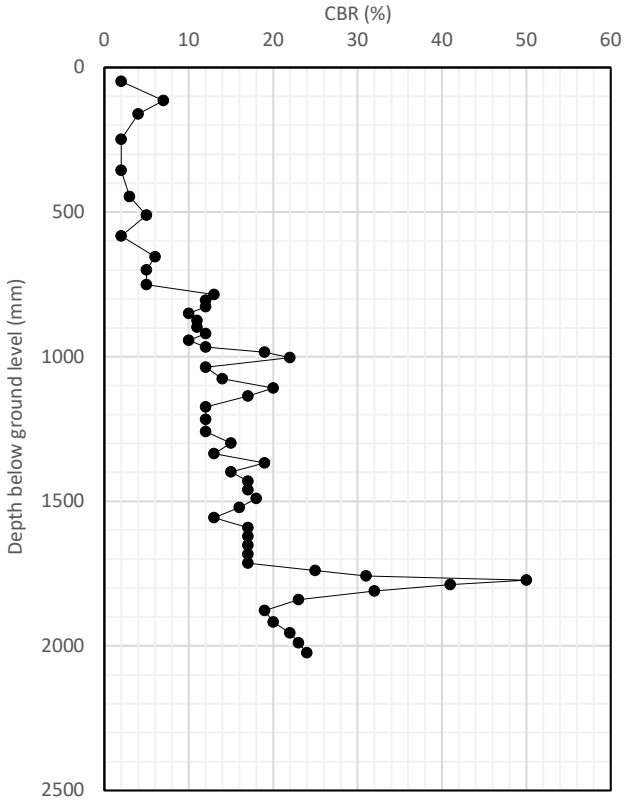
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB27
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641862.9 E, 267016.9 N **Ground Level** 19.56 m OD	**Test Date**	10/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	1	20	1108	977	2	59	1768	1637
1	1	227	96	1	21	1122	991	2	61	1799	1668
1	2	264	133	2	23	1146	1015	2	63	1829	1698
1	3	321	190	2	25	1189	1058	2	65	1860	1729
1	4	437	306	2	27	1226	1095	2	67	1881	1750
1	5	536	405	2	29	1252	1121	2	69	1898	1767
1	6	619	488	2	31	1283	1152	2	71	1909	1778
1	7	664	533	2	33	1327	1196	3	74	1929	1798
1	8	764	633	2	35	1369	1238	3	77	1954	1823
1	9	807	676	2	37	1412	1281	3	80	1988	1857
1	10	856	725	2	39	1447	1316	3	83	2029	1898
1	11	907	776	2	41	1485	1354	3	86	2068	1937
1	12	926	795	2	43	1513	1382	3	89	2104	1973
1	13	947	816	2	45	1547	1416	3	92	2138	2007
1	14	969	838	2	47	1577	1446	3	95	2171	2040
1	15	995	864	2	49	1607	1476				
1	16	1018	887	2	51	1636	1505				
1	17	1041	910	2	53	1669	1538				
1	18	1062	931	2	55	1707	1576				
1	19	1087	956	2	57	1737	1606				





Remarks

Fell under own weight 51mm.

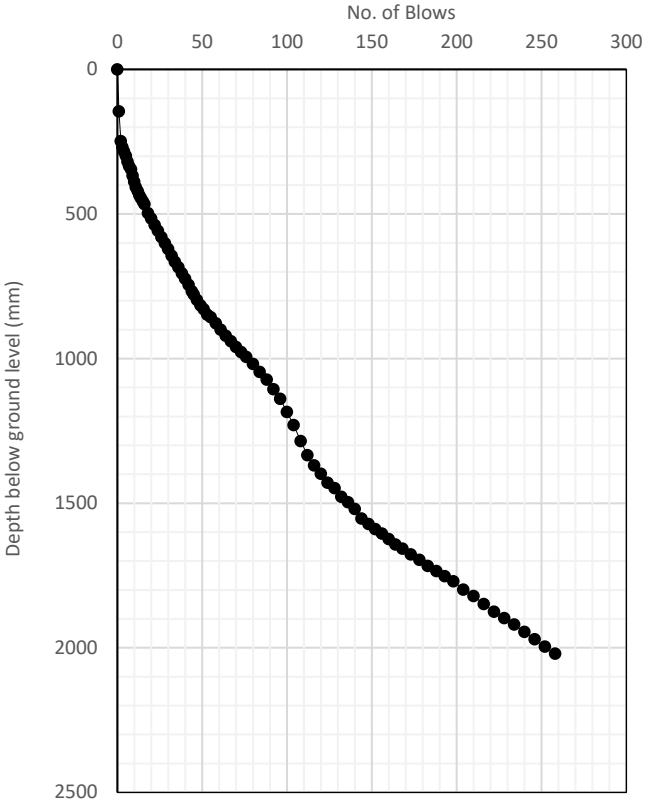
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

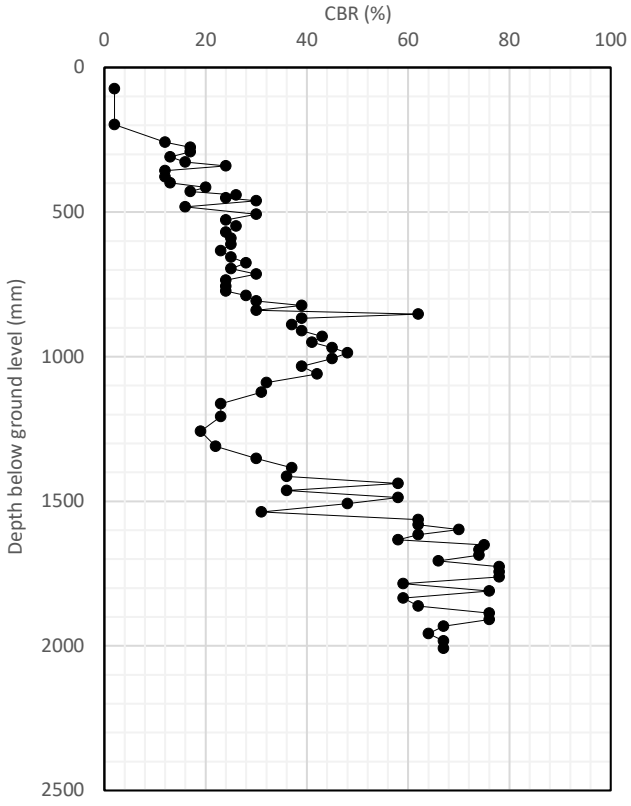
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB29
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641807.8 E, 267259.7 N **Ground Level** 13.52 m OD	**Test Date**	11/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	116	0	2	24	674	558	3	67	1056	940
1	1	262	146	2	26	696	580	3	70	1076	960
1	2	364	248	2	28	717	601	3	73	1094	978
1	3	385	269	2	30	738	622	3	76	1111	995
1	4	400	284	2	32	761	645	4	80	1135	1019
1	5	415	299	2	34	782	666	4	84	1163	1047
1	6	435	319	2	36	801	685	4	88	1189	1073
1	7	451	335	2	38	822	706	4	92	1222	1106
1	8	462	346	2	40	840	724	4	96	1256	1140
1	9	484	368	2	42	862	746	4	100	1301	1185
1	10	505	389	2	44	884	768	4	104	1346	1230
1	11	524	408	1	45	895	779	4	108	1402	1286
1	12	537	421	2	47	914	798	4	112	1450	1334
1	13	552	436	2	49	932	816	4	116	1486	1370
1	14	562	446	2	51	946	830	4	120	1515	1399
1	15	573	457	2	53	964	848	4	124	1545	1429
1	16	582	466	2	55	973	857	4	128	1564	1448
2	18	614	498	3	58	994	878	4	132	1594	1478
2	20	632	516	3	61	1016	900	4	136	1613	1497
2	22	654	538	3	64	1037	921	4	140	1636	1520





Remarks

Fell under own weight 25mm.

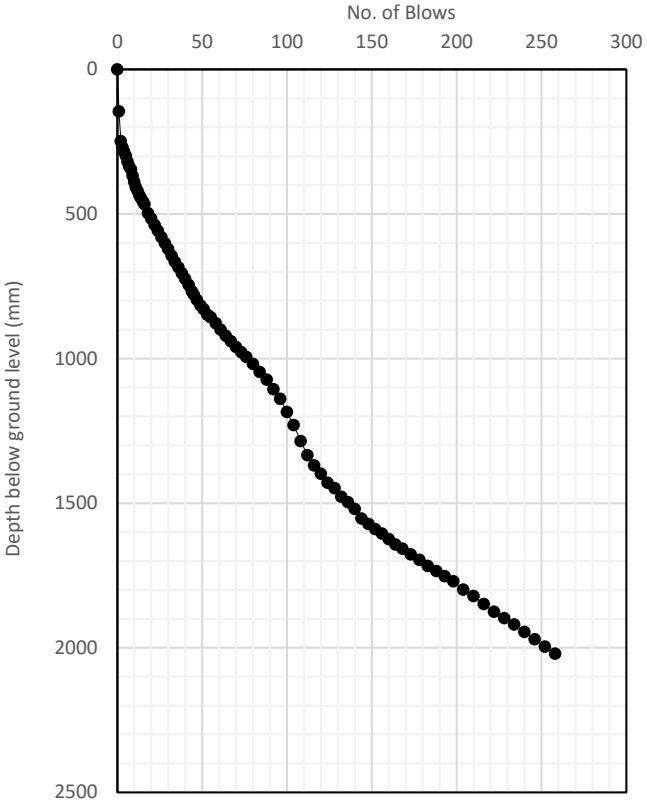
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

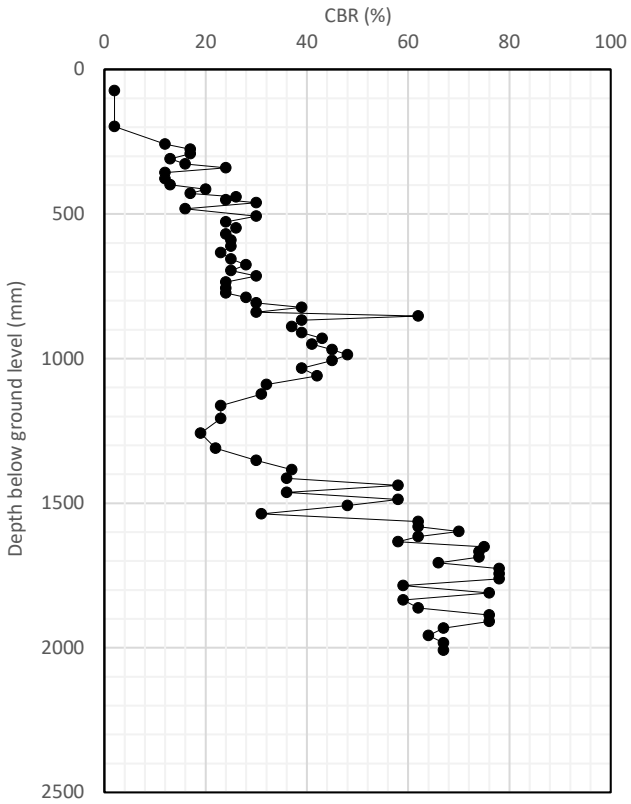
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB29
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641807.8 E, 267259.7 N **Ground Level** 13.52 m OD	**Test Date**	11/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	144	1670	1554	6	246	2087	1971				
4	148	1688	1572	6	252	2112	1996				
4	152	1706	1590	6	258	2137	2021				
4	156	1722	1606								
4	160	1740	1624								
4	164	1759	1643								
4	168	1774	1658								
5	173	1793	1677								
5	178	1812	1696								
5	183	1833	1717								
5	188	1851	1735								
5	193	1869	1753								
5	198	1887	1771								
6	204	1915	1799								
6	210	1937	1821								
6	216	1965	1849								
6	222	1992	1876								
6	228	2014	1898								
6	234	2036	1920								
6	240	2061	1945								





Remarks

Fell under own weight 25mm.

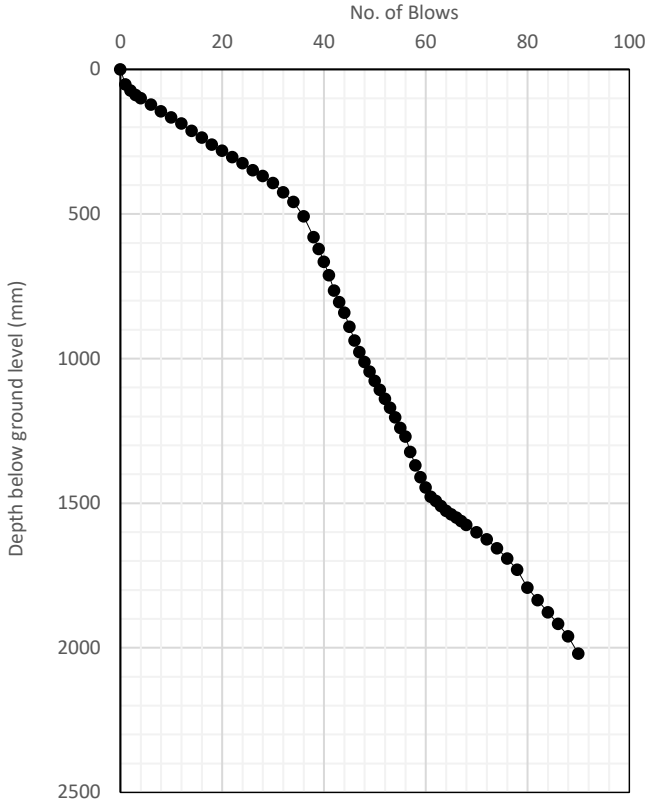
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

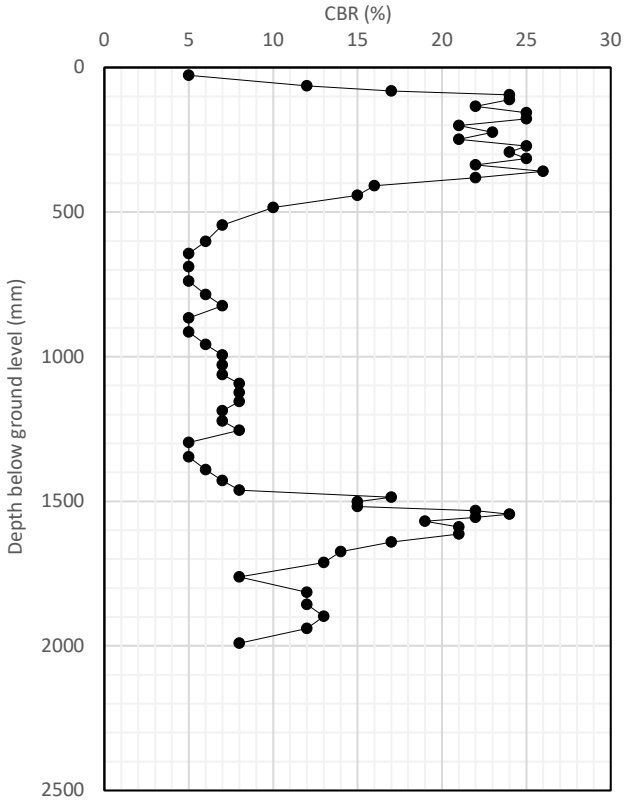
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB30
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641837.1 E, 267367.4 N **Ground Level** 8.52 m OD	**Test Date**	18/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	128	0	2	36	637	509	1	57	1451	1323
1	1	181	53	2	38	709	581	1	58	1498	1370
1	2	202	74	1	39	749	621	1	59	1539	1411
1	3	217	89	1	40	794	666	1	60	1574	1446
1	4	228	100	1	41	840	712	1	61	1606	1478
2	6	250	122	1	42	893	765	1	62	1621	1493
2	8	274	146	1	43	933	805	1	63	1638	1510
2	10	295	167	1	44	970	842	1	64	1655	1527
2	12	316	188	1	45	1019	891	1	65	1667	1539
2	14	341	213	1	46	1066	938	1	66	1678	1550
2	16	364	236	1	47	1106	978	1	67	1690	1562
2	18	389	261	1	48	1140	1012	1	68	1704	1576
2	20	410	282	1	49	1173	1045	2	70	1729	1601
2	22	432	304	1	50	1206	1078	2	72	1754	1626
2	24	453	325	1	51	1236	1108	2	74	1784	1656
2	26	477	349	1	52	1268	1140	2	76	1820	1692
2	28	497	369	1	53	1299	1171	2	78	1859	1731
2	30	521	393	1	54	1332	1204	2	80	1921	1793
2	32	553	425	1	55	1368	1240	2	82	1964	1836
2	34	587	459	1	56	1398	1270	2	84	2006	1878





Remarks

Fell under own weight 23mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB30
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641837.1 E, 267367.4 N	**Ground Level**	8.52 m OD	**Test Date**	18/09/2024

Test started at	0.00m bgl

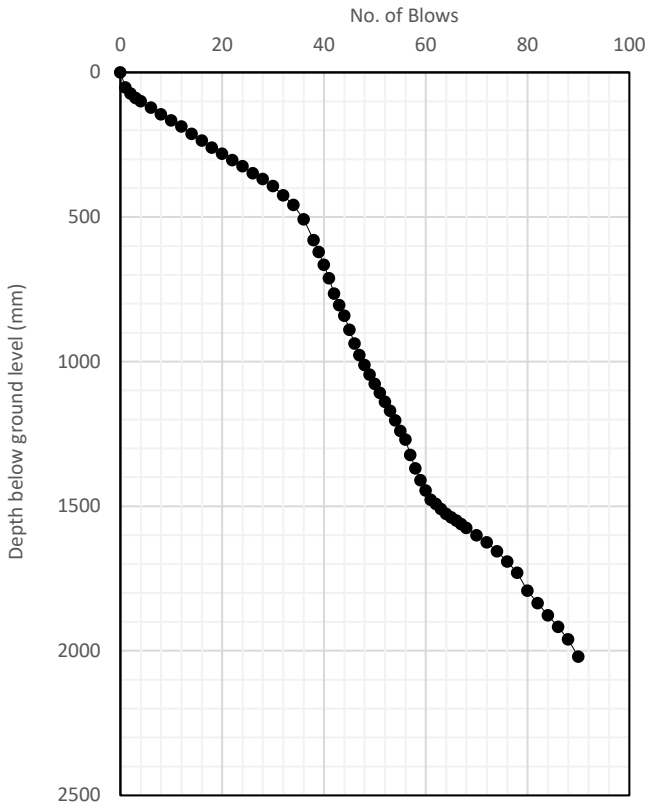
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	86	2046	1918
2	88	2089	1961
2	90	2149	2021

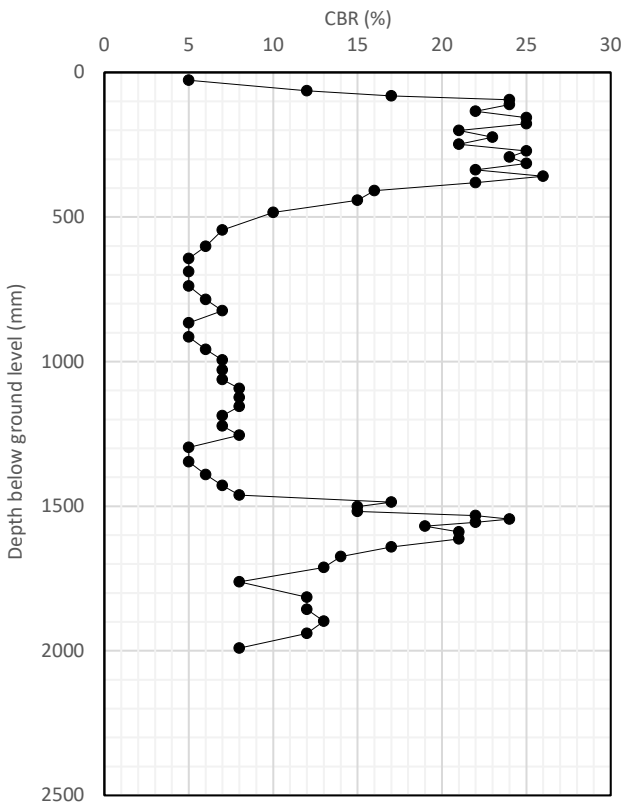
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 23mm.

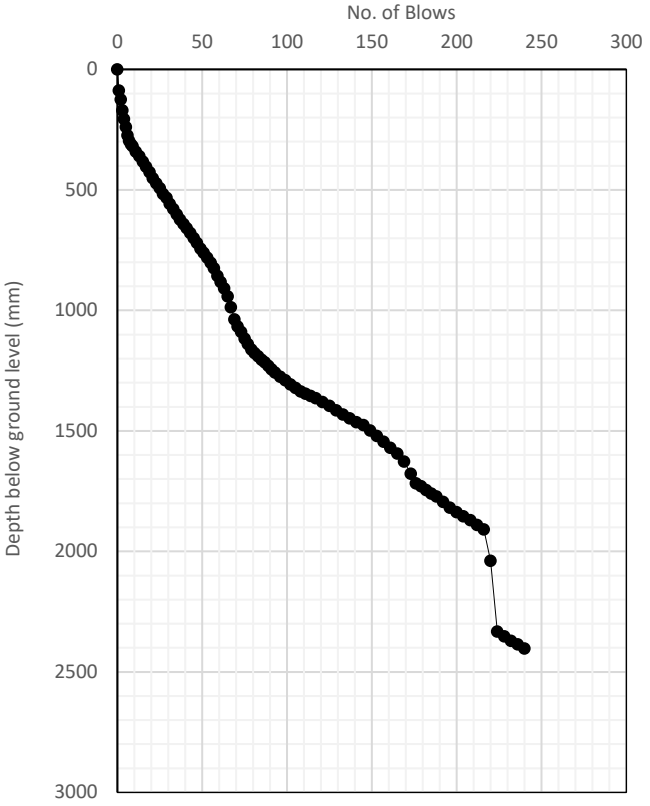
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

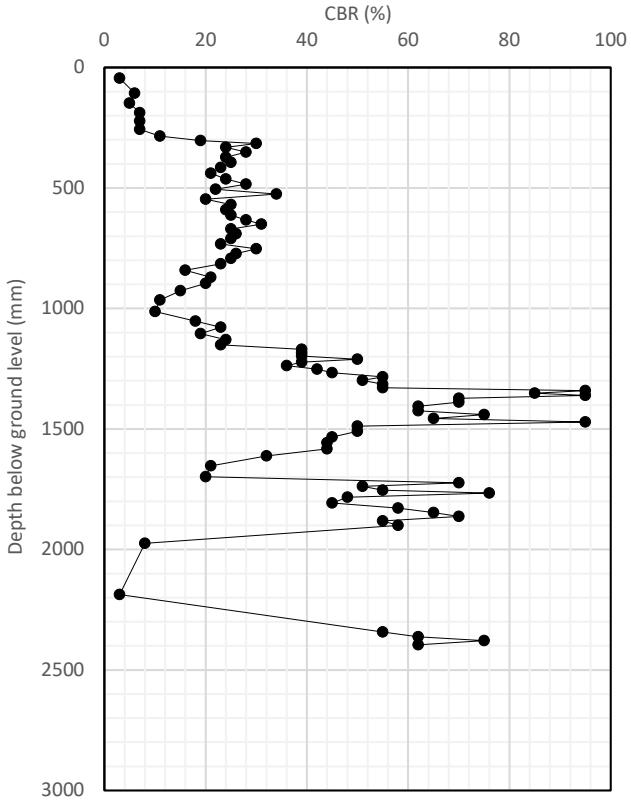
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPB31
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641892.9 E, 267534.2 N	**Ground Level**	14.37 m OD	**Test Date**	18/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	130	0	2	31	689	559	2	71	1197	1067
1	1	218	88	2	33	710	580	2	73	1220	1090
1	2	256	126	2	35	732	602	2	75	1248	1118
1	3	301	171	2	37	753	623	2	77	1270	1140
1	4	336	206	2	39	772	642	2	79	1293	1163
1	5	370	240	2	41	789	659	2	81	1307	1177
1	6	404	274	2	43	810	680	2	83	1321	1191
1	7	427	297	2	45	830	700	2	85	1335	1205
1	8	441	311	2	47	851	721	2	87	1346	1216
1	9	450	320	2	49	874	744	2	89	1360	1230
2	11	472	342	2	51	892	762	2	91	1375	1245
2	13	491	361	2	53	912	782	2	93	1388	1258
2	15	513	383	2	55	933	803	3	96	1406	1276
2	17	534	404	2	57	956	826	3	99	1421	1291
2	19	557	427	2	59	988	858	3	102	1437	1307
2	21	582	452	2	61	1013	883	3	105	1452	1322
2	23	604	474	2	63	1039	909	3	108	1467	1337
2	25	623	493	2	65	1073	943	3	111	1476	1346
2	27	647	517	2	67	1118	988	3	114	1486	1356
2	29	663	533	2	69	1168	1038	3	117	1495	1365





Remarks

Fell under own weight 46mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB31
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641892.9 E, 267534.2 N **Ground Level** 14.37 m OD	**Test Date**	18/09/2024

Test started at	0.00m bgl

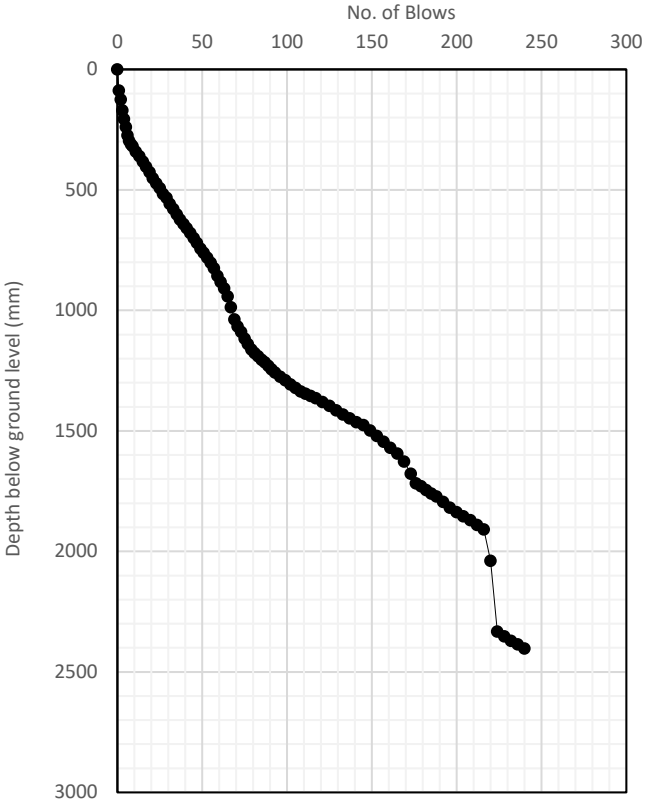
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	121	1511	1381
4	125	1527	1397
4	129	1545	1415
4	133	1563	1433
4	137	1578	1448
4	141	1595	1465
4	145	1607	1477
4	149	1629	1499
4	153	1651	1521
4	157	1675	1545
4	161	1700	1570
4	165	1725	1595
4	169	1758	1628
4	173	1808	1678
3	176	1848	1718
3	179	1860	1730
3	182	1876	1746
3	185	1891	1761
3	188	1902	1772
4	192	1925	1795

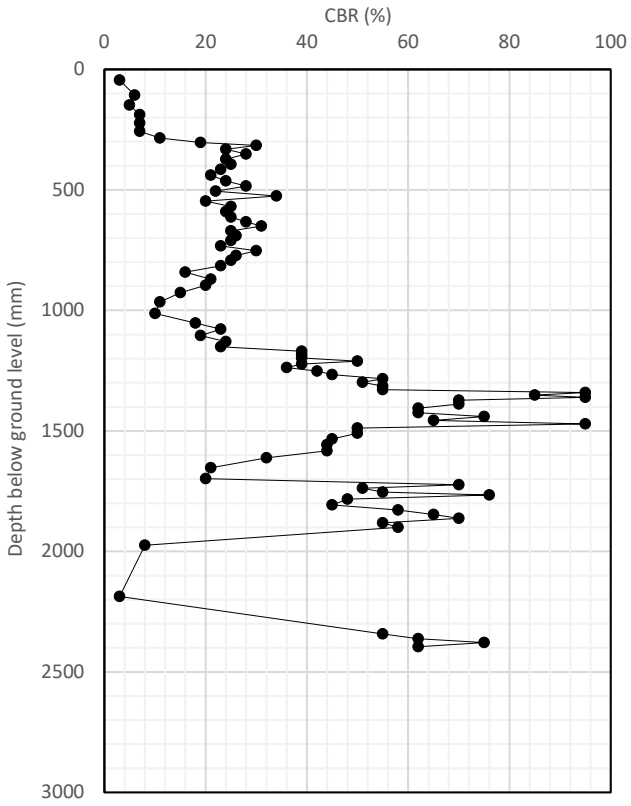
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
4	196	1949	1819
4	200	1968	1838
4	204	1985	1855
4	208	2001	1871
4	212	2021	1891
4	216	2040	1910
4	220	2170	2040
4	224	2463	2333
4	228	2483	2353
4	232	2501	2371
4	236	2516	2386
4	240	2534	2404

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 46mm.

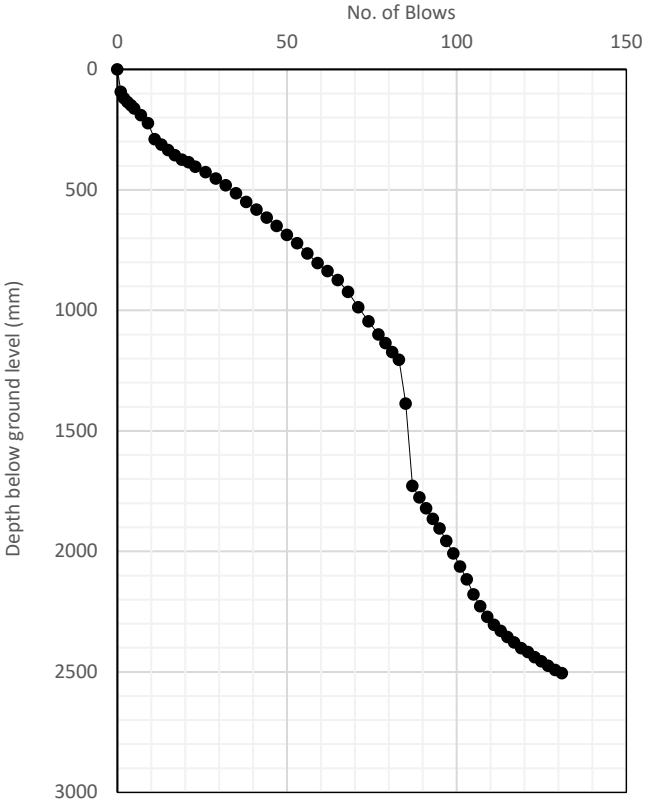
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

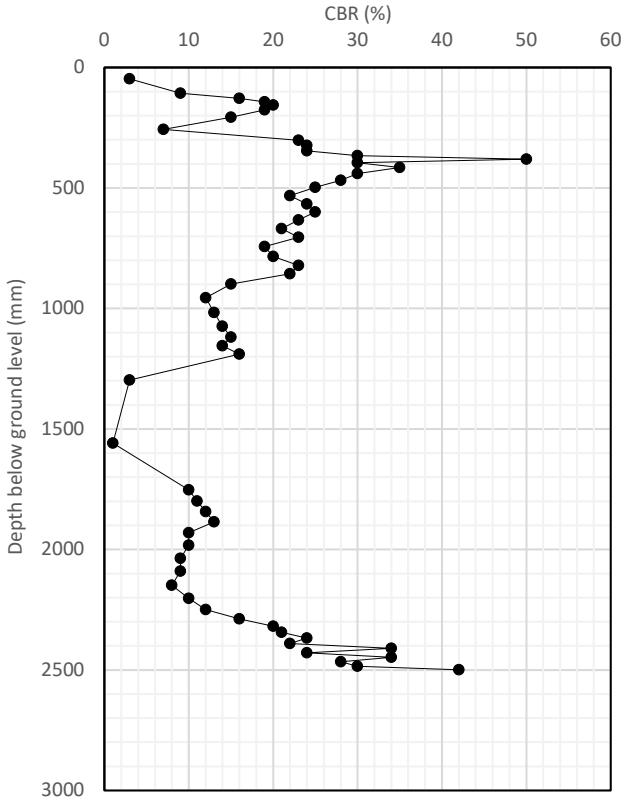
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB32
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641896.0 E, 267643.1 N **Ground Level** 16.64 m OD	**Test Date**	18/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	122	0	3	41	705	583	2	93	1987	1865
1	1	215	93	3	44	737	615	2	95	2027	1905
1	2	242	120	3	47	772	650	2	97	2079	1957
1	3	258	136	3	50	809	687	2	99	2131	2009
1	4	272	150	3	53	844	722	2	101	2186	2064
1	5	285	163	3	56	886	764	2	103	2239	2117
2	7	312	190	3	59	926	804	2	105	2301	2179
2	9	346	224	3	62	960	838	2	107	2350	2228
2	11	412	290	3	65	996	874	2	109	2394	2272
2	13	435	313	3	68	1046	924	2	111	2427	2305
2	15	457	335	3	71	1109	987	2	113	2453	2331
2	17	479	357	3	74	1168	1046	2	115	2478	2356
2	19	497	375	3	77	1223	1101	2	117	2500	2378
2	21	508	386	2	79	1258	1136	2	119	2524	2402
2	23	526	404	2	81	1295	1173	2	121	2540	2418
3	26	549	427	2	83	1328	1206	2	123	2562	2440
3	29	576	454	2	85	1510	1388	2	125	2578	2456
3	32	604	482	2	87	1851	1729	2	127	2597	2475
3	35	636	514	2	89	1899	1777	2	129	2615	2493
3	38	672	550	2	91	1944	1822	2	131	2628	2506





Remarks

Fell under own weight 54mm.

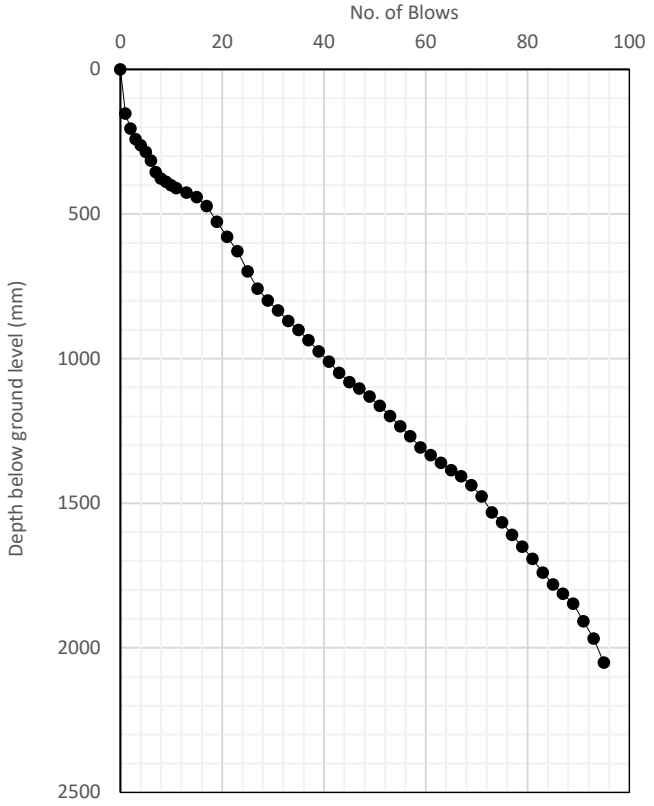
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

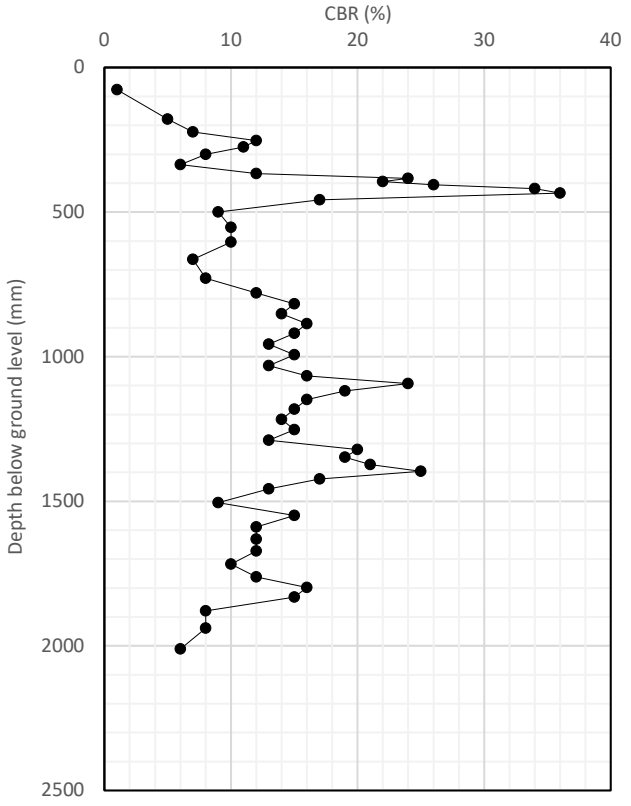
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPB33
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641899.2 E, 267716.1 N **Ground Level** 16.80 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	2	29	931	800	2	69	1569	1438
1	1	284	153	2	31	965	834	2	71	1608	1477
1	2	336	205	2	33	1001	870	2	73	1663	1532
1	3	373	242	2	35	1033	902	2	75	1698	1567
1	4	394	263	2	37	1068	937	2	77	1741	1610
1	5	417	286	2	39	1107	976	2	79	1782	1651
1	6	447	316	2	41	1142	1011	2	81	1824	1693
1	7	487	356	2	43	1181	1050	2	83	1872	1741
1	8	509	378	2	45	1213	1082	2	85	1913	1782
1	9	520	389	2	47	1235	1104	2	87	1945	1814
1	10	532	401	2	49	1263	1132	2	89	1979	1848
1	11	542	411	2	51	1295	1164	2	91	2040	1909
2	13	558	427	2	53	1330	1199	2	93	2100	1969
2	15	573	442	2	55	1366	1235	2	95	2183	2052
2	17	604	473	2	57	1400	1269				
2	19	658	527	2	59	1439	1308				
2	21	710	579	2	61	1465	1334				
2	23	760	629	2	63	1492	1361				
2	25	830	699	2	65	1517	1386				
2	27	890	759	2	67	1538	1407				





Remarks

Fell under own weight 91mm.

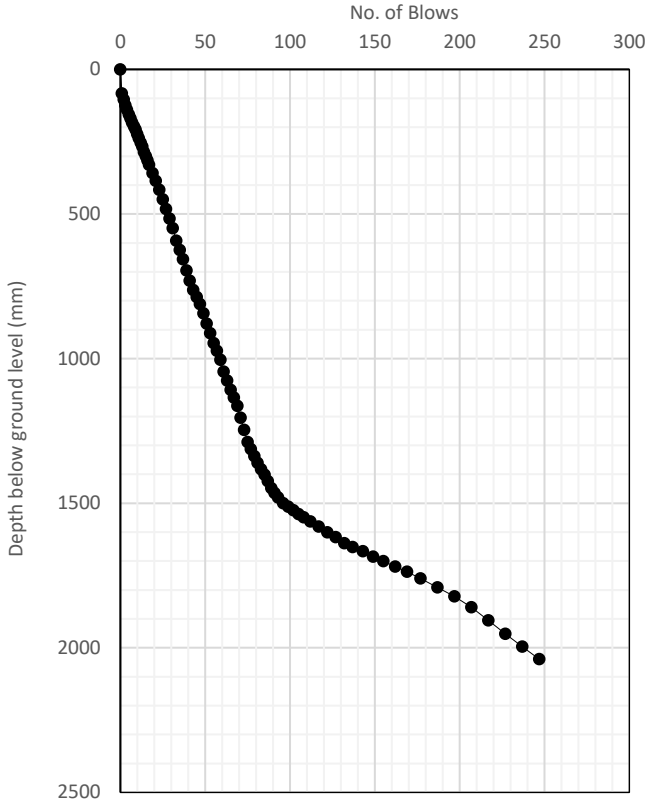
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

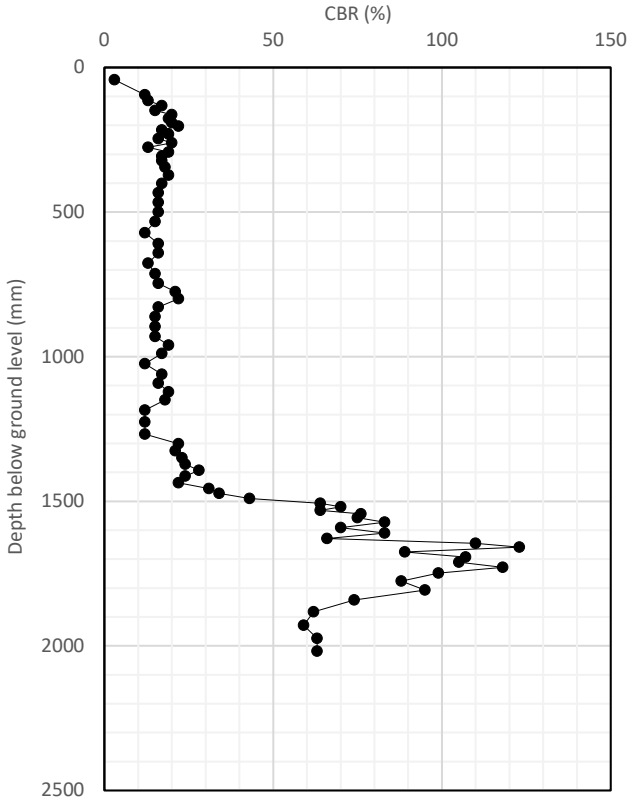
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC01
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641903.0 E, 267826.0 N **Ground Level** 15.61 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	137	0	2	23	554	417	2	63	1213	1076
1	1	221	84	2	25	587	450	2	65	1245	1108
1	2	242	105	2	27	620	483	2	67	1272	1135
1	3	262	125	2	29	653	516	2	69	1301	1164
1	4	277	140	2	31	687	550	2	71	1342	1205
1	5	294	157	2	33	730	593	2	73	1384	1247
1	6	307	170	2	35	762	625	2	75	1426	1289
1	7	321	184	2	37	794	657	2	77	1450	1313
1	8	334	197	2	39	833	696	2	79	1475	1338
1	9	346	209	2	41	868	731	2	81	1498	1361
1	10	361	224	2	43	900	763	2	83	1520	1383
1	11	375	238	2	45	925	788	2	85	1539	1402
1	12	391	254	2	47	949	812	2	87	1561	1424
1	13	404	267	2	49	981	844	2	89	1585	1448
1	14	423	286	2	51	1016	879	2	91	1602	1465
1	15	437	300	2	53	1050	913	2	93	1618	1481
1	16	452	315	2	55	1084	947	3	96	1637	1500
1	17	467	330	2	57	1111	974	3	99	1650	1513
2	19	496	359	2	59	1141	1004	3	102	1662	1525
2	21	523	386	2	61	1182	1045	3	105	1675	1538





Remarks

Fell under own weight 53mm.

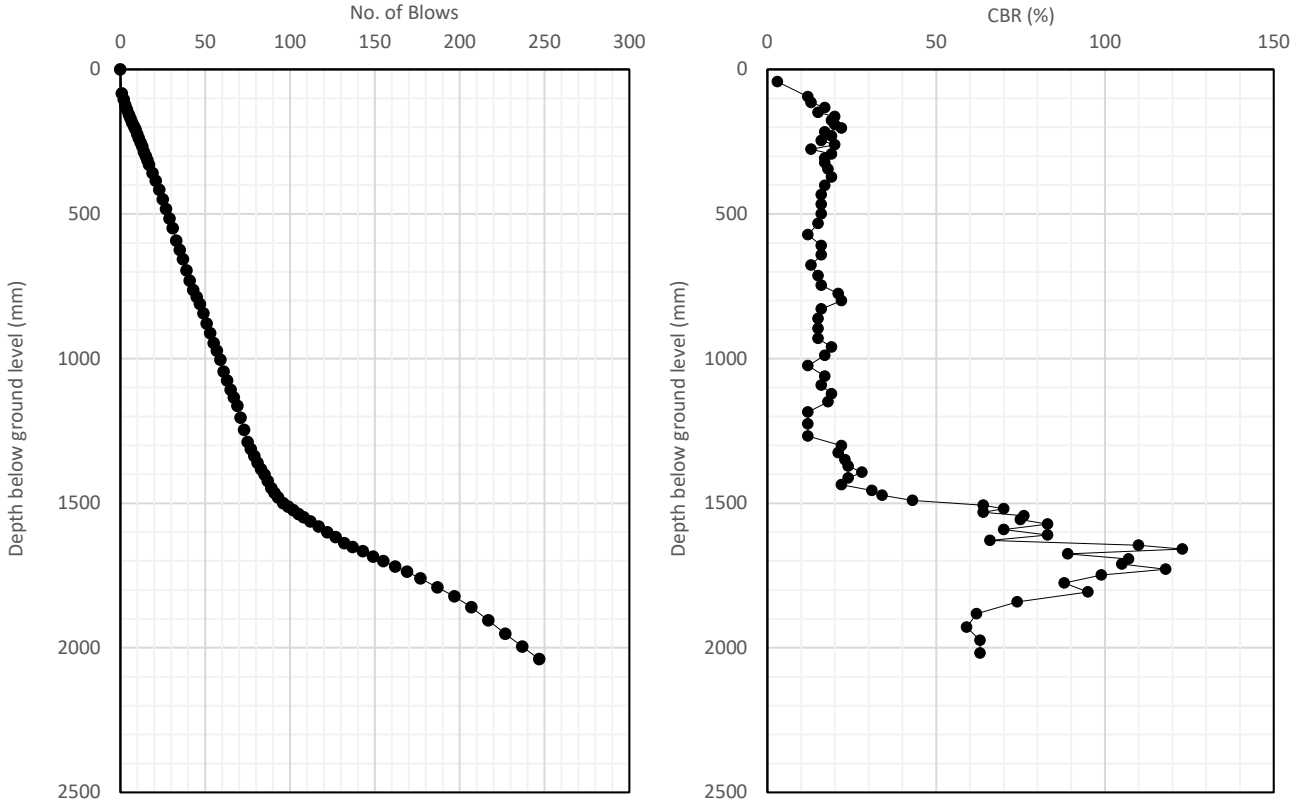
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC01
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641903.0 E, 267826.0 N **Ground Level** 15.61 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	108	1686	1549								
4	112	1701	1564								
5	117	1718	1581								
5	122	1738	1601								
5	127	1755	1618								
5	132	1776	1639								
5	137	1789	1652								
6	143	1803	1666								
6	149	1822	1685								
6	155	1838	1701								
7	162	1857	1720								
7	169	1874	1737								
8	177	1897	1760								
10	187	1929	1792								
10	197	1959	1822								
10	207	1997	1860								
10	217	2042	1905								
10	227	2089	1952								
10	237	2133	1996								
10	247	2177	2040								



Remarks

Fell under own weight 53mm.

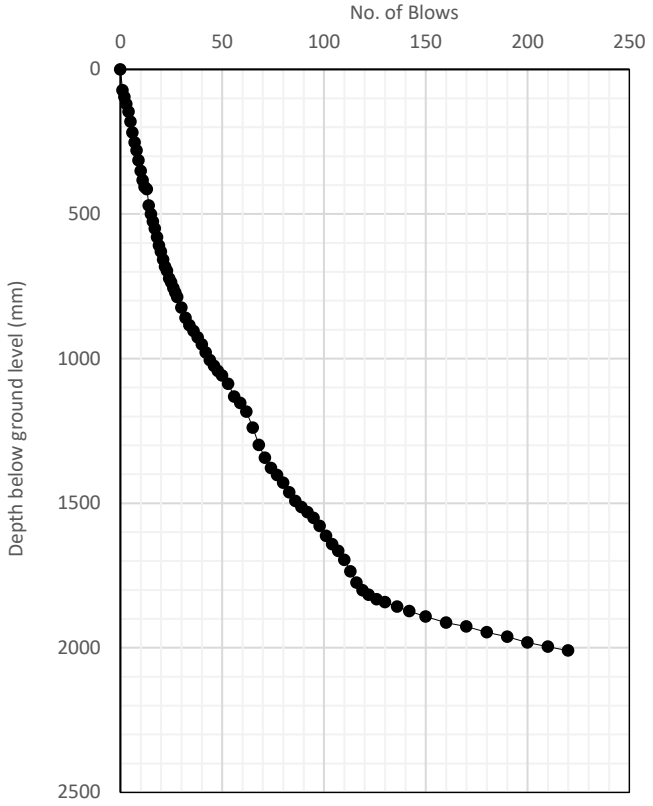
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

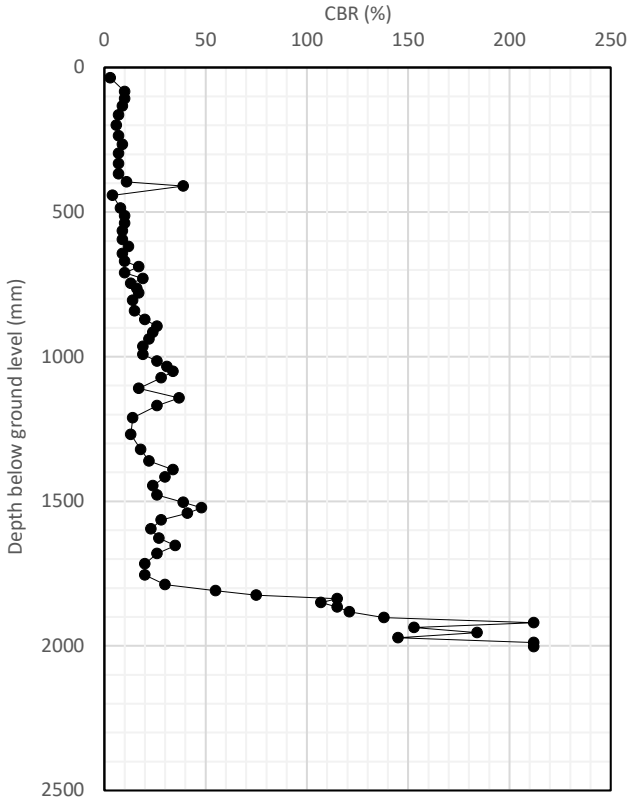
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC02
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	641905.9 E, 267923.8 N **Ground Level** 16.15 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	126	0	1	20	756	630	3	53	1213	1087
1	1	198	72	1	21	784	658	3	56	1258	1132
1	2	222	96	1	22	808	682	3	59	1280	1154
1	3	246	120	1	23	823	697	3	62	1310	1184
1	4	273	147	1	24	849	723	3	65	1365	1239
1	5	307	181	1	25	863	737	3	68	1425	1299
1	6	345	219	1	26	882	756	3	71	1469	1343
1	7	379	253	1	27	898	772	3	74	1505	1379
1	8	406	280	1	28	913	787	3	77	1529	1403
1	9	441	315	2	30	950	824	3	80	1556	1430
1	10	477	351	2	32	985	859	3	83	1589	1463
1	11	510	384	2	34	1011	885	3	86	1619	1493
1	12	533	407	2	36	1031	905	3	89	1640	1514
1	13	540	414	2	38	1053	927	3	92	1657	1531
1	14	597	471	2	40	1077	951	3	95	1677	1551
1	15	627	501	2	42	1105	979	3	98	1705	1579
1	16	652	526	2	44	1132	1006	3	101	1739	1613
1	17	677	551	2	46	1152	1026	3	104	1768	1642
1	18	706	580	2	48	1169	1043	3	107	1791	1665
1	19	735	609	2	50	1185	1059	3	110	1822	1696





Remarks

Fell under own weight 36mm.

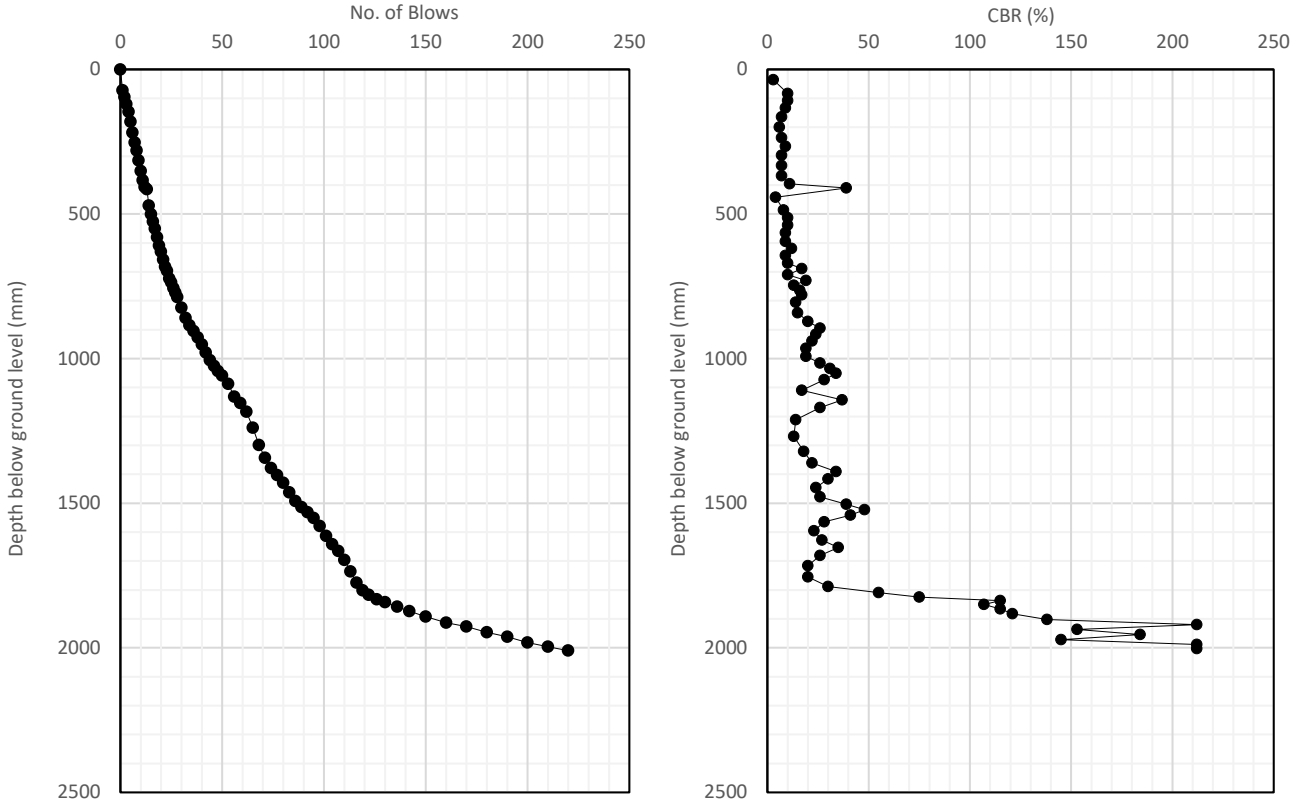
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC02
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	641905.9 E, 267923.8 N	**Ground Level**	16.15 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	113	1862	1736
3	116	1901	1775
3	119	1928	1802
3	122	1943	1817
4	126	1958	1832
4	130	1968	1842
6	136	1984	1858
6	142	1999	1873
8	150	2018	1892
10	160	2039	1913
10	170	2053	1927
10	180	2072	1946
10	190	2088	1962
10	200	2108	1982
10	210	2122	1996
10	220	2136	2010



Remarks

Fell under own weight 36mm.

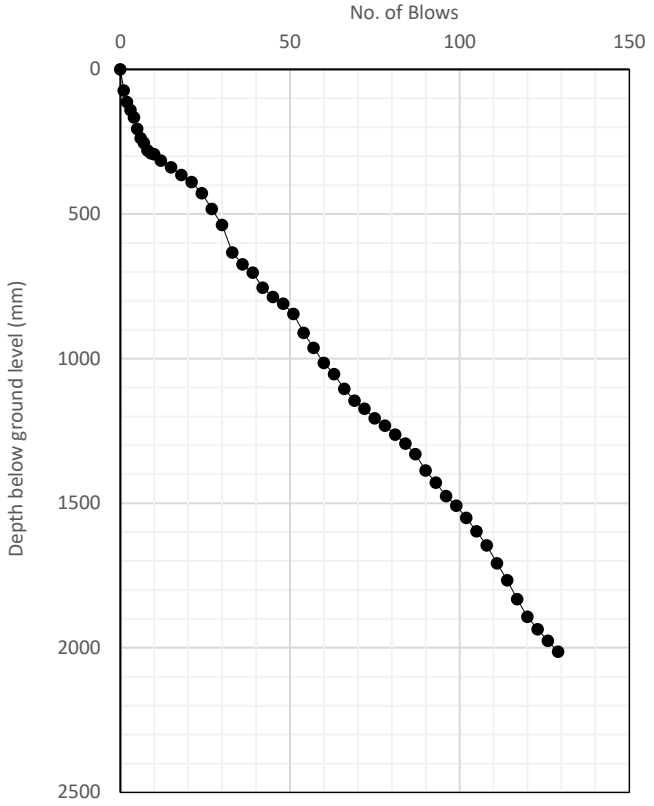
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

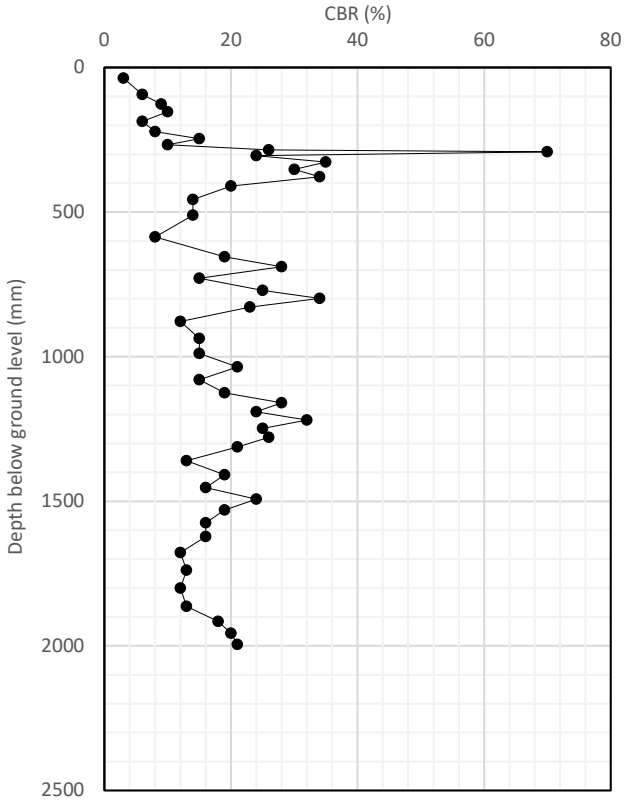
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC03
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642020.0 E, 268069.9 N **Ground Level** 16.07 m OD	**Test Date**	19/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	129	0	3	39	832	703	3	99	1638	1509
1	1	203	74	3	42	884	755	3	102	1680	1551
1	2	242	113	3	45	916	787	3	105	1727	1598
1	3	270	141	3	48	940	811	3	108	1775	1646
1	4	295	166	3	51	975	846	3	111	1838	1709
1	5	335	206	3	54	1040	911	3	114	1896	1767
1	6	367	238	3	57	1092	963	3	117	1962	1833
1	7	384	255	3	60	1145	1016	3	120	2022	1893
1	8	409	280	3	63	1183	1054	3	123	2066	1937
1	9	419	290	3	66	1234	1105	3	126	2105	1976
1	10	423	294	3	69	1275	1146	3	129	2143	2014
2	12	445	316	3	72	1303	1174				
3	15	468	339	3	75	1336	1207				
3	18	495	366	3	78	1361	1232				
3	21	519	390	3	81	1393	1264				
3	24	558	429	3	84	1423	1294				
3	27	612	483	3	87	1460	1331				
3	30	668	539	3	90	1517	1388				
3	33	763	634	3	93	1558	1429				
3	36	804	675	3	96	1605	1476				





Remarks

Fell under own weight 23mm.

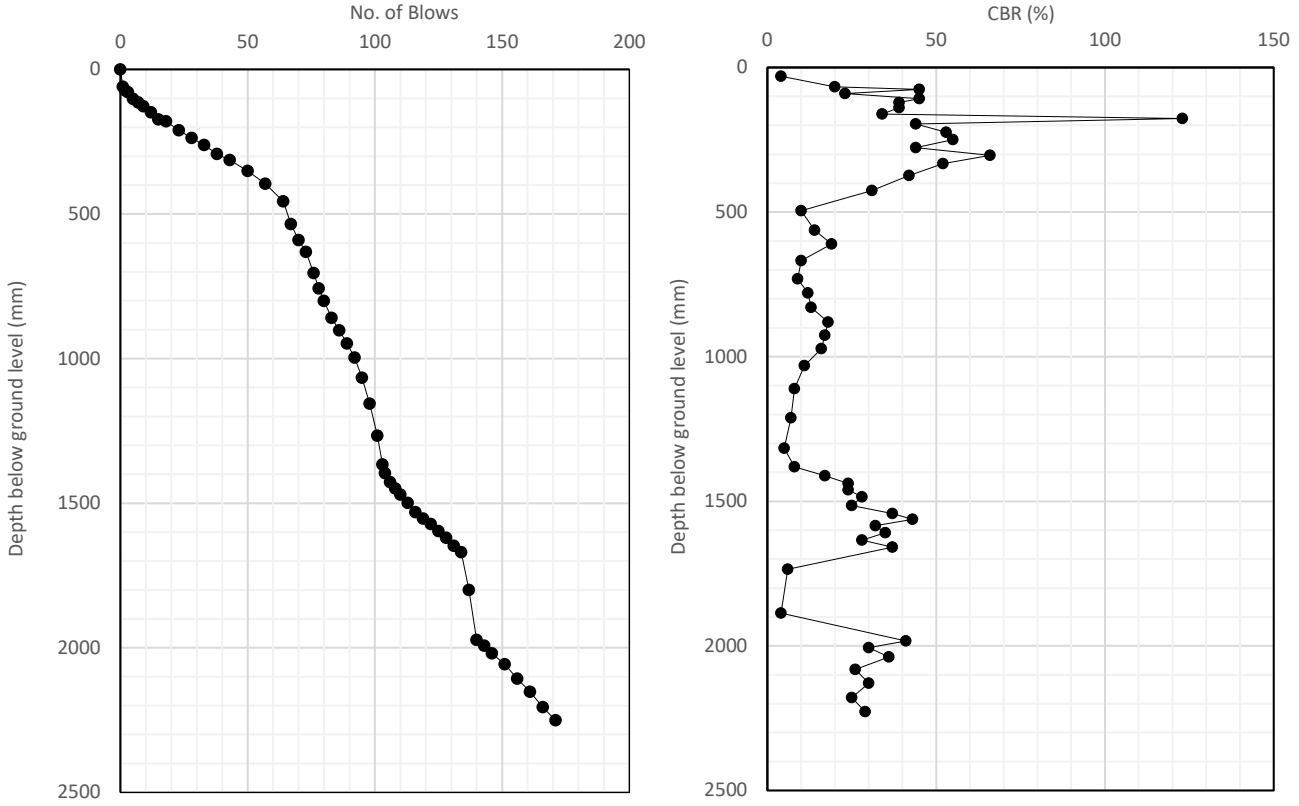
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC04
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642246.2 E, 268074.9 N **Ground Level** 14.71 m OD	**Test Date**	20/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	3	73	763	631	3	125	1729	1597
1	1	192	60	3	76	836	704	3	128	1752	1620
1	2	205	73	2	78	890	758	3	131	1780	1648
1	3	211	79	2	80	933	801	3	134	1802	1670
2	5	234	102	3	83	991	859	3	137	1932	1800
2	7	246	114	3	86	1035	903	3	140	2105	1973
2	9	260	128	3	89	1080	948	3	143	2125	1993
3	12	281	149	3	92	1129	997	3	146	2152	2020
3	15	305	173	3	95	1198	1066	5	151	2189	2057
3	18	312	180	3	98	1288	1156	5	156	2239	2107
5	23	343	211	3	101	1399	1267	5	161	2284	2152
5	28	369	237	2	103	1498	1366	5	166	2337	2205
5	33	394	262	1	104	1528	1396	5	171	2383	2251
5	38	425	293	2	106	1559	1427				
5	43	446	314	2	108	1581	1449				
7	50	483	351	2	110	1603	1471				
7	57	528	396	3	113	1631	1499				
7	64	588	456	3	116	1663	1531				
3	67	667	535	3	119	1685	1553				
3	70	722	590	3	122	1704	1572				



Remarks

Fell under own weight 32mm.

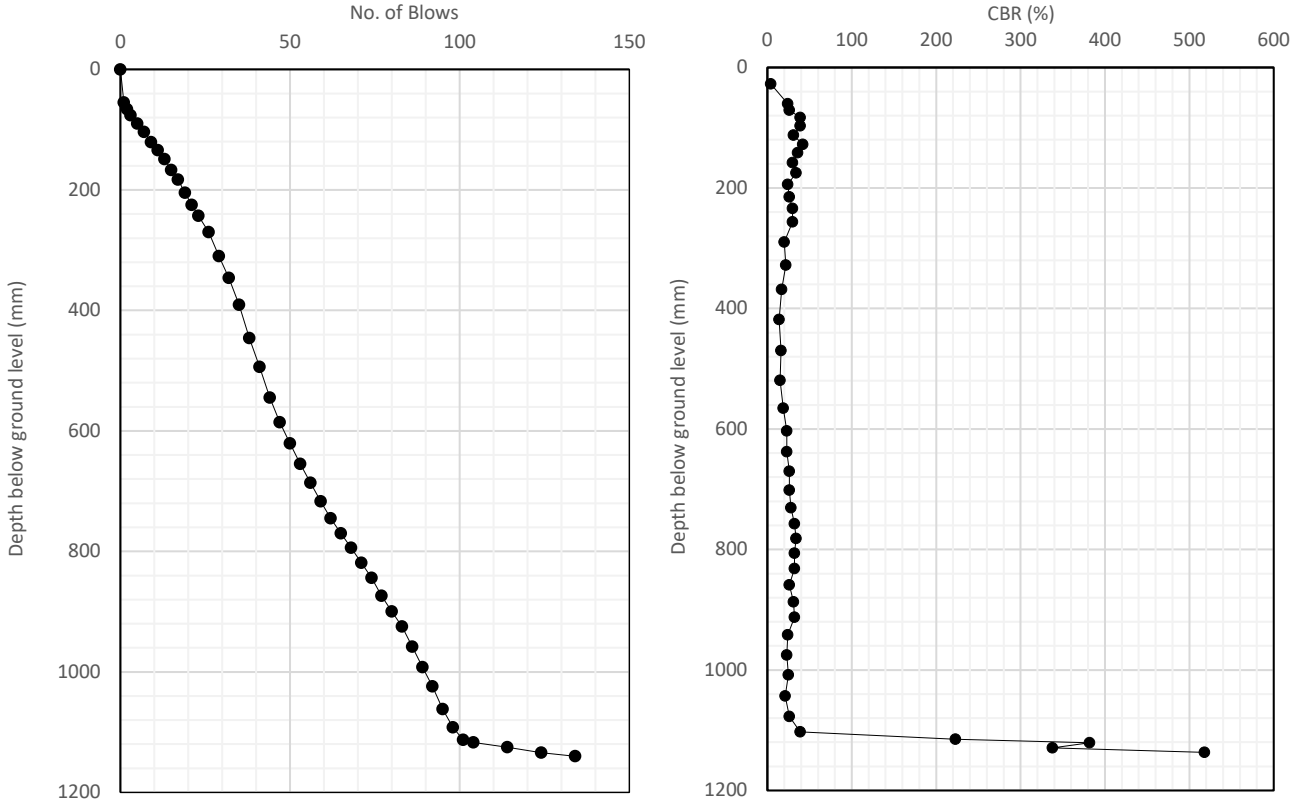
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC05
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642750.0 E, 268700.0 N **Ground Level** 15.91 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	127	0	3	44	672	545	3	104	1244	1117
1	1	182	55	3	47	713	586	10	114	1252	1125
1	2	193	66	3	50	748	621	10	124	1261	1134
1	3	203	76	3	53	782	655	10	134	1267	1140
2	5	217	90	3	56	813	686				
2	7	231	104	3	59	844	717				
2	9	248	121	3	62	872	745				
2	11	261	134	3	65	897	770				
2	13	276	149	3	68	921	794				
2	15	294	167	3	71	946	819				
2	17	310	183	3	74	971	844				
2	19	332	205	3	77	1001	874				
2	21	352	225	3	80	1027	900				
2	23	370	243	3	83	1052	925				
3	26	397	270	3	86	1085	958				
3	29	437	310	3	89	1119	992				
3	32	473	346	3	92	1151	1024				
3	35	518	391	3	95	1189	1062				
3	38	573	446	3	98	1219	1092				
3	41	621	494	3	101	1240	1113				



Remarks

Fell under own weight 24mm. Refused at 1.14m bgl.

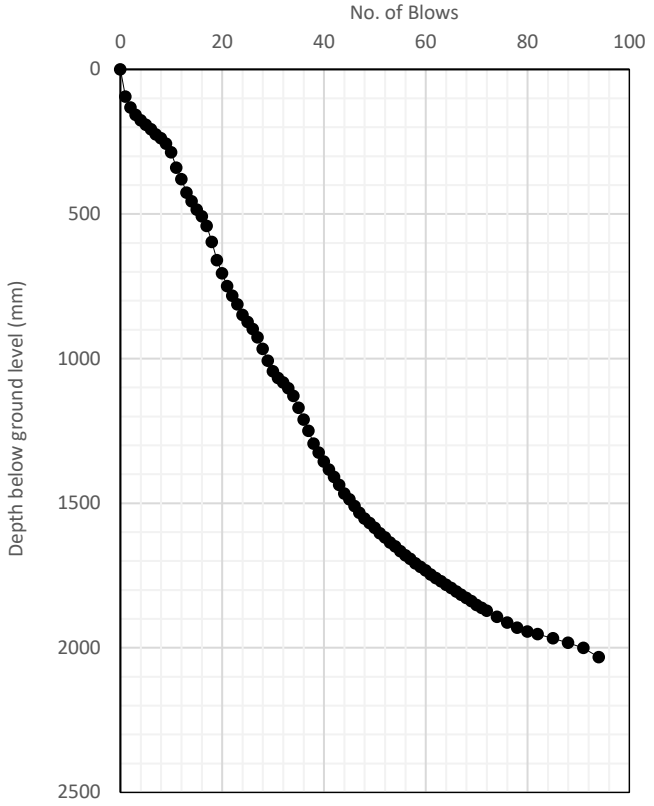
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

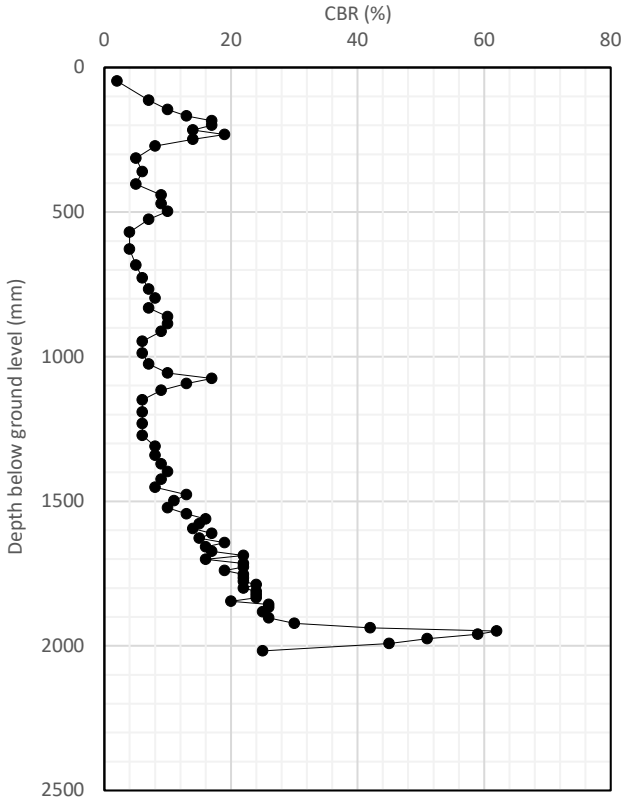
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC06
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643089.7 E, 269143.2 N **Ground Level** 16.16 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	135	0	1	20	841	706	1	40	1492	1357
1	1	230	95	1	21	885	750	1	41	1519	1384
1	2	267	132	1	22	918	783	1	42	1545	1410
1	3	293	158	1	23	948	813	1	43	1572	1437
1	4	312	177	1	24	985	850	1	44	1602	1467
1	5	327	192	1	25	1009	874	1	45	1622	1487
1	6	342	207	1	26	1033	898	1	46	1645	1510
1	7	360	225	1	27	1062	927	1	47	1669	1534
1	8	374	239	1	28	1102	967	1	48	1688	1553
1	9	392	257	1	29	1143	1008	1	49	1704	1569
1	10	422	287	1	30	1179	1044	1	50	1721	1586
1	11	475	340	1	31	1203	1068	1	51	1739	1604
1	12	515	380	1	32	1218	1083	1	52	1754	1619
1	13	562	427	1	33	1238	1103	1	53	1771	1636
1	14	591	456	1	34	1265	1130	1	54	1785	1650
1	15	620	485	1	35	1305	1170	1	55	1801	1666
1	16	644	509	1	36	1347	1212	1	56	1816	1681
1	17	677	542	1	37	1385	1250	1	57	1828	1693
1	18	732	597	1	38	1429	1294	1	58	1844	1709
1	19	795	660	1	39	1461	1326	1	59	1856	1721





Remarks

Fell under own weight 25mm.

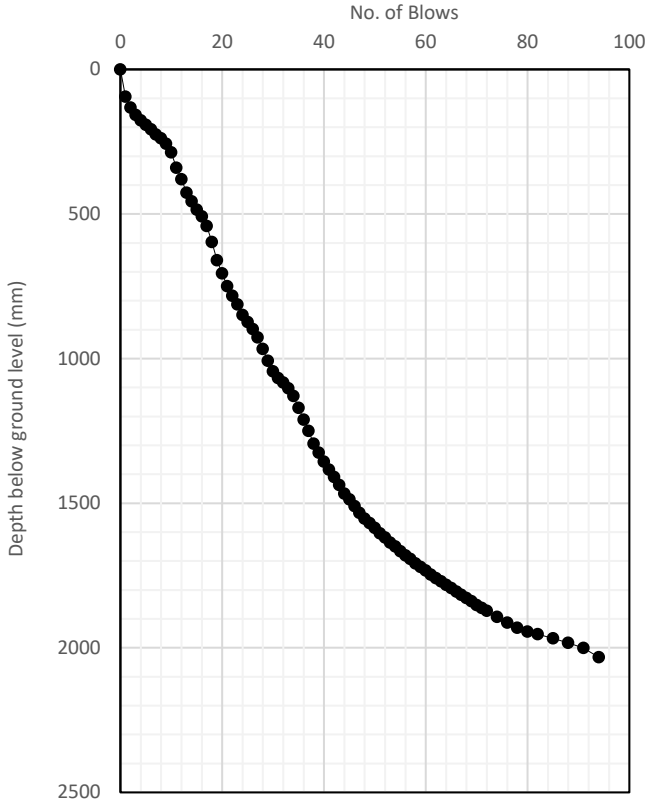
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

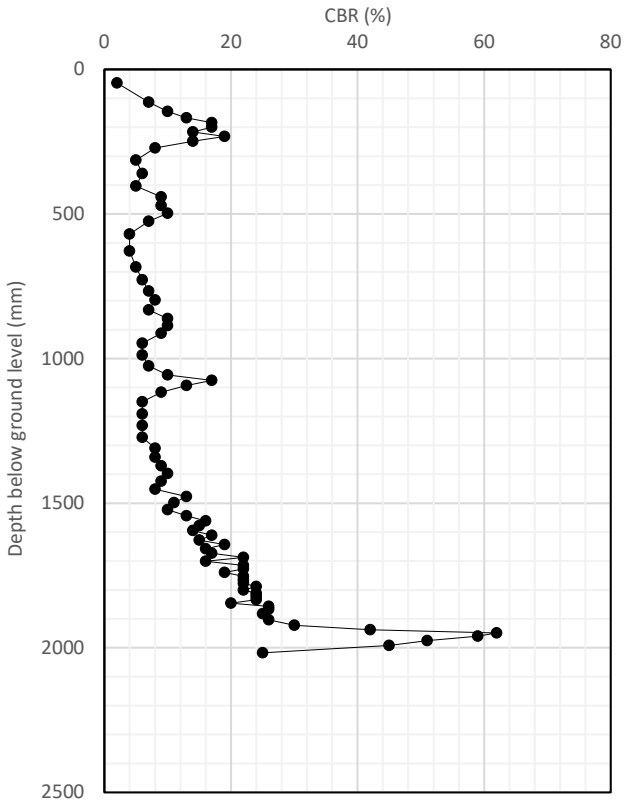
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC06
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643089.7 E, 269143.2 N **Ground Level** 16.16 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
1	60	1868	1733	3	91	2136	2001				
1	61	1882	1747	3	94	2168	2033				
1	62	1894	1759								
1	63	1906	1771								
1	64	1918	1783								
1	65	1929	1794								
1	66	1941	1806								
1	67	1952	1817								
1	68	1963	1828								
1	69	1974	1839								
1	70	1987	1852								
1	71	1997	1862								
1	72	2007	1872								
2	74	2028	1893								
2	76	2048	1913								
2	78	2066	1931								
2	80	2079	1944								
2	82	2088	1953								
3	85	2102	1967								
3	88	2118	1983								





Remarks

Fell under own weight 25mm.

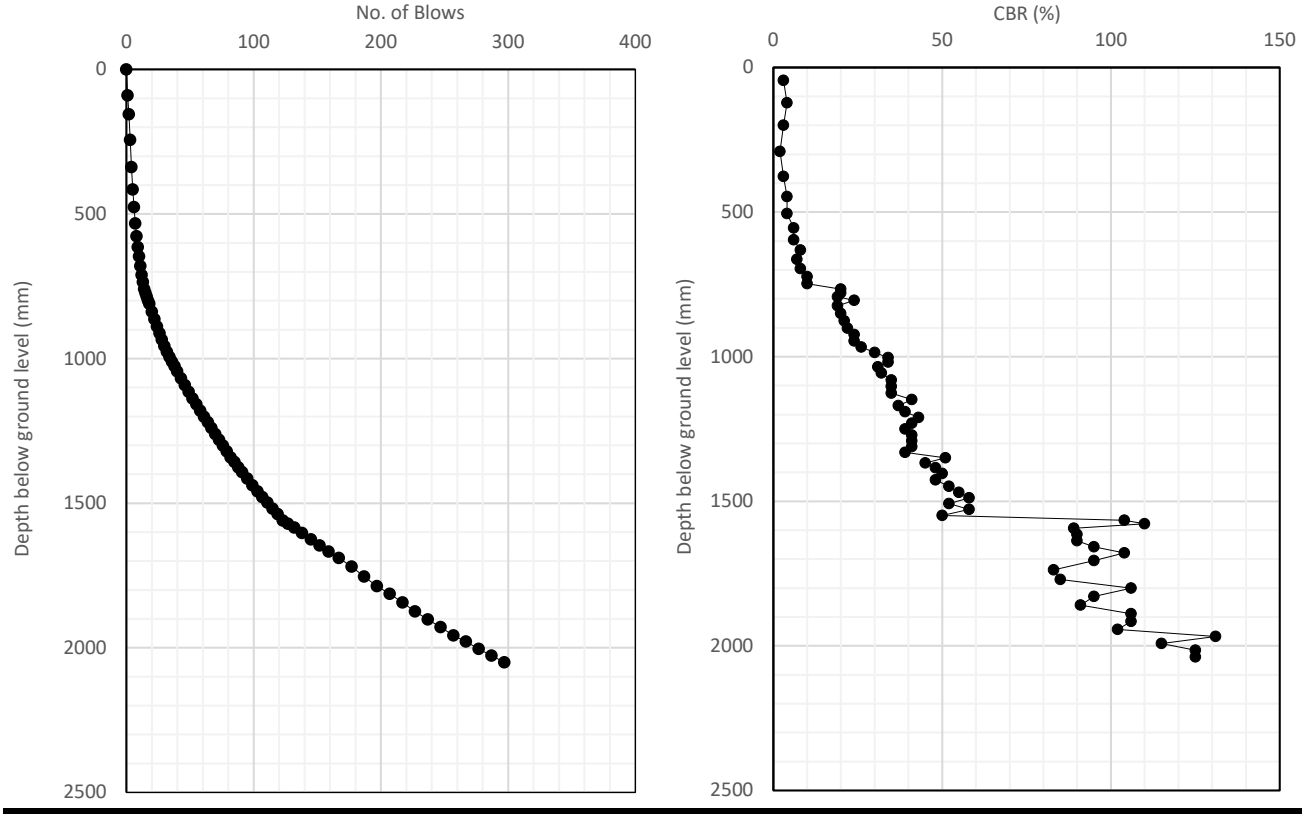
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC07
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643135.0 E, 269326.0 N **Ground Level** 18.49 m OD	**Test Date**	01/01/1900

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	127	0	2	22	991	864	3	73	1408	1281
1	1	217	90	2	24	1016	889	3	76	1428	1301
1	2	282	155	2	26	1040	913	3	79	1448	1321
1	3	371	244	2	28	1062	935	3	82	1469	1342
1	4	465	338	2	30	1084	957	3	85	1485	1358
1	5	543	416	2	32	1104	977	3	88	1503	1376
1	6	604	477	2	34	1122	995	3	91	1520	1393
1	7	660	533	2	36	1138	1011	4	95	1542	1415
1	8	704	577	2	38	1154	1027	4	99	1565	1438
1	9	742	615	2	40	1171	1044	4	103	1586	1459
1	10	774	647	3	43	1196	1069	4	107	1606	1479
1	11	807	680	3	46	1219	1092	4	111	1625	1498
1	12	838	711	3	49	1242	1115	4	115	1646	1519
1	13	863	736	3	52	1265	1138	4	119	1665	1538
1	14	887	760	3	55	1285	1158	4	123	1687	1560
1	15	900	773	3	58	1307	1180	4	127	1698	1571
1	16	913	786	3	61	1328	1201	5	132	1711	1584
1	17	927	800	3	64	1347	1220	6	138	1730	1603
1	18	938	811	3	67	1367	1240	7	145	1752	1625
2	20	965	838	3	70	1388	1261	7	152	1774	1647



Remarks

Fell under own weight 38mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

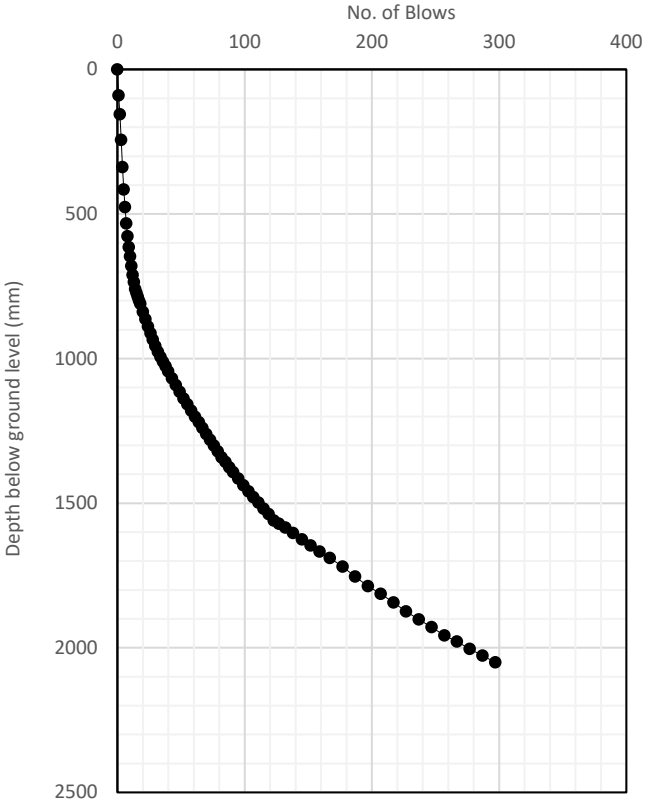
Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC07
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	643135.0 E, 269326.0 N	**Ground Level**	18.49 m OD	**Test Date**	01/01/1900

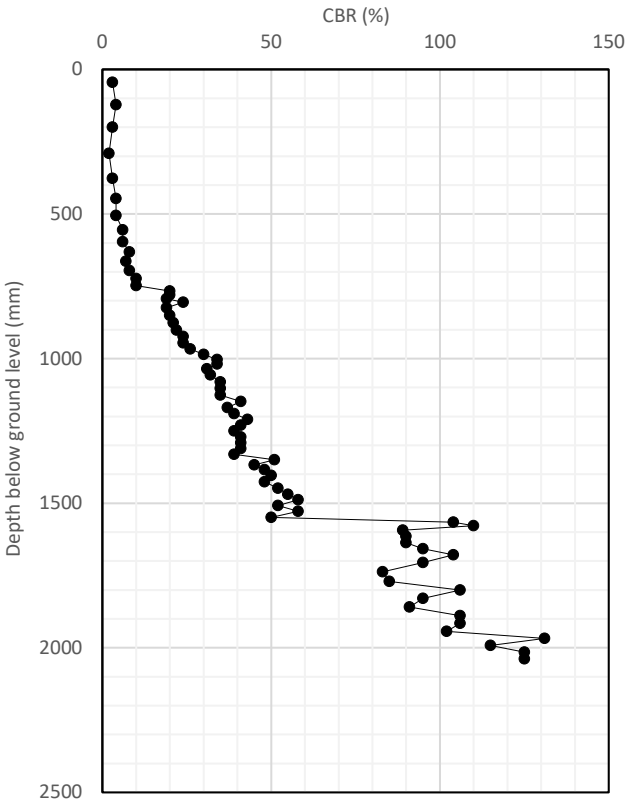
Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
7	159	1795	1668
8	167	1817	1690
10	177	1847	1720
10	187	1881	1754
10	197	1914	1787
10	207	1941	1814
10	217	1971	1844
10	227	2002	1875
10	237	2029	1902
10	247	2056	1929
10	257	2084	1957
10	267	2106	1979
10	277	2131	2004
10	287	2154	2027
10	297	2177	2050

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 38mm.

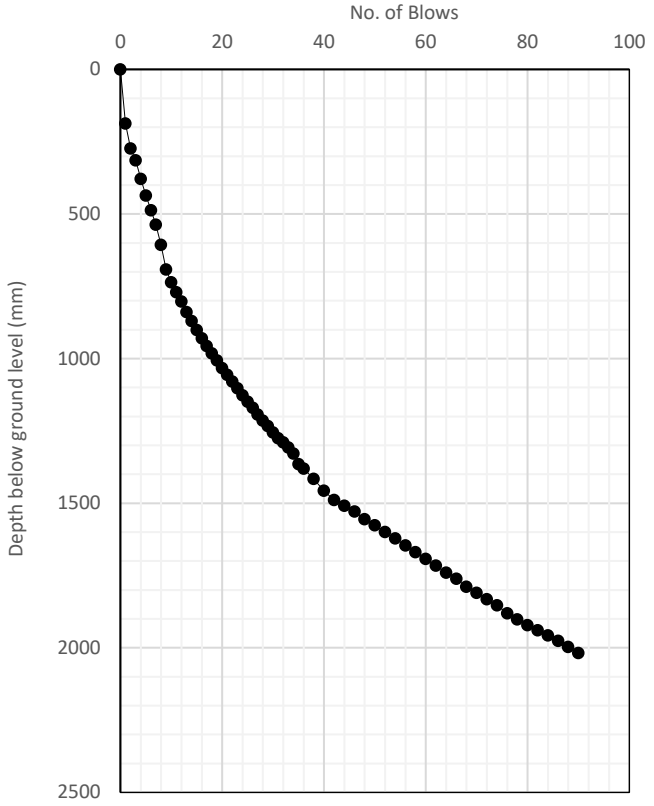
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

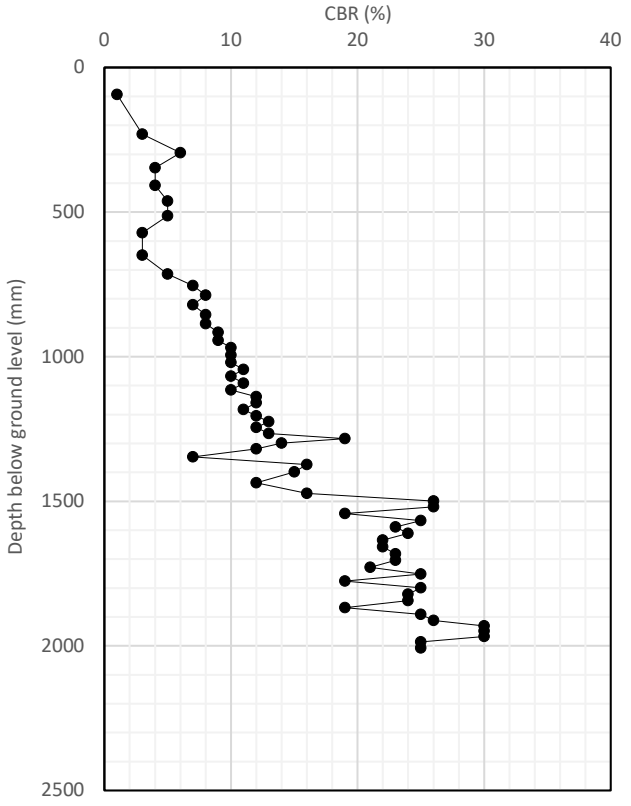
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC08
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643159.0 E, 269479.1 N **Ground Level** 20.37 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	126	0	1	20	1159	1033	2	44	1635	1509
1	1	314	188	1	21	1182	1056	2	46	1655	1529
1	2	400	274	1	22	1206	1080	2	48	1682	1556
1	3	441	315	1	23	1229	1103	2	50	1703	1577
1	4	505	379	1	24	1253	1127	2	52	1726	1600
1	5	563	437	1	25	1275	1149	2	54	1748	1622
1	6	614	488	1	26	1297	1171	2	56	1772	1646
1	7	663	537	1	27	1320	1194	2	58	1796	1670
1	8	733	607	1	28	1341	1215	2	60	1819	1693
1	9	818	692	1	29	1360	1234	2	62	1842	1716
1	10	863	737	1	30	1382	1256	2	64	1867	1741
1	11	897	771	1	31	1402	1276	2	66	1888	1762
1	12	929	803	1	32	1416	1290	2	68	1915	1789
1	13	965	839	1	33	1434	1308	2	70	1936	1810
1	14	996	870	1	34	1455	1329	2	72	1958	1832
1	15	1028	902	1	35	1491	1365	2	74	1980	1854
1	16	1056	930	1	36	1507	1381	2	76	2007	1881
1	17	1083	957	2	38	1542	1416	2	78	2028	1902
1	18	1108	982	2	40	1583	1457	2	80	2048	1922
1	19	1133	1007	2	42	1615	1489	2	82	2066	1940





Remarks

Fell under own weight 94mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC08
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	643159.0 E, 269479.1 N	**Ground Level**	20.37 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl

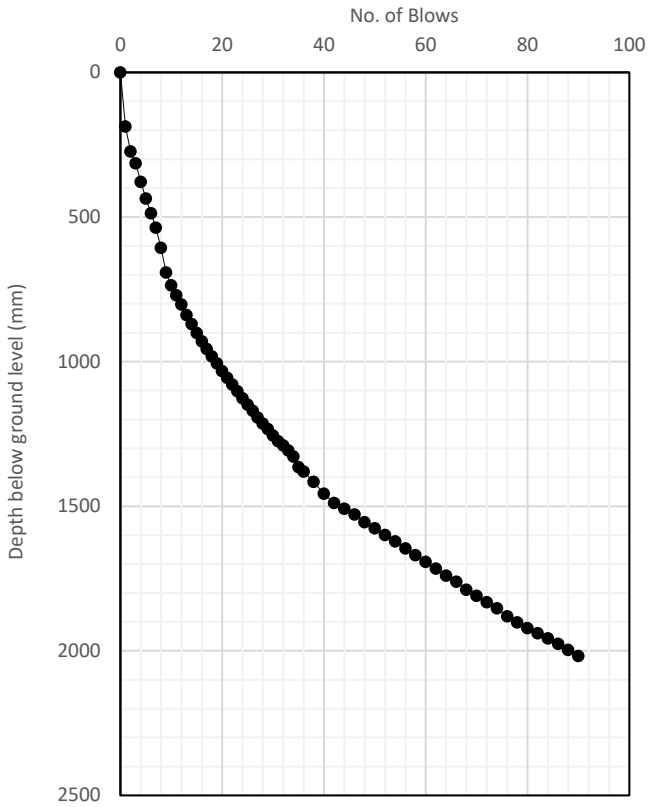
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
2	84	2084	1958
2	86	2102	1976
2	88	2123	1997
2	90	2144	2018

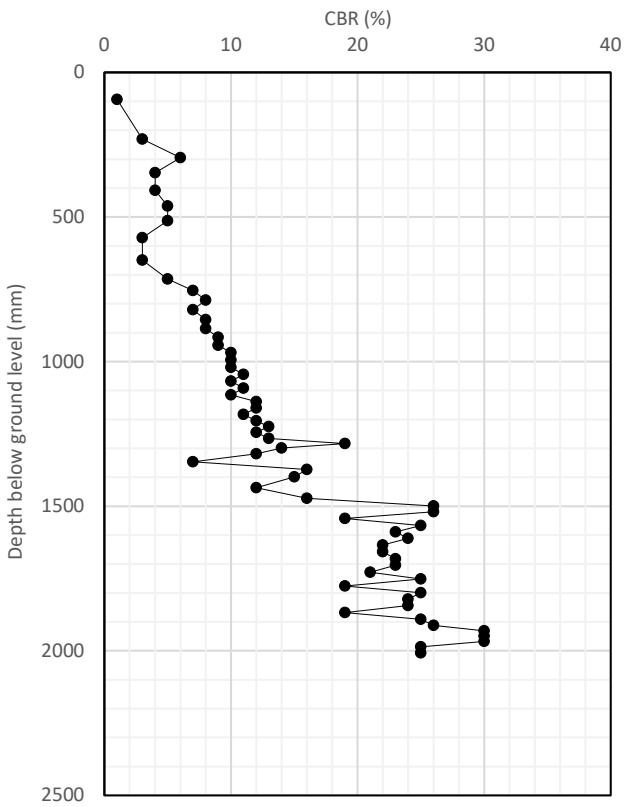
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 94mm.

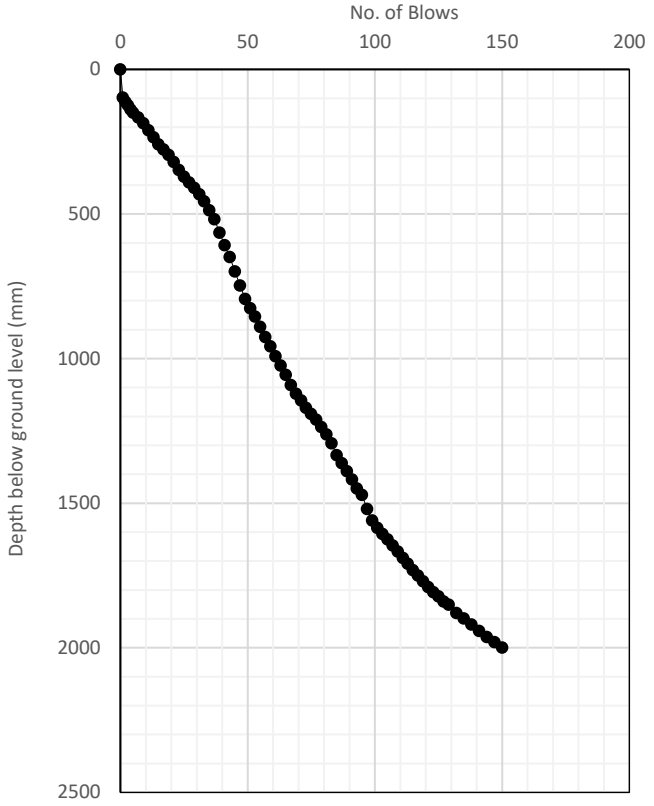
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

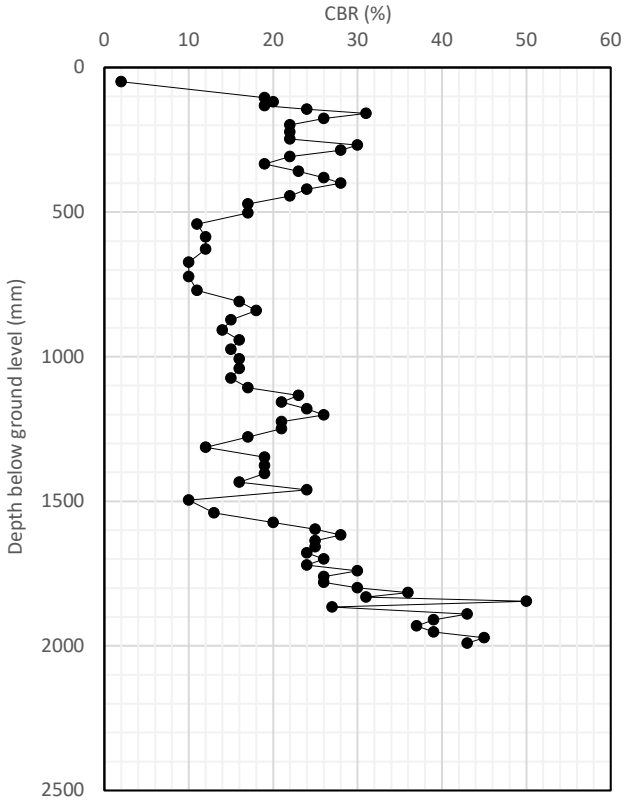
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC09
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643207.9 E, 269673.0 N **Ground Level** 20.43 m OD	**Test Date**	24/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	122	0	2	35	609	487	2	75	1314	1192
1	1	220	98	2	37	640	518	2	77	1334	1212
1	2	234	112	2	39	687	565	2	79	1359	1237
1	3	247	125	2	41	730	608	2	81	1384	1262
1	4	261	139	2	43	771	649	2	83	1415	1293
1	5	272	150	2	45	821	699	2	85	1456	1334
2	7	289	167	2	47	870	748	2	87	1484	1362
2	9	309	187	2	49	916	794	2	89	1512	1390
2	11	333	211	2	51	948	826	2	91	1540	1418
2	13	357	235	2	53	977	855	2	93	1572	1450
2	15	381	259	2	55	1012	890	2	95	1594	1472
2	17	399	277	2	57	1048	926	2	97	1642	1520
2	19	418	296	2	59	1080	958	2	99	1682	1560
2	21	442	320	2	61	1114	992	2	101	1708	1586
2	23	470	348	2	63	1146	1024	2	103	1729	1607
2	25	493	371	2	65	1179	1057	2	105	1748	1626
2	27	513	391	2	67	1214	1092	2	107	1769	1647
2	29	532	410	2	69	1244	1122	2	109	1790	1668
2	31	554	432	2	71	1267	1145	2	111	1812	1690
2	33	578	456	2	73	1292	1170	2	113	1832	1710





Remarks

Fell under own weight 39mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

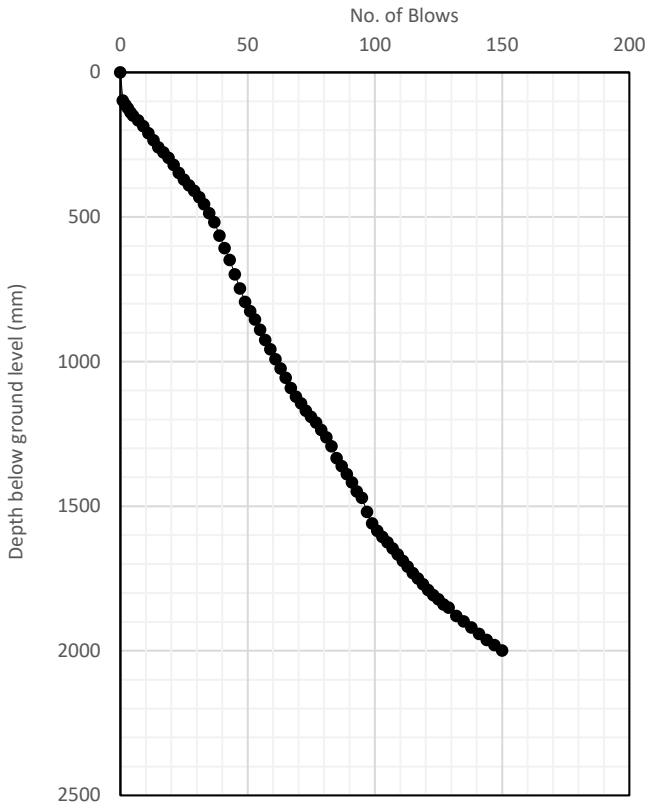
Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC09
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643207.9 E, 269673.0 N **Ground Level** 20.43 m OD	**Test Date**	24/09/2024

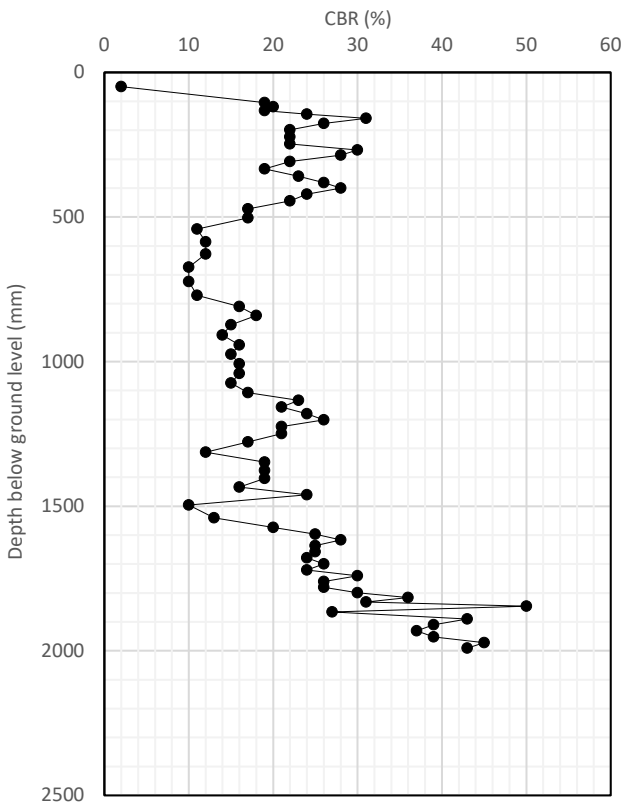
Test started at	0.00m bgl

Operator	JC

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	115	1854	1732
2	117	1872	1750
2	119	1892	1770
2	121	1912	1790
2	123	1930	1808
2	125	1945	1823
2	127	1962	1840
2	129	1973	1851
3	132	2002	1880
3	135	2021	1899
3	138	2042	1920
3	141	2064	1942
3	144	2085	1963
3	147	2103	1981
3	150	2122	2000





Remarks

Fell under own weight 39mm.

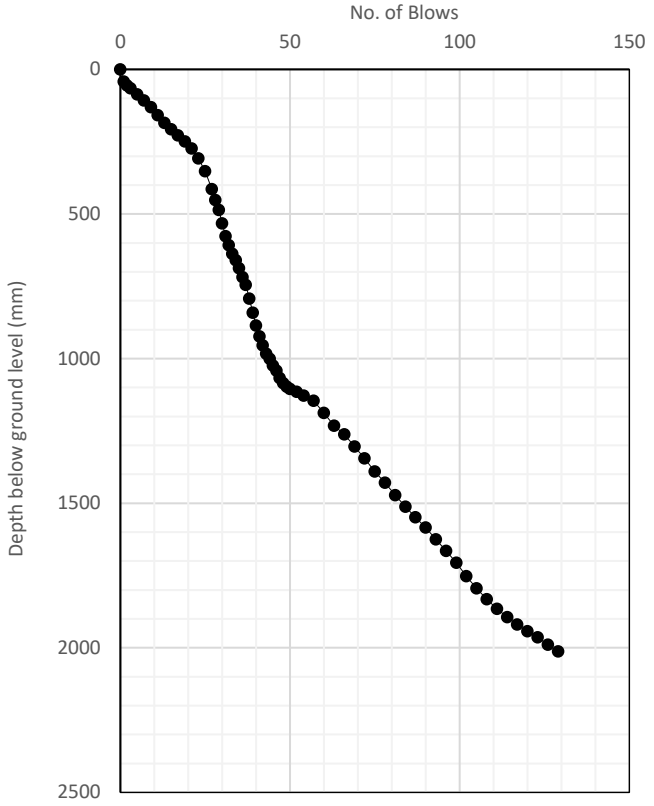
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

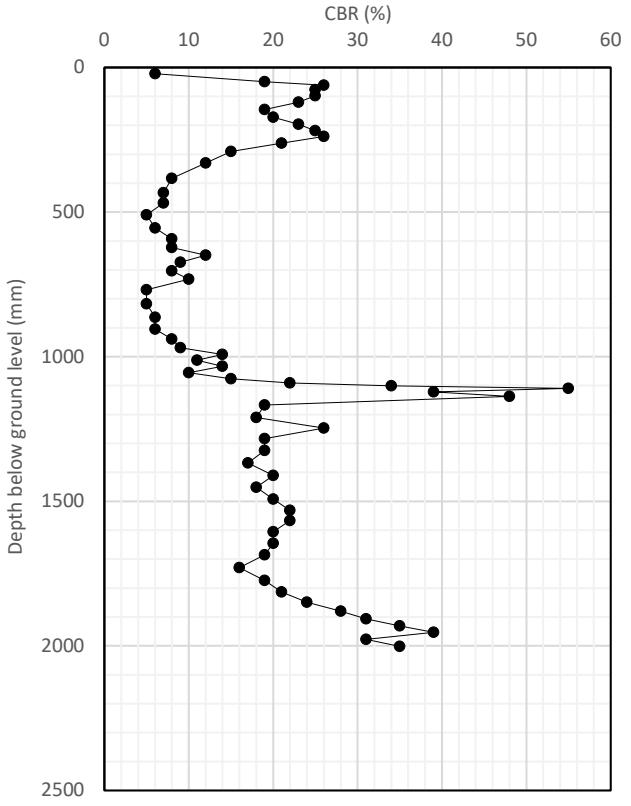
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC10
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642825.0 E, 269943.0 N **Ground Level** 24.39 m OD	**Test Date**	25/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	145	0	1	32	753	608	2	54	1274	1129
1	1	187	42	1	33	783	638	3	57	1291	1146
1	2	201	56	1	34	805	660	3	60	1333	1188
1	3	211	66	1	35	833	688	3	63	1377	1232
2	5	232	87	1	36	864	719	3	66	1407	1262
2	7	253	108	1	37	890	745	3	69	1449	1304
2	9	276	131	1	38	938	793	3	72	1490	1345
2	11	304	159	1	39	987	842	3	75	1536	1391
2	13	330	185	1	40	1031	886	3	78	1575	1430
2	15	353	208	1	41	1069	924	3	81	1618	1473
2	17	374	229	1	42	1100	955	3	84	1658	1513
2	19	394	249	1	43	1128	983	3	87	1694	1549
2	21	419	274	1	44	1146	1001	3	90	1730	1585
2	23	453	308	1	45	1169	1024	3	93	1770	1625
2	25	497	352	1	46	1187	1042	3	96	1810	1665
2	27	560	415	1	47	1213	1068	3	99	1851	1706
1	28	597	452	1	48	1230	1085	3	102	1898	1753
1	29	631	486	1	49	1242	1097	3	105	1940	1795
1	30	678	533	1	50	1250	1105	3	108	1978	1833
1	31	722	577	2	52	1260	1115	3	111	2011	1866





Remarks

Fell under own weight 8mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC10
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642825.0 E, 269943.0 N	**Ground Level**	24.39 m OD	**Test Date**	25/09/2024

Test started at	0.00m bgl

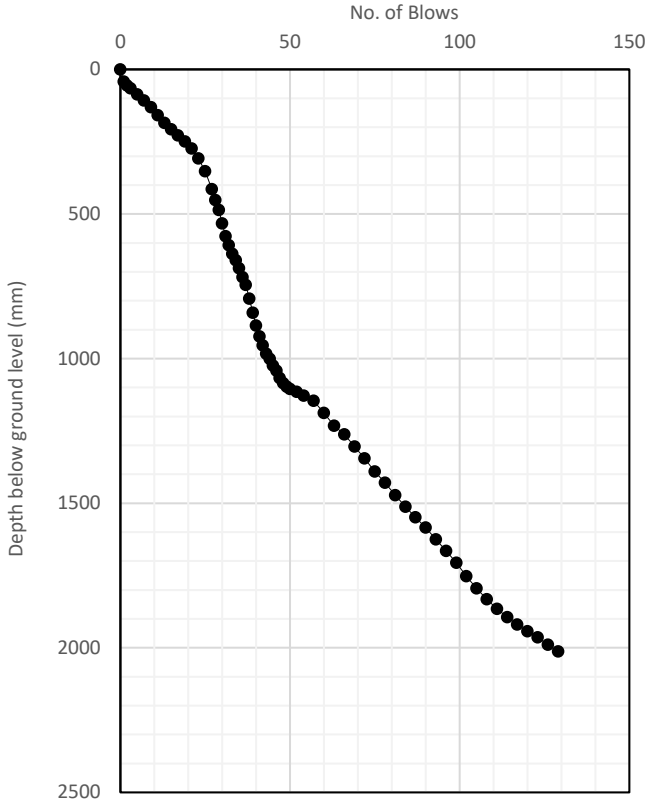
Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**
3	114	2039	1894
3	117	2065	1920
3	120	2088	1943
3	123	2109	1964
3	126	2135	1990
3	129	2158	2013

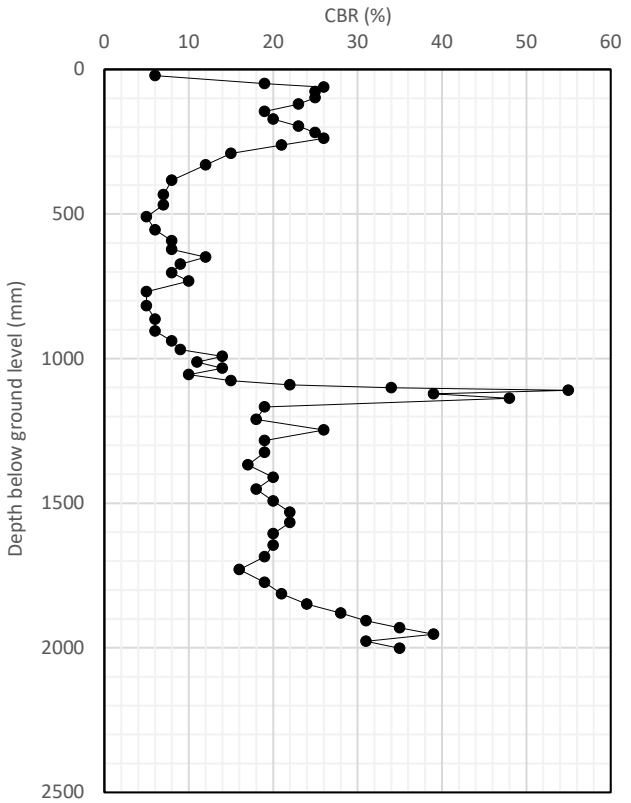
Operator	JC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**

Checked By	LC

Blows No.	**Blows Total**	**Reading (mm)**	**Corrected Depth (mm)**





Remarks

Fell under own weight 8mm.

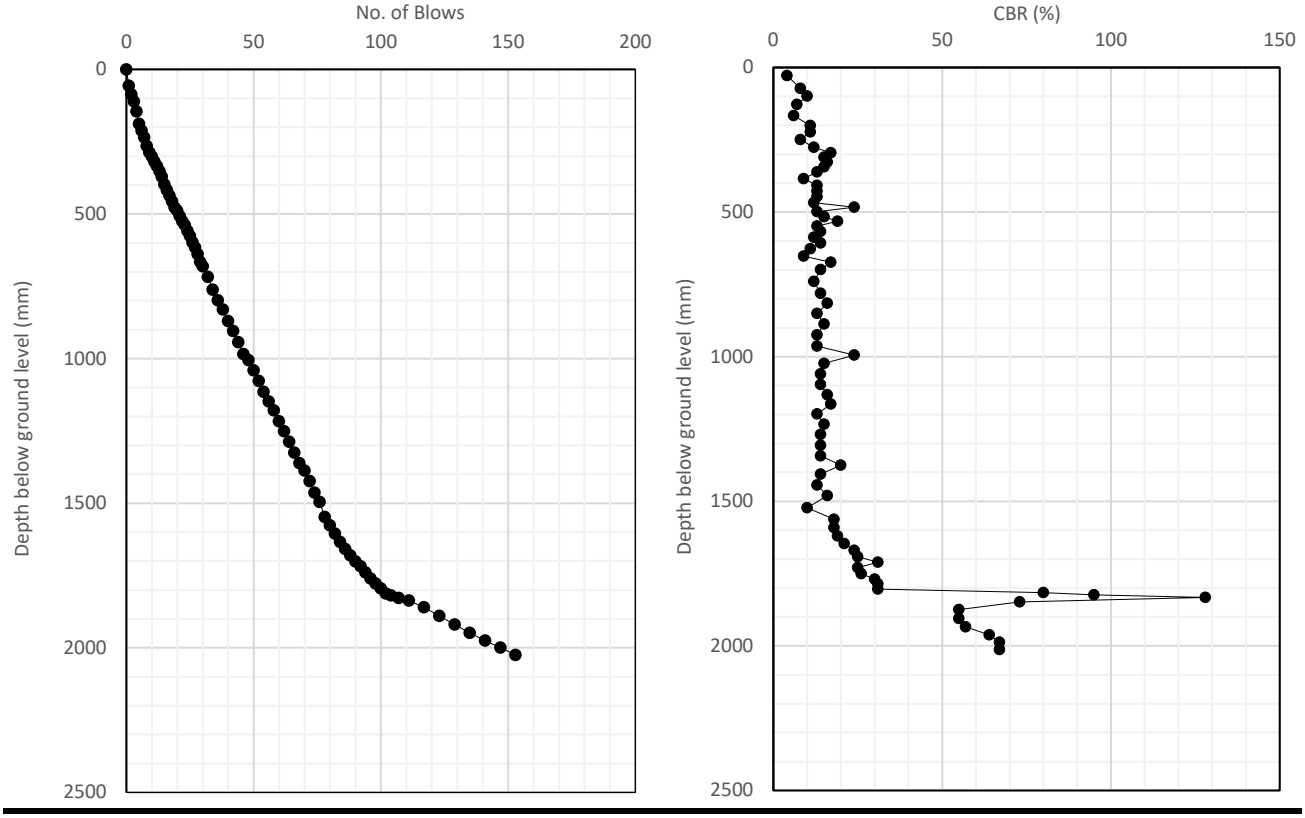
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC11
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642720.0 E, 270101.0 N **Ground Level** 24.33 m OD	**Test Date**	25/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	145	0	1	20	634	489	2	50	1186	1041
1	1	202	57	1	21	653	508	2	52	1223	1078
1	2	232	87	1	22	670	525	2	54	1260	1115
1	3	256	111	1	23	684	539	2	56	1293	1148
1	4	290	145	1	24	703	558	2	58	1324	1179
1	5	334	189	1	25	721	576	2	60	1362	1217
1	6	357	212	1	26	743	598	2	62	1396	1251
1	7	380	235	1	27	761	616	2	64	1433	1288
1	8	410	265	1	28	784	639	2	66	1470	1325
1	9	432	287	1	29	811	666	2	68	1507	1362
1	10	447	302	1	30	826	681	2	70	1533	1388
1	11	464	319	2	32	863	718	2	72	1569	1424
1	12	480	335	2	34	907	762	2	74	1609	1464
1	13	497	352	2	36	944	799	2	76	1641	1496
1	14	516	371	2	38	976	831	2	78	1693	1548
1	15	543	398	2	40	1015	870	2	80	1722	1577
1	16	563	418	2	42	1050	905	2	82	1751	1606
1	17	582	437	2	44	1089	944	2	84	1779	1634
1	18	602	457	2	46	1129	984	2	86	1804	1659
1	19	623	478	2	48	1151	1006	2	88	1826	1681



Remarks

Fell under own weight 22mm.

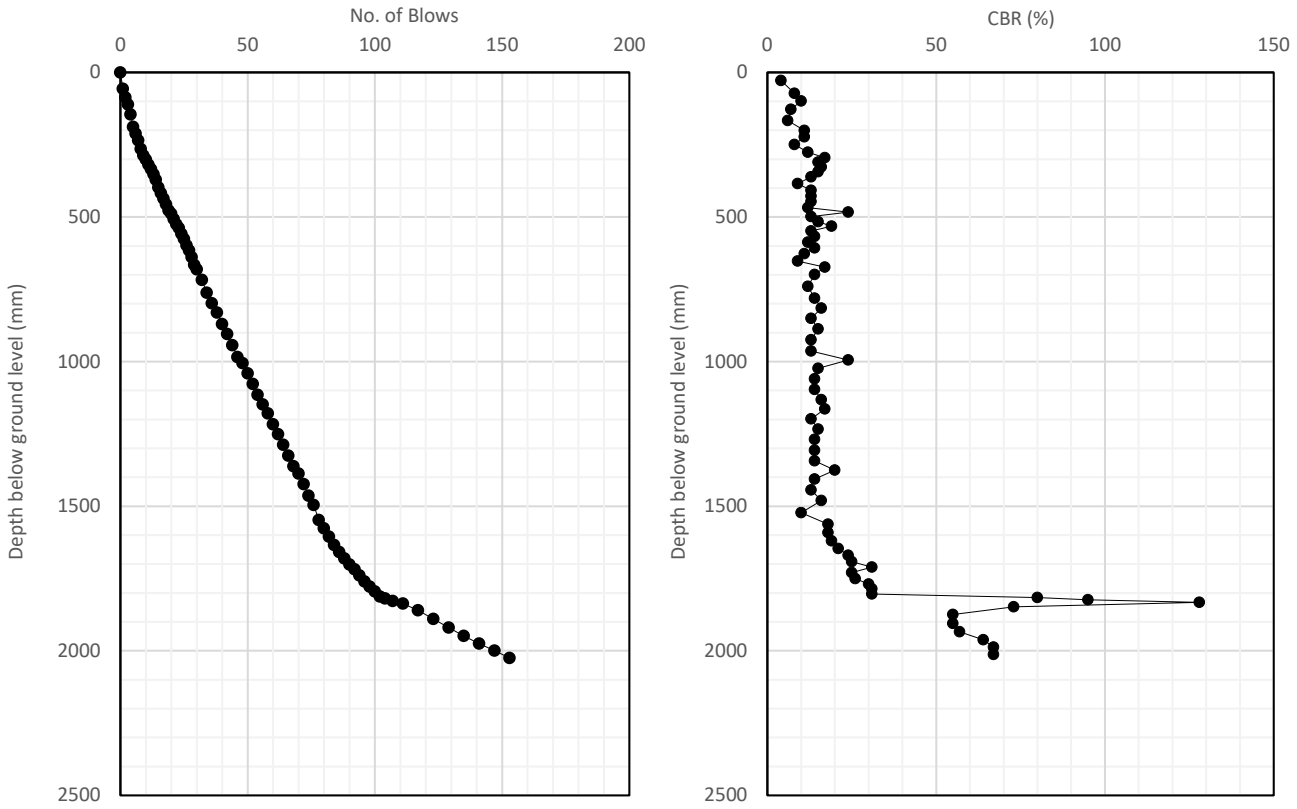
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC11
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642720.0 E, 270101.0 N	**Ground Level**	24.33 m OD	**Test Date**	25/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	90	1847	1702								
2	92	1864	1719								
2	94	1885	1740								
2	96	1905	1760								
2	98	1923	1778								
2	100	1940	1795								
2	102	1957	1812								
2	104	1964	1819								
3	107	1973	1828								
4	111	1982	1837								
6	117	2005	1860								
6	123	2035	1890								
6	129	2065	1920								
6	135	2094	1949								
6	141	2120	1975								
6	147	2145	2000								
6	153	2170	2025								



Remarks

Fell under own weight 22mm.

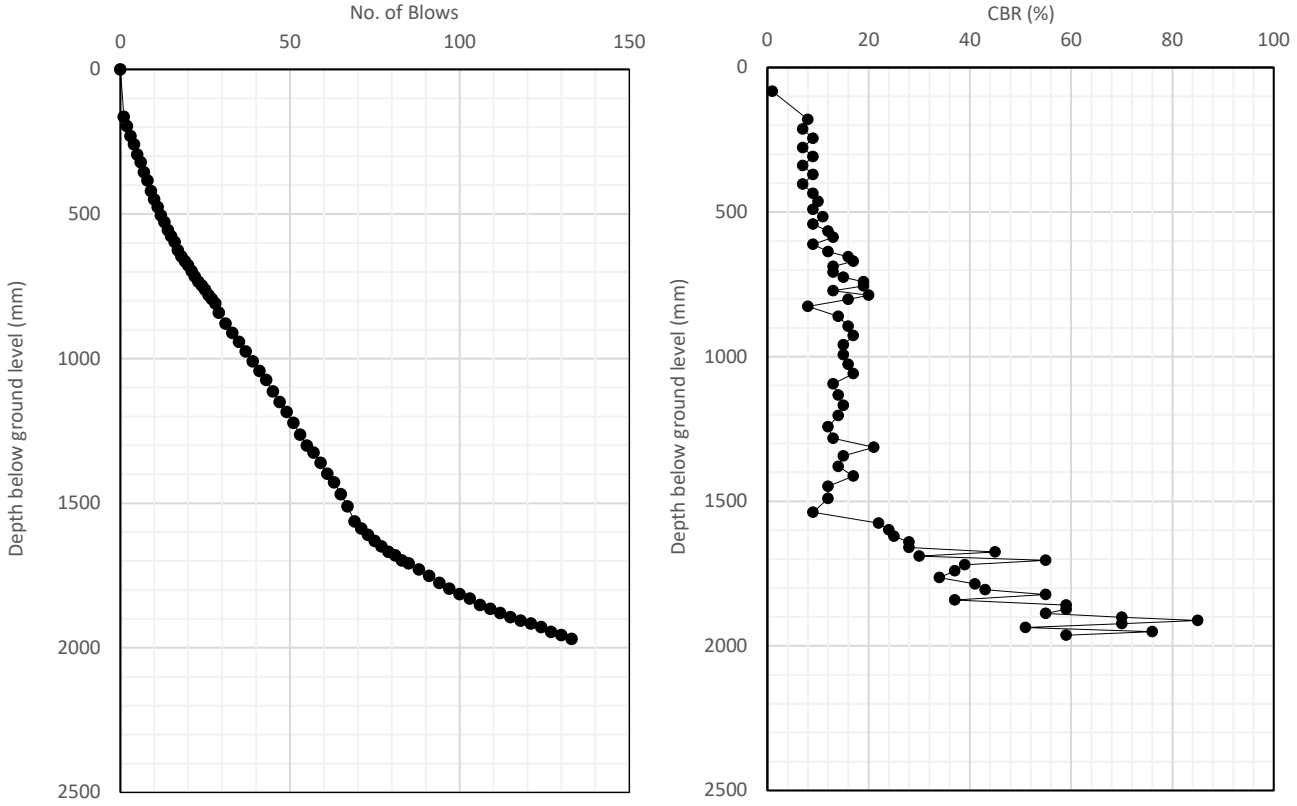
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC12
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642703.0 E, 270299.0 N **Ground Level** 25.05 m OD	**Test Date**	26/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	146	0	1	20	824	678	2	51	1368	1222
1	1	310	164	1	21	844	698	2	53	1409	1263
1	2	342	196	1	22	863	717	2	55	1447	1301
1	3	377	231	1	23	880	734	2	57	1472	1326
1	4	406	260	1	24	894	748	2	59	1507	1361
1	5	441	295	1	25	908	762	2	61	1544	1398
1	6	468	322	1	26	927	781	2	63	1574	1428
1	7	502	356	1	27	940	794	2	65	1615	1469
1	8	531	385	1	28	956	810	2	67	1657	1511
1	9	567	421	1	29	988	842	2	69	1710	1564
1	10	596	450	2	31	1025	879	2	71	1734	1588
1	11	622	476	2	33	1057	911	2	73	1756	1610
1	12	651	505	2	35	1088	942	2	75	1777	1631
1	13	674	528	2	37	1122	976	2	77	1796	1650
1	14	702	556	2	39	1156	1010	2	79	1815	1669
1	15	723	577	2	41	1189	1043	2	81	1827	1681
1	16	743	597	2	43	1220	1074	2	83	1845	1699
1	17	772	626	2	45	1260	1114	2	85	1855	1709
1	18	793	647	2	47	1297	1151	3	88	1876	1730
1	19	809	663	2	49	1331	1185	3	91	1898	1752



Remarks

Fell under own weight 110mm.

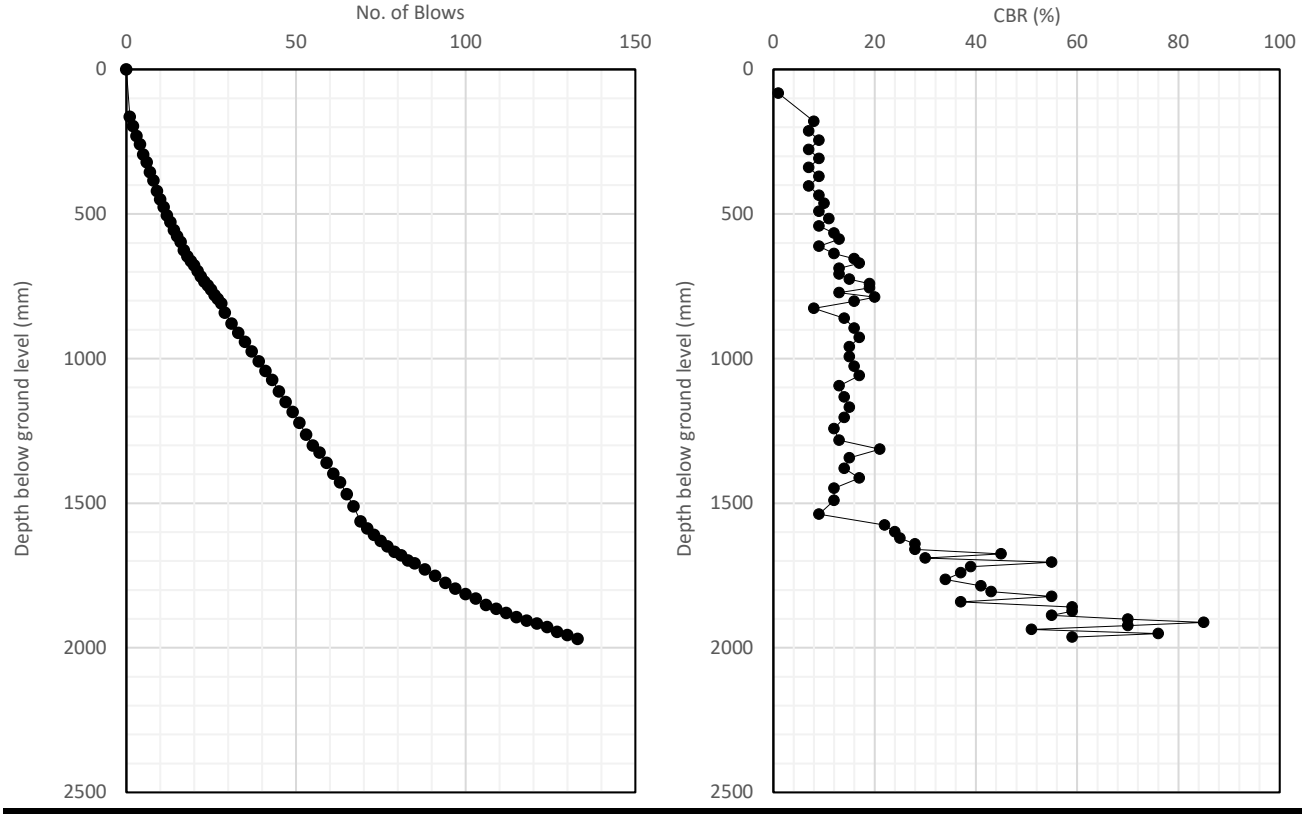
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC12
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642703.0 E, 270299.0 N **Ground Level** 25.05 m OD	**Test Date**	26/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	94	1922	1776								
3	97	1942	1796								
3	100	1961	1815								
3	103	1976	1830								
3	106	1998	1852								
3	109	2012	1866								
3	112	2026	1880								
3	115	2041	1895								
3	118	2053	1907								
3	121	2063	1917								
3	124	2075	1929								
3	127	2091	1945								
3	130	2102	1956								
3	133	2116	1970								



Remarks

Fell under own weight 110mm.

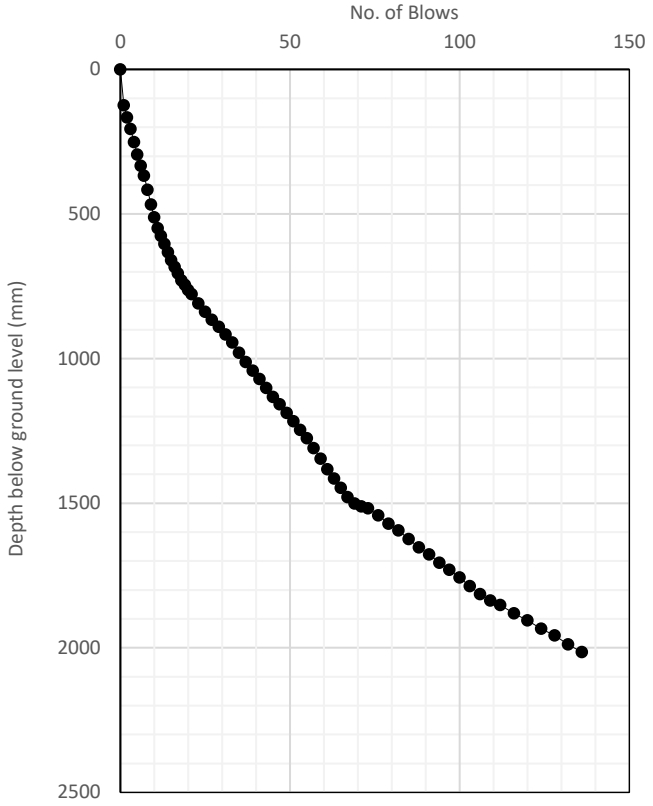
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

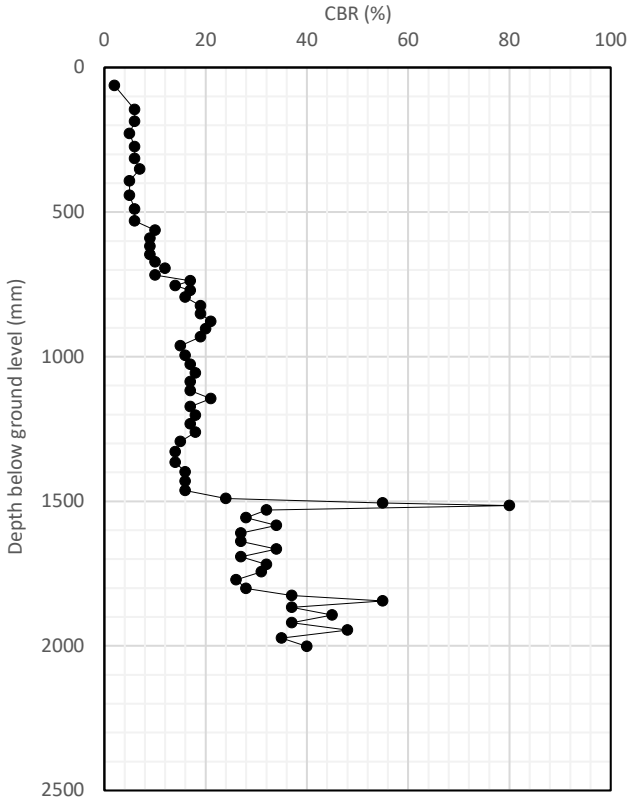
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC13
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642687.0 E, 270500.0 N **Ground Level** 26.19 m OD	**Test Date**	26/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	140	0	1	20	903	763	2	59	1487	1347
1	1	265	125	1	21	918	778	2	61	1523	1383
1	2	307	167	2	23	950	810	2	63	1555	1415
1	3	346	206	2	25	978	838	2	65	1587	1447
1	4	392	252	2	27	1006	866	2	67	1619	1479
1	5	435	295	2	29	1031	891	2	69	1641	1501
1	6	474	334	2	31	1057	917	2	71	1651	1511
1	7	508	368	2	33	1085	945	2	73	1658	1518
1	8	557	417	2	35	1120	980	3	76	1683	1543
1	9	608	468	2	37	1152	1012	3	79	1711	1571
1	10	652	512	2	39	1182	1042	3	82	1735	1595
1	11	690	550	2	41	1211	1071	3	85	1764	1624
1	12	716	576	2	43	1242	1102	3	88	1793	1653
1	13	744	604	2	45	1273	1133	3	91	1817	1677
1	14	773	633	2	47	1298	1158	3	94	1846	1706
1	15	800	660	2	49	1328	1188	3	97	1871	1731
1	16	824	684	2	51	1357	1217	3	100	1897	1757
1	17	846	706	2	53	1387	1247	3	103	1927	1787
1	18	870	730	2	55	1416	1276	3	106	1955	1815
1	19	885	745	2	57	1450	1310	3	109	1977	1837





Remarks

Fell under own weight 55mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC13
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642687.0 E, 270500.0 N **Ground Level** 26.19 m OD	**Test Date**	26/09/2024

Test started at	0.00m bgl

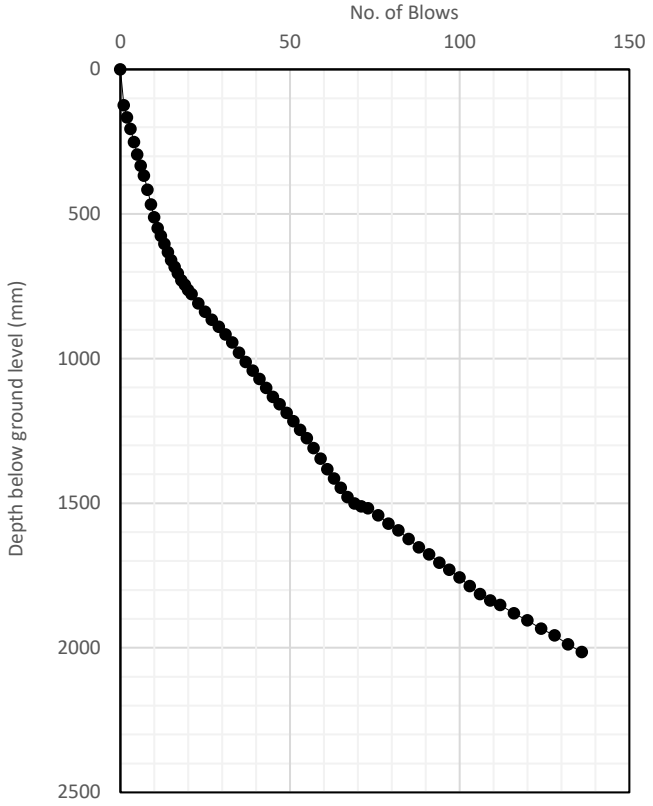
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	112	1992	1852
4	116	2021	1881
4	120	2045	1905
4	124	2074	1934
4	128	2097	1957
4	132	2128	1988
4	136	2155	2015

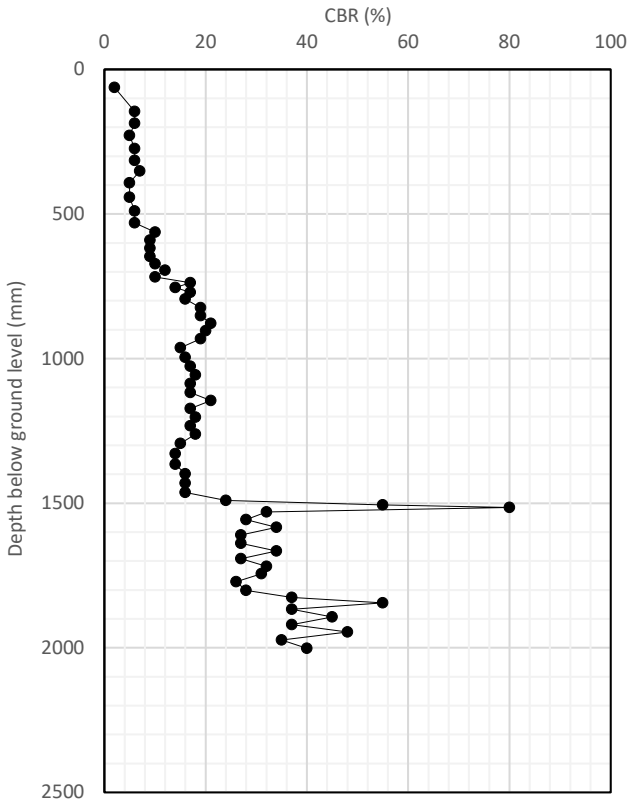
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)





Remarks

Fell under own weight 55mm.

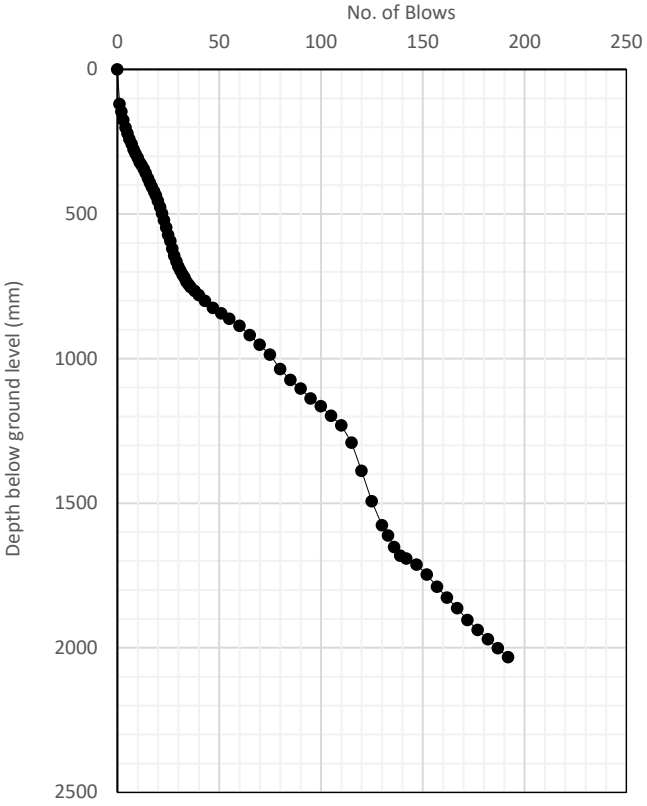
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

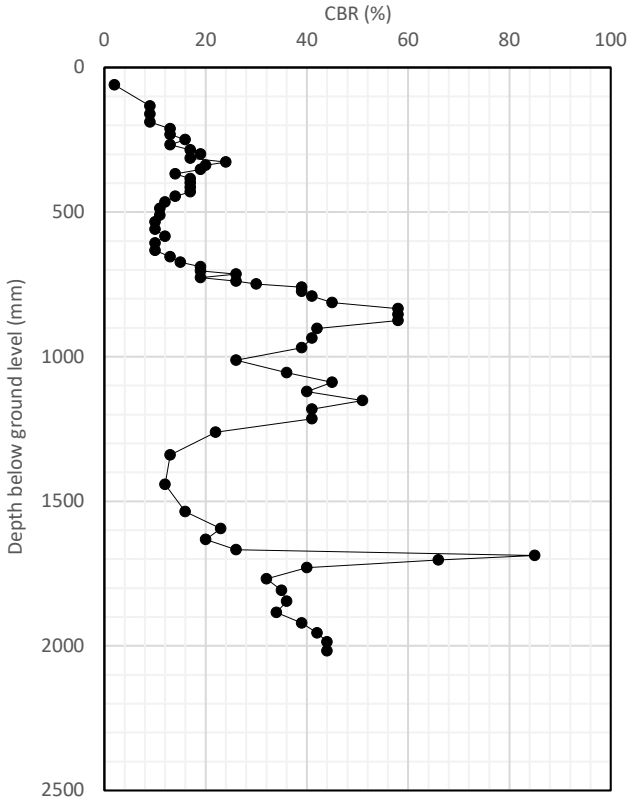
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC14
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642688.0 E, 270706.0 N **Ground Level** 27.45 m OD	**Test Date**	26/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	125	0	1	20	580	455	4	47	950	825
1	1	245	120	1	21	601	476	4	51	969	844
1	2	272	147	1	22	624	499	4	55	988	863
1	3	300	175	1	23	647	522	5	60	1012	887
1	4	327	202	1	24	672	547	5	65	1044	919
1	5	347	222	1	25	698	573	5	70	1077	952
1	6	367	242	1	26	719	594	5	75	1112	987
1	7	383	258	1	27	745	620	5	80	1162	1037
1	8	402	277	1	28	770	645	5	85	1199	1074
1	9	417	292	1	29	790	665	5	90	1229	1104
1	10	431	306	1	30	807	682	5	95	1263	1138
1	11	446	321	1	31	821	696	5	100	1290	1165
1	12	457	332	1	32	835	710	5	105	1323	1198
1	13	470	345	1	33	845	720	5	110	1356	1231
1	14	484	359	1	34	859	734	5	115	1416	1291
1	15	502	377	1	35	869	744	5	120	1514	1389
1	16	517	392	1	36	878	753	5	125	1619	1494
1	17	532	407	2	38	892	767	5	130	1702	1577
1	18	547	422	2	40	906	781	3	133	1737	1612
1	19	562	437	3	43	926	801	3	136	1777	1652





Remarks

Fell under own weight 69mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

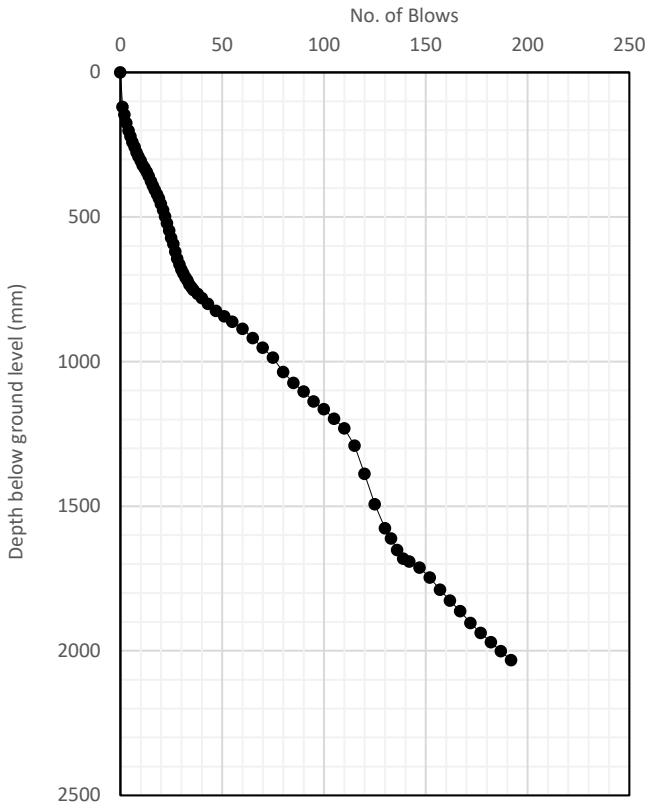
Project	Lionlink - Cable Route Sections B & C			**Location No.**	TPC14
				Project No.	PC248770
Client	National Grid Ventures			**Test No.**	1
Coordinates	642688.0 E, 270706.0 N	**Ground Level**	27.45 m OD	**Test Date**	26/09/2024

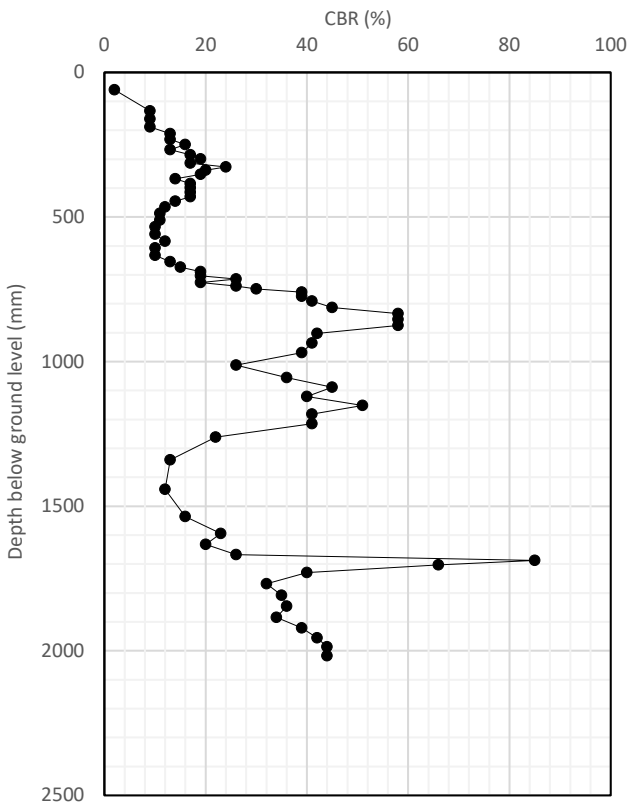
Test started at	0.00m bgl

Operator	JC

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
3	139	1807	1682								
3	142	1817	1692								
5	147	1838	1713								
5	152	1872	1747								
5	157	1914	1789								
5	162	1952	1827								
5	167	1989	1864								
5	172	2029	1904								
5	177	2064	1939								
5	182	2096	1971								
5	187	2127	2002								
5	192	2158	2033								





Remarks

Fell under own weight 69mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC15
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642793.0 E, 270882.0 N **Ground Level** 26.42 m OD	**Test Date**	27/09/2024

Test started at	0.00m bgl

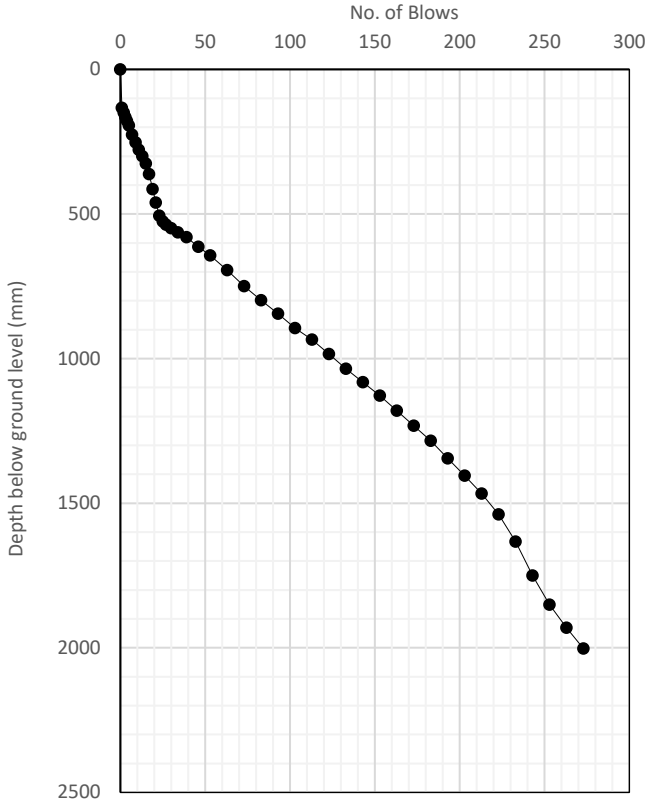
Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0
1	1	264	133
1	2	281	150
1	3	296	165
1	4	310	179
1	5	325	194
2	7	357	226
2	9	384	253
2	11	409	278
2	13	431	300
2	15	457	326
2	17	494	363
2	19	545	414
2	21	592	461
2	23	637	506
2	25	657	526
2	27	668	537
3	30	680	549
4	34	695	564
5	39	712	581

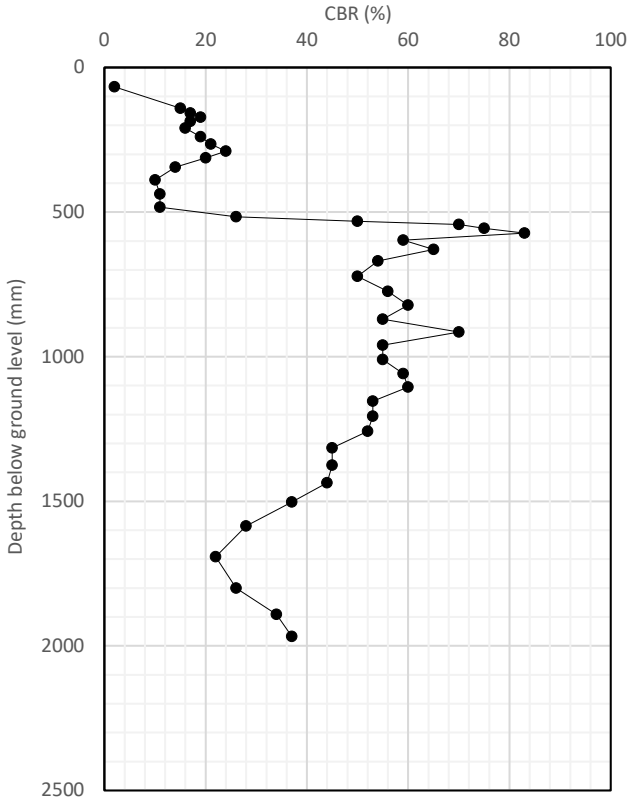
Operator	JC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
7	46	745	614
7	53	775	644
10	63	826	695
10	73	881	750
10	83	930	799
10	93	976	845
10	103	1026	895
10	113	1066	935
10	123	1116	985
10	133	1166	1035
10	143	1213	1082
10	153	1259	1128
10	163	1311	1180
10	173	1363	1232
10	183	1416	1285
10	193	1476	1345
10	203	1536	1405
10	213	1598	1467
10	223	1670	1539
10	233	1764	1633

Checked By	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
10	243	1881	1750
10	253	1982	1851
10	263	2062	1931
10	273	2134	2003





Remarks

Fell under own weight 89mm.

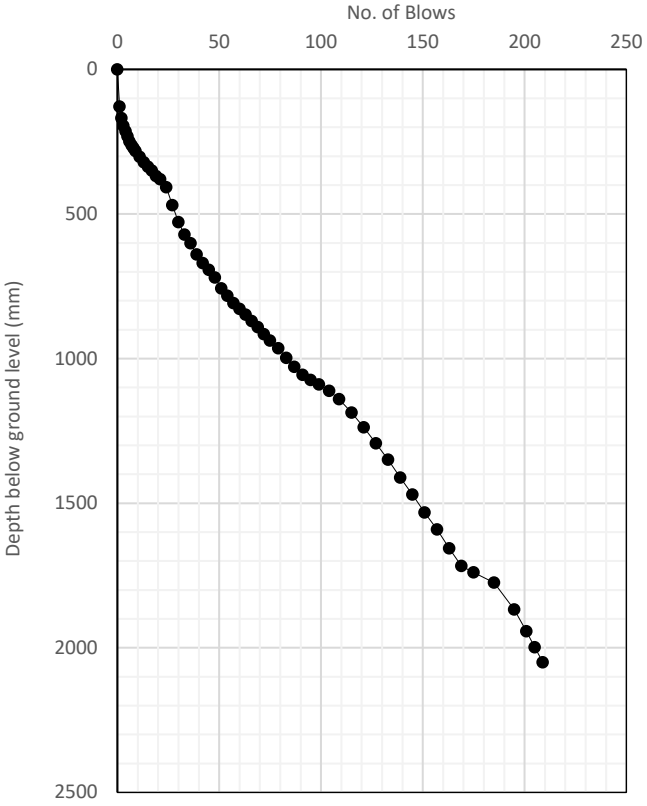
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

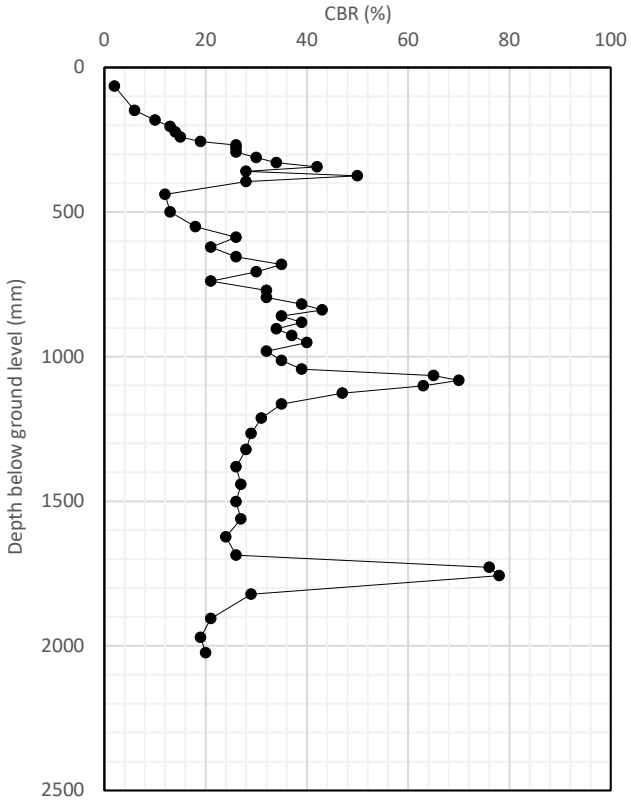
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC16
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	642919.0 E, 271088.0 N **Ground Level** 22.21 m OD	**Test Date**	30/09/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	3	36	734	602	5	104	1244	1112
1	1	261	129	3	39	772	640	5	109	1273	1141
1	2	301	169	3	42	802	670	6	115	1319	1187
1	3	327	195	3	45	825	693	6	121	1370	1238
1	4	346	214	3	48	852	720	6	127	1425	1293
1	5	364	232	3	51	890	758	6	133	1482	1350
1	6	381	249	3	54	915	783	6	139	1544	1412
1	7	395	263	3	57	940	808	6	145	1603	1471
1	8	405	273	3	60	961	829	6	151	1664	1532
1	9	415	283	3	63	980	848	6	157	1723	1591
2	11	435	303	3	66	1003	871	6	163	1788	1656
2	13	453	321	3	69	1024	892	6	169	1849	1717
2	15	469	337	3	72	1048	916	6	175	1871	1739
2	17	482	350	3	75	1070	938	10	185	1907	1775
2	19	501	369	4	79	1097	965	10	195	2000	1868
2	21	512	380	4	83	1130	998	6	201	2075	1943
3	24	540	408	4	87	1161	1029	4	205	2130	1998
3	27	602	470	4	91	1189	1057	4	209	2182	2050
3	30	661	529	4	95	1206	1074				
3	33	704	572	4	99	1222	1090				





Remarks

Fell under own weight 70mm.

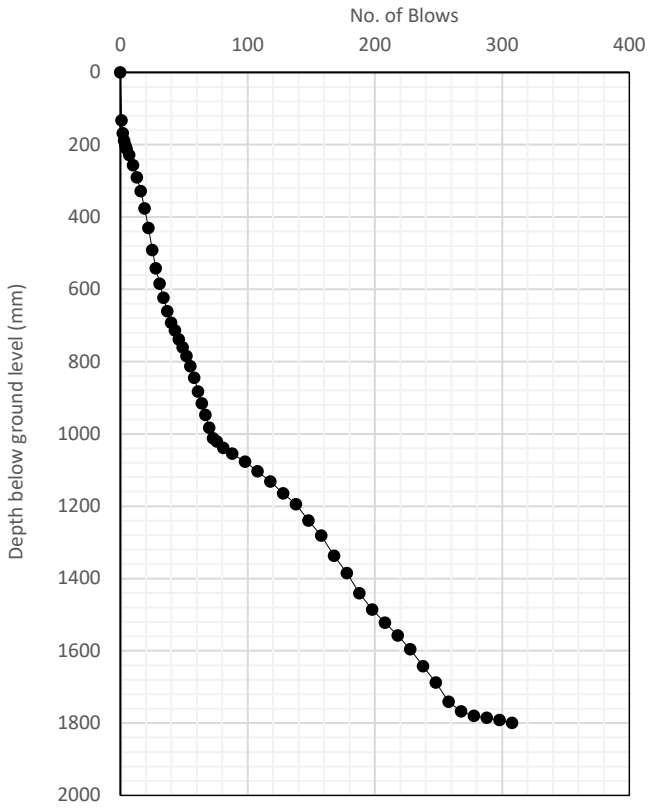
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

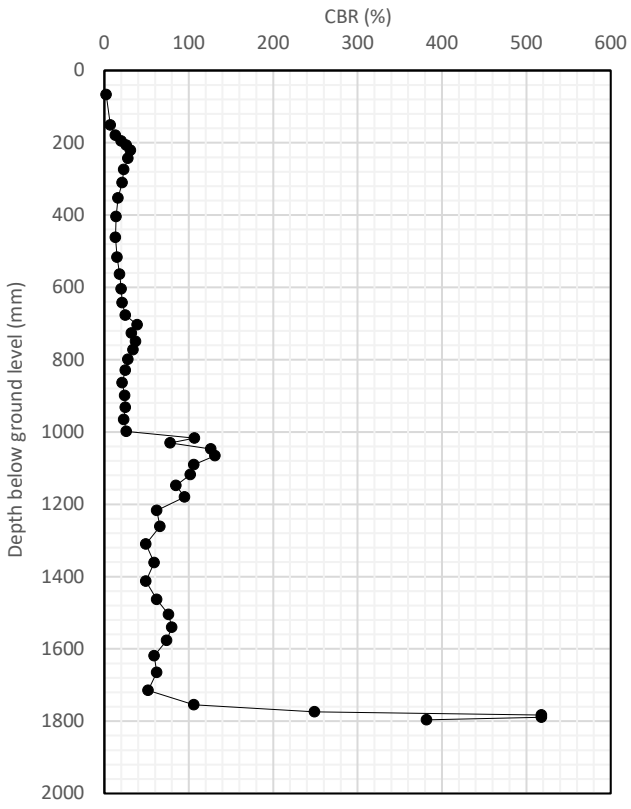
In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC17
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643015.0 E, 271221.9 N **Ground Level** 22.28 m OD	**Test Date**	01/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	123	0	3	49	884	761	10	178	1508	1385
1	1	256	133	3	52	908	785	10	188	1564	1441
1	2	292	169	3	55	936	813	10	198	1609	1486
1	3	312	189	3	58	968	845	10	208	1646	1523
1	4	325	202	3	61	1006	883	10	218	1681	1558
1	5	335	212	3	64	1039	916	10	228	1719	1596
2	7	352	229	3	67	1071	948	10	238	1766	1643
3	10	380	257	3	70	1106	983	10	248	1811	1688
3	13	414	291	3	73	1136	1013	10	258	1864	1741
3	16	452	329	3	76	1144	1021	10	268	1891	1768
3	19	500	377	5	81	1162	1039	10	278	1903	1780
3	22	554	431	7	88	1178	1055	10	288	1909	1786
3	25	615	492	10	98	1200	1077	10	298	1915	1792
3	28	665	542	10	108	1227	1104	10	308	1923	1800
3	31	708	585	10	118	1255	1132				
3	34	747	624	10	128	1288	1165				
3	37	784	661	10	138	1318	1195				
3	40	816	693	10	148	1363	1240				
3	43	837	714	10	158	1405	1282				
3	46	862	739	10	168	1461	1338				





Remarks

Fell under own weight 83mm.

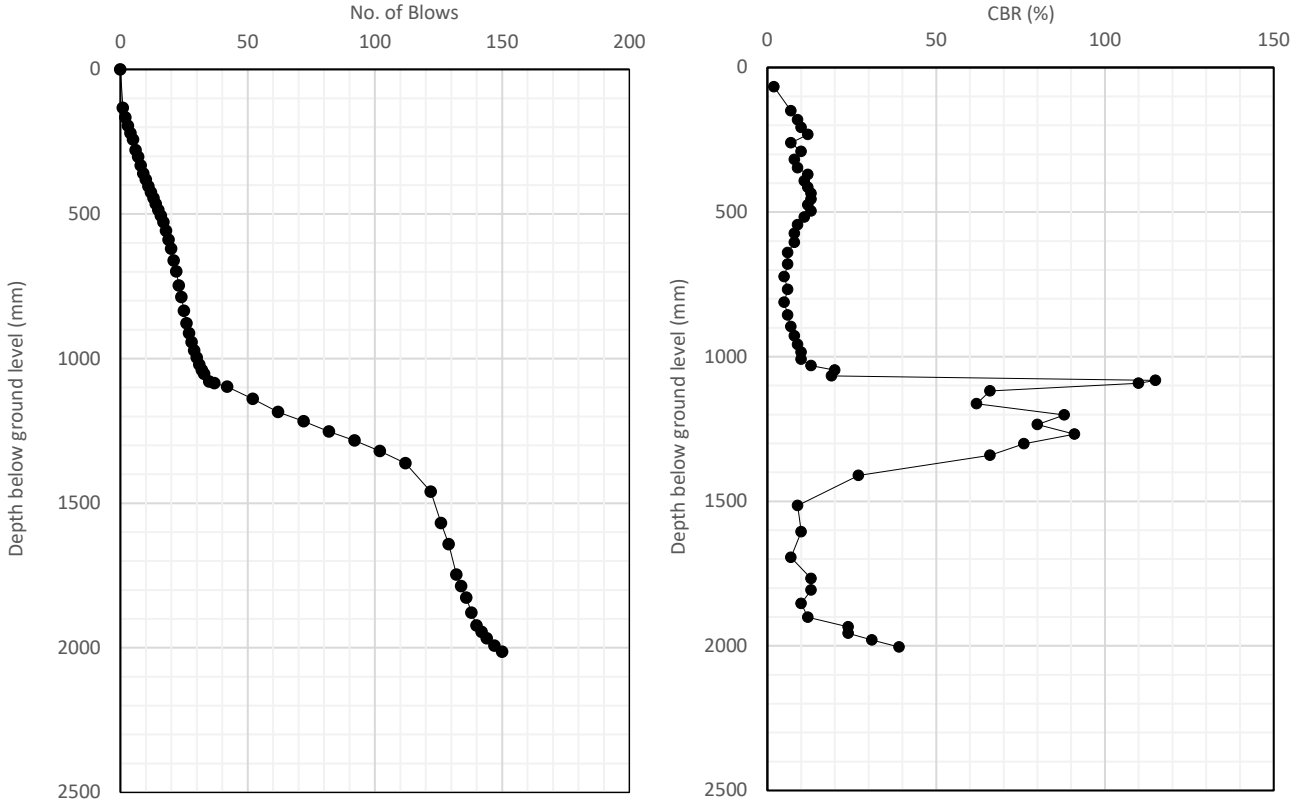
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC19
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643543.0 E, 271464.0 N **Ground Level** 19.10 m OD	**Test Date**	08/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	131	0	1	20	751	620	10	82	1383	1252
1	1	264	133	1	21	792	661	10	92	1414	1283
1	2	297	166	1	22	830	699	10	102	1451	1320
1	3	326	195	1	23	879	748	10	112	1493	1362
1	4	352	221	1	24	919	788	10	122	1591	1460
1	5	374	243	1	25	966	835	4	126	1700	1569
1	6	410	279	1	26	1009	878	3	129	1773	1642
1	7	434	303	1	27	1044	913	3	132	1878	1747
1	8	464	333	1	28	1075	944	2	134	1918	1787
1	9	491	360	1	29	1103	972	2	136	1958	1827
1	10	512	381	1	30	1128	997	2	138	2010	1879
1	11	535	404	1	31	1152	1021	2	140	2054	1923
1	12	557	426	1	32	1171	1040	2	142	2076	1945
1	13	577	446	1	33	1184	1053	2	144	2098	1967
1	14	596	465	2	35	1211	1080	3	147	2124	1993
1	15	617	486	2	37	1216	1085	3	150	2145	2014
1	16	637	506	5	42	1229	1098				
1	17	660	529	10	52	1271	1140				
1	18	689	558	10	62	1316	1185				
1	19	720	589	10	72	1348	1217				



Remarks

Fell under own weight 54mm.

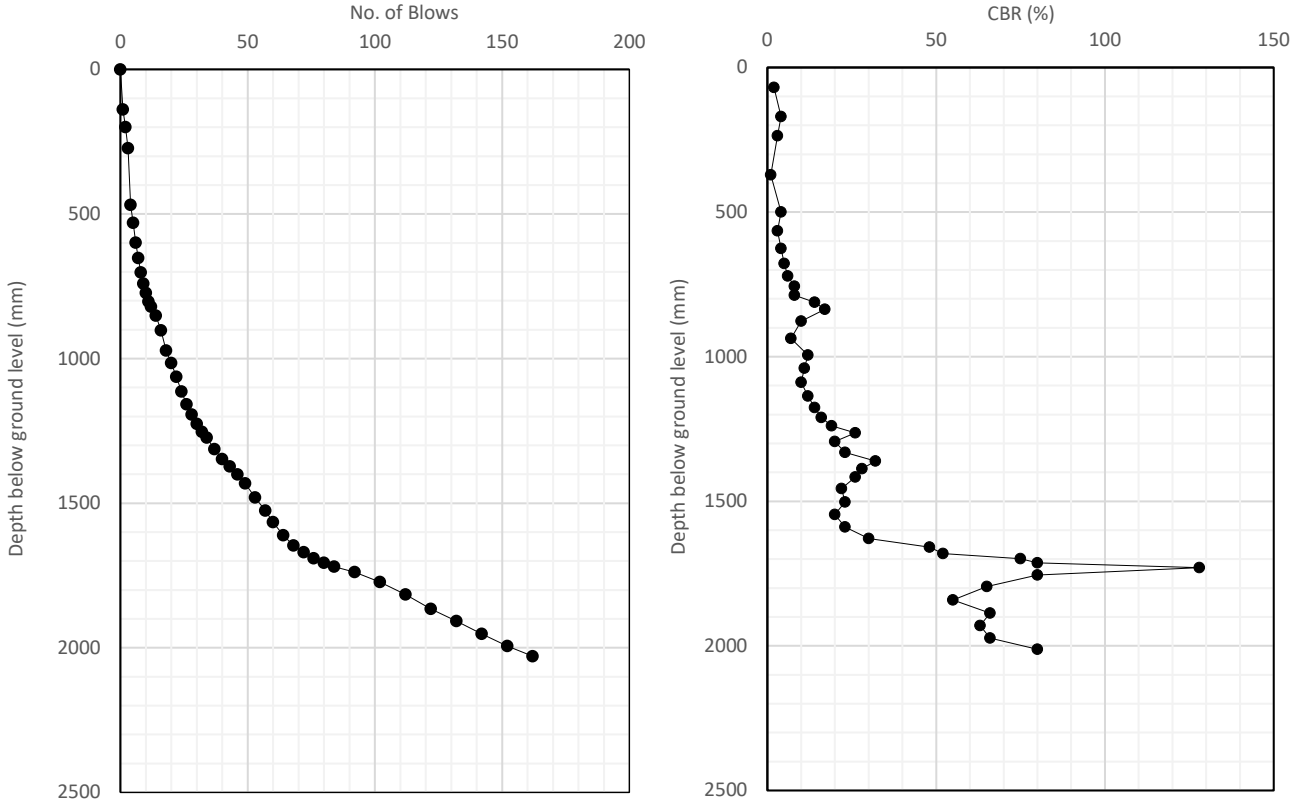
CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

In Situ Testing - *Dynamic Cone Penetration Test*

Project	Lionlink - Cable Route Sections B & C	**Location No.**	TPC20
		Project No.	PC248770
Client	National Grid Ventures	**Test No.**	1
Coordinates	643634.0 E, 271488.0 N **Ground Level** 22.67 m OD	**Test Date**	08/10/2024

Test started at	0.00m bgl	**Operator**	JC	**Checked By**	LC

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	132	0	2	28	1326	1194	10	112	1948	1816
1	1	271	139	2	30	1358	1226	10	122	1998	1866
1	2	332	200	2	32	1385	1253	10	132	2040	1908
1	3	405	273	2	34	1405	1273	10	142	2084	1952
1	4	601	469	3	37	1445	1313	10	152	2126	1994
1	5	663	531	3	40	1480	1348	10	162	2161	2029
1	6	731	599	3	43	1505	1373				
1	7	785	653	3	46	1533	1401				
1	8	834	702	3	49	1564	1432				
1	9	873	741	4	53	1612	1480				
1	10	905	773	4	57	1658	1526				
1	11	935	803	3	60	1698	1566				
1	12	953	821	4	64	1743	1611				
2	14	984	852	4	68	1779	1647				
2	16	1035	903	4	72	1802	1670				
2	18	1104	972	4	76	1823	1691				
2	20	1148	1016	4	80	1838	1706				
2	22	1195	1063	4	84	1852	1720				
2	24	1246	1114	8	92	1870	1738				
2	26	1290	1158	10	102	1905	1773				



Remarks

Fell under own weight 20mm.

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot.

APPENDIX 8

Thermal Resistivity Test Results

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB01	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.0	**1.48**	**0.68**
	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.10**	**0.91**
	1.50	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.6	**0.99**	**1.01**
TPB02	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.5	**1.41**	**0.71**
	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.5	**0.94**	**1.07**
	1.50	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.21**	**0.83**
TPB03	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.6	**0.94**	**1.06**
	0.60	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.7	**1.11**	**0.90**
	1.50	02/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.54**	**0.65**
TPB04	0.60	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.4	**1.48**	**0.68**
	0.60	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.3	**1.40**	**0.71**
	1.50	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.15**	**0.87**
TPB05	0.60	03/09/2024	JC	MADE GROUND: Slightly sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.42**	**0.71**
	0.60	03/09/2024	JC	MADE GROUND: Slightly sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.4	**1.47**	**0.68**
	1.50	03/09/2024	JC	Slightly sandy slightly gravelly CLAY with cobbles	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.5	**1.36**	**0.73**

GEOTECHNICS
BUILD ON CONFIDENCE

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB06	0.60	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**1.76**	**0.57**
	0.60	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**0.96**	**1.04**
	1.50	03/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.6	**1.66**	**0.60**
TPB07	0.60	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**0.72**	**1.39**
	0.60	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.8	**0.93**	**1.07**
	1.50	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.0	**0.29**	**3.45**
TPB08	0.60	05/09/2024	JC	Slightly sandy to sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.1	**1.53**	**0.65**
	0.60	05/09/2024	JC	Slightly sandy to sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.1	**1.29**	**0.78**
	1.50	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.5	**1.37**	**0.73**
TPB09	0.60	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.4	**1.25**	**0.80**
	0.60	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.3	**1.07**	**0.94**
	1.50	05/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**1.26**	**0.79**
TPB10	0.60	06/09/2024	JC	Slightly sandy gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**1.19**	**0.84**
	0.60	06/09/2024	JC	Slightly sandy gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**1.29**	**0.77**
	1.50	06/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.3	**1.00**	**1.00**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB11	0.60	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.2	**1.21**	**0.83**
	0.60	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.2	**1.45**	**0.69**
	1.50	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.7	**1.36**	**0.74**
TPB12	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.2	**1.55**	**0.64**
	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.4	**1.17**	**0.86**
	1.50	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.15**	**0.87**
TPB13	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.6	**1.45**	**0.69**
	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**0.81**	**1.24**
	1.50	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.7	**1.04**	**0.96**
TPB14	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**1.35**	**0.74**
	0.60	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.7	**1.03**	**0.97**
	1.50	09/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.46**	**0.68**
TPB16	0.60	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.0	**1.33**	**0.75**
	0.60	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.0	**0.94**	**1.07**
	1.50	10/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	18.4	**1.19**	**0.84**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB18	0.60	11/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.3	**1.36**	**0.74**
	0.60	11/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.4	**0.98**	**1.03**
	1.50	11/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.23**	**0.82**
TPB20	0.60	16/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	15.6	**0.21**	**4.86**
	0.60	16/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	15.6	**0.18**	**5.58**
	1.50	16/09/2024	JC	Slightly gravelly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**1.15**	**0.87**
TPB21	0.60	16/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**0.53**	**1.88**
	0.60	16/09/2024	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**0.86**	**1.17**
	1.50	16/09/2024	JC	Slightly gravelly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**1.18**	**0.84**
TPB22	0.60	16/09/2024	JC	Slightly gravelly very clayey SAND	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	16.1	**0.06**	**17.64**
	0.60	16/09/2024	JC	Slightly gravelly very clayey SAND	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	15.8	**0.07**	**14.95**
	1.50	16/09/2024	JC	Slightly gravelly very clayey SAND	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	16.0	**0.28**	**3.63**
TPB23	0.60	17/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.29**	**0.78**
	0.60	17/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**0.77**	**1.29**
	1.50	17/09/2024	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	16.3	**0.42**	**2.37**
TPB24	0.60	17/09/2024	JC	MADE GROUND: Slightly sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.00**	**1.00**
	0.60	17-Sep	JC	MADE GROUND: Slightly sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.1	**0.70**	**1.43**
	1.50	17-Sep	JC	Slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.26**	**0.79**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB25	0.60	17-Sep	JC	MADE GROUND: Slightly sandy to sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.2	**1.41**	**0.71**
	0.60	17-Sep	JC	MADE GROUND: Slightly sandy to sandy slightly gravelly clay	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**0.98**	**1.02**
	1.50	17-Sep	JC	MADE GROUND: Slightly sandy to sandy slightly gravelly clay	TR-3	03649	Spoil	Pushed	None	-	-	-	-	-	15.9	**0.09**	**10.87**
TPB26	0.60	17-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.4	**1.19**	**0.84**
	0.60	17-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.5	**0.78**	**1.29**
	1.50	17-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.5	**1.23**	**0.81**
TPB27	0.60	10-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.6	**1.03**	**0.97**
	0.60	10-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**1.47**	**0.68**
	1.50	10-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.3	**1.14**	**0.88**
TPB29	0.60	11-Sep	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.5	**1.06**	**0.94**
	0.60	11-Sep	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.4	**1.74**	**0.57**
	1.50	11-Sep	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.7	**1.12**	**0.89**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPB30	0.60	18-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.62**	**0.62**
	0.60	18-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.13**	**0.88**
	1.50	18-Sep	JC	Slightly sandy slightly gravally CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**2.23**	**0.45**
TPB31	0.60	18-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.01**	**0.99**
	0.60	18-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.3	**1.27**	**0.79**
	1.50	18-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.3	**1.98**	**0.50**
TPB32	0.60	18-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.08**	**0.93**
	0.60	18-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.51**	**0.66**
	1.50	18-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.29**	**0.77**
TPB33	0.60	19-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.16**	**0.86**
	0.60	19-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.24**	**0.81**
	1.50	19-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.40**	**0.72**
TPC01	0.60	19-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.7	**1.77**	**0.56**
	0.60	19-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.10**	**0.91**
	1.50	19-Sep	JC	Gravelly very clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.81**	**0.55**

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPC02	0.60	19-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.8	**1.14**	**0.87**
	0.60	19-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.8	**1.30**	**0.77**
	1.50	19-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.9	**1.40**	**0.71**
TPC03	0.60	19-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.14**	**0.87**
	0.60	19-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.21**	**0.83**
	1.50	19-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.7	**1.71**	**0.59**
TPC04	0.60	20-Sep	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**1.41**	**0.71**
	0.60	20-Sep	JC	Gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**0.92**	**1.08**
	1.50	20-Sep	JC	Slightly gravelly slightly clayey SAND	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.75**	**0.57**
TPC05	0.60	23-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.3	**1.31**	**0.76**
	0.60	23-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.4	**1.23**	**0.81**
	1.50	23-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.68**	**0.59**
TPC06	0.60	24-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.74**	**0.58**
	0.60	24-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.76**	**0.57**
	1.50	24-Sep	JC	Slightly sandy to sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**1.87**	**0.54**
TPC07	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.8	**1.11**	**0.90**
	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.8	**1.14**	**0.88**
	1.50	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	15.8	**1.49**	**0.67**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

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TPC08	0.60	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.4	**1.15**	**0.87**
	0.60	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.5	**1.25**	**0.80**
	1.50	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.5	**1.56**	**0.64**
TPC09	0.60	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.37**	**0.73**
	0.60	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.32**	**0.76**
	1.50	24-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.7	**1.65**	**0.61**
TPC10	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.03**	**0.97**
	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	17.2	**1.32**	**0.76**
	1.50	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03649	In-Situ	Pushed	None	-	-	-	-	-	16.6	**1.31**	**0.77**
TPC11	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	16.2	**0.97**	**1.03**
	0.60	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	16.2	**1.13**	**0.88**
	1.50	25-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.4	**2.24**	**0.45**
TPC12	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	16.3	**1.21**	**0.83**
	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	16.3	**0.95**	**1.05**
	1.50	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.7	**1.20**	**0.83**

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Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPC13	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.30**	**0.77**
	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	16.0	**1.15**	**0.87**
	1.50	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.4	**1.53**	**0.66**
TPC14	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.5	**1.44**	**0.69**
	0.60	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.5	**1.14**	**0.88**
	1.50	26-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.5	**1.56**	**0.64**
TPC15	0.60	27-Sep	JC	Slightly sandy to sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.9	**1.23**	**0.81**
	0.60	27-Sep	JC	Slightly sandy to sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.8	**0.97**	**1.03**
	1.50	27-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.4	**1.34**	**0.75**
TPC16	0.60	30-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.0	**1.54**	**0.65**
	0.60	30-Sep	JC	Slightly gravelly sandy CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.0	**1.31**	**0.76**
	1.50	30-Sep	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	15.1	**0.96**	**1.05**
TPC17	0.60	01-Oct	JC	Gravelly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.2	**1.49**	**0.67**
	0.60	01-Oct	JC	Gravelly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	13.9	**0.61**	**1.63**
	1.50	01-Oct	JC	Gravelly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.9	**1.58**	**0.63**

INSITU TESTING - Thermal Conductivity ASTM D5334-22a e1

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22ae1, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TPC19	0.60	08-Oct	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.0	**1.87**	**0.53**
	0.60	08-Oct	JC	Gravelly slightly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.3	**1.18**	**0.85**
	1.50	08-Oct	JC	Very gravelly clayey SAND	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.8	**2.21**	**0.45**
TPC20	0.60	08-Oct	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.1	**1.43**	**0.70**
	0.60	08-Oct	JC	Slightly sandy slightly gravelly CLAY	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.4	**1.06**	**0.94**
	1.50	08-Oct	JC	Very sandy slightly clayey GRAVEL	TR-3	03676	In-Situ	Pushed	None	-	-	-	-	-	14.7	**2.36**	**0.42**

APPENDIX 9

Monitoring Results

FIELDWORK - *Water Level Monitoring*

Project Lionlink - Cable Route Sections B & C **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 1

Location ID		**BHB01**		**BHB02**		**BHB03A**		**BHB04**		**BHB05**		**BHB06A**	
Instrument diameter		50 mm		50 mm		50 mm		50 mm		50 mm		50 mm	
Depth to base (m bgl)		15.00		7.50		10.00		10.00		13.00		8.00	
Filter zone (m bgl)		8.00 - 15.31		2.50 - 7.50		3.00 - 10.00		7.00 - 9.00		7.00 - 13.00		2.00 - 8.00	
Level (m OD)		17.38		19.34		25.92		25.15		20.86		21.56	
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)
04 Nov 2024		9.64	7.74	6.06	13.28	DRY		3.94	21.21	DRY		DRY	
18 Nov 2024		9.62	7.76	6.07	13.27	9.58	16.34	3.91	21.24	DRY		DRY	
19 Nov 2024													
20 Nov 2024													
03 Dec 2024		9.66	7.72	6.08	13.26								
04 Dec 2024						9.33	16.59	3.81	21.34	DRY		DRY	
05 Dec 2024													
07 Jan 2025						9.03	16.89	2.59	22.56	DRY		DRY	
08 Jan 2025													
09 Jan 2025													
10 Jan 2025		9.62	7.76	6.09	13.25								
13 Jan 2025													
20 Jan 2025												DRY	
21 Jan 2025													
23 Jan 2025						8.84	17.08	2.75	22.40				
31 Jan 2025													
10 Feb 2025													
11 Feb 2025						8.71	17.21	2.47	22.68	DRY		DRY	
12 Feb 2025		9.59	7.79	6.56	12.78								
24 Feb 2025		9.60	7.78	7.04	12.30	8.52	17.40	2.34	22.81				
25 Feb 2025										DRY		DRY	
26 Feb 2025													
03 Mar 2025													
04 Mar 2025													

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - *Water Level Monitoring*

Project Lionlink - Cable Route Sections B & C **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 2

Location ID		**BHB07**		**BHB08**		**BHB09**		**BHB10**		**BHB11**		**BHB12**	
Instrument diameter		50 mm		50 mm		50 mm		50 mm		50 mm		50 mm	
Depth to base (m bgl)		14.50		8.00		14.50		5.00		9.00		14.50	
Filter zone (m bgl)		10.00 - 14.50		2.00 - 8.00		5.00 - 14.50		2.00 - 5.00		2.00 - 9.00		9.50 - 14.50	
Level (m OD)		23.76		23.20		21.02		21.52		26.33		26.66	
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)
04 Nov 2024		DRY		DRY		DRY		DRY		8.50	17.83	14.37	12.29
18 Nov 2024		DRY		DRY									
19 Nov 2024						DRY		DRY		8.44	17.89	14.38	12.28
20 Nov 2024													
03 Dec 2024													
04 Dec 2024		DRY		DRY		DRY		DRY		7.73	18.60	14.37	12.29
05 Dec 2024													
07 Jan 2025		DRY		DRY		DRY		DRY		6.06	20.27	14.37	12.29
08 Jan 2025													
09 Jan 2025													
10 Jan 2025													
13 Jan 2025													
20 Jan 2025		DRY		DRY		DRY		DRY					
21 Jan 2025													
23 Jan 2025										6.84	19.49		
31 Jan 2025													
10 Feb 2025													
11 Feb 2025		DRY		DRY		DRY		4.10	17.42	5.69	20.64	14.39	12.27
12 Feb 2025													
24 Feb 2025													
25 Feb 2025		DRY		DRY									
26 Feb 2025												DRY	
03 Mar 2025						DRY		DRY		4.70	21.63		
04 Mar 2025													

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - Water Level Monitoring

Project Lionlink - Cable Route Sections B & C **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 3

Location ID		**BHB13**		**BHB15**		**BHB18**		**BHB19**		**BHB20**		**BHB21**	
Instrument diameter		50 mm		50 mm		50 mm		50 mm		50 mm		50 mm	
Depth to base (m bgl)		8.00		7.00		14.50		8.00		12.00		7.50	
Filter zone (m bgl)		2.00 - 8.00		3.00 - 7.00		6.50 - 14.50		2.00 - 8.00		2.00 - 12.00		2.00 - 7.50	
Level (m OD)		23.71		21.09		19.93		20.87		16.65		22.56	
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)
04 Nov 2024		7.94	15.77	DRY		DRY				11.09	5.56	DRY	
18 Nov 2024													
19 Nov 2024		7.86	15.85	DRY		DRY				11.09	5.56	DRY	
20 Nov 2024													
03 Dec 2024													
04 Dec 2024		0.58	23.13	DRY									
05 Dec 2024						DRY				11.05	5.60	DRY	
07 Jan 2025													
08 Jan 2025		0.55	23.16	DRY		DRY				11.03	5.62	DRY	
09 Jan 2025													
10 Jan 2025								6.20	14.67				
13 Jan 2025													
20 Jan 2025				DRY		DRY							
21 Jan 2025													
23 Jan 2025		2.70	21.01										
31 Jan 2025													
10 Feb 2025		0.53	23.18	DRY				6.90	13.97	11.06	5.59		
11 Feb 2025													
12 Feb 2025						DRY							
24 Feb 2025													
25 Feb 2025													
26 Feb 2025		0.55	23.16										
03 Mar 2025				DRY						11.03	5.62		
04 Mar 2025						DRY		DRY				DRY	

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - Water Level Monitoring

Project Lionlink - Cable Route Sections B & C **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 4

Location ID		**BHB22**		**BHB23**		**BHB24**		**BHC01**		**BHC02**		**BHC03**	
Instrument diameter		50 mm		50 mm		50 mm		50 mm		50 mm		50 mm	
Depth to base (m bgl)		14.50		12.00		15.00		15.00		8.00		15.00	
Filter zone (m bgl)		9.00 - 14.50		2.00 - 12.00		4.00 - 14.00		6.50 - 15.00		2.00 - 8.00		10.00 - 15.00	
Level (m OD)		20.33		12.21		13.04		5.23		7.26		12.84	
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)
04 Nov 2024		DRY		5.80	6.41	7.15	5.89						
18 Nov 2024													
19 Nov 2024										2.82	4.44	11.13	1.71
20 Nov 2024		DRY		5.78	6.43	7.14	5.90	DRY					
03 Dec 2024													
04 Dec 2024													
05 Dec 2024		DRY		5.77	6.44	7.13	5.91			2.74	4.52	11.12	1.72
07 Jan 2025													
08 Jan 2025		DRY		5.70	6.51	7.10	5.94						
09 Jan 2025								1.06	4.17	2.74	4.52	11.11	1.73
10 Jan 2025													
13 Jan 2025													
20 Jan 2025													
21 Jan 2025													
23 Jan 2025													
31 Jan 2025										2.79	4.47		
10 Feb 2025													
11 Feb 2025				5.70	6.51	7.17	5.87						
12 Feb 2025						7.07	5.97	1.07	4.16	2.76	4.50	11.12	1.72
24 Feb 2025													
25 Feb 2025													
26 Feb 2025													
03 Mar 2025						7.05	5.99	1.09	4.14				
04 Mar 2025		DRY		5.65	6.56					2.77	4.49	11.14	1.70

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - Water Level Monitoring

Project Lionlink - Cable Route Sections B & C **Project No.** PC248770

Client National Grid Ventures **Sheet No.** 5

Location ID		**BHC04**		**BHC07**		**BHC08**							
Instrument diameter		50 mm		50 mm		50 mm							
Depth to base (m bgl)		14.00		6.50		14.00							
Filter zone (m bgl)		5.00 - 14.00		2.00 - 6.50		5.00 - 14.00							
Level (m OD)		17.08		22.48		20.94							
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)						
04 Nov 2024													
18 Nov 2024													
19 Nov 2024		13.99	3.09										
20 Nov 2024				DRY		DRY							
03 Dec 2024													
04 Dec 2024													
05 Dec 2024		13.98	3.10	DRY		13.88	7.06						
07 Jan 2025													
08 Jan 2025													
09 Jan 2025		13.99	3.09	DRY									
10 Jan 2025													
13 Jan 2025						13.88	7.06						
20 Jan 2025													
21 Jan 2025		14.01	3.07	DRY		13.89	7.05						
23 Jan 2025													
31 Jan 2025													
10 Feb 2025													
11 Feb 2025													
12 Feb 2025		14.00	3.08	DRY		13.88	7.06						
24 Feb 2025													
25 Feb 2025													
26 Feb 2025													
03 Mar 2025													
04 Mar 2025		13.99	3.09	DRY		13.90	7.04						

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB01	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	8.00 - 15.31	**Cover Type**	Upright lockable
Date Installed	02/09/2024	**Ground Level (m OD)**	17.38

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		2.2	1.6	<0.1	<0.1	1.4	1.4	18.6	20.5	<1	<1		12.0	1025	10	Gas Data GFM435	Moist	Light	Overcast	None	Falling	9.64	14.75	
18/11/2024		-0.1	<0.1	<0.1	<0.1	0.8	0.8	19.2	19.2	<1	<1		2.0	1010	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	9.62	14.59	
03/12/2024		-3.5	-3.3	<0.1	<0.1	1.4	1.4	18.7	18.9	<1	<1		7.0	1020	-20	Gas Data GFM435	Wet	Light	Cloudy	None	Falling	9.66	14.63	
10/01/2025		-0.7	<0.1	<0.1	<0.1	1.2	1.2	17.4	17.4	<1	<1		-4.0	1014	-5	Gas Data GFM436	Frozen	Light	Slight	None	Steady	9.62	14.58	
12/02/2025		-3.9	-3.7	<0.1	<0.1	0.7	0.7	17.8	17.8	<1	<1		5.0	1017	-23	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	9.59	14.35	
24/02/2025		0.6	0.4	<0.1	<0.1	0.8	0.8	19.1	19.2	<1	<1		11.0	1005	1	Gas Data GFM435	Wet	Moderate	Cloudy	Heavy	Rising	9.60	14.30	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB02	**Installation Type**	Standpipe
Depth to Base (m bgl)	7.50	**Diameter**	50mm
Filter Zone	2.50 - 7.50	**Cover Type**	Upright lockable
Date Installed	02/09/2024	**Ground Level (m OD)**	19.34

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		2.7	2.4	<0.1	<0.1	1.5	1.5	19.1	19.1	<1	<1		12.0	1025	13	Gas Data GFM435	Moist	Light	Overcast	None	Falling	6.06	7.25	
18/11/2024		-2.7	-2.6	<0.1	<0.1	2.7	2.6	17.7	17.7	<1	<1		2.0	1010	-13	Gas Data GFM435	Moist	Light	Overcast	None	Falling	6.07	7.23	
03/12/2024		-9.9	-9.6	<0.1	<0.1	0.1	0.1	20.6	20.6	<1	<1		7.0	1017	-84	Gas Data GFM435	Wet	Light	Cloudy	None	Falling	6.08	7.23	
10/01/2025		-13.0	<0.1	<0.1	<0.1	<0.1	<0.1	18.8	18.8	<1	<1		-4.0	1014	-160	Gas Data GFM436	Frozen	Light	Slight	None	Steady	6.09	7.19	
12/02/2025		-9.9	-9.9	<0.1	<0.1	2.8	2.8	16.3	16.4	<1	<1		5.0	1015	-86	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	6.56	7.23	
24/02/2025		9.4	9.3	<0.1	<0.1	2.8	2.8	17.7	17.7	1	<1		11.0	1007	87	Gas Data GFM435	Wet	Moderate	Cloudy	Heavy	Rising	7.04	7.20	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB03A	**Installation Type**	Standpipe
Depth to Base (m bgl)	10.00	**Diameter**	50mm
Filter Zone	3.00 - 10.00	**Cover Type**	Upright lockable
Date Installed	04/09/2024	**Ground Level (m OD)**	25.92

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	4.2	4.2	12.2	15.4	<1	<1		12.0	1022	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	9.62	
18/11/2024		<0.1	<0.1	<0.1	<0.1	4.7	4.7	11.8	11.8	<1	<1		5.0	1008	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	9.58	9.59	
04/12/2024		102.1	10.0	<0.1	<0.1	4.6	4.6	8.6	8.6	<1	<1		4.0	1021	<1	Gas Data GFM435	Wet	Light	Slight	None	Rising	9.33	9.61	Blowing sound audible.
07/01/2025		118.8	101.5	<0.1	<0.1	6.8	6.8	0.7	0.7	<1	<1		5.0	992	>1000	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	9.03	9.61	
23/01/2025		110.4	110.4	<0.1	<0.1	7.2	7.2	1.2	1.2	<1	<1		4.0	1000	>1000	Gas Data GFM436	Wet	Moderate	Cloudy	Moderate	Falling	8.84	9.57	
11/02/2025		-1.8	-1.8	<0.1	<0.1	7.0	7.0	1.3	1.3	<1	<1		4.0	1013	-9	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	8.71	9.59	
24/02/2025		107.3	106.1	<0.1	<0.1	6.5	6.5	1.0	1.0	<1	<1		11.0	1008	>1000	Gas Data GFM435	Wet	Moderate	Cloudy	Heavy	Rising	8.52	9.62	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB04	**Installation Type**	Standpipe
Depth to Base (m bgl)	10.00	**Diameter**	50mm
Filter Zone	7.00 - 9.00	**Cover Type**	Upright lockable
Date Installed	04/09/2024	**Ground Level (m OD)**	25.15

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	0.9	0.2	20.1	20.2	<1	<1		13.0	1023	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	3.94	9.88	
18/11/2024		18.4	<0.1	<0.1	<0.1	1.4	1.4	17.8	17.8	1	<1		5.0	1008	12	Gas Data GFM435	Moist	Light	Overcast	None	Falling	3.91	9.76	
04/12/2024		20.5	<0.1	<0.1	<0.1	2.0	2.0	17.8	17.8	1	<1		4.0	1020	<1	Gas Data GFM435	Wet	Light	Slight	None	Rising	3.81	9.79	
07/01/2025		113.7	15.5	<0.1	<0.1	2.2	2.2	16.1	16.1	<1	<1		5.0	991	>1000	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	2.59	9.65	
23/01/2025		-42.2	-1.3	<0.1	<0.1	1.6	1.6	17.6	17.6	<1	<1		4.0	1000	-500	Gas Data GFM436	Wet	Moderate	Cloudy	Moderate	Falling	2.75	9.62	
11/02/2025		40.4	<0.1	<0.1	<0.1	2.4	2.4	16.7	16.7	<1	<1		4.0	1013	839	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	2.47	9.48	
24/02/2025		64.1	46.3	<0.1	<0.1	2.8	2.8	17.2	17.2	<1	<1		11.0	1007	1000	Gas Data GFM435	Wet	Moderate	Cloudy	Heavy	Rising	2.34	9.46	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB05	**Installation Type**	Standpipe
Depth to Base (m bgl)	13.00	**Diameter**	50mm
Filter Zone	7.00 - 13.00	**Cover Type**	Upright lockable
Date Installed	06/09/2024	**Ground Level (m OD)**	20.86

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		-5.8	-5.8	<0.1	<0.1	0.4	<0.1	20.4	20.4	<1	<1		13.0	1023	-43	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	13.25	
18/11/2024		74.2	74.1	<0.1	<0.1	7.3	7.2	4.4	4.4	1	<1		5.0	1008	1337	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	13.18	Audible blowing when bung removed. Odour like rubber.
04/12/2024		-56.5	-53.5	<0.1	<0.1	0.1	0.1	20.4	20.6	2	<1		4.0	1021	-786	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	13.20	
07/01/2025		69.1	67.8	<0.1	<0.1	9.2	9.2	2.4	2.4	<1	<1		5.0	993	1325	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	13.13	
11/02/2025		59.7	59.7	<0.1	<0.1	5.3	5.1	8.7	8.7	<1	<1		4.0	1013	980	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	13.20	
25/02/2025		36.5	36.5	<0.1	<0.1	9.4	9.1	3.1	3.1	2	<1		8.0	1012	426	Gas Data GFM435	Wet	Light	Cloudy	Slight	Falling	DRY	13.30	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB06A	**Installation Type**	Standpipe
Depth to Base (m bgl)	8.00	**Diameter**	50mm
Filter Zone	2.00 - 8.00	**Cover Type**	Upright lockable
Date Installed	09/09/2024	**Ground Level (m OD)**	21.56

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	20.7	<1	<1		13.0	1022	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	7.89	
18/11/2024		9.6	9.5	<0.1	<0.1	2.1	2.1	14.5	14.5	<1	<1		5.0	1008	82	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	7.82	
04/12/2024		-12.3	-12.3	<0.1	<0.1	<0.1	<0.1	20.3	20.3	<1	<1		4.0	1022	-110	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	7.83	
07/01/2025		15.8	15.6	<0.1	<0.1	2.0	2.0	12.6	12.6	<1	<1		5.0	1000	174	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	7.83	
20/01/2025		-48.7	-48.7	<0.1	<0.1	<0.1	<0.1	19.2	19.2	<1	<1		6.0	1019	-9	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	7.83	
11/02/2025		46.9	46.3	<0.1	<0.1	2.0	2.0	12.3	12.3	<1	<1		4.0	1014	699	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	7.84	
25/02/2025		39.6	39.4	<0.1	<0.1	3.8	3.8	9.3	9.3	<1	<1		8.0	1011	488	Gas Data GFM435	Wet	Light	Cloudy	Slight	Falling	DRY	7.90	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB07	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.50	**Diameter**	50mm
Filter Zone	10.00 - 14.50	**Cover Type**	Upright lockable
Date Installed	10/09/2024	**Ground Level (m OD)**	23.76

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		2.2	2.1	<0.1	<0.1	0.1	0.1	20.4	20.5	<1	<1		13.0	1022	1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	14.35	
18/11/2024		57.3	57.0	<0.1	<0.1	9.9	8.2	5.5	5.8	9	<1		5.0	1007	845	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	14.07	
04/12/2024		-51.2	-51.0	<0.1	<0.1	<0.1	<0.1	20.4	20.4	<1	<1		5.0	1022	-731	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	14.12	
07/01/2025		<0.1	<0.1	<0.1	<0.1	11.8	11.8	1.2	1.2	<1	<1		5.0	1000	<1	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	14.10	
20/01/2025		-43.2	-43.2	<0.1	<0.1	<0.1	<0.1	18.8	19.8	<1	<1		6.0	1019	-840	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	14.10	
11/02/2025		64.6	62.5	<0.1	<0.1	12.8	12.6	0.7	0.7	<1	<1		4.0	1013	1142	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	14.06	
25/02/2025		38.7	38.7	<0.1	<0.1	4.6	4.5	1.0	1.0	<1	<1		8.0	1010	466	Gas Data GFM435	Wet	Light	Cloudy	Slight	Falling	DRY	14.10	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB08	**Installation Type**	Standpipe
Depth to Base (m bgl)	8.00	**Diameter**	50mm
Filter Zone	2.00 - 8.00	**Cover Type**	Upright lockable
Date Installed	13/09/2024	**Ground Level (m OD)**	23.20

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	20.8	<1	<1		13.0	1022	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	7.67	
18/11/2024		2.5	2.5	<0.1	<0.1	1.8	1.8	16.1	16.1	<1	<1		5.0	1007	11	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	7.66	
04/12/2024		-32.2	-0.2	<0.1	<0.1	0.7	0.7	19.1	19.6	<1	<1		5.0	1022	-1	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	7.68	
07/01/2025		7.5	<0.1	<0.1	<0.1	2.0	2.0	10.7	10.7	<1	<1		5.0	999	<1	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	7.65	
20/01/2025		-42.6	-3.4	<0.1	<0.1	2.2	2.2	10.3	10.3	<1	<1		6.0	1018	-661	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	7.68	
11/02/2025		58.2	<0.1	<0.1	<0.1	2.2	2.0	7.0	7.2	<1	<1		4.0	1012	930	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	7.66	
25/02/2025		53.6	47.0	<0.1	<0.1	2.0	2.0	5.8	5.8	<1	<1		8.0	1008	574	Gas Data GFM435	Wet	Light	Cloudy	Slight	Falling	DRY	7.69	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB09	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.50	**Diameter**	50mm
Filter Zone	5.00 - 14.50	**Cover Type**	Upright lockable
Date Installed	17/09/2024	**Ground Level (m OD)**	21.02

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		-6.0	-6.0	<0.1	<0.1	1.7	0.9	18.8	20.6	<1	<1		12.0	1019	-43	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	13.65	
19/11/2024		75.5	75.0	<0.1	<0.1	2.7	2.7	17.6	17.6	1	<1		4.0	992	1373	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	13.60	
04/12/2024		-46.0	-45.3	<0.1	<0.1	0.1	0.1	20.4	20.4	<1	<1		5.0	1023	-613	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	13.61	
07/01/2025		48.0	47.4	<0.1	<0.1	2.7	2.7	16.3	16.3	<1	<1		5.0	1000	760	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	13.49	
20/01/2025		46.8	46.0	<0.1	<0.1	2.2	2.2	17.0	17.1	<1	<1		5.0	1013	682	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	13.62	
11/02/2025		20.4	20.4	<0.1	<0.1	2.0	2.0	17.1	17.1	<1	<1		4.0	1013	211	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	13.59	
03/03/2025		-5.5	-5.5	<0.1	<0.1	0.1	0.1	18.7	18.7	<1	<1		10.0	1026	-40	Gas Data GFM435	Dry	Still	None	None	Steady	DRY	13.60	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB10	**Installation Type**	Standpipe
Depth to Base (m bgl)	5.00	**Diameter**	50mm
Filter Zone	2.00 - 5.00	**Cover Type**	Upright lockable
Date Installed	18/09/2024	**Ground Level (m OD)**	21.52

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	0.8	0.8	19.3	19.3	<1	<1		12.0	1018	10	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	4.21	
19/11/2024		<0.1	<0.1	<0.1	<0.1	1.8	1.8	16.7	16.7	<1	<1		4.0	991	<1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	4.24	
04/12/2024		<0.1	<0.1	<0.1	<0.1	0.8	0.8	19.3	19.7	<1	<1		6.0	1022	<1	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	4.22	
07/01/2025		<0.1	<0.1	<0.1	<0.1	1.0	1.0	17.3	17.3	<1	<1		5.0	1000	<1	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	DRY	4.22	
20/01/2025		<0.1	<0.1	<0.1	<0.1	0.7	0.7	17.5	17.6	<1	<1		5.0	1012	<1	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	4.21	
11/02/2025		<0.1	<0.1	<0.1	<0.1	0.8	0.8	17.6	17.6	<1	<1		4.0	1014	<1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	4.10	4.20	Insufficient water to develop.
03/03/2025		<0.1	<0.1	<0.1	<0.1	0.4	0.4	18.5	18.6	<1	<1		10.0	1028	<1	Gas Data GFM435	Dry	Still	None	None	Steady	DRY	4.22	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
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Installation Details

Location ID	BHB11	**Installation Type**	Standpipe
Depth to Base (m bgl)	9.00	**Diameter**	50mm
Filter Zone	2.00 - 9.00	**Cover Type**	Upright lockable
Date Installed	13/09/2024	**Ground Level (m OD)**	26.33

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	1.6	1.4	13.5	20.4	<1	<1		12.0	1018	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	8.50	9.01	
19/11/2024		0.4	<0.1	<0.1	<0.1	1.9	0.6	12.6	18.1	<1	<1		4.0	991	1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	8.44	8.98	
04/12/2024		<0.1	<0.1	<0.1	<0.1	1.3	0.3	15.2	17.3	<1	<1		4.0	1022	<1	Gas Data GFM435	Wet	Light	Slight	None	Rising	7.73	9.01	
07/01/2025		<0.1	<0.1	<0.1	<0.1	1.8	0.8	12.6	15.8	<1	<1		5.0	1000	<1	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	6.06	8.94	
23/01/2025		-0.5	<0.1	<0.1	<0.1	1.6	0.7	14.4	16.4	<1	<1		4.0	997	-8	Gas Data GFM436	Wet	Moderate	Cloudy	Moderate	Falling	6.84	8.97	
11/02/2025		<0.1	<0.1	<0.1	<0.1	1.9	0.2	15.0	17.4	<1	<1		4.0	1013	<1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	5.69	8.93	
03/03/2025		0.7	<0.1	<0.1	<0.1	1.1	0.2	15.2	18.2	<1	<1		10.0	1025	-2	Gas Data GFM435	Dry	Still	None	None	Steady	4.70	8.96	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB12	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.50	**Diameter**	50mm
Filter Zone	9.50 - 14.50	**Cover Type**	Upright lockable
Date Installed	11/09/2024	**Ground Level (m OD)**	26.66

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		-30.8	-30.8	<0.1	<0.1	0.1	<0.1	20.4	20.4	<1	<1		12.0	1018	-307	Gas Data GFM435	Moist	Light	Overcast	None	Falling	14.37	14.43	
19/11/2024		108.6	108.4	<0.1	<0.1	6.9	6.9	4.1	4.1	<1	<1		4.0	991	>1000	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	14.38	14.39	Audible blowing sound when bung removed
04/12/2024		-62.0	-61.8	<0.1	<0.1	0.2	0.2	20.3	20.5	<1	<1		4.0	1022	-959	Gas Data GFM435	Wet	Light	Slight	None	Rising	14.37	14.41	
07/01/2025		96.3	96.0	<0.1	<0.1	8.9	8.9	1.3	1.3	<1	<1		5.0	998	2385	Gas Data GFM435	Wet	Moderate	Cloudy	None	Rising	14.37	14.40	Insufficient water to develop
11/02/2025		35.7	35.7	<0.1	<0.1	7.1	7.1	4.7	4.7	<1	<1		4.0	1012	449	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	14.39	14.41	
26/02/2025		52.6	52.2	0.7	<0.1	7.6	7.5	1.4	1.4	4	<1		6.0	1010	755	Gas Data GFM435	Wet	Light	Overcast	Moderate	Rising	DRY	14.46	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB13	**Installation Type**	Standpipe
Depth to Base (m bgl)	8.00	**Diameter**	50mm
Filter Zone	2.00 - 8.00	**Cover Type**	Upright lockable
Date Installed	10/09/2024	**Ground Level (m OD)**	23.71

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	4.3	4.3	11.0	17.4	<1	<1		12.0	1018	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	7.94	7.97	
19/11/2024		0.6	<0.1	<0.1	<0.1	4.5	2.6	11.1	14.5	<1	<1		4.0	992	2	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	7.86	7.88	
04/12/2024		<0.1	<0.1	<0.1	<0.1	0.4	0.4	19.9	19.9	<1	<1		4.0	1022	<1	Gas Data GFM435	Wet	Light	Slight	None	Rising	0.58	7.94	
08/01/2025		<0.1	<0.1	<0.1	<0.1	0.6	0.3	17.2	18.3	<1	<1		0.0	998	<1	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	0.55	7.94	
23/01/2025		3.1	<0.1	<0.1	<0.1	0.9	0.8	17.6	17.8	<1	<1		4.0	994	15	Gas Data GFM436	Wet	Moderate	Cloudy	Moderate	Falling	2.70	7.91	
10/02/2025		-0.5	<0.1	<0.1	<0.1	0.5	0.1	18.3	18.6	<1	<1		4.0	1013	-1	Gas Data GFM435	Wet	Light	Overcast	None	Steady	0.53	7.89	
26/02/2025		<0.1	<0.1	<0.1	<0.1	0.7	0.7	18.9	18.9	<1	<1		6.0	1012	<1	Gas Data GFM435	Wet	Light	Overcast	Moderate	Rising	0.55	7.96	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB15	**Installation Type**	Standpipe
Depth to Base (m bgl)	7.00	**Diameter**	50mm
Filter Zone	3.00 - 7.00	**Cover Type**	Upright lockable
Date Installed	17/09/2024	**Ground Level (m OD)**	21.09

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		28.7	28.6	<0.1	<0.1	4.6	4.6	10.9	19.6	<1	<1		12.0	1018	280	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	6.68	
19/11/2024		88.3	88.3	<0.1	<0.1	6.0	6.0	9.2	9.2	1	<1		4.0	992	1770	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	6.67	
04/12/2024		78.5	72.2	<0.1	<0.1	3.0	3.0	7.5	7.5	<1	<1		4.0	1005	1276	Gas Data GFM435	Wet	Light	Slight	None	Rising	DRY	6.67	
08/01/2025		-35.3	-26.9	<0.1	<0.1	1.7	1.7	8.3	8.3	<1	<1		0.0	998	-450	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	DRY	6.66	
20/01/2025		57.4	57.1	<0.1	<0.1	3.7	3.7	4.0	4.0	<1	<1		5.0	1013	934	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	6.65	
10/02/2025		52.5	42.2	<0.1	<0.1	3.6	3.6	3.4	3.4	<1	<1		4.0	1013	773	Gas Data GFM435	Wet	Light	Overcast	None	Steady	DRY	6.66	
03/03/2025		24.7	24.3	<0.1	<0.1	3.5	3.5	2.7	2.7	<1	<1		10.0	1024	261	Gas Data GFM435	Dry	Still	None	None	Steady	DRY	6.66	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB18	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.50	**Diameter**	50mm
Filter Zone	6.50 - 14.50	**Cover Type**	Upright lockable
Date Installed	20/09/2024	**Ground Level (m OD)**	19.93

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	0.7	0.1	20.3	20.3	<1	<1		12.0	1018	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	13.52	
19/11/2024		3.6	3.4	<0.1	<0.1	2.5	2.5	17.9	17.9	<1	<1		4.0	992	20	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	13.52	
05/12/2024		31.0	31.0	<0.1	<0.1	2.0	2.0	18.6	18.6	<1	<1		10.0	1004	316	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	DRY	13.49	
08/01/2025		10.0	10.0	<0.1	<0.1	0.9	0.9	17.9	17.9	<1	<1		0.0	997	105	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	DRY	13.48	
20/01/2025		9.9	9.8	<0.1	<0.1	2.2	2.2	16.9	16.9	<1	<1		5.0	1013	93	Gas Data GFM436	Dry	Light	Overcast	None	Steady	DRY	13.54	
12/02/2025		-0.9	-0.7	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		5.0	1016	-4	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	DRY	13.50	
04/03/2025		6.2	6.2	<0.1	<0.1	0.9	0.9	18.3	18.3	<1	<1		2.0	1025	51	Gas Data GFM435	Dry	Still	None	None	Falling	DRY	13.50	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB19	**Installation Type**	Standpipe
Depth to Base (m bgl)	8.00	**Diameter**	50mm
Filter Zone	2.00 - 8.00	**Cover Type**	Upright lockable
Date Installed	19/09/2024	**Ground Level (m OD)**	20.87

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
10/01/2025		-67.3	<0.1	<0.1	<0.1	2.2	2.2	6.0	6.0	<1	<1		-4.0	1014	<1	Gas Data GFM436	Frozen	Light	Slight	None	Steady	6.20	7.82	
10/02/2025		48.1	<0.1	<0.1	<0.1	1.0	1.0	13.0	13.0	<1	<1		4.0	1013	720	Gas Data GFM435	Wet	Light	Overcast	None	Steady	6.90	7.85	
04/03/2025		4.7	4.3	<0.1	<0.1	2.5	2.5	0.4	0.5	1	<1		2.0	1023	34	Gas Data GFM435	Dry	Still	None	None	Falling	DRY	7.45	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB20	**Installation Type**	Standpipe
Depth to Base (m bgl)	12.00	**Diameter**	50mm
Filter Zone	2.00 - 12.00	**Cover Type**	Upright lockable
Date Installed	24/09/2024	**Ground Level (m OD)**	16.65

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	1.0	1.0	19.4	20.4	<1	<1		12.0	1020	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	11.09	12.55	
19/11/2024		11.5	11.5	<0.1	<0.1	3.7	3.7	16.3	16.4	1	<1		4.0	993	100	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	11.09	12.44	
05/12/2024		31.8	31.6	<0.1	<0.1	2.3	2.3	18.0	18.0	<1	<1		10.0	1004	327	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	11.05	12.49	
08/01/2025		10.0	10.0	<0.1	<0.1	2.4	2.4	16.5	16.5	<1	<1		0.0	997	104	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	11.03	12.40	
10/02/2025		<0.1	<0.1	<0.1	<0.1	2.8	2.8	16.1	16.1	<1	<1		4.0	1013	<1	Gas Data GFM435	Wet	Light	Overcast	None	Steady	11.06	12.36	
03/03/2025		19.6	19.6	<0.1	<0.1	2.7	2.7	16.4	16.4	<1	<1		10.0	1024	204	Gas Data GFM435	Dry	Still	None	None	Steady	11.03	12.36	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB21	**Installation Type**	Standpipe
Depth to Base (m bgl)	7.50	**Diameter**	50mm
Filter Zone	2.00 - 7.50	**Cover Type**	Upright lockable
Date Installed	18/09/2024	**Ground Level (m OD)**	22.56

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		3.2	3.2	<0.1	<0.1	1.4	1.4	18.6	20.3	<1	<1		13.0	1020	17	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	7.82	
19/11/2024		23.1	23.1	<0.1	<0.1	5.3	5.2	13.3	13.3	1	<1		4.0	992	222	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	DRY	7.81	
05/12/2024		23.9	23.0	<0.1	<0.1	1.2	1.2	18.7	18.7	2	<1		11.0	1004	1305	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	DRY	7.83	
08/01/2025		-26.3	-26.1	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		0.0	997	-346	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	DRY	7.81	
04/03/2025		25.6	25.5	<0.1	<0.1	4.6	3.4	12.9	12.9	3	<1		2.0	1024	271	Gas Data GFM435	Dry	Still	None	None	Falling	DRY	7.82	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB22	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.50	**Diameter**	50mm
Filter Zone	9.00 - 14.50	**Cover Type**	Upright lockable
Date Installed	24/09/2024	**Ground Level (m OD)**	20.33

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		22.5	22.5	<0.1	<0.1	6.5	6.5	11.5	18.8	<1	<1		13.0	1020	216	Gas Data GFM435	Moist	Light	Overcast	None	Falling	DRY	13.82	
20/11/2024		-22.7	-22.3	<0.1	<0.1	<0.1	<0.1	19.5	19.5	2	<1		0.0	1004	-211	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	DRY	13.74	
05/12/2024		67.5	66.9	<0.1	<0.1	4.0	4.0	14.5	14.5	<1	<1		11.0	1004	1120	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	DRY	13.70	
08/01/2025		-44.4	-44.4	<0.1	<0.1	<0.1	<0.1	18.8	18.8	<1	<1		0.0	1000	-785	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	DRY	13.68	
04/03/2025		1.2	1.2	<0.1	<0.1	4.7	4.6	12.9	12.9	<1	<1		2.0	1025	5	Gas Data GFM435	Dry	Still	None	None	Falling	DRY	13.69	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB23	**Installation Type**	Standpipe
Depth to Base (m bgl)	12.00	**Diameter**	50mm
Filter Zone	2.00 - 12.00	**Cover Type**	Upright lockable
Date Installed	27/09/2024	**Ground Level (m OD)**	12.21

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	1.5	1.5	18.9	20.1	<1	<1		13.0	1021	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	5.80	11.08	
20/11/2024		-0.3	<0.1	<0.1	<0.1	0.5	0.5	19.1	19.1	1	<1		1.0	1004	-1	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	5.78	10.99	
05/12/2024		<0.1	<0.1	<0.1	<0.1	1.9	1.9	18.4	18.4	<1	<1		11.0	1004	<1	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	5.77	10.99	
08/01/2025		-0.5	<0.1	<0.1	<0.1	0.3	0.3	18.8	18.8	<1	<1		0.0	1000	-2	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	5.70	10.96	
04/03/2025		-0.6	-0.6	<0.1	<0.1	0.8	0.8	17.8	17.8	<1	<1		2.0	1028	-2	Gas Data GFM435	Dry	Still	None	None	Falling	5.65	9.67	

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Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHB24	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	4.00 - 14.00	**Cover Type**	Upright lockable
Date Installed	30/09/2024	**Ground Level (m OD)**	13.04

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
04/11/2024		<0.1	<0.1	<0.1	<0.1	1.1	0.4	20.2	20.2	<1	<1		13.0	1021	<1	Gas Data GFM435	Moist	Light	Overcast	None	Falling	7.15	12.34	
20/11/2024		<0.1	<0.1	<0.1	<0.1	0.1	0.1	19.5	19.6	1	<1		1.0	1004	<1	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	7.14	11.97	
05/12/2024		0.9	<0.1	<0.1	<0.1	1.7	1.7	18.4	18.4	6	<1		11.0	1005	<1	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	7.13	12.27	
08/01/2025		<0.1	<0.1	<0.1	<0.1	0.7	0.7	17.8	17.8	<1	<1		0.0	997	<1	Gas Data GFM436	Frozen	Still	Overcast	None	Rising	7.10	11.98	
12/02/2025		<0.1	<0.1	<0.1	<0.1	0.2	0.2	18.4	18.4	<1	<1		5.0	1018	<1	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	7.07	11.78	
03/03/2025		<0.1	<0.1	<0.1	<0.1	1.1	1.1	17.4	17.4	<1	<1		10.0	1025	<1	Gas Data GFM435	Dry	Still	None	None	Steady	7.05	11.80	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC01	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	6.50 - 15.00	**Cover Type**	Upright lockable
Date Installed	26/09/2024	**Ground Level (m OD)**	5.23

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
20/11/2024		<0.1	<0.1	<0.1	<0.1	1.1	1.1	18.6	18.8	<1	<1		2.0	1006	<1	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	1.05	14.16	
09/01/2025		<0.1	<0.1	<0.1	<0.1	1.8	0.9	16.7	17.3	<1	<1		2.0	1005	<1	Gas Data GFM436	Wet	Moderate	None	None	Steady	1.06	14.14	
12/02/2025		<0.1	<0.1	<0.1	<0.1	0.6	0.6	18.0	18.0	<1	<1		5.0	1018	<1	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	1.07	14.03	
03/03/2025		<0.1	<0.1	<0.1	<0.1	1.6	1.5	16.6	16.6	1	<1		10.0	1025	<1	Gas Data GFM435	Dry	Still	None	None	Steady	1.09	13.95	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC02	**Installation Type**	Standpipe
Depth to Base (m bgl)	8.00	**Diameter**	50mm
Filter Zone	2.00 - 8.00	**Cover Type**	Upright lockable
Date Installed	30/09/2024	**Ground Level (m OD)**	7.26

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
19/11/2024		<0.1	<0.1	<0.1	<0.1	1.7	1.7	16.4	16.4	1	<1		5.0	995	<1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	2.82	7.58	
05/12/2024		<0.1	<0.1	<0.1	<0.1	0.4	0.4	19.9	19.9	<1	<1		12.0	1005	<1	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	2.74	7.43	
09/01/2025		<0.1	<0.1	<0.1	<0.1	0.7	0.7	17.6	17.6	<1	<1		2.0	1005	<1	Gas Data GFM436	Wet	Moderate	None	None	Steady	2.74	7.31	
31/01/2025		<0.1	<0.1	<0.1	<0.1	1.1	1.0	17.0	17.1	<1	<1		4.0	1020	<1	Gas Data GFM436	Wet	Moderate	Cloudy	Slight	Steady	2.79	7.16	
12/02/2025		<0.1	<0.1	<0.1	<0.1	1.4	1.4	16.2	16.2	<1	<1		5.0	1017	<1	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	2.76	7.15	
04/03/2025		<0.1	<0.1	<0.1	<0.1	0.9	0.9	17.6	17.6	1	<1		2.0	1023	<1	Gas Data GFM435	Dry	Still	None	None	Falling	2.77	7.09	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC03	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	10.00 - 15.00	**Cover Type**	Upright lockable
Date Installed	30/09/2024	**Ground Level (m OD)**	12.84

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
19/11/2024		<0.1	<0.1	<0.1	<0.1	2.0	2.0	18.2	18.2	1	<1		5.0	995	<1	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	11.13	14.77	
05/12/2024		6.1	5.9	<0.1	<0.1	2.4	2.4	17.7	17.7	<1	<1		12.0	1004	43	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	11.12	14.24	
09/01/2025		-6.0	<0.1	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		2.0	1004	-62	Gas Data GFM436	Wet	Moderate	None	None	Steady	11.11	14.76	
12/02/2025		<0.1	<0.1	<0.1	<0.1	0.3	0.3	18.3	18.3	<1	<1		5.0	1016	<1	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	11.12	14.75	
04/03/2025		1.9	1.9	<0.1	<0.1	2.2	2.2	16.6	16.6	<1	<1		2.0	1023	9	Gas Data GFM435	Dry	Still	None	None	Falling	11.14	14.66	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC04	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.00	**Diameter**	50mm
Filter Zone	5.00 - 14.00	**Cover Type**	Upright lockable
Date Installed	02/10/2024	**Ground Level (m OD)**	17.08

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
19/11/2024		-5.5	-5.5	<0.1	<0.1	2.1	2.1	18.0	18.0	<1	<1		5.0	994	-41	Gas Data GFM435	Wet	Light	Overcast	Heavy	Steady	13.99	14.04	
05/12/2024		13.8	13.7	<0.1	<0.1	1.3	1.3	19.1	19.1	<1	<1		12.0	1002	125	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	13.98	14.05	
09/01/2025		-13.8	13.6	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		2.0	1004	-167	Gas Data GFM436	Wet	Moderate	None	None	Steady	13.99	14.03	Insufficient water to develop
21/01/2025		5.3	5.3	<0.1	<0.1	2.0	2.0	16.6	16.6	<1	<1		4.0	1011	40	Gas Data GFM436	Moist	Light	Overcast	None	Falling	14.01	14.04	
12/02/2025		3.7	3.6	<0.1	<0.1	2.8	2.8	16.1	16.2	<1	<1		5.0	1016	22	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	14.00	14.01	
04/03/2025		17.4	17.2	<0.1	<0.1	3.0	3.0	16.1	16.1	1	<1		2.0	1022	178	Gas Data GFM435	Dry	Still	None	None	Falling	13.99	14.02	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC07	**Installation Type**	Standpipe
Depth to Base (m bgl)	6.50	**Diameter**	50mm
Filter Zone	2.00 - 6.50	**Cover Type**	Upright lockable
Date Installed	01/10/2024	**Ground Level (m OD)**	22.48

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
20/11/2024		5.4	5.4	<0.1	<0.1	8.6	8.6	0.1	0.1	2	<1		2.0	1002	39	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	DRY	6.43	
05/12/2024		85.5	82.2	<0.1	<0.1	6.2	6.2	1.8	2.0	12	<1		12.0	1000	1582	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	DRY	6.44	
09/01/2025		-17.4	17.1	<0.1	<0.1	<0.1	<0.1	18.8	18.8	<1	<1		2.0	1004	-221	Gas Data GFM436	Wet	Moderate	None	None	Steady	DRY	6.48	
21/01/2025		46.8	39.0	<0.1	<0.1	9.0	8.9	0.2	0.2	<1	<1		4.0	1011	600	Gas Data GFM436	Moist	Light	Overcast	None	Falling	DRY	6.42	
12/02/2025		11.4	11.1	<0.1	<0.1	8.8	8.8	0.4	0.4	<1	<1		5.0	1016	109	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	DRY	6.42	
04/03/2025		21.6	16.3	<0.1	<0.1	6.5	6.5	2.1	2.1	2	<1		2.0	1020	216	Gas Data GFM435	Dry	Still	None	None	Falling	DRY	6.41	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Cable Route Sections B & C	**Project No.**	PC248770
Client	National Grid Ventures		

Installation Details

Location ID	BHC08	**Installation Type**	Standpipe
Depth to Base (m bgl)	14.00	**Diameter**	50mm
Filter Zone	5.00 - 14.00	**Cover Type**	Upright lockable
Date Installed	08/10/2024	**Ground Level (m OD)**	20.94

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
20/11/2024		-23.7	-23.4	<0.1	<0.1	0.9	0.9	18.4	18.4	1	<1		2.0	1002	-215	Gas Data GFM435	Frozen	Moderate	Cloudy	None	Steady	DRY	13.80	
05/12/2024		80.4	78.7	<0.1	<0.1	1.7	1.7	15.5	17.3	1	<1		12.0	1000	1428	Gas Data GFM435	Wet	Moderate	Cloudy	Slight	Falling	13.88	13.93	
13/01/2025		-28.3	-28.0	<0.1	<0.1	<0.1	<0.1	19.2	19.2	<1	<1		5.0	1032	-373	Gas Data GFM436	Dry	Light	Cloudy	None	Steady	13.88	13.89	Insufficient water to develop
21/01/2025		42.4	42.3	<0.1	<0.1	1.9	1.9	15.3	15.4	<1	<1		4.0	1010	599	Gas Data GFM436	Moist	Light	Overcast	None	Falling	13.89	13.91	
12/02/2025		10.0	10.0	<0.1	<0.1	1.7	1.7	15.7	15.7	<1	<1		5.0	1016	94	Gas Data GFM435	Wet	Light	Overcast	Slight	Steady	13.88	13.90	
04/03/2025		20.2	20.2	<0.1	<0.1	1.6	1.6	16.4	16.4	7	<1		2.0	1020	209	Gas Data GFM435	Dry	Still	None	None	Falling	13.90	13.91	

Project	Lionlink - Cable Route Sections B & C	**Client**	National Grid Ventures	**Project No.**	PC248770
		Instrument used	Gas Data GFM436		

Location ID	Pipe Ref.	Installation Diameter (mm)	Date of Reading	pH	Temperature (°C)	Electrical Conductivity (µS/cm)	Electrical Resistivity (MΩ-cm)	DO Sat. (%)	DO Conc. (mg/l)	ORP (mV)	Salinity (PSU)	Turbidity (FNU)	Total Dissolved Solids (ppm)	Odour	Colour	Sheen	LNAPL (mm)	DNAPL (mm)	Depth to Water (m bgl)	Depth to Base (m)	Remarks
BHB01	1	50	12/02/2025	10.2	7.54	839			10.7	-43.7									9.59	14.35	
BHB02	1	50	12/02/2025	11.19	6.54	1321			7.44	-133.3									6.56	7.23	
BHB03A	1	50	23/01/2025	10.09	7.89	2848			4.28	-28.7									8.84	9.57	
BHB04	1	50	23/01/2025	10.56	11.7	1485			3.01	-290.5									2.75	9.62	
BHB05	1	50	11/02/2025																DRY	13.20	
BHB06A	1	50	11/02/2025																DRY	7.84	
BHB07	1	50	11/02/2025																DRY	14.06	
BHB08	1	50	11/02/2025																DRY	7.66	
BHB09	1	50	11/02/2025																DRY	13.59	
BHB10	1	50	11/02/2025																4.10	4.20	Insufficient water to sample
BHB11	1	50	23/01/2025	10.13	9.60	2840			6.77	-25.3									6.84	8.97	
BHB12	1	50	11/02/2025																14.39	14.41	Insufficient water to sample
BHB13	1	50	23/01/2025	11.00	10.21	2303			6.38	-49.6									2.70	7.91	
BHB15	1	50	10/02/2025																DRY	6.66	
BHB18	1	50	12/02/2025																DRY	13.50	
BHB19	1	50	10/02/2025	11.03	6.96	3523			4.32	-105.1									6.90	7.85	
BHB20	1	50	10/02/2025	10.30	7.59	1017			9.50	-37.8									11.06	12.36	
BHB21	1	50	08/01/2025																DRY	7.81	
BHB22	1	50	08/01/2025																DRY	13.68	
BHB23	1	50	11/02/2025	9.85	8.27	892			9.35	-14.8									5.70	12.96	
BHB24	1	50	12/02/2025	10.67	6.60	736			5.88	-81.6									7.07	11.78	
BHC01	1	50	12/02/2025	10.87	9.20	855			3.51	-152.4									1.07	14.03	
BHC02	1	50	31/01/2025	9.36	6.77	874			4.61	-109.0									2.79	7.16	
BHC03	1	50	12/02/2025	10.44	7.38	788			10.51	-110.4									11.12	14.75	
BHC04	1	50	12/02/2025																14.00	14.01	Insufficient water to sample
BHC07	1	50	12/02/2025																DRY	6.42	
BHC08	1	50	12/02/2025																13.88	13.90	Insufficient water to sample

APPENDIX 10

Decommissioning Record

DECOMMISSIONING RECORD

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

Hole ID	Date	Depth to Water (m bgl)	Depth to Base (m bgl)	Response Zone (m bgl)	Cover Type	Pipe Diameter (mm)	Volume of Bentonite pelets used to fill instalation (Litres)	Pit Dimensions (m)	Pit Depth (m)	Level Pipe Cut (m)	Backfill details	Cover and fencing removed	Remarks	Operatives Name
Section B														
BHB01	24/02/2025	9.60	14.30	8.00-14.00	Raised	50	20	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB02	24/02/2025	7.04	7.30	2.50-7.50	Raised	50	15	0.60X0.60	1.20	2.50	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB03A	24/02/2025	8.52	9.62	3.00-10.00	Raised	50	15	0.40X0.40	1.20	2.90	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB04	24/02/2025	2.34	9.46	7.00-9.00	Raised	50	10	0.50X0.50	1.20	1.50	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB05	25/02/2025	DRY	13.30	7.00-13.00	Raised	50	23	0.50X0.50	1.20	1.30	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB06A	25/02/2025	DRY	7.90	2.00-8.00	Raised	50	15	0.40x0.40	1.20	1.10	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB07	25/02/2025	DRY	14.10	10.00-14.00	Raised	50	25	0.50X0.50	1.20	1.20	Topsoil to 1.00m, bentonite to depth	Yes	Partial blockage in pipe - cleared	SR
BHB08	25/02/2025	DRY	7.69	2.00-8.00	Raised	50	15	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB09	10/03/2025	DRY	13.71	5.00-14.50	Raised	50	11	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	Some gravel surround fell down pipe when pipework removed	DE
BHB10	10/03/2025	DRY	4.24	2.00-5.00	Raised	50	7	0.50x0.50	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB11	10/03/2025	4.88	9.00	2.00-9.00	Raised	50	12	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB12	26/02/2025	DRY	14.46	9.50-14.50	Raised	50	24	0.40x0.40	1.20	1.90	Topsoil to 1.00m, bentonite to depth	Yes	-	SR
BHB13	26/02/2025	0.55	7.96	2.00-8.00	Raised	50	17	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	Partial blockage in pipe - cleared	SR
BHB15	10/03/2025	DRY	6.68	3.00-7.00	Raised	50	9	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB18	12/03/2025	DRY	13.63	6.50-14.50	Raised	50	20	0.40x0.40	1.20	3.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB19	13/03/2025	6.75	7.89	2.00-8.00	Raised	50	10	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB20	11/03/2025	11.20	12.50	2.00-12.00	Raised	50	15	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB21	13/03/2025	DRY	7.80	2.00-7.50	Raised	50	10	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB22	12/03/2025	DRY	13.75	9.00-14.50	Raised	50	17	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB23	12/03/2025	5.66	9.70	2.00-12.00	Raised	50	15	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHB24	14/03/2025	7.09	11.85	4.00-14.00	Raised	50	17	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE

GEOTECHNICS
BUILD ON CONFIDENCE

DECOMMISSIONING RECORD

Project: Lionlink - Cable Route Sections B & C

Project Number: PC248770

Client: National Grid Ventures

Hole ID	Date	Depth to Water (m bgl)	Depth to Base (m bgl)	Response Zone (m bgl)	Cover Type	Pipe Diameter (mm)	Volume of Bentonite pelets used to fill instalation (Litres)	Pit Dimensions (m)	Pit Depth (m)	Level Pipe Cut (m)	Backfill details	Cover and fencing removed	Remarks	Operatives Name
Section C														
BHC01	13/03/2025	1.06	14.60	6.50-15.00	Raised	50	17	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHC02	11/03/2025	2.81	7.00	2.00-8.00	Raised	50	14	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHC03	11/03/2025	11.15	14.90	10.00-15.00	Raised	50	16	0.40x0.40	1.20	1.50	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHC04	11/03/2025	14.10	14.60	5.00-14.00	Raised	50	16	0.40x0.40	1.20	2.50	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHC07	11/03/2025	DRY	6.47	2.00-6.50	Raised	50	9	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BHC08	11/03/2025	14.03	14.03	5.00-14.00	Raised	50	17	0.40x0.40	1.20	2.50	Topsoil to 1.00m, bentonite to depth	Yes	-	DE

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APPENDIX 11

Laboratory Test Results - Geotechnical

APPENDIX 11

DATA SHEET - Laboratory Test Symbols

Classification and Strength

Symbol	**C - Clay** **M - Silt** (0 - containing organic matter)
	Plasticity L - Low I - Intermediate H - High V - Very High E - Extremely High
Ip	Plasticity Index
%	% retained on 425 µm sieve, shown under Ip value
w_L	Liquid Limit
w_P	Plastic Limit
NP	Non-Plastic
NAT	Sample tested in natural state
w	Water Content
P_d	Particle Density
Test	**Quick undrained triaxial tests** SS Single stage - 102mm diameter. S3 Single stage - set of 3 38mm diameter. MS Multistage - 102mm diameter. D Drained Test HV Hand Vane PP Pocket Penetrometer (kg/cm²) NST Not suitable for test
γ_b	Bulk Density
σ_3	Triaxial Cell Pressure
$\sigma_1 - \sigma_3$	Deviator Stress
##	Excessive Strain
c_u	Undrained Cohesion
c	Cohesion Intercept
ϕ	Angle of Shearing Resistance
Linear Shrink	Linear Shrinkage
Stab add-	Stabiliser which is added

Consolidation

m_v	Coefficient of Volume Compressibility
c_{v50}	Coefficient of Consolidation - Log t
c_{v90}	Coefficient of Consolidation - $\sqrt{t}$

Rock

UF	Unacceptable Failure

Chemical Analysis

Acid Soluble	Total sulphate in specimen, expressed as SO_3 %, value in brackets expressed as SO_4 %
Water Soluble	Soluble sulphate in 2:1 water : soil extract, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
In Water	Sulphate content of groundwater, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
pH	pH value
Organic content	Organic content expressed as a percentage of dry weight
Chloride	Chloride Ion content expressed as a percentage of dry weight

MCV, Compaction, CBR

MCV	Moisture Condition Value at natural water content
MCC	Moisture Condition Calibration
CCV	Chalk Crushing Value
Compaction	
Type	2.5 = 2.5 kg Rammer 4.5 = 4.5 kg Rammer V = Vibrating Hammer
γ_b	Bulk Density
γ_d	Dry Density
CBR California Bearing Ratio	
Type	2.5 = Test on Specimen Recompacted using 2.5 kg Rammer 4.5 = As above but using 4.5 kg Rammer V = As above but using Vibrating Hammer M = Test on open drive mould specimen cut in field S = Soaked Specimen
Top	CBR at top of mould
Bottom	CBR at bottom of mould
ND	None Detected
*	In the Sample Description denotes a laboratory only description

Laboratory Test Certificate

Issued from:	Geotechnics Ltd The Geotechnical Centre 203 Torrington Avenue Tile Hill Coventry, CV4 9AP	**Date of issue**	15/01/2025
		Issue No.	1
		Client Ref. No.	N/A
		Samples / Material Source	
		Samples Recv'd	20/09/2024
Testing Start Date	20/09/2024	Sample State	As received
Testing Complete	09/01/2025	Sampled by	Geotechnics Limited
Comments	*Specimen descriptions, opinions or interpretations are outside the scope of UKAS accreditation.* *The results within this report(s) relate only to the samples tested as received from the customer.* *The reports shall not be reproduced, except in full, without approval of the laboratory.*		
Project No	PC248770		
Project Name	LionLink - Cable Route (Sections B & C)		

Summary of Tests

Standard	Test Description	Test Quantity	UKAS
BS EN ISO 17892-1:2014	Water Content	111	Yes
BS EN ISO 17892-12:2018 Cl. 5.3 & 5.5	Liquid Limit and Plastic Limit (4 Points Method)	105	Yes
BS EN ISO 17892-8:2018	Shear Strength by Unconsolidated Undrained Triaxial Test - Single Stage	30	Yes
Non BS1377 Test	Shear Strength by Hand Vane	4	No
BS EN ISO 17892-4:2016 Cl. 5.2	Particle Size Distribution by Sieving Method	96	Yes
BS EN ISO 17892-4:2016 Cl. 5.4	Particle Size Distribution by Pipette Method	50	Yes
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	48	No
BS 1377-2:1990 Cl. 8.2	Particle Density by Gas Jar Method	1	Yes
BS EN ISO 17892-3:2015 Cl. 5.1	Particle Density by Fluid Pycnometer	19	Yes
BS 1377-4:1990 Cl. 3.3	2.5 kg Rammer Dry Density/Moisture Content Relationship (Compaction)	23	Yes
BS 1377-4:1990 Cl. 7.2	California Bearing Ratio (CBR) 4.5kg	24	Yes
BS 1377-4:1990 Cl. 7.3	e/o California Bearing Ratio - for soaking and/or swelling measurement	52	No

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Test Results checked and approved for issue.
Signed for, and on behalf of Geotechnics Limited

Paul Smart (Laboratory Manager)

LAB AWARDS
Laboratory of the year
Geotechnics Ltd

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Summary of Classification Test Results

Project Number:
PC248770

Project Name:
LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
BHB01		7.50	8.00	B	Brown clayey SAND						2.62-sp	
BHB02		1.70		D	Brown mottled dark grey slightly sandy slightly gravelly CLAY.	17.2	90	41 4pt	17	24		
BHB02		5.50		D	Brown slightly gravelly sandy SILT with clay pockets.	25.2	88	20 4pt	NP			
BHB02		14.50	15.00	B	Brown silty SAND						2.63-sp	
BHB03A		0.90		D	Brown slightly sandy slightly gravelly CLAY.	14.6	85	29 4pt	12	17		
BHB03A		2.50		D	Grey slightly sandy slightly gravelly CLAY.	20.2	90	35 4pt	16	19		
BHB03A		4.00	4.45	UT	Dark grey slightly sandy slightly gravelly CLAY.	17.4						WC - Hand Vane = 150+ kPa
BHB03A		4.50		D	Brown mottled grey slightly gravelly CLAY.	19.9	88	37 4pt	16	21		
BHB03A		8.00	8.45	UT	Dark grey slightly gravelly CLAY.	16.7						WC - Hand Vane = 150+ kPa
BHB03A		10.00	10.45	UT	Greyish brown slightly sandy slightly gravelly CLAY.	16.0	90	46 4pt	19	27	2.62-sp	
BHB04		1.00		D	Brown mottled light grey slightly gravelly CLAY.	13.9	88	34 4pt	14	20		
BHB04		5.55	5.65	D	Grey slightly gravelly CLAY.	15.7	78	34 4pt	14	20		
BHB04		13.00		D	Dark grey slightly gravelly sandy CLAY.	25.1	87	32 4pt	14	18		
BHB05		2.20		D	Dark grey slightly gravelly CLAY.	22.3	87	47 4pt	20	27		
BHB06		1.00		D	Grey mottled brown slightly gravelly CLAY.	15.2	87	45 4pt	17	28		
BHB06		4.50		D	Dark grey slightly gravelly CLAY.	19.2	81	44 4pt	18	26		
BHB06A		1.00		D	Grey mottled brown slightly gravelly CLAY.	16.2	77	46 4pt	19	27		
BHB06A		5.00	5.45	D	Dark grey slightly gravelly CLAY.	15.4	89	42 4pt	17	25		
BHB06A		6.00	6.40	UT	Dark grey slightly sandy slightly gravelly CLAY.	17.3						WC - Hand Vane = 150+ kPa
BHB07		0.50		D	Brown mottled grey slightly gravelly CLAY.	15.8	75	51 4pt	17	34		
BHB07		2.45	2.50	D	Dark grey slightly gravelly CLAY.	18.8	89	40 4pt	18	22		
BHB07		5.50		D	Dark grey slightly gravelly CLAY.	21.4	79	46 4pt	19	27		
BHB07		6.00	6.45	UT	Dark grey slightly sandy slightly gravelly CLAY.	18.3						WC - Hand Vane = 150+ kPa
BHB08		1.70		D	Brown slightly sandy slightly gravelly CLAY.	30.6	87	61 4pt	20	41		
BHB08		5.50		D	Dark grey slightly gravelly CLAY.	24.9	70	47 4pt	19	28		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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Summary of Classification Test Results

Project Number:
PC248770

Project Name:
LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
BHB08		7.00	7.45	D	Grey slightly gravelly CLAY.	15.5	77	30 4pt	14	16		
BHB08		12.20		D	Brown slightly sandy CLAY.	21.8	97	28 4pt	19	9		
BHB09		3.00	3.45	D	Brown slightly gravelly CLAY.	19.5	73	29 4pt	13	16		
BHB10		1.70		D	Brown slightly sandy slightly gravelly CLAY.	21.6	89	45 4pt	19	26		
BHB10		9.00	9.45	D	Brown gravelly silty SAND.	13.6	35	20 4pt	NP			
BHB11		0.50		D	Brown slightly gravelly CLAY.	15.6	82	33 4pt	15	18		
BHB11		3.55	4.00	D	Dark grey slightly gravelly CLAY.	20.5	82	37 4pt	17	20		
BHB11		6.20		D	Dark grey slightly gravelly CLAY.	16.5	83	46 4pt	18	28		
BHB12		2.30		D	Dark grey mottled brown slightly gravelly CLAY.	20.6	83	47 4pt	21	26		
BHB12		6.00	6.10	D	Dark grey slightly gravelly CLAY.	16.0	90	44 4pt	17	27		
BHB12		9.25		D	Dark grey slightly gravelly CLAY.	11.8	87	28 4pt	12	16		
BHB13		0.80		D	Grey mottled brown slightly gravelly CLAY.	18.8	91	51 4pt	19	32		
BHB13		3.55	4.00	D	Dark grey slightly gravelly CLAY.	19.6	86	50 4pt	22	28		
BHB13		9.00	9.10	D	Dark grey slightly gravelly CLAY.	16.0	84	42 4pt	18	24		
BHB15		2.50	3.00	D	Brown mottled grey slightly gravelly CLAY.	20.9	89	44 4pt	18	26		
BHB15		5.80	6.00	B	White mottled grey slightly gravelly CHALK.	36.2	64	28 4pt	NP			
BHB18		2.50		D	Grey slightly gravelly CLAY.	19.3	72	43 4pt	18	25		
BHB18		4.45	4.50	D	Brown slightly gravelly CLAY.	16.3	74	26 4pt	14	12		
BHB19		0.60	1.20	D	Brown mottled grey slightly gravelly CLAY.	21.1	85	51 4pt	18	33		
BHB19		4.50	5.00	D	Brown slightly gravelly CLAY.	20.8	92	48 4pt	19	29		
BHB20		0.40	0.60	D	Brown slightly gravelly sandy CLAY.	10.6	91	34 4pt	15	19		
BHB21		2.50	3.00	D	Light grey slightly gravelly CLAY.	20.4	87	45 4pt	18	27		
BHB21		5.50	6.00	D	Dark grey slightly gravelly CLAY.	16.6	88	42 4pt	17	25		
BHB22		0.50		D	Brown mottled greyish brown slightly sandy slightly gravelly CLAY.	18.6	91	49 4pt	18	31		
BHB22		1.70		D	Brown mottled yellowish brown slightly sandy slightly gravelly CLAY.	23.4	83	45 4pt	19	26		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)

* BS1377 method

Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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Summary of Classification Test Results

Project Number:
PC248770

Project Name:
LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
BHB22		8.00	8.45	UT	Greyish brown slightly gravelly CLAY.	15.7						
BHB22		8.50		D	Greyish brown mottled brownish grey slightly sandy slightly gravelly CLAY.	14.4	85	23 4pt	12	11		
BHC01		0.50		D	Brown slightly gravelly sandy CLAY.	8.4	83	26 4pt	14	12		
BHC01		2.45	2.50	D	Brown slightly sandy slightly gravelly CLAY.	17.2	80	39 4pt	16	23		
BHC01		4.90	5.00	D	Dark grey slightly gravelly CLAY.	17.3	89	38 4pt	16	22		
BHC02		10.90	11.00	D	Brown sandy CLAY.	44.8	92	30 4pt	15	15		
BHC04		1.00	1.10	D	Brown slightly gravelly sandy CLAY.	20.1	81	37 4pt	13	24		
BHC04		4.00	4.45	UT	Brown SAND	3.8						WC - Unsuitable for PI Test
BHC07		0.60	1.20	D	Brown slightly sandy slightly gravelly CLAY.	15.2	91	49 4pt	19	30		
BHC07		4.50	5.00	D	Grey mottled brown slightly sandy slightly gravelly CLAY.	20.5	92	47 4pt	19	28		
BHC07		7.50	8.00	D	White mottled grey slightly gravelly CLAY.	21.0	75	28 4pt	16	12		
TPB01		2.50		D	Dark grey slightly gravelly CLAY.	21.0	89	46 4pt	20	26		
TPB02		1.20		D	Brown mottled dark grey slightly sandy slightly gravelly CLAY.	15.0	90	46 4pt	18	28		
TPB03		2.50		D	Dark grey mottled brown slightly gravelly CLAY.	19.2	87	44 4pt	19	25		
TPB04		0.60		D	Light brown mottled grey slightly gravelly CLAY.	18.8	83	43 4pt	15	28		
TPB05		1.20		D	Light grey mottled light brown slightly gravelly CLAY.	16.4	89	39 4pt	16	23		
TPB06		2.75		D	Dark grey mottled brown slightly gravelly CLAY.	17.0	89	37 4pt	16	21		
TPB07		0.75		D	Brown slightly gravelly CLAY.	13.5	73	40 4pt	16	24		
TPB08		2.50		D	Dark grey mottled brown slightly gravelly CLAY.	19.3	88	44 4pt	19	25		
TPB09		2.50		D	Dark grey mottled brown slightly gravelly CLAY.	19.3	86	43 4pt	18	25		
TPB10		0.50		D	Brown slightly sandy gravelly CLAY.	12.4	48	45 4pt	19	26		
TPB11		0.50		D	Brown slightly sandy slightly gravelly CLAY.	14.3	82	37 4pt	14	23		
TPB11		2.75		D	Dark grey mottled brown slightly gravelly CLAY.	20.1	88	45 4pt	19	26		
TPB12		1.20		D	Light brown mottled light grey slightly gravelly CLAY.	19.6	92	51 4pt	18	33		
TPB13		0.50		D	Brown slightly gravelly CLAY.	21.0	92	73 4pt	29	44		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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Summary of Classification Test Results

Project Number:
PC248770

Project Name:
LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
TPB13		2.75		D	Dark grey slightly gravelly CLAY.	57.1	91	49 4pt	21	28		
TPB14		1.20		D	Brown slightly sandy slightly gravelly CLAY.	13.3	79	26 4pt	11	15		
TPB16		1.20		D	Dark grey slightly sandy slightly gravelly CLAY.	18.6	89	53 4pt	20	33		
TPB18		1.20		D	Brown mottled grey slightly gravelly CLAY.	18.1	91	53 4pt	23	30		
TPB18		2.75		D	Grey mottled brown slightly gravelly CLAY.	20.4	92	48 4pt	21	27		
TPB20		0.60		D	Brown slightly gravelly silty SAND.	5.7	93	26 4pt	NP			
TPB21		0.60		D	Brown slightly gravelly silty SAND.	4.3	76	20 4pt	NP			
TPB22		0.60		D	Brown slightly gravelly silty SAND.	7.1	87	21 4pt	NP			
TPB23		0.60		D	MADE GROUND: Brown slightly sandy slightly gravelly clay.	5.6	66	26 4pt	13	13		
TPB23		2.50		D	Brown slightly gravelly silty SAND.	22.3	88	19 4pt	NP			
TPB24		0.60		D	MADE GROUND: Brown sandy silt.	4.2	56	26 4pt	NP			
TPB26		1.00		D	Light grey slightly gravelly CLAY.	14.3	88	46 4pt	19	27		
TPB26		3.00		D	Dark grey slightly gravelly CLAY.	21.2	90	44 4pt	20	24		
TPB27		2.00		D	Dark grey slightly gravelly CLAY.	19.2	90	47 4pt	20	27		
TPB30		0.50		D	Brown slightly sandy CLAY.	11.2	91	40 4pt	16	24		
TPB30		2.50		D	Brown slightly clayey SAND.	13.4	43	17 4pt	NP			
TPB31		1.00		D	Brown slightly gravelly SAND.	7.3	84	19 4pt	NP			
TPB32		2.00		D	Grey slightly gravelly CLAY.	18.9	81	46 4pt	19	27		
TPB33		1.00		D	Grey mottled brown slightly gravelly CLAY.	17.6	85	47 4pt	18	29		
TPC01		1.00		D	Brown slightly gravelly clayey SAND.	11.8	86	24 1pt (1.015)	NP			
TPC02		0.60		D	Brown slightly sandy slightly gravelly CLAY.	16.7	88	51 4pt	21	30		
TPC03		0.60		D	Brown slightly sandy slightly gravelly CLAY.	15.4	83	54 4pt	19	35		
TPC03		3.00		D	Brown slightly gravelly sandy CLAY.	14.9	83	25 4pt	10	15		
TPC05		1.20		D	Brown mottled grey slightly gravelly CLAY.	18.5	90	44 4pt	19	25		
TPC05		2.50		D	Brown slightly sandy slightly gravelly CLAY.	14.0	81	28 4pt	13	15		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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GEOTECHNICS

Summary of Classification Test Results

Project Number:
PC248770

Project Name:
LionLink - Cable Route

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
TPC06		2.00		D	Brown slightly sandy slightly gravelly CLAY.	18.7	89	46 4pt	16	30		
TPC07		2.50		D	Brownish grey slightly sandy slightly gravelly CLAY.	14.8	85	42 4pt	18	24		
TPC08		1.00		D	Greyish brown slightly sandy slightly gravelly CLAY.	18.9	92	50 4pt	21	29		
TPC09		2.50		D	Brownish grey slightly sandy slightly gravelly CLAY.	18.1	88	45 4pt	20	25		
TPC10		1.00		D	Grey mottled brown slightly sandy slightly gravelly CLAY.	18.0	90	44 4pt	17	27		
TPC10		3.00		D	Dark grey mottled brown slightly gravelly CLAY.	19.9	88	47 4pt	20	27		
TPC11		1.20		D	Brown slightly sandy slightly gravelly CLAY.	16.6	90	55 4pt	23	32		
TPC12		2.00		D	Dark grey mottled brown slightly sandy slightly gravelly CLAY.	21.1	85	51 4pt	23	28		
TPC13		1.50		D	Brown slightly gravelly CLAY.	16.1	74	46 4pt	18	28		
TPC14		2.00		D	Grey mottled brown slightly sandy slightly gravelly CLAY.	19.7	90	48 4pt	21	27		
TPC15		1.00		D	Brown slightly sandy slightly gravelly CLAY.	14.8	86	42 4pt	17	25		
TPC16		2.50		D	Dark brown slightly sandy slightly gravelly CLAY.	21.5	87	49 4pt	19	30		
TPC20		0.60		D	Brown slightly sandy slightly gravelly CLAY.	15.4	84	39 4pt	15	24		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

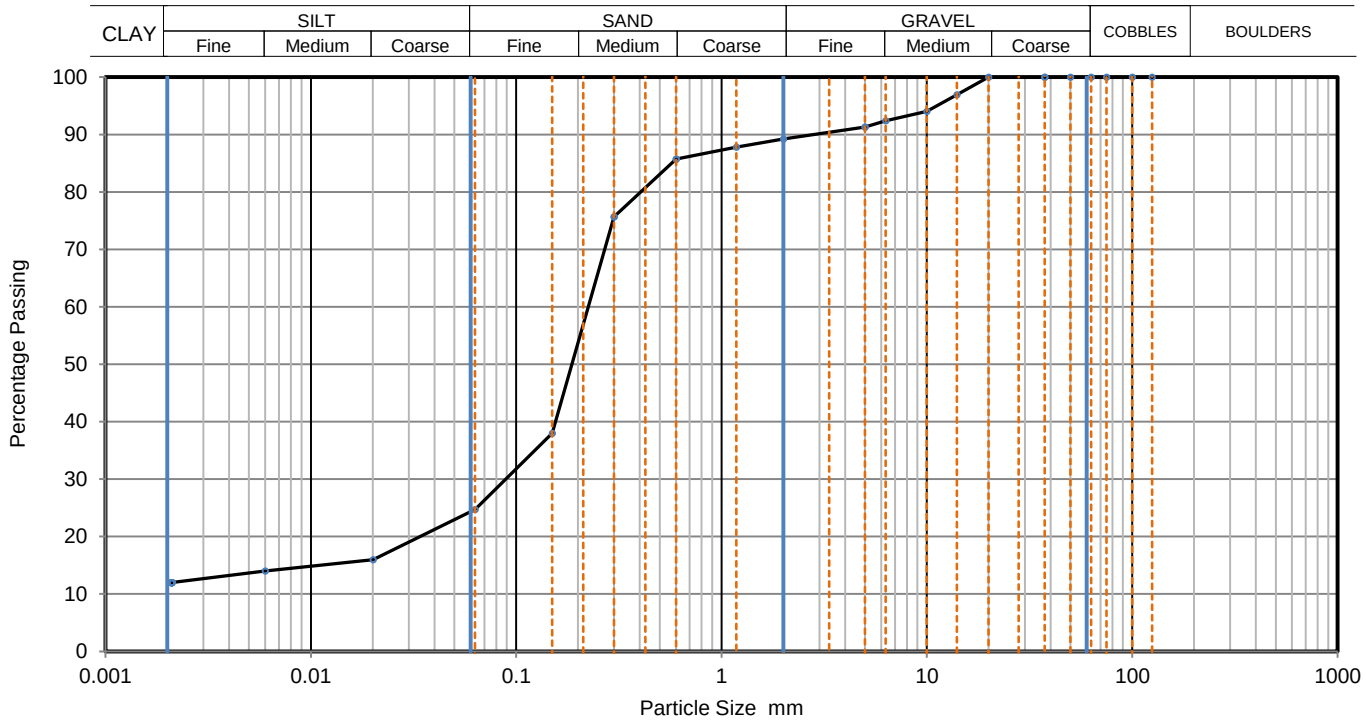
Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB01
		Sample No.	
Project Number:	PC248770	Depth m	1.00 - 1.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	16
100	100	0.006	14
75	100	0.002	12
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	94		
6.3	92		
5	91		
2	89		
1.18	88		
0.6	86		
0.3	76		
0.15	38	Particle density	(assumed)
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	11
Sand	65
Silt	12
Clay	12

Grading Analysis		
D100	mm	20
D60	mm	0.225
D30	mm	0.089
D10	mm	
Uniformity Coefficient		

Remarks

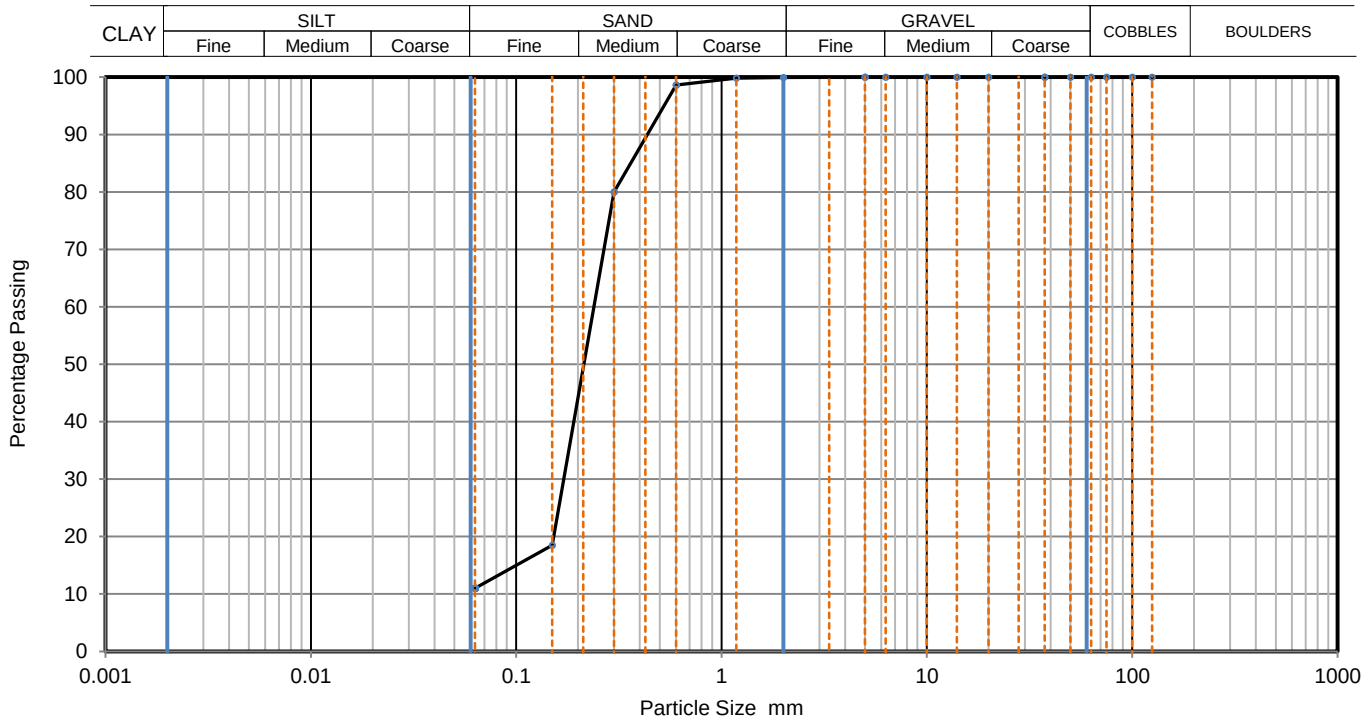
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB01
		Sample No.	
Project Number:	PC248770	Depth m	7.50 - 8.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	80		
0.15	19		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	89
Fines <0.063mm	11

Grading Analysis		
D100	mm	5
D60	mm	0.239
D30	mm	0.171
D10	mm	
Uniformity Coefficient		

Remarks

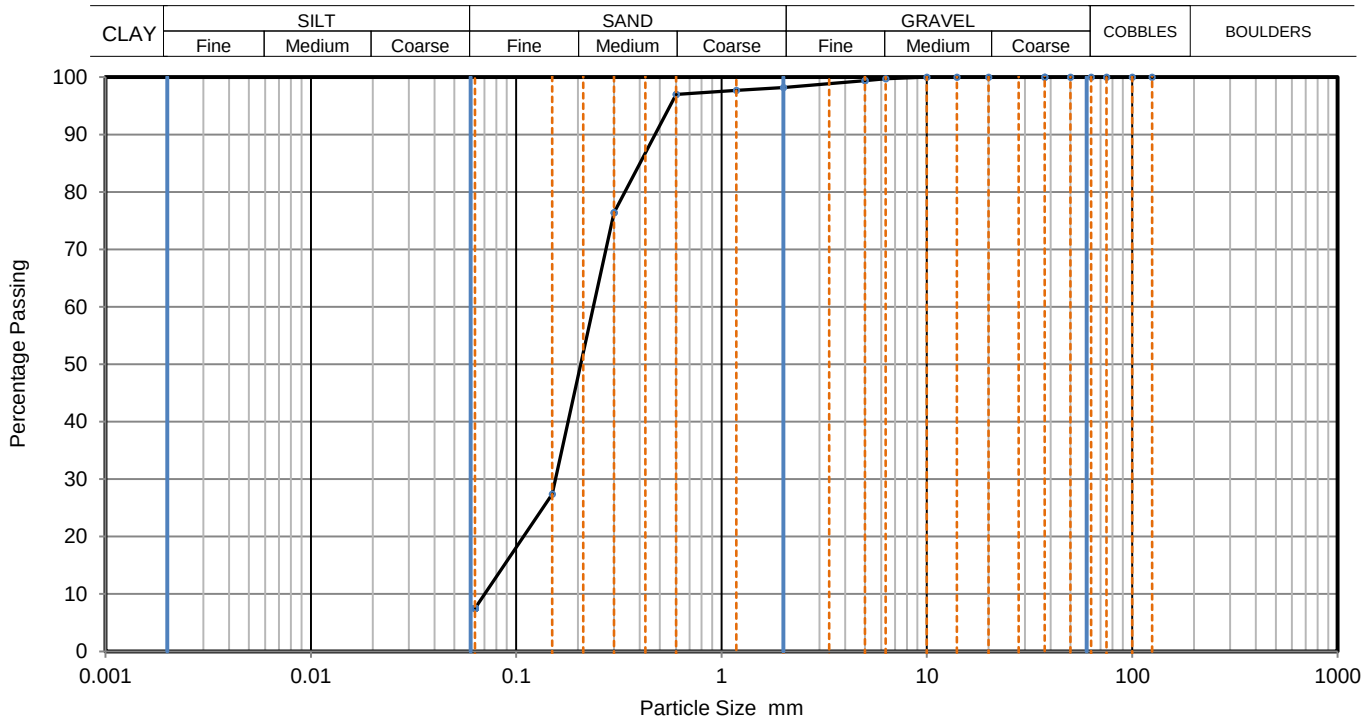
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB01
		Sample No.	
Project Number:	PC248770	Depth m	13.55 - 14.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
2	98		
1.18	98		
0.6	97		
0.3	76		
0.15	27		
0.063	8		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	90
Fines <0.063mm	8

Grading Analysis		
D100	mm	10
D60	mm	0.238
D30	mm	0.156
D10	mm	0.0701
Uniformity Coefficient		3.4

Remarks

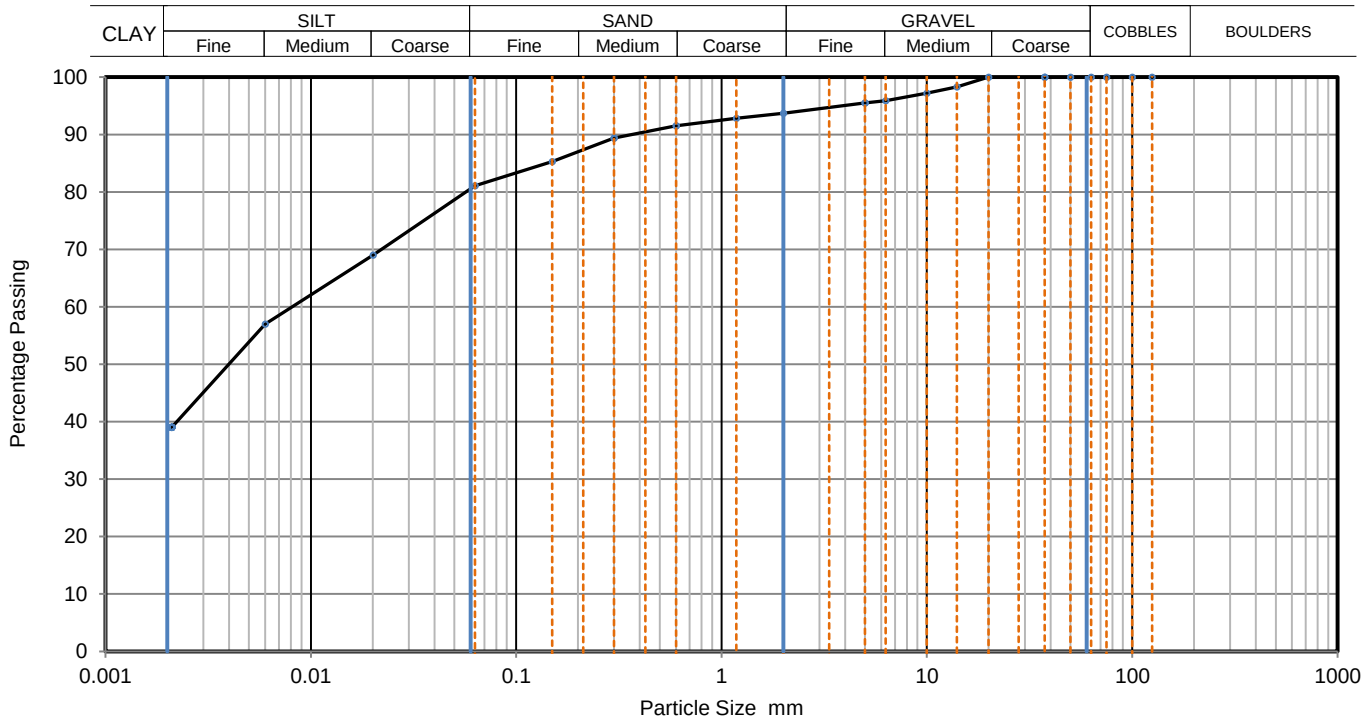
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB02
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 2.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	69
100	100	0.006	57
75	100	0.002	39
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	97		
6.3	96		
5	96		
2	94		
1.18	93		
0.6	92		
0.3	89		
0.15	85	Particle density (assumed)	
0.063	81	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	13
Silt	42
Clay	39

Grading Analysis		
D100	mm	20
D60	mm	0.008
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

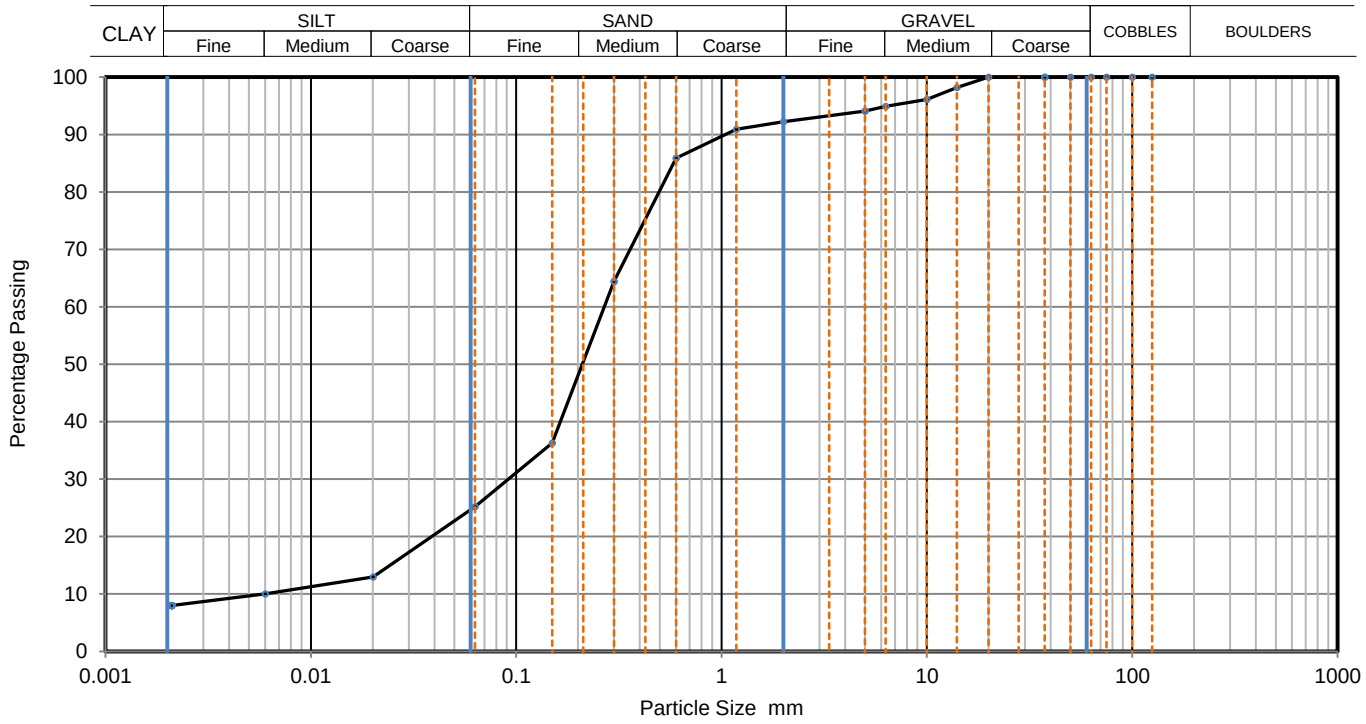
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB02
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 2.80
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	13
100	100	0.006	10
75	100	0.002	8
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	96		
6.3	95		
5	94		
2	92		
1.18	91		
0.6	86		
0.3	64		
0.15	36	Particle density (assumed)	
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	66
Silt	18
Clay	8

Grading Analysis		
D100	mm	20
D60	mm	0.269
D30	mm	0.0914
D10	mm	0.00568
Uniformity Coefficient		47

Remarks

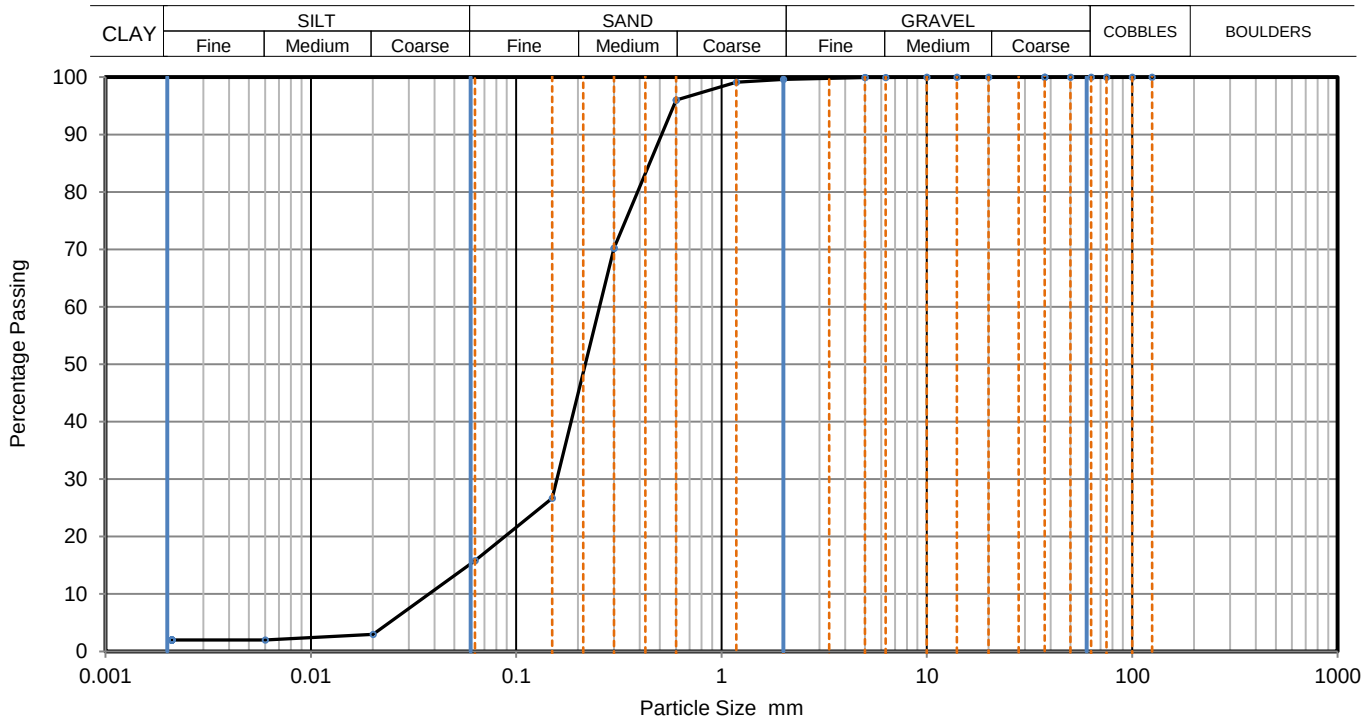
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB02
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	3
100	100	0.006	2
75	100	0.002	2
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	96		
0.3	70		
0.15	27	Particle density (assumed)	
0.063	16	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	84
Silt	14
Clay	2

Grading Analysis		
D100	mm	10
D60	mm	0.255
D30	mm	0.158
D10	mm	0.038
Uniformity Coefficient		6.7

Remarks

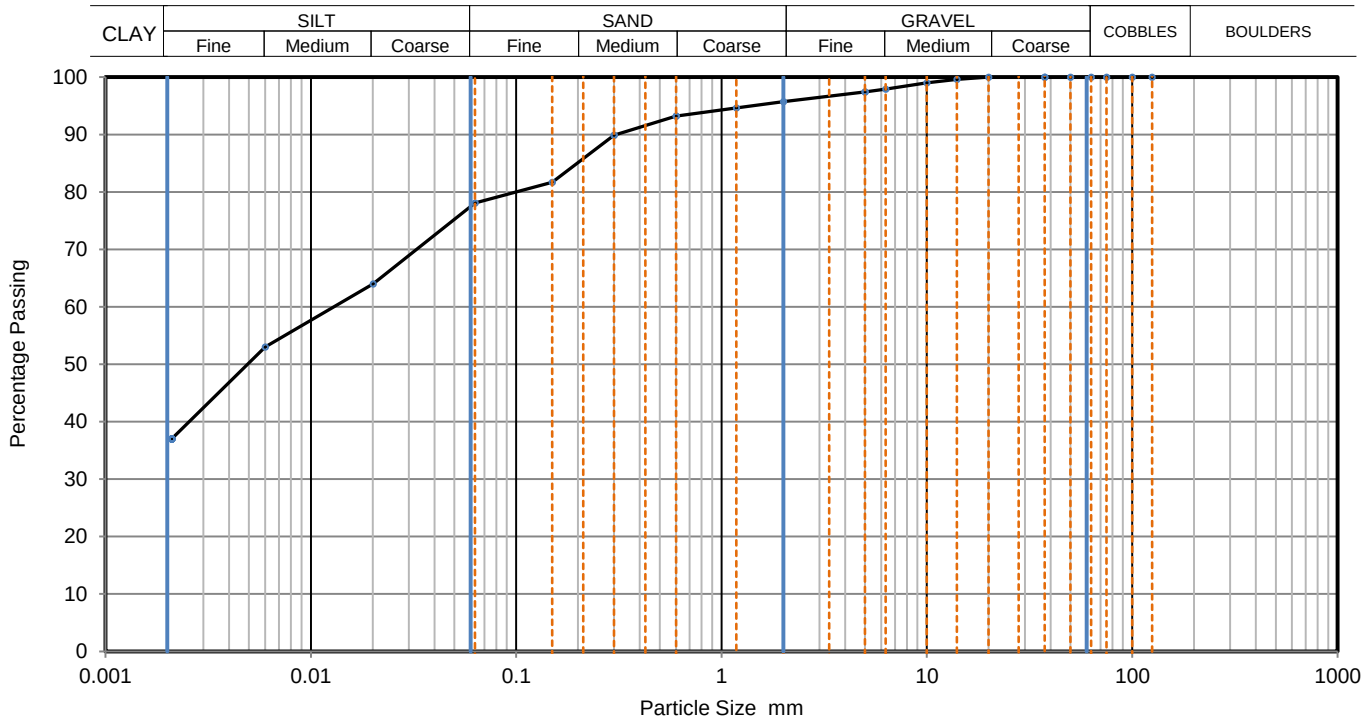
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB03A
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 2.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	64
100	100	0.006	53
75	100	0.002	37
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
2	96		
1.18	95		
0.6	93		
0.3	90		
0.15	82	Particle density	(assumed)
0.063	78	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	18
Silt	41
Clay	37

Grading Analysis		
D100	mm	20
D60	mm	0.0134
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

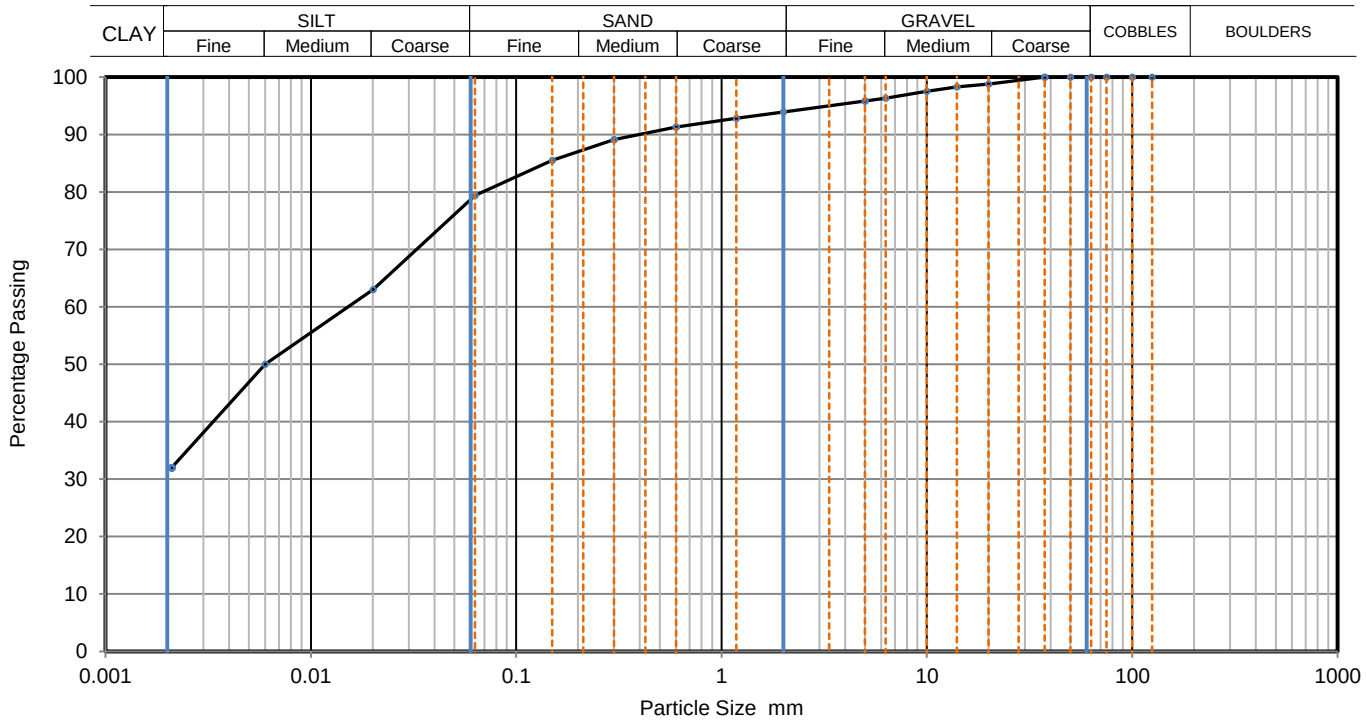
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB04
		Sample No.	
Project Number:	PC248770	Depth m	5.10 - 5.65
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	63
100	100	0.006	50
75	100	0.002	32
63	100		
50	100		
37.5	100		
20	99		
14	98		
10	98		
6.3	96		
5	96		
2	94		
1.18	93		
0.6	91		
0.3	89		
0.15	86	Particle density	(assumed)
0.063	79	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	14
Silt	48
Clay	32

Grading Analysis		
D100	mm	37.5
D60	mm	0.0155
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

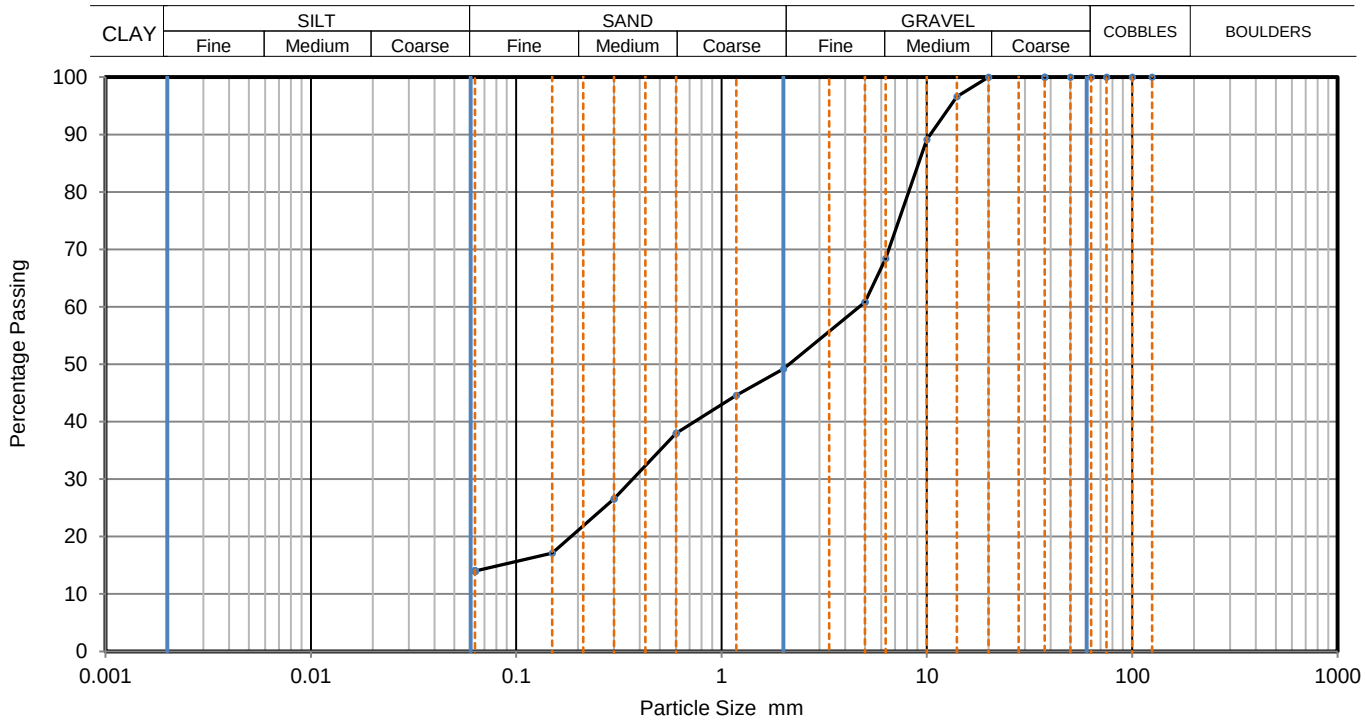
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB04
		Sample No.	
Project Number:	PC248770	Depth m	8.10 - 8.60
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey very sandy clayey GRAVEL.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	89		
6.3	68		
5	61		
2	49		
1.18	45		
0.6	38		
0.3	27		
0.15	17		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	51
Sand	35
Fines <0.063mm	14

Grading Analysis		
D100	mm	20
D60	mm	4.7
D30	mm	0.369
D10	mm	
Uniformity Coefficient		

Remarks

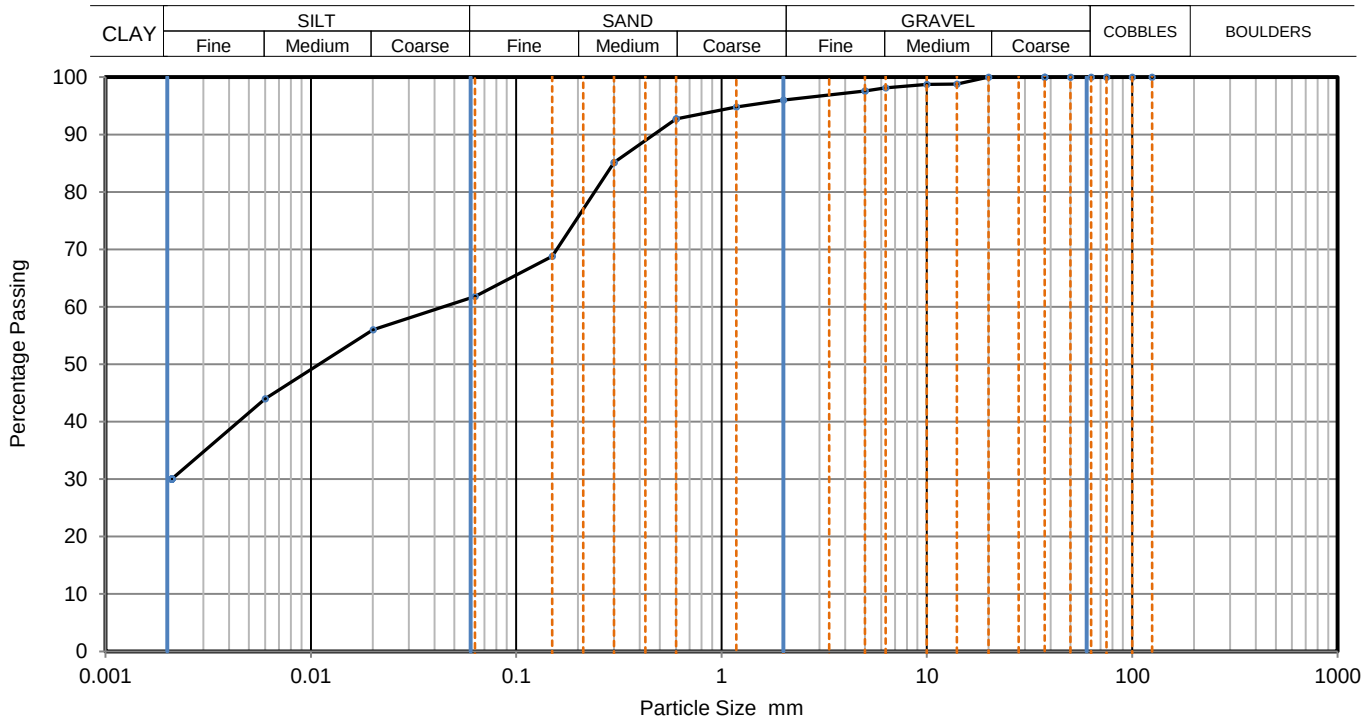
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB04
		Sample No.	
Project Number:	PC248770	Depth m	12.05 - 12.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	56
100	100	0.006	44
75	100	0.002	30
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
2	96		
1.18	95		
0.6	93		
0.3	85		
0.15	69	Particle density (assumed)	
0.063	62	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	35
Silt	31
Clay	30

Grading Analysis		
D100	mm	20
D60	mm	0.0452
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

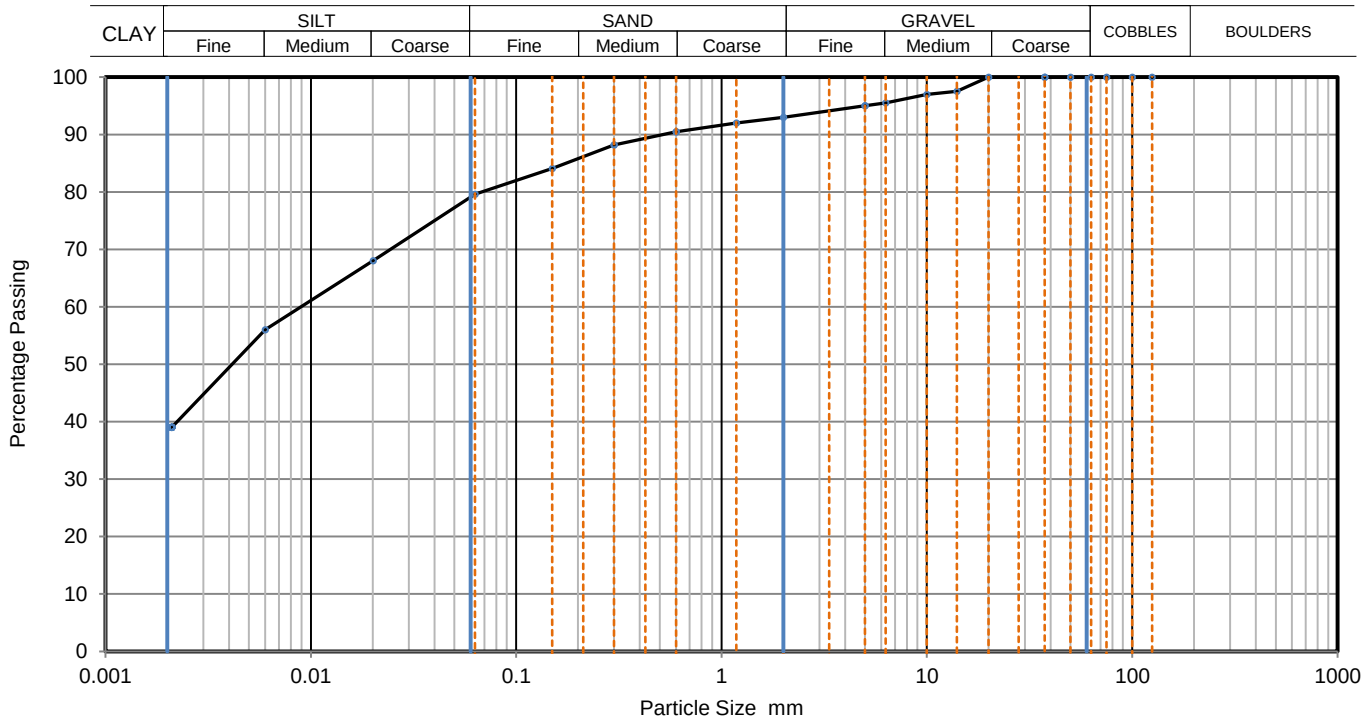
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB05
		Sample No.	
Project Number:	PC248770	Depth m	4.55 - 5.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	68
100	100	0.006	56
75	100	0.002	39
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	97		
6.3	96		
5	95		
2	93		
1.18	92		
0.6	91		
0.3	88		
0.15	84	Particle density (assumed)	
0.063	80	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	13
Silt	41
Clay	39

Grading Analysis		
D100	mm	20
D60	mm	0.00863
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

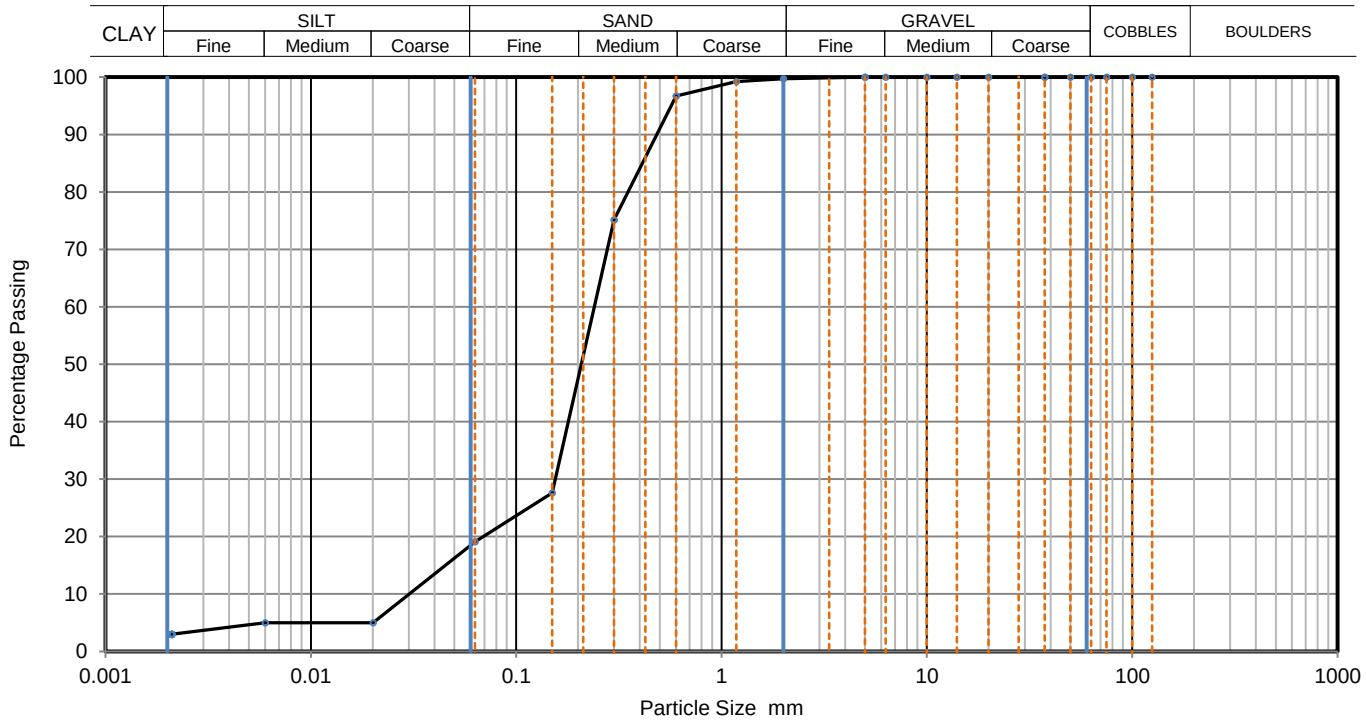
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB05
		Sample No.	
Project Number:	PC248770	Depth m	6.55 - 7.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	5
100	100	0.006	5
75	100	0.002	3
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	97		
0.3	75		
0.15	28	Particle density (assumed)	
0.063	19	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	81
Silt	16
Clay	3

Grading Analysis		
D100	mm	5
D60	mm	0.241
D30	mm	0.155
D10	mm	0.0297
Uniformity Coefficient		8.1

Remarks

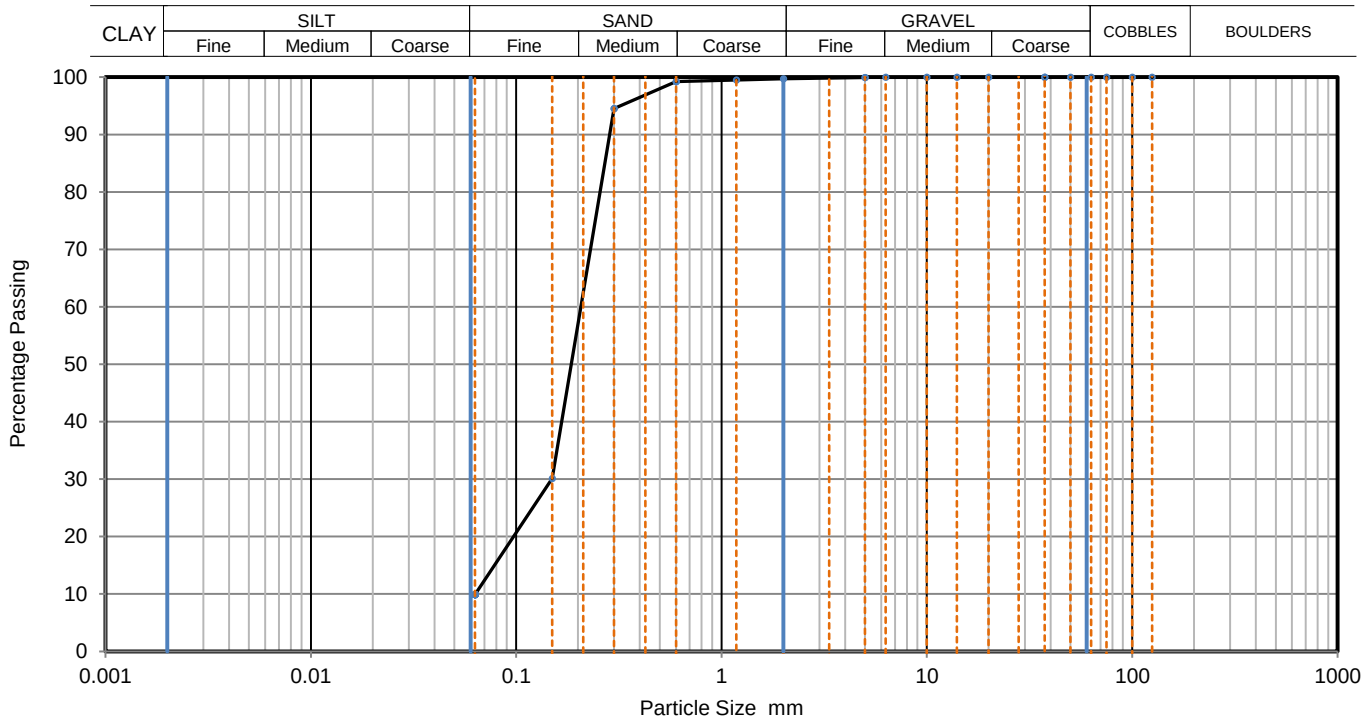
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB05
		Sample No.	
Project Number:	PC248770	Depth m	13.55 - 14.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	95		
0.15	30		
0.063	10		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	90
Fines <0.063mm	10

Grading Analysis		
D100	mm	6.3
D60	mm	0.207
D30	mm	0.149
D10	mm	0.0633
Uniformity Coefficient		3.3

Remarks

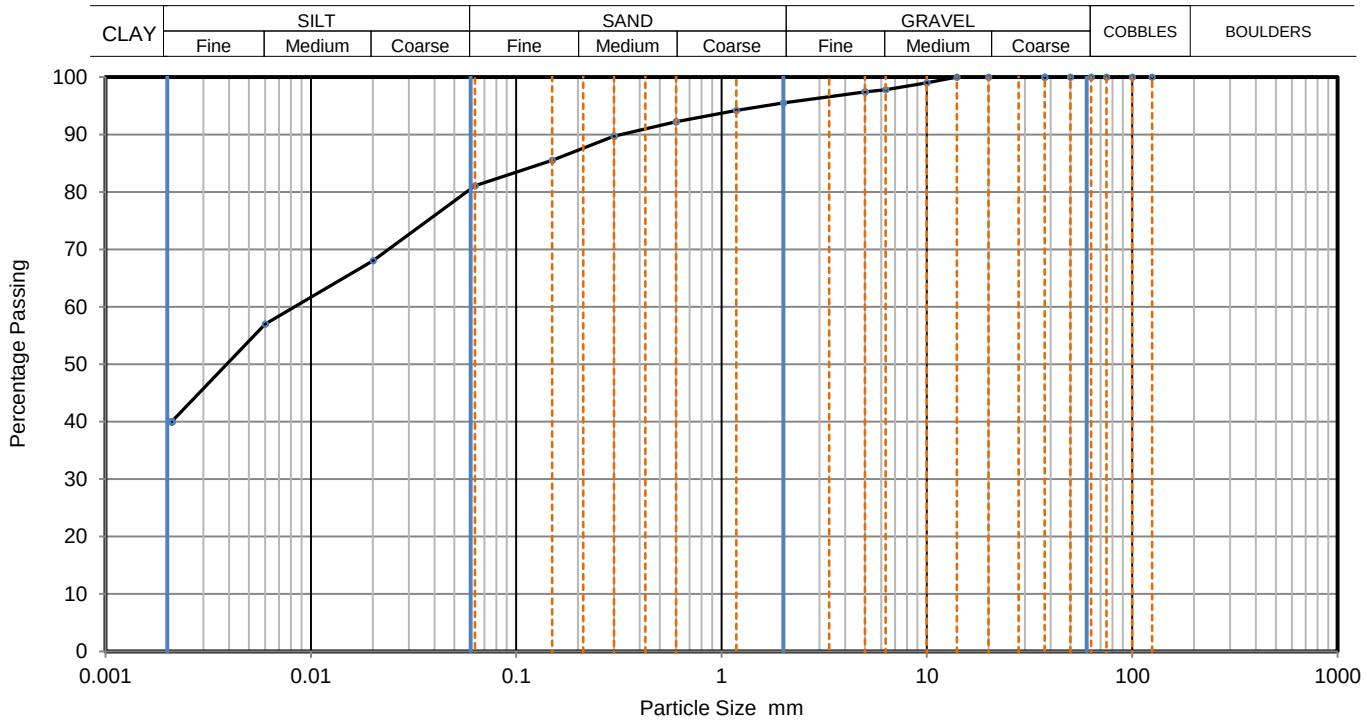
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB06
		Sample No.	
Project Number:	PC248770	Depth m	3.00 - 3.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	68
100	100	0.006	57
75	100	0.002	40
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
2	96		
1.18	94		
0.6	92		
0.3	90		
0.15	86	Particle density	(assumed)
0.063	81	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	14
Silt	42
Clay	40

Grading Analysis		
D100	mm	14
D60	mm	0.00829
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

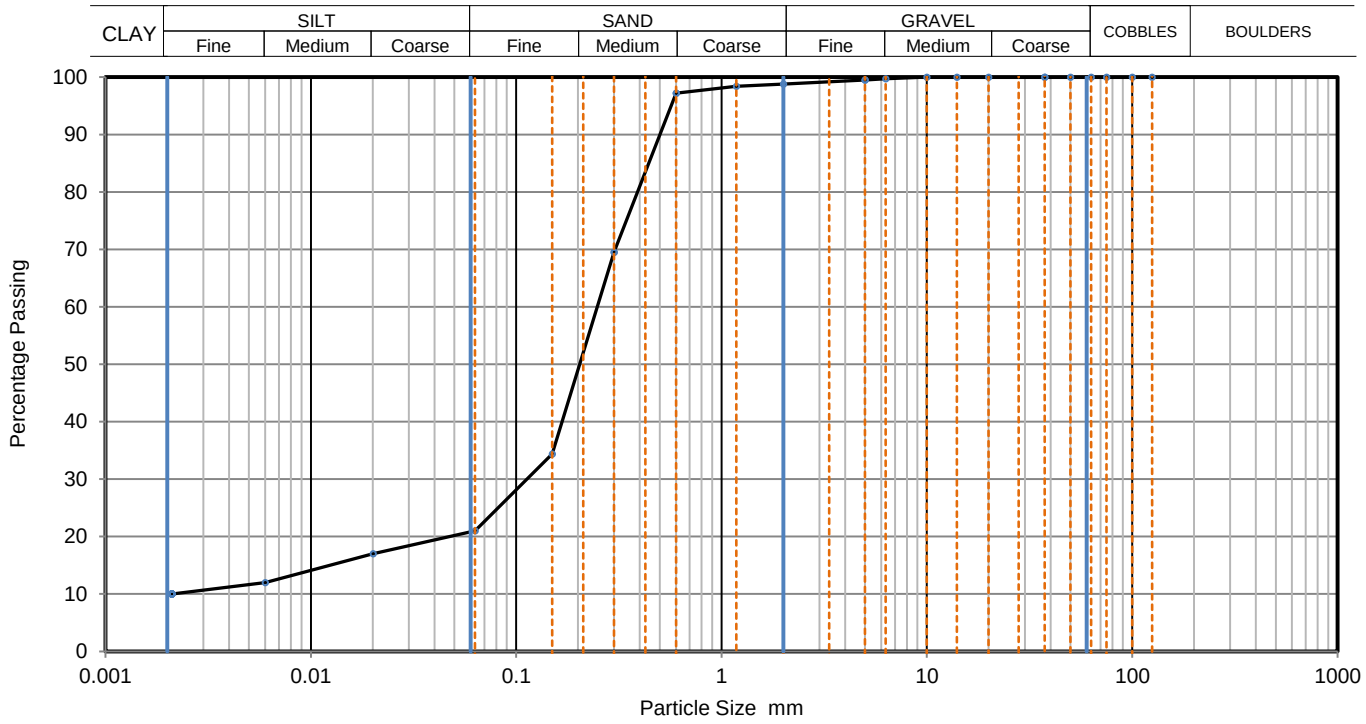
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB06A
		Sample No.	
Project Number:	PC248770	Depth m	8.00 - 8.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown motled grey slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	17
100	100	0.006	12
75	100	0.002	10
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	98		
0.6	97		
0.3	70		
0.15	34	Particle density (assumed)	
0.063	21	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	78
Silt	11
Clay	10

Grading Analysis		
D100	mm	10
D60	mm	0.249
D30	mm	0.113
D10	mm	0.00249
Uniformity Coefficient		100

Remarks

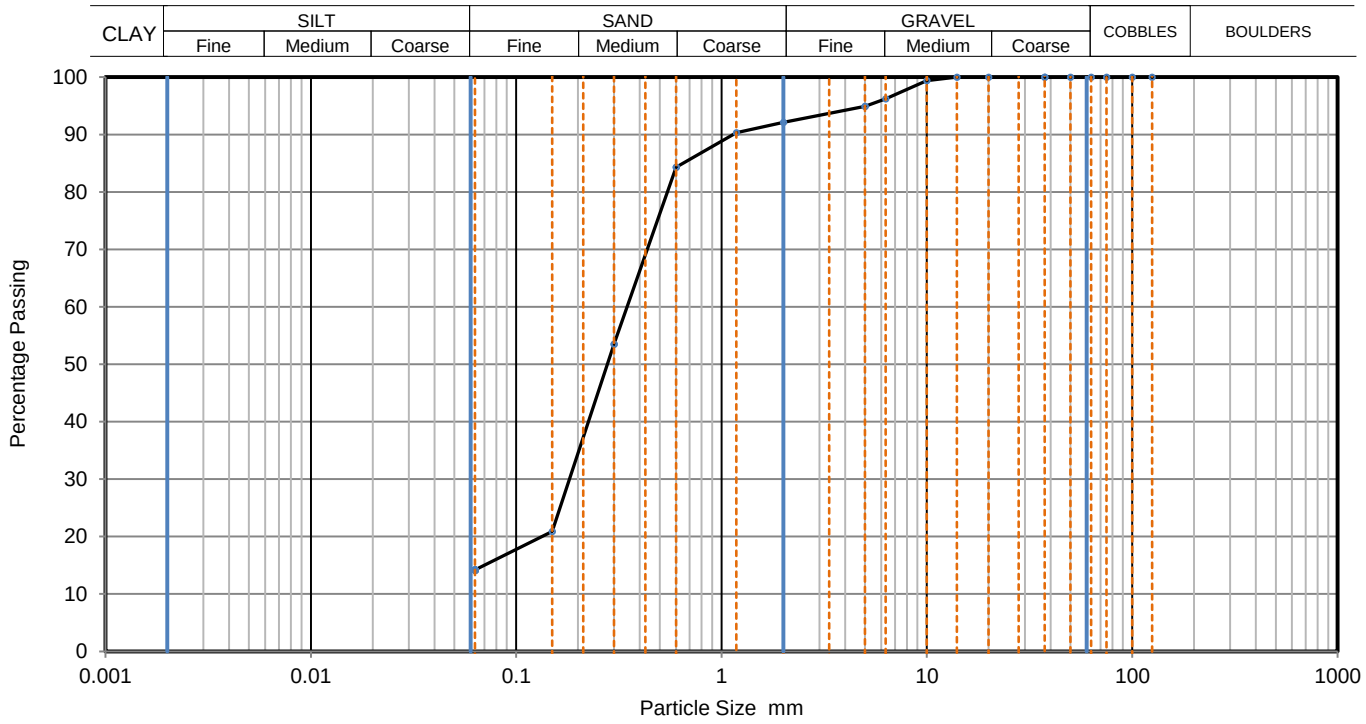
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB06A
		Sample No.	
Project Number:	PC248770	Depth m	13.00 - 13.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	96		
5	95		
2	92		
1.18	90		
0.6	84		
0.3	54		
0.15	21		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	78
Fines <0.063mm	14

Grading Analysis		
D100	mm	14
D60	mm	0.348
D30	mm	0.182
D10	mm	
Uniformity Coefficient		

Remarks

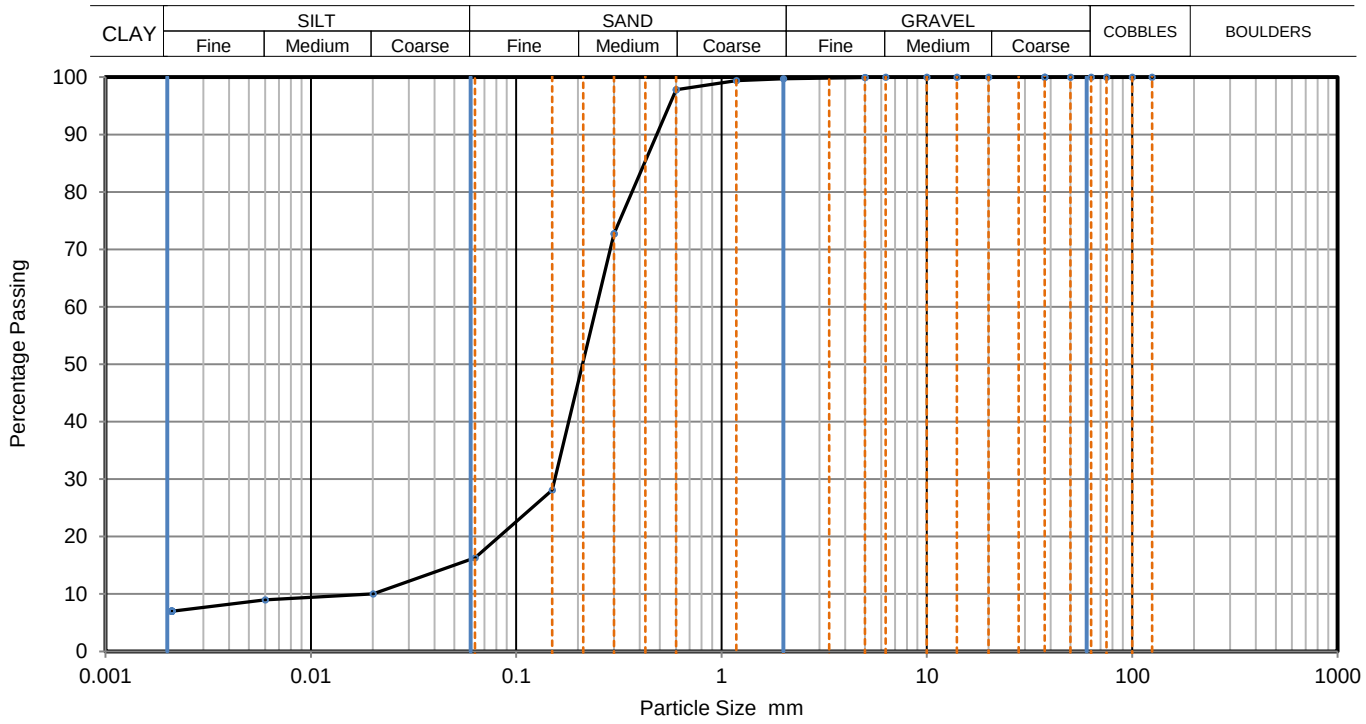
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB07
		Sample No.	
Project Number:	PC248770	Depth m	9.00 - 9.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	9
75	100	0.002	7
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	98		
0.3	73		
0.15	28	Particle density (assumed)	
0.063	16	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	84
Silt	9
Clay	7

Grading Analysis		
D100	mm	6.3
D60	mm	0.246
D30	mm	0.154
D10	mm	0.0152
Uniformity Coefficient		16

Remarks

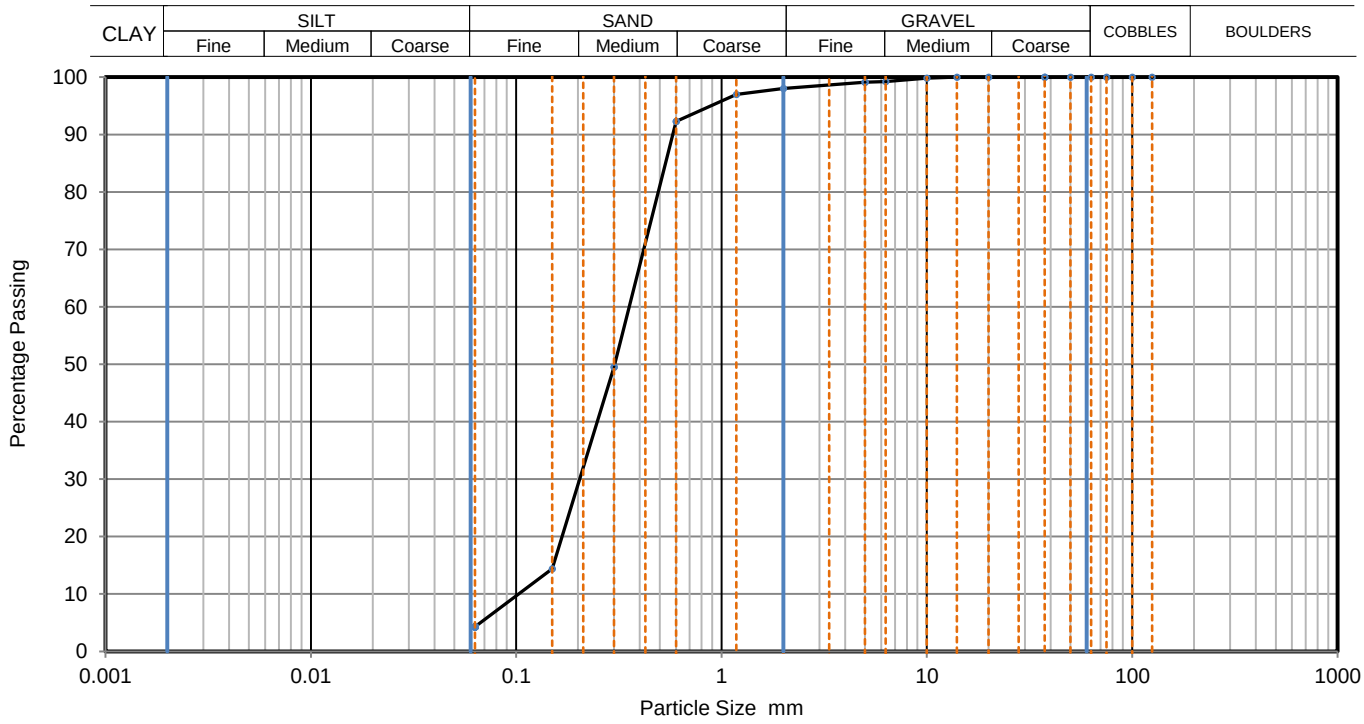
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB07
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey slightly gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	98		
1.18	97		
0.6	92		
0.3	50		
0.15	14		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	94
Fines <0.063mm	4

Grading Analysis		
D100	mm	14
D60	mm	0.356
D30	mm	0.204
D10	mm	0.103
Uniformity Coefficient		3.5

Remarks

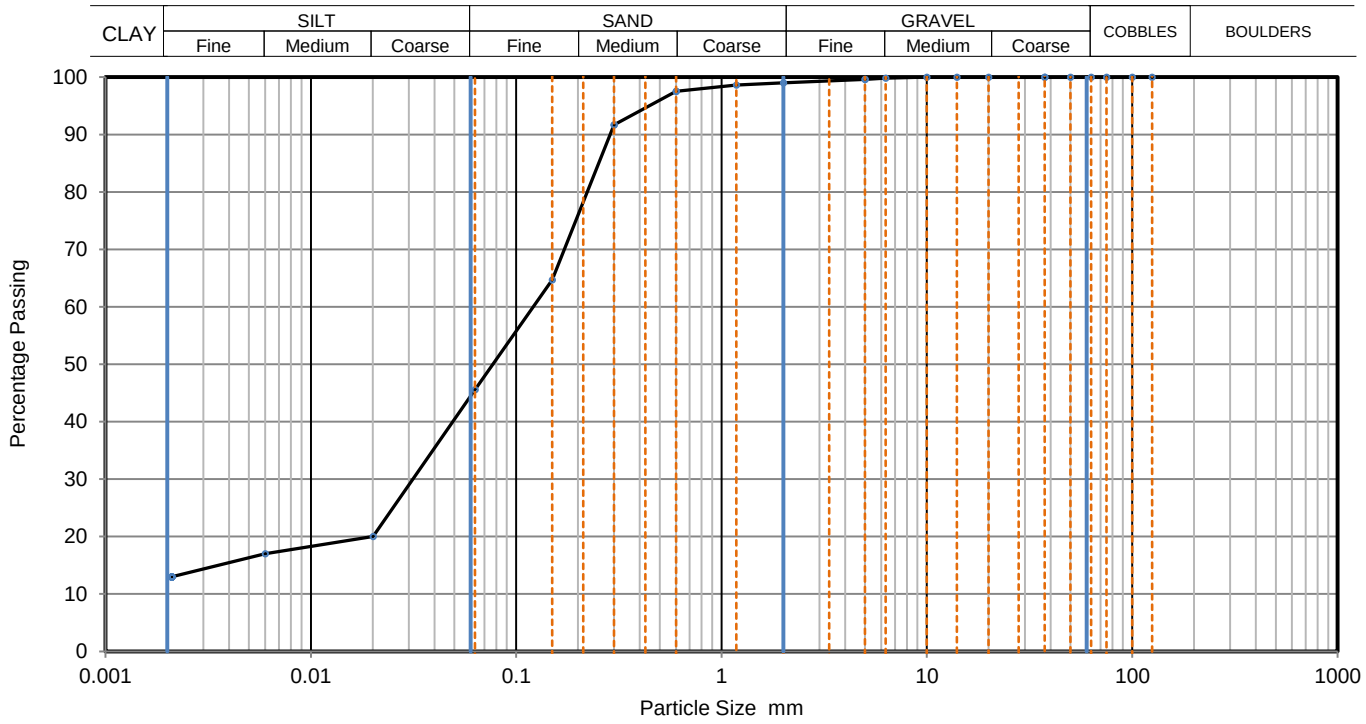
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB08
		Sample No.	
Project Number:	PC248770	Depth m	9.00 - 9.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	20
100	100	0.006	17
75	100	0.002	13
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	92		
0.15	65	Particle density (assumed)	
0.063	46	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	53
Silt	33
Clay	13

Grading Analysis		
D100	mm	10
D60	mm	0.121
D30	mm	0.0313
D10	mm	
Uniformity Coefficient		

Remarks

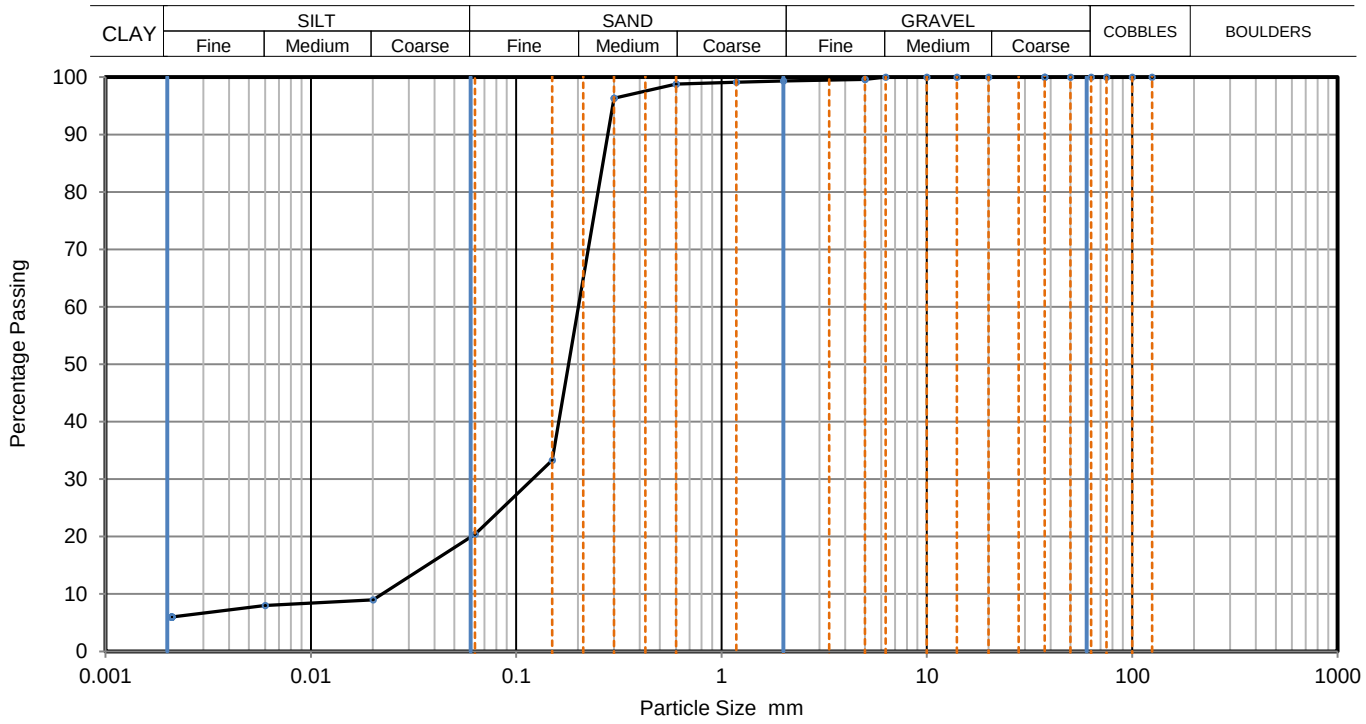
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB09
		Sample No.	
Project Number:	PC248770	Depth m	6.00 - 6.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	9
100	100	0.006	8
75	100	0.002	6
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	99		
0.3	96		
0.15	33	Particle density (assumed)	
0.063	20	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	78
Silt	15
Clay	6

Grading Analysis		
D100	mm	6.3
D60	mm	0.201
D30	mm	0.12
D10	mm	0.0214
Uniformity Coefficient		9.4

Remarks

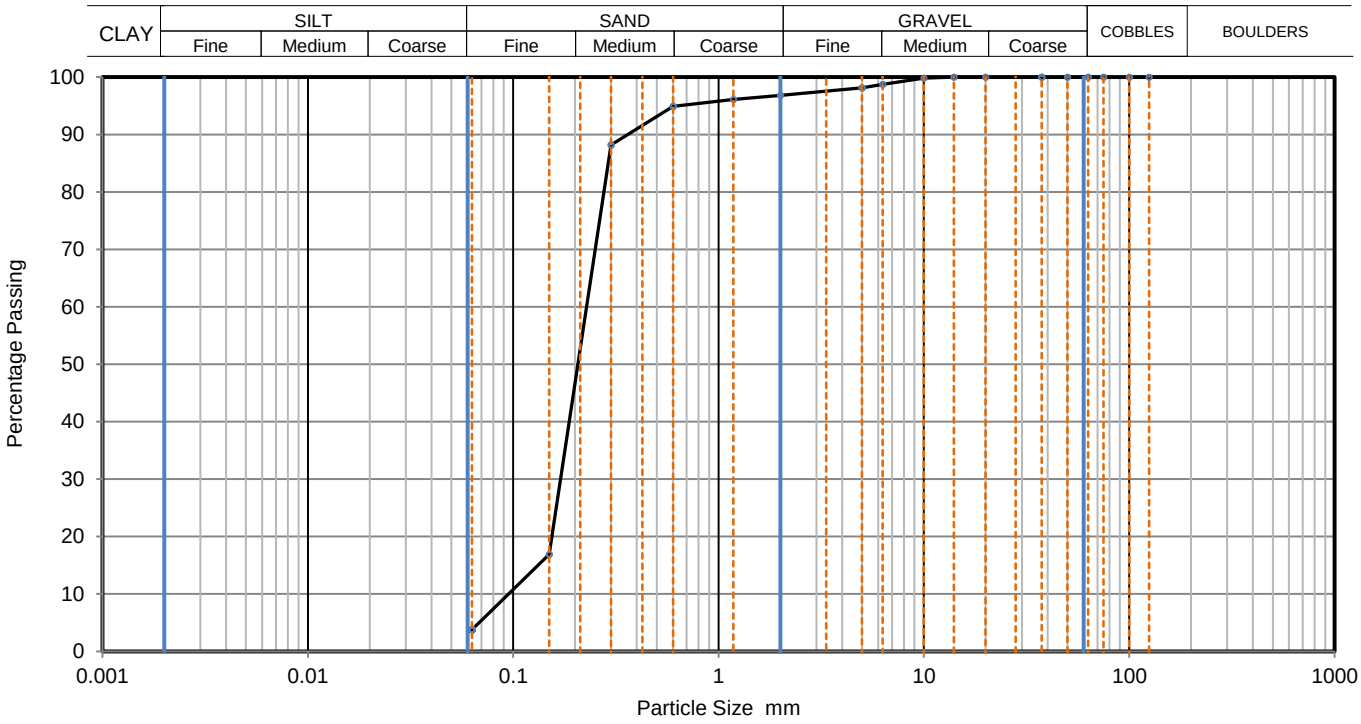
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB09
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
2	97		
1.18	96		
0.6	95		
0.3	88		
0.15	17		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	93
Fines <0.063mm	4

Grading Analysis		
D100	mm	14
D60	mm	0.228
D30	mm	0.17
D10	mm	0.095
Uniformity Coefficient		2.4

Remarks

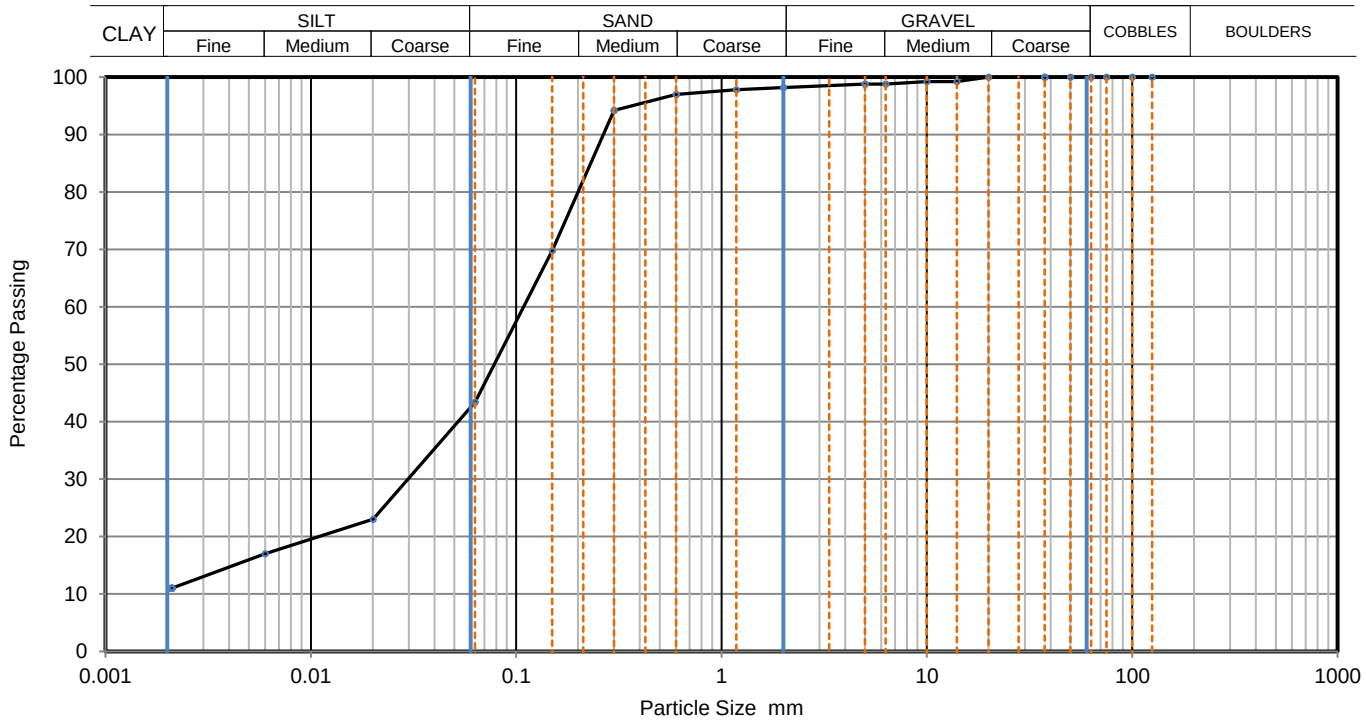
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB10
		Sample No.	
Project Number:	PC248770	Depth m	4.00 - 4.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	23
100	100	0.006	17
75	100	0.002	11
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
2	98		
1.18	98		
0.6	97		
0.3	94		
0.15	70	Particle density	(assumed)
0.063	43	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	55
Silt	32
Clay	11

Grading Analysis		
D100	mm	20
D60	mm	0.109
D30	mm	0.0294
D10	mm	
Uniformity Coefficient		

Remarks

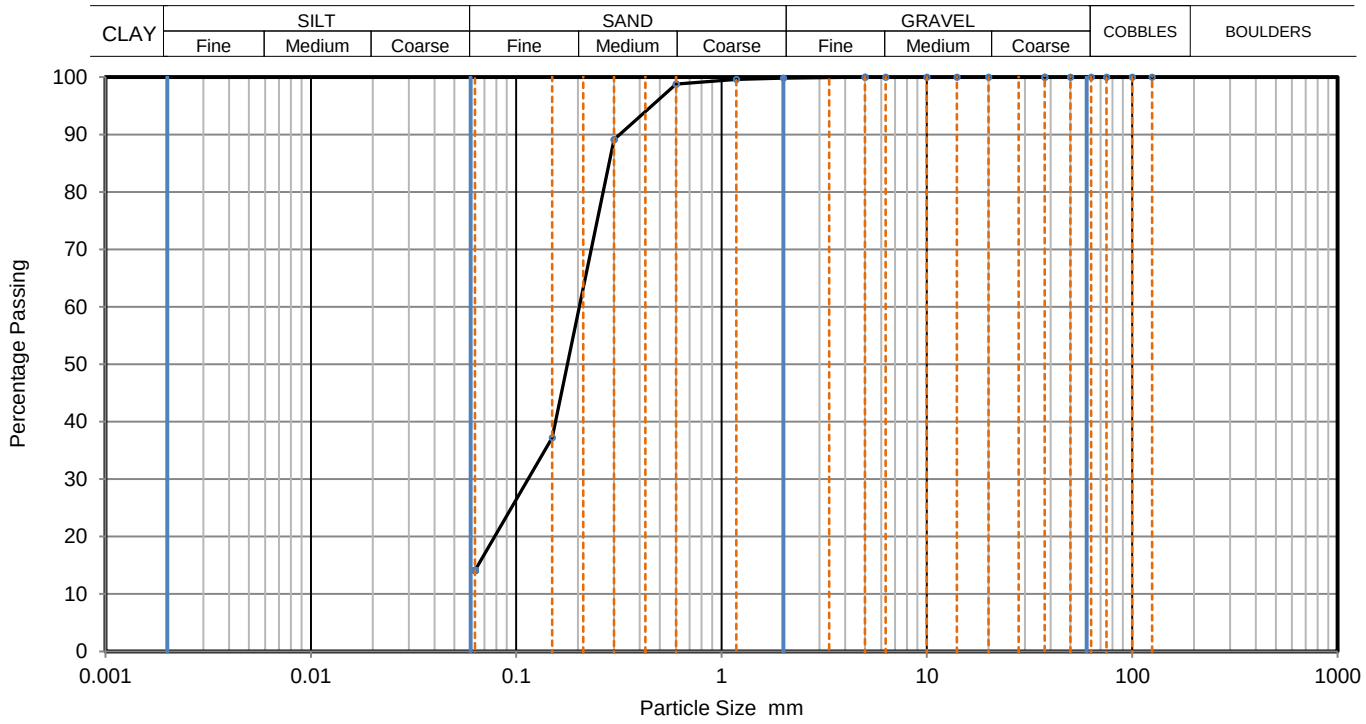
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB10
		Sample No.	
Project Number:	PC248770	Depth m	7.00 - 7.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	89		
0.15	37		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	86
Fines <0.063mm	14

Grading Analysis		
D100	mm	5
D60	mm	0.203
D30	mm	0.115
D10	mm	
Uniformity Coefficient		

Remarks

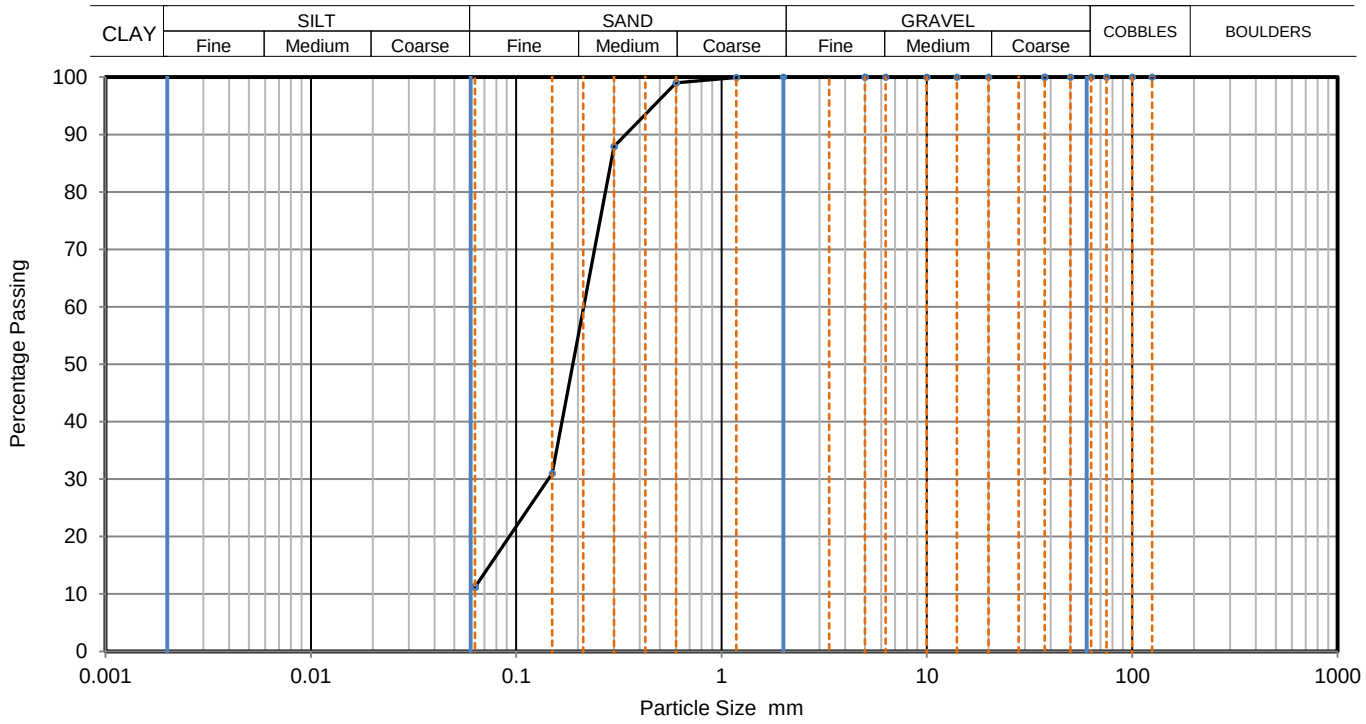
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB10
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	88		
0.15	31		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	89
Fines <0.063mm	11

Grading Analysis		
D100	mm	2
D60	mm	0.214
D30	mm	0.144
D10	mm	
Uniformity Coefficient		

Remarks

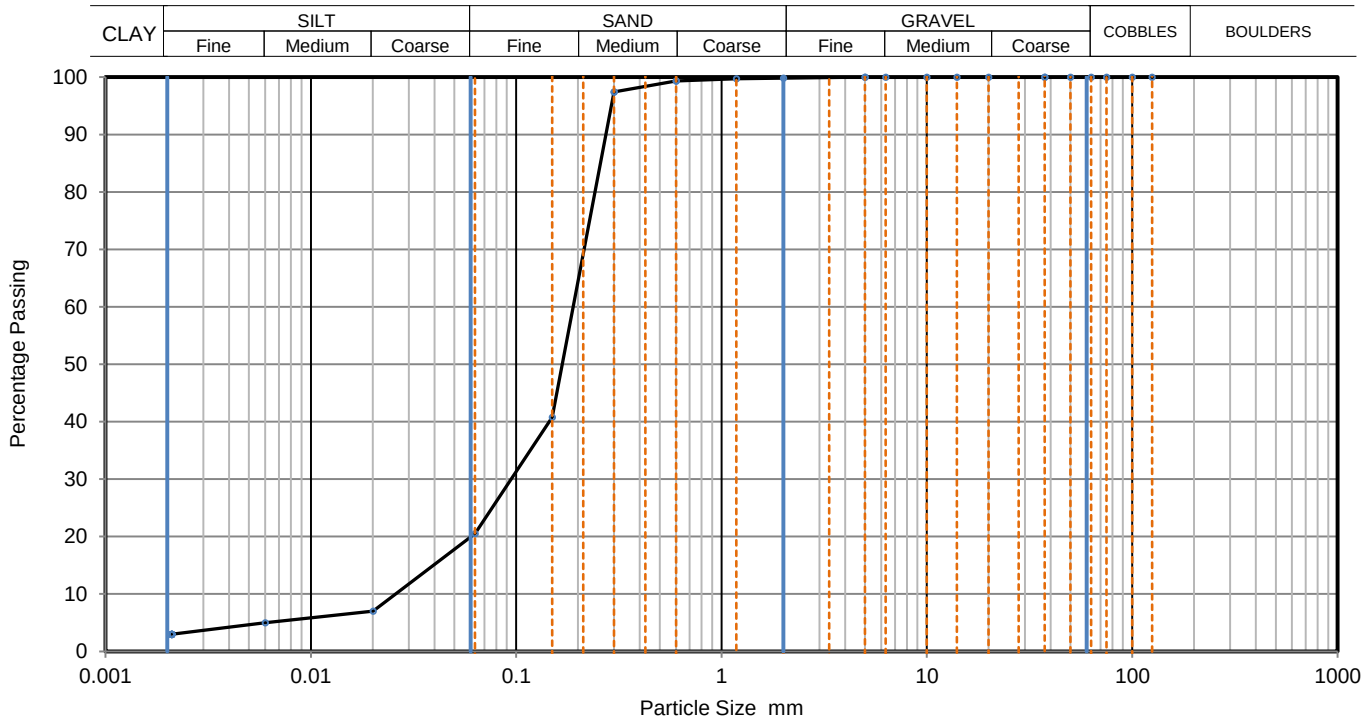
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB11
		Sample No.	
Project Number:	PC248770	Depth m	10.55 - 11.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	7
100	100	0.006	5
75	100	0.002	3
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	97		
0.15	41	Particle density	(assumed)
0.063	21	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	80
Silt	17
Clay	3

Grading Analysis		
D100	mm	5
D60	mm	0.19
D30	mm	0.0944
D10	mm	0.0252
Uniformity Coefficient		7.5

Remarks

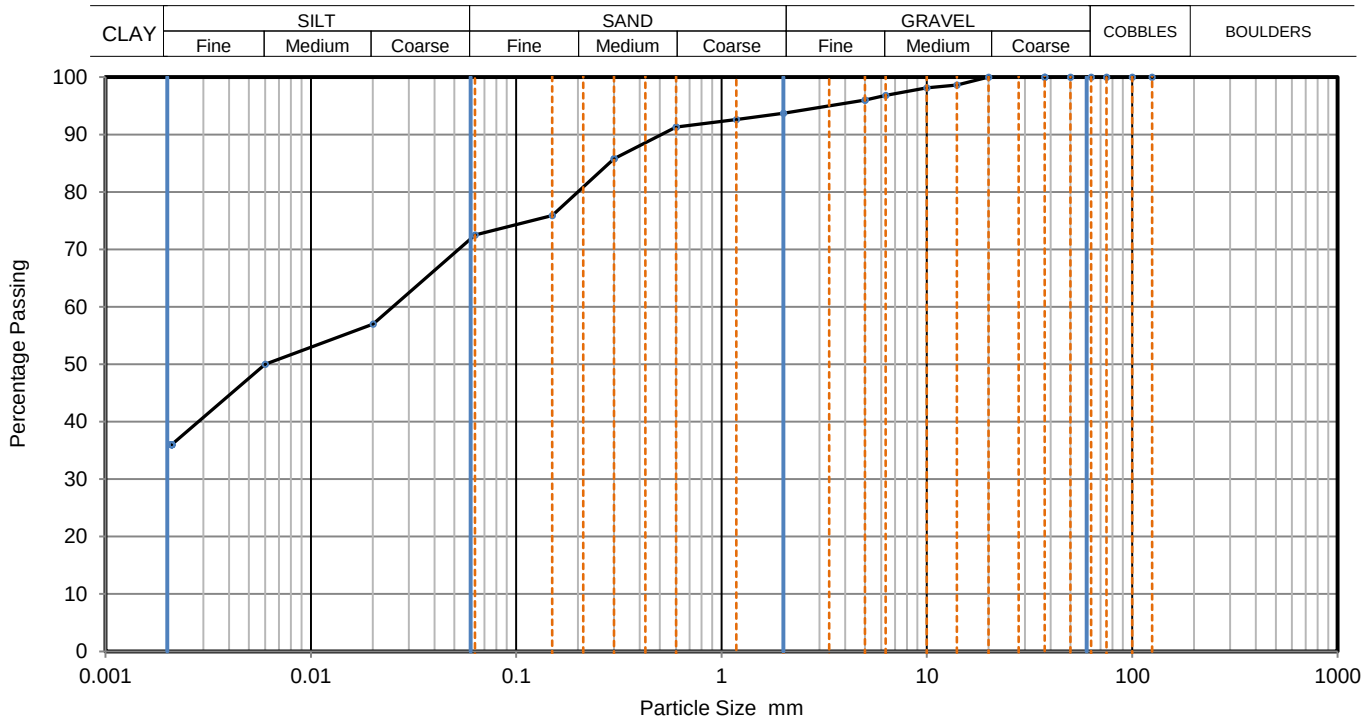
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB12
		Sample No.	
Project Number:	PC248770	Depth m	0.60 - 1.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	57
100	100	0.006	50
75	100	0.002	36
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
2	94		
1.18	93		
0.6	91		
0.3	86		
0.15	76	Particle density	(assumed)
0.063	73	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	21
Silt	37
Clay	36

Grading Analysis		
D100	mm	20
D60	mm	0.0254
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

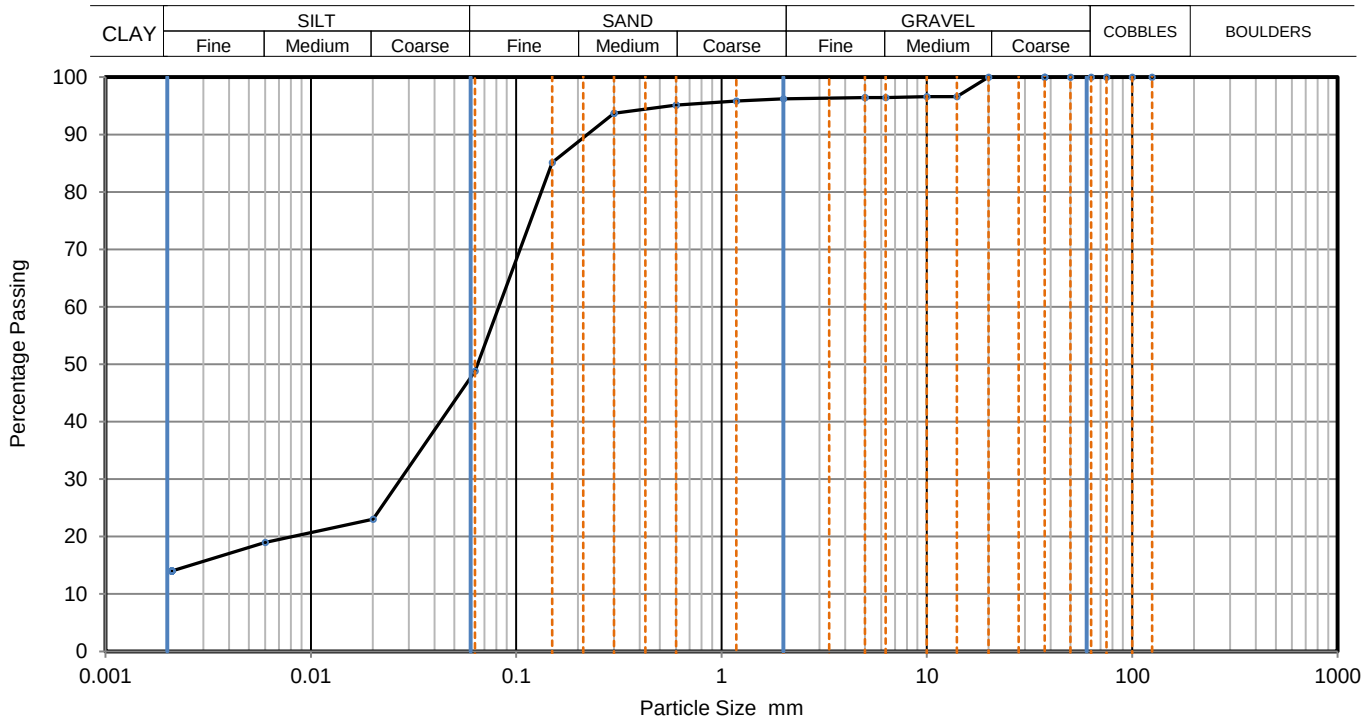
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB12
		Sample No.	
Project Number:	PC248770	Depth m	9.65 - 10.10
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	23
100	100	0.006	19
75	100	0.002	14
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	97		
6.3	96		
5	96		
2	96		
1.18	96		
0.6	95		
0.3	94		
0.15	85	Particle density	(assumed)
0.063	49	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	48
Silt	34
Clay	14

Grading Analysis		
D100	mm	20
D60	mm	0.0823
D30	mm	0.0278
D10	mm	
Uniformity Coefficient		

Remarks

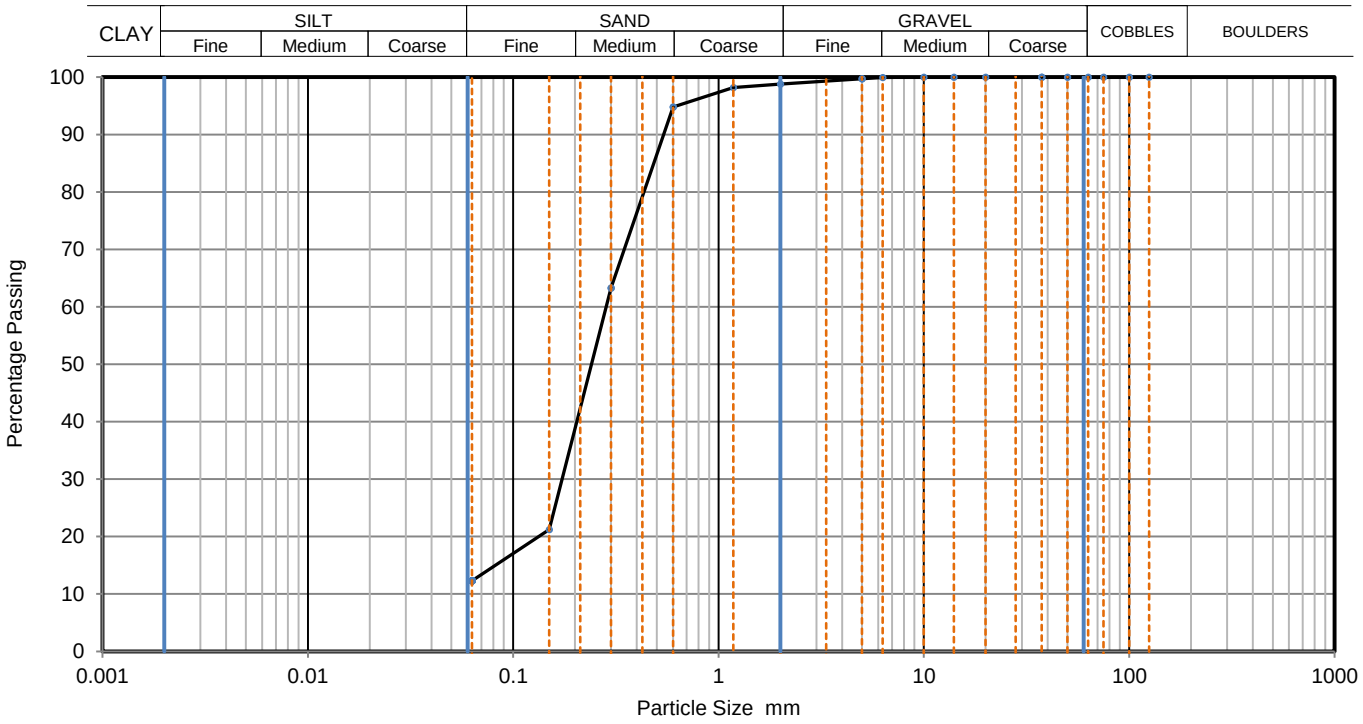
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB12
		Sample No.	
Project Number:	PC248770	Depth m	13.55 - 14.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	98		
0.6	95		
0.3	63		
0.15	21		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	87
Fines <0.063mm	12

Grading Analysis		
D100	mm	10
D60	mm	0.284
D30	mm	0.173
D10	mm	
Uniformity Coefficient		

Remarks

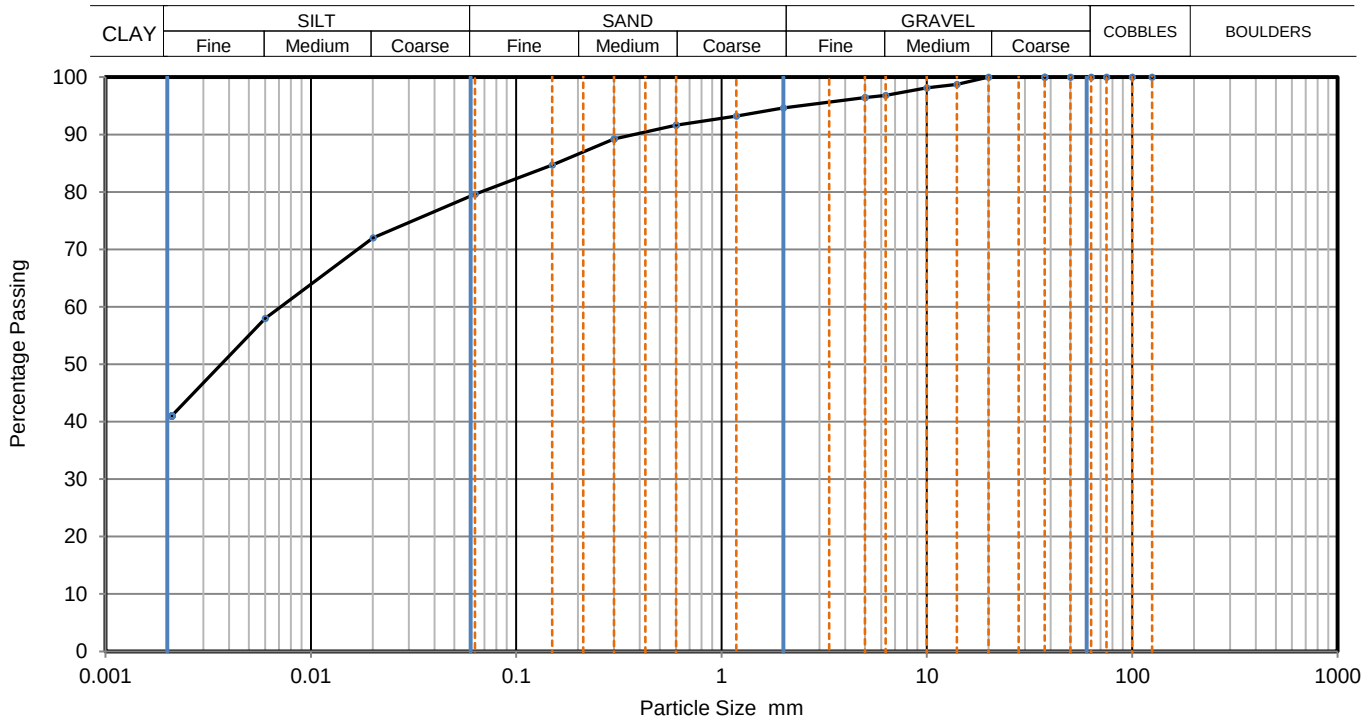
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB13
		Sample No.	
Project Number:	PC248770	Depth m	4.55 - 5.10
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	72
100	100	0.006	58
75	100	0.002	41
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
2	95		
1.18	93		
0.6	92		
0.3	89		
0.15	85	Particle density (assumed)	
0.063	80	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	15
Silt	39
Clay	41

Grading Analysis		
D100	mm	20
D60	mm	0.00709
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

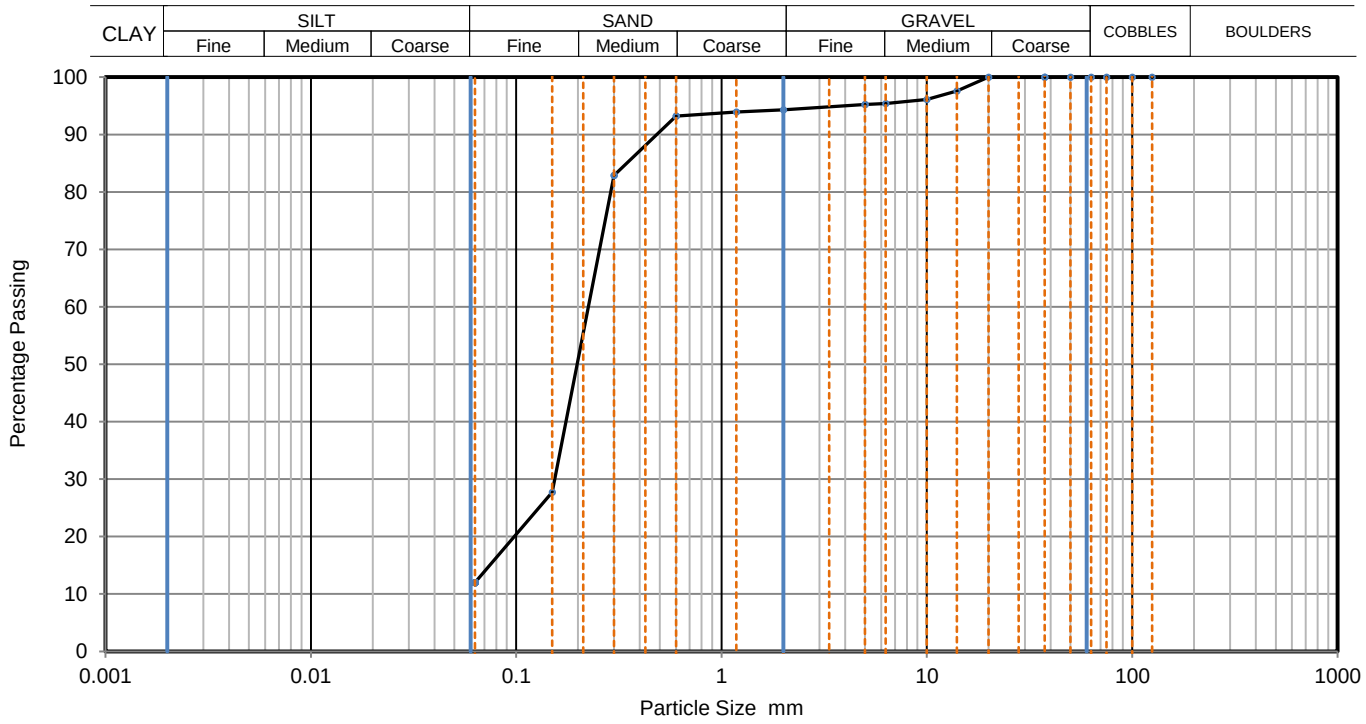
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB13
		Sample No.	
Project Number:	PC248770	Depth m	12.05 - 12.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	96		
6.3	95		
5	95		
2	94		
1.18	94		
0.6	93		
0.3	83		
0.15	28		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	82
Fines <0.063mm	12

Grading Analysis		
D100	mm	20
D60	mm	0.225
D30	mm	0.154
D10	mm	
Uniformity Coefficient		

Remarks

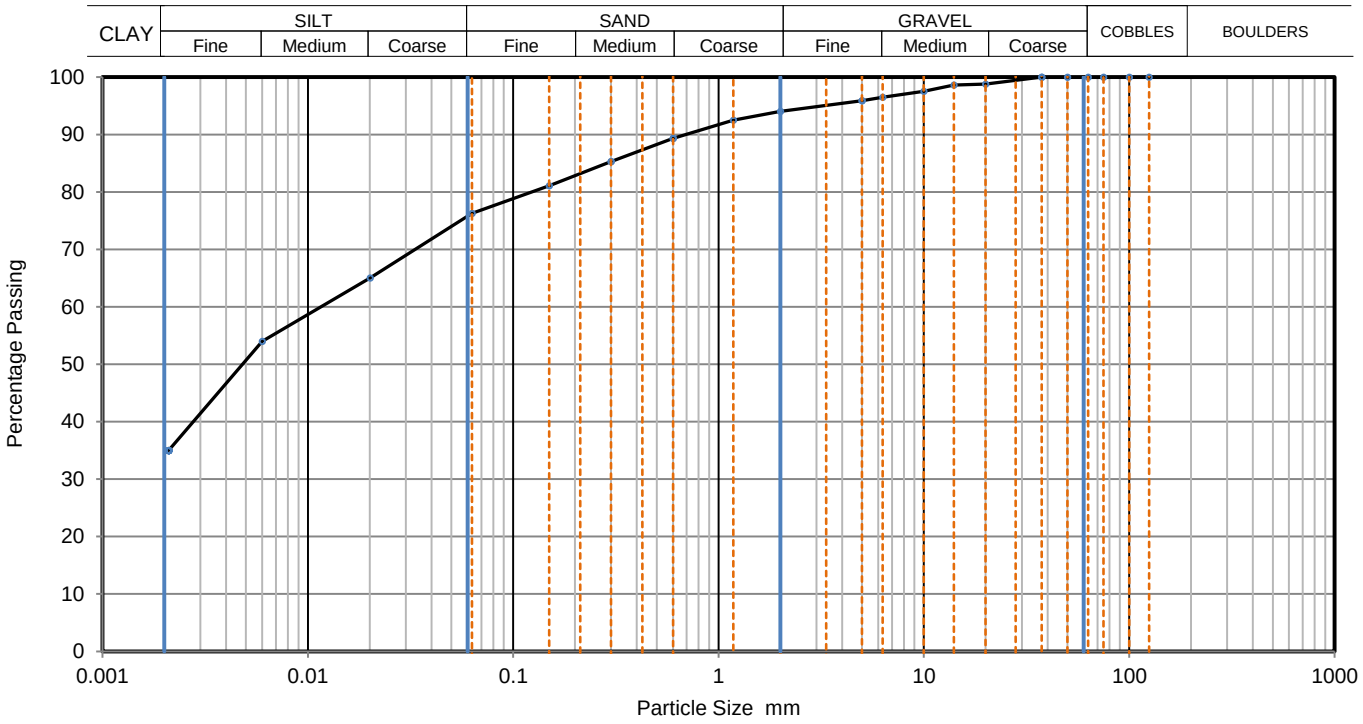
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB15
		Sample No.	
Project Number:	PC248770	Depth m	4.00 - 4.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	65
100	100	0.006	54
75	100	0.002	35
63	100		
50	100		
37.5	100		
20	99		
14	99		
10	98		
6.3	97		
5	96		
2	94		
1.18	93		
0.6	89		
0.3	85		
0.15	81	Particle density (assumed)	
0.063	76	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	18
Silt	41
Clay	35

Grading Analysis		
D100	mm	37.5
D60	mm	0.0115
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

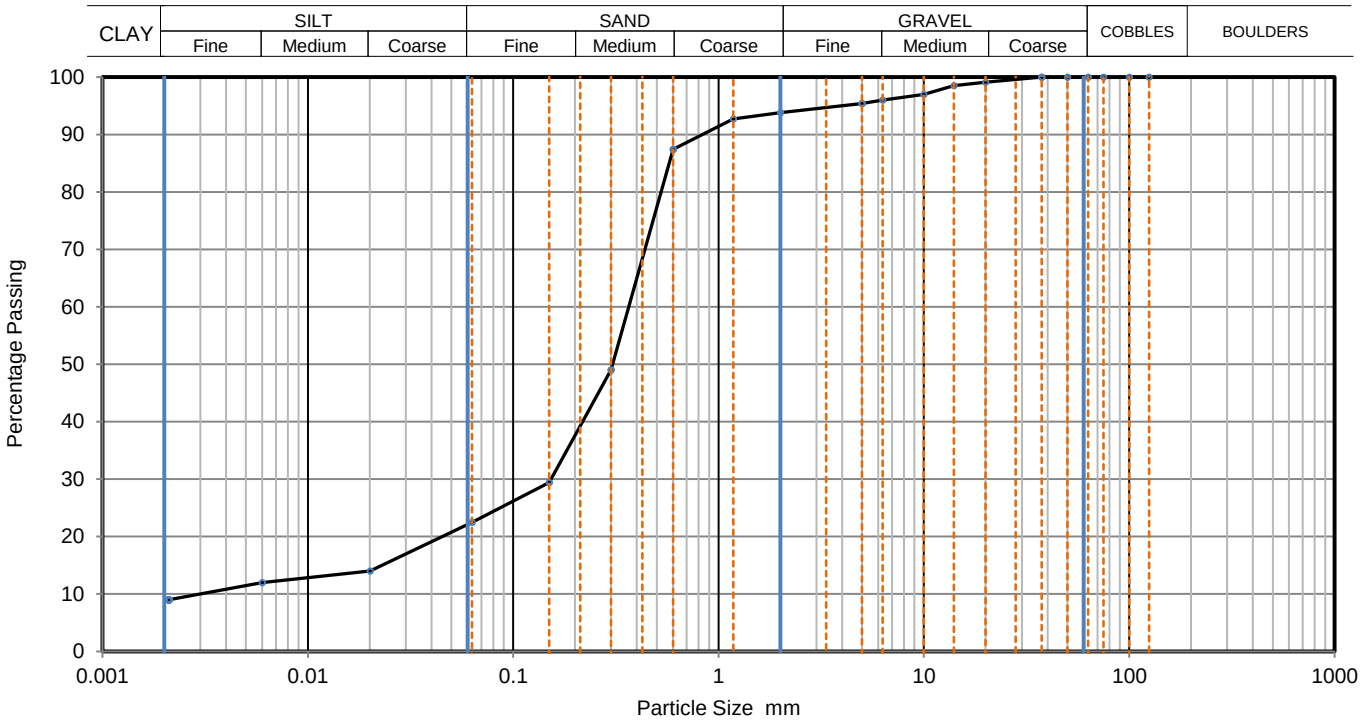
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB15
		Sample No.	
Project Number:	PC248770	Depth m	7.30 - 8.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	14
100	100	0.006	12
75	100	0.002	9
63	100		
50	100		
37.5	100		
20	99		
14	99		
10	97		
6.3	96		
5	95		
2	94		
1.18	93		
0.6	87		
0.3	49		
0.15	29	Particle density (assumed)	
0.063	23	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	71
Silt	14
Clay	9

Grading Analysis		
D100	mm	37.5
D60	mm	0.366
D30	mm	0.153
D10	mm	0.00327
Uniformity Coefficient		110

Remarks

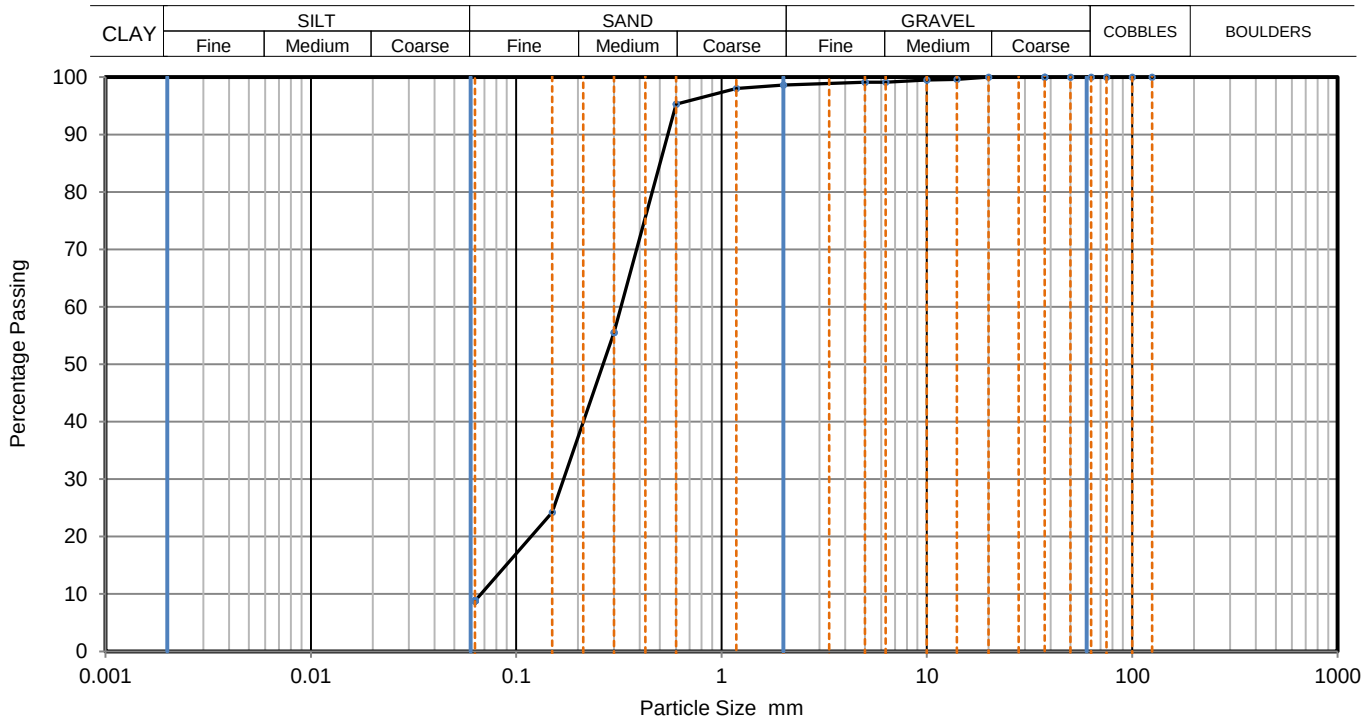
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB15
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	99		
1.18	98		
0.6	95		
0.3	56		
0.15	24		
0.063	9		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis		
D100	mm	20
D60	mm	0.324
D30	mm	0.17
D10	mm	0.0673
Uniformity Coefficient		4.8

Remarks

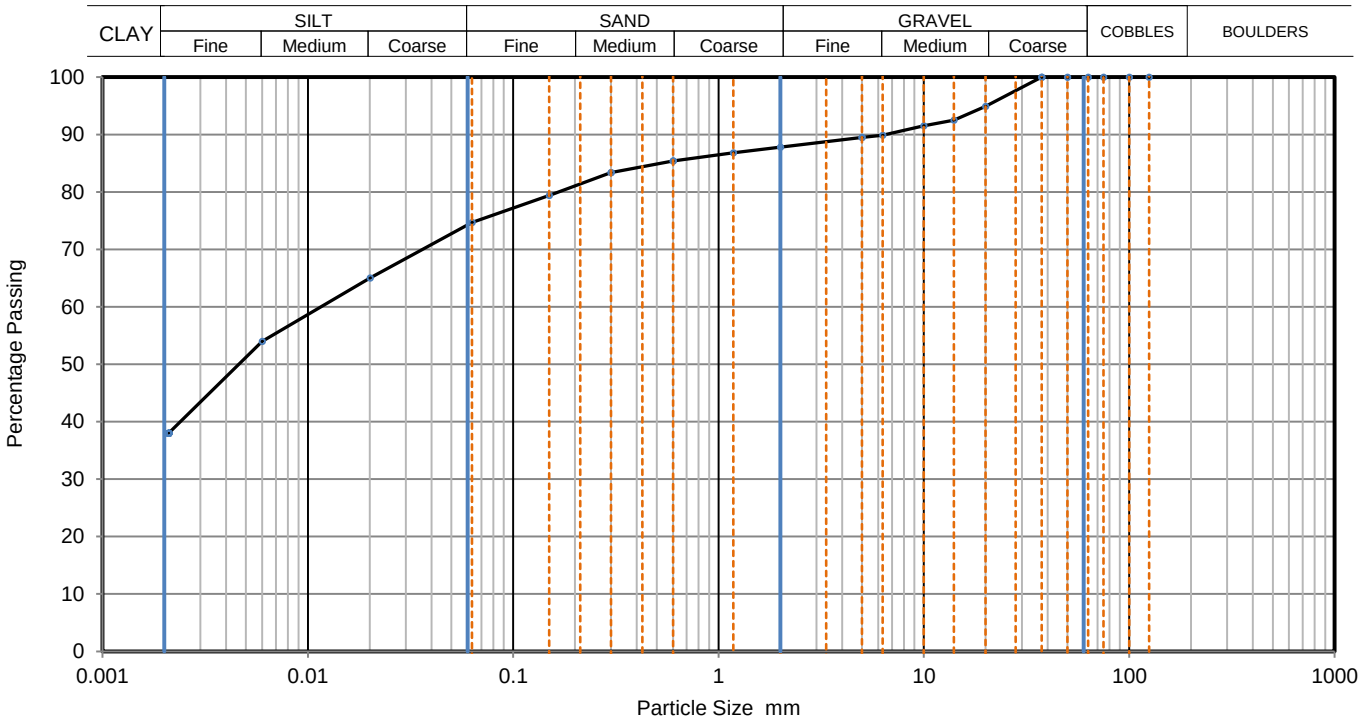
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB18
		Sample No.	
Project Number:	PC248770	Depth m	1.20 - 1.65
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	65
100	100	0.006	54
75	100	0.002	38
63	100		
50	100		
37.5	100		
20	95		
14	93		
10	92		
6.3	90		
5	90		
2	88		
1.18	87		
0.6	85		
0.3	83		
0.15	79	Particle density (assumed)	
0.063	75	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	13
Silt	37
Clay	38

Grading Analysis		
D100	mm	37.5
D60	mm	0.0113
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

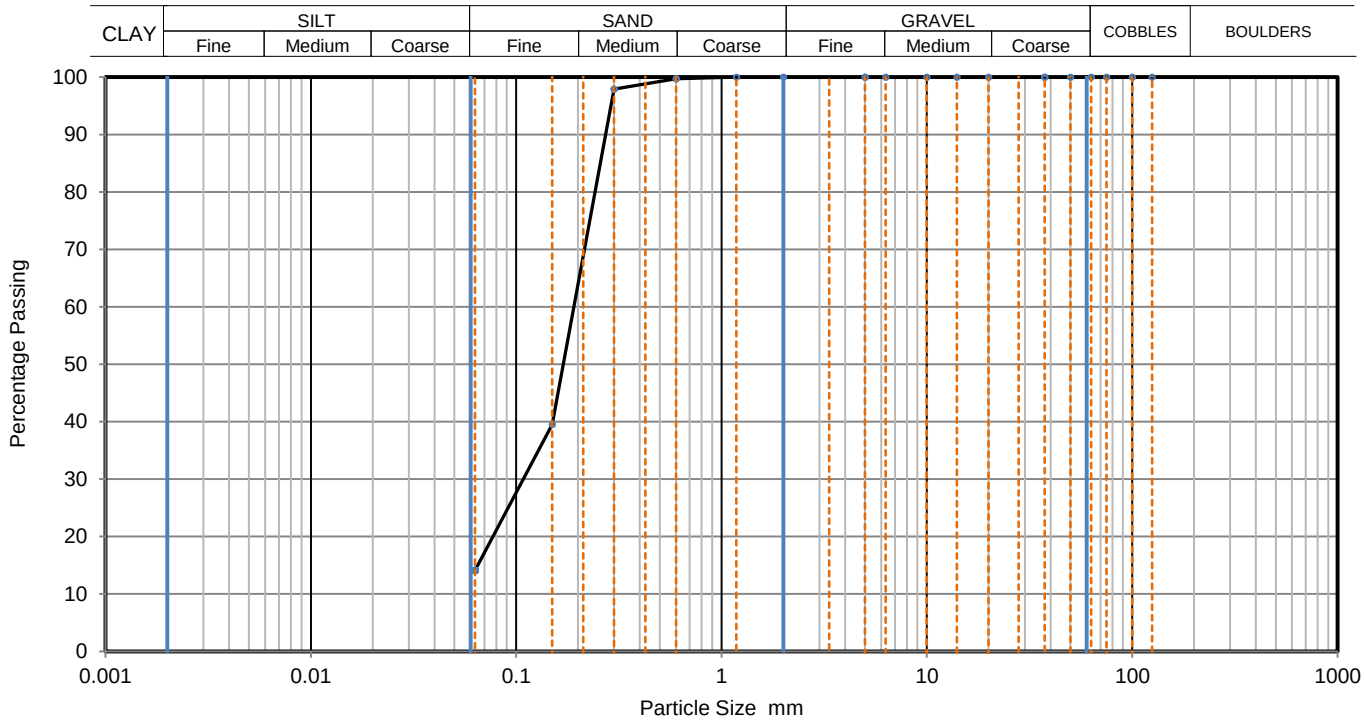
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB18
		Sample No.	
Project Number:	PC248770	Depth m	6.00 - 6.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	98		
0.15	40		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	86
Fines <0.063mm	14

Grading Analysis		
D100	mm	1.18
D60	mm	0.191
D30	mm	0.108
D10	mm	
Uniformity Coefficient		

Remarks

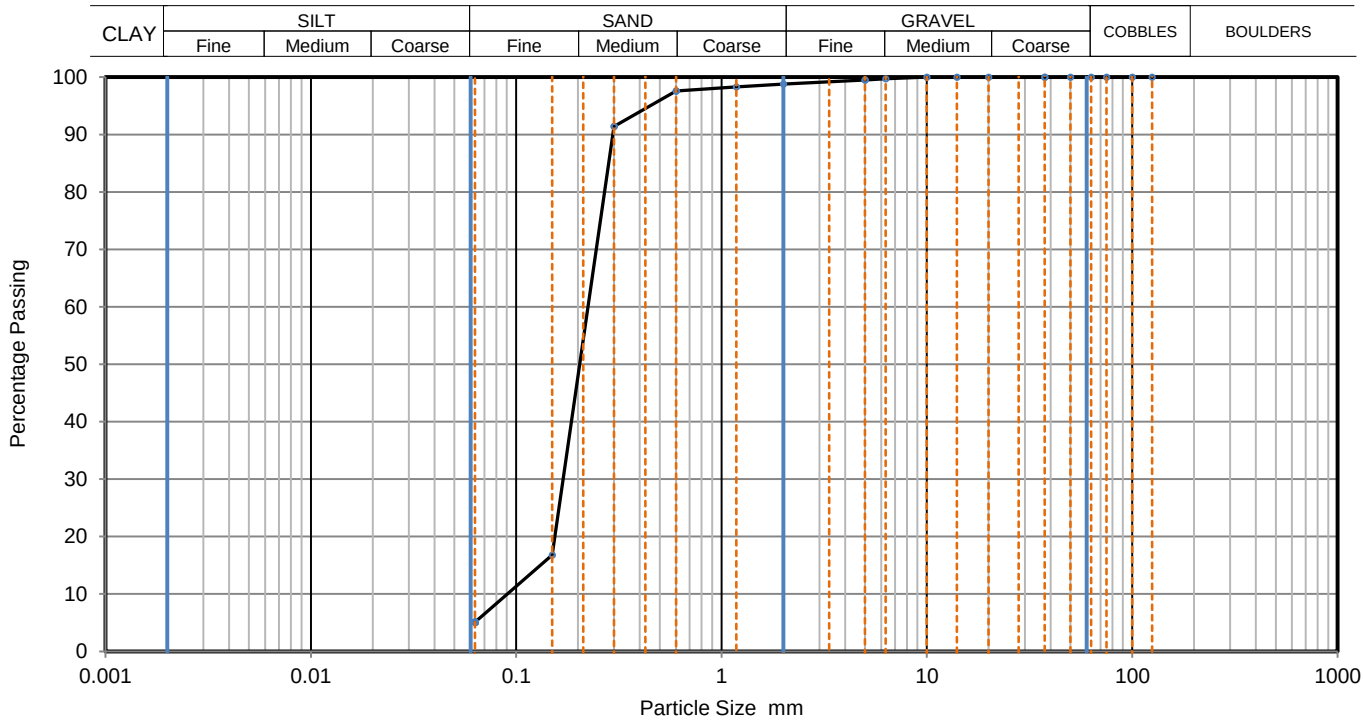
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB18
		Sample No.	
Project Number:	PC248770	Depth m	11.50 - 11.95
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	98		
0.6	98		
0.3	91		
0.15	17		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	94
Fines <0.063mm	5

Grading Analysis		
D100	mm	10
D60	mm	0.224
D30	mm	0.17
D10	mm	0.0905
Uniformity Coefficient		2.5

Remarks

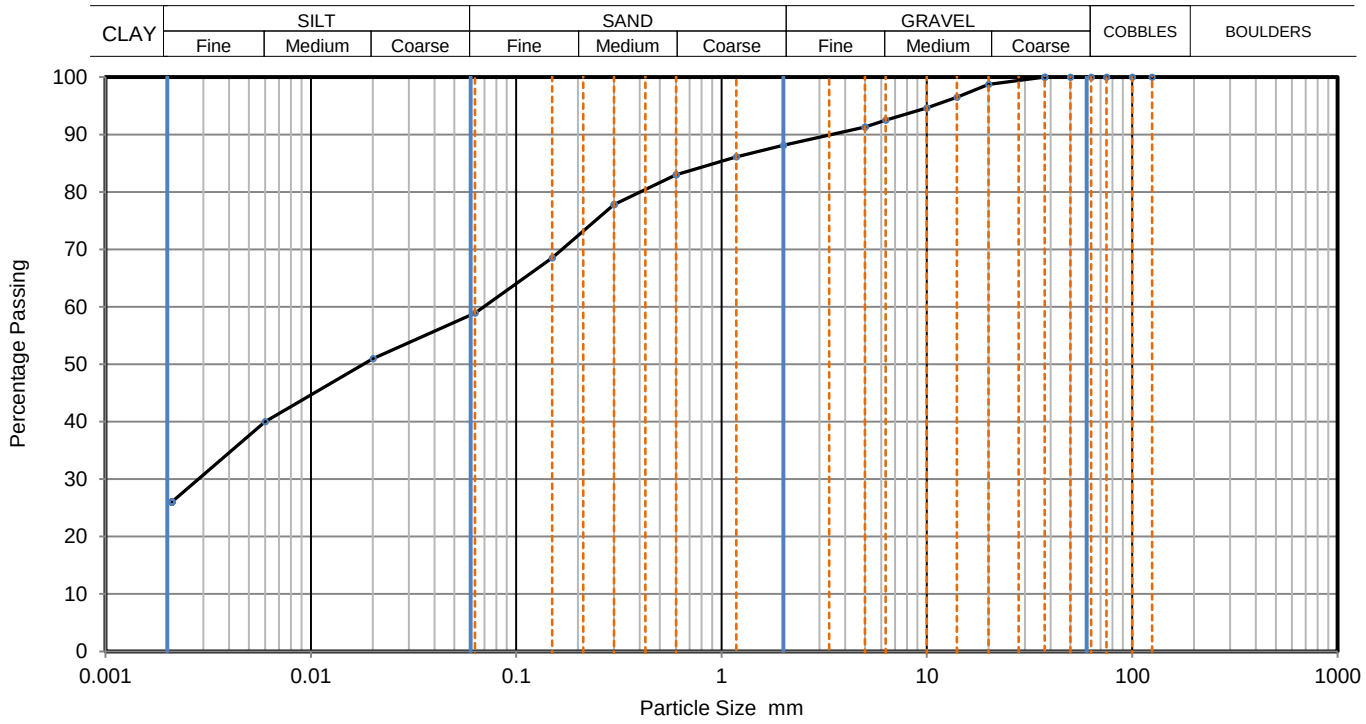
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB19
		Sample No.	
Project Number:	PC248770	Depth m	7.00 - 7.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	51
100	100	0.006	40
75	100	0.002	26
63	100		
50	100		
37.5	100		
20	99		
14	97		
10	95		
6.3	93		
5	91		
2	88		
1.18	86		
0.6	83		
0.3	78		
0.15	69	Particle density (assumed)	
0.063	59	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	29
Silt	33
Clay	26

Grading Analysis		
D100	mm	37.5
D60	mm	0.0693
D30	mm	0.00285
D10	mm	
Uniformity Coefficient		

Remarks

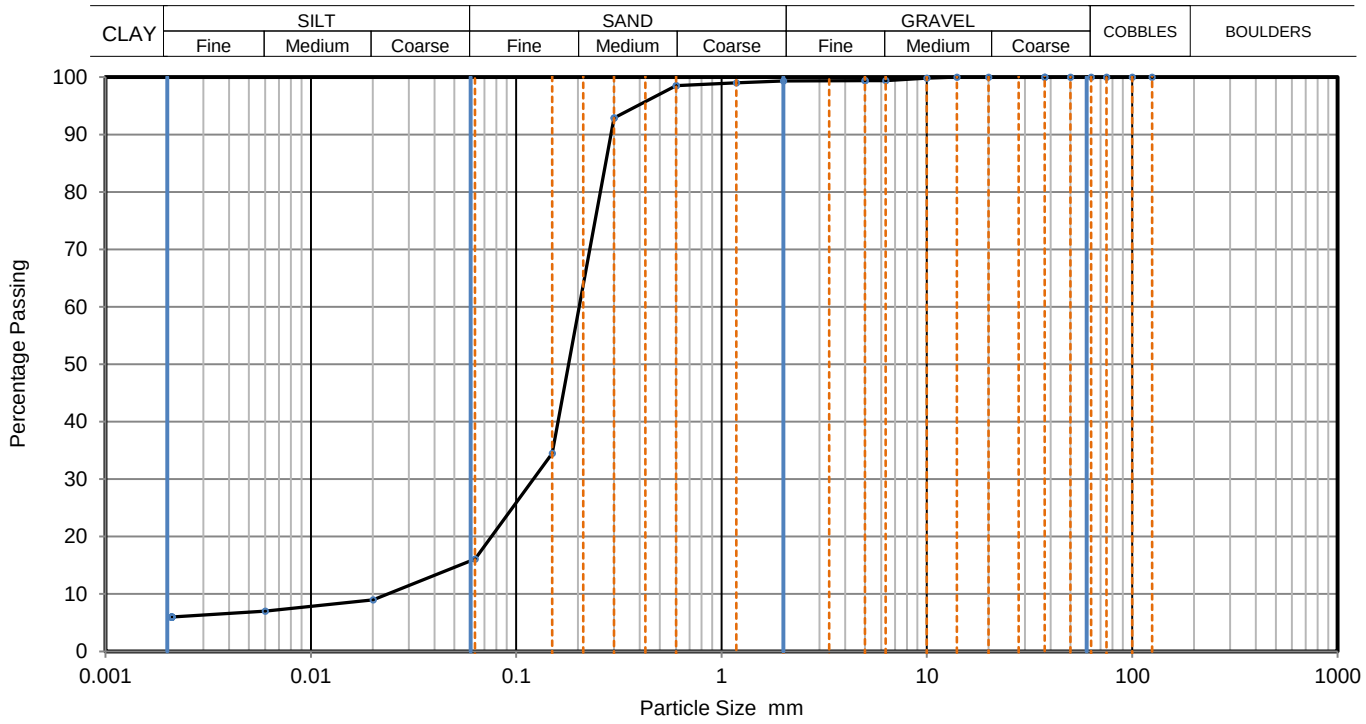
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB19
		Sample No.	
Project Number:	PC248770	Depth m	11.50 - 12.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	9
100	100	0.006	7
75	100	0.002	6
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	99		
1.18	99		
0.6	99		
0.3	93		
0.15	35	Particle density	(assumed)
0.063	16	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	82
Silt	11
Clay	6

Grading Analysis		
D100	mm	14
D60	mm	0.203
D30	mm	0.121
D10	mm	0.025
Uniformity Coefficient		8.1

Remarks

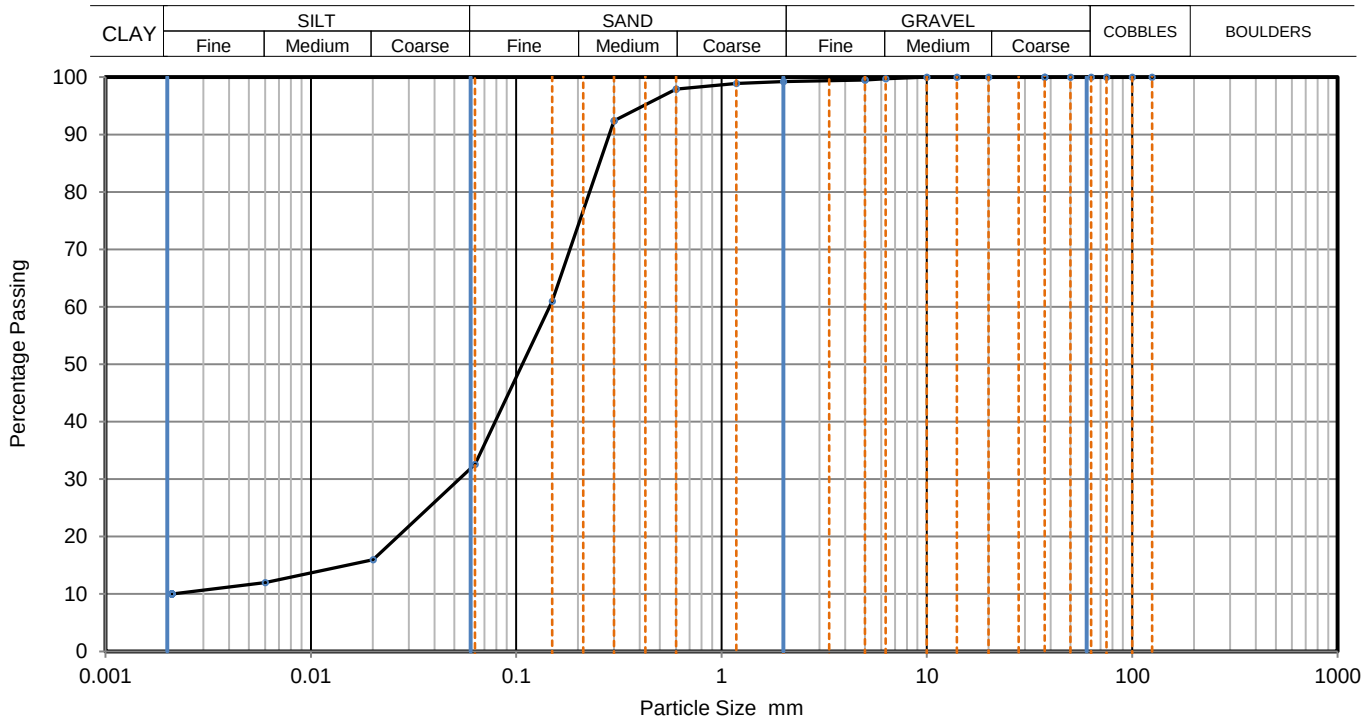
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB20
		Sample No.	
Project Number:	PC248770	Depth m	1.00 - 1.20
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	16
100	100	0.006	12
75	100	0.002	10
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	92		
0.15	61	Particle density	(assumed)
0.063	33	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	67
Silt	22
Clay	10

Grading Analysis		
D100	mm	10
D60	mm	0.145
D30	mm	0.0524
D10	mm	
Uniformity Coefficient		

Remarks

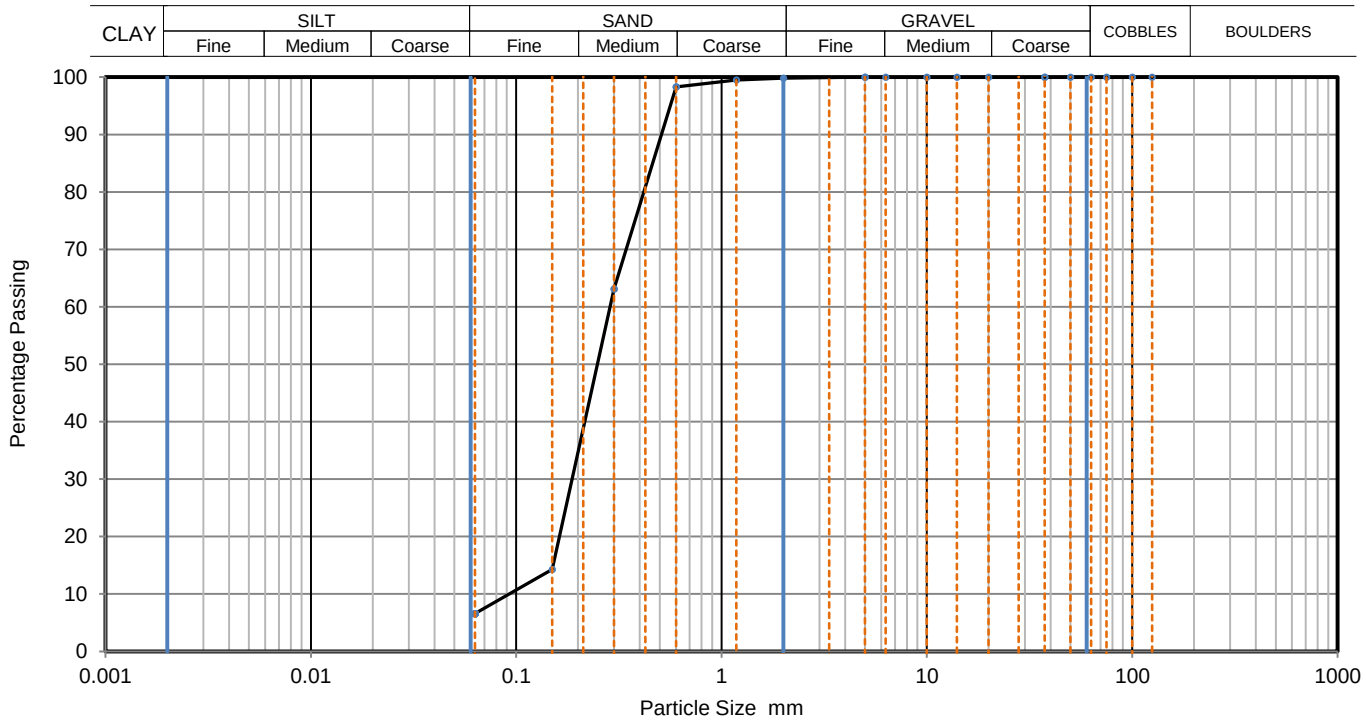
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB20
		Sample No.	
Project Number:	PC248770	Depth m	6.00 - 6.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	98		
0.3	63		
0.15	14		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	5
D60	mm	0.287
D30	mm	0.187
D10	mm	0.0926
Uniformity Coefficient		3.1

Remarks

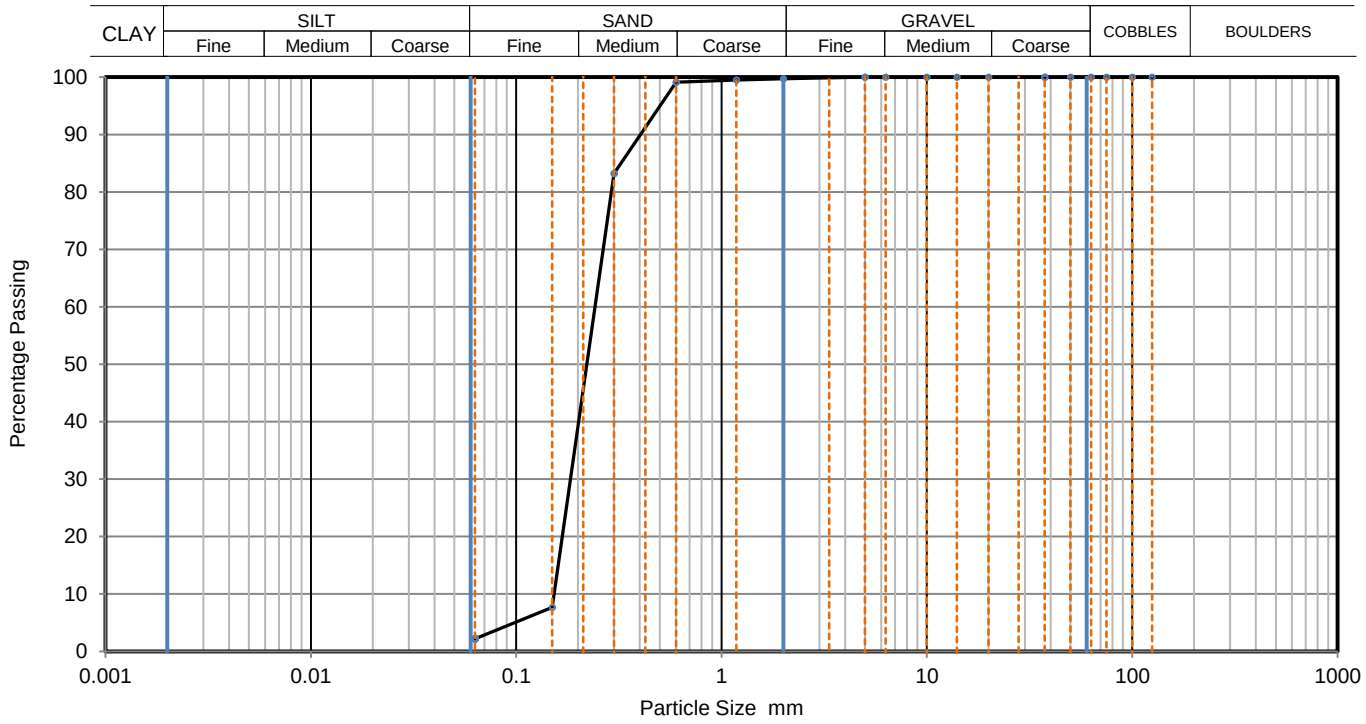
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB20
		Sample No.	
Project Number:	PC248770	Depth m	14.00 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	83		
0.15	8		
0.063	2		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	98
Fines <0.063mm	2

Grading Analysis		
D100	mm	5
D60	mm	0.242
D30	mm	0.184
D10	mm	0.153
Uniformity Coefficient		1.6

Remarks

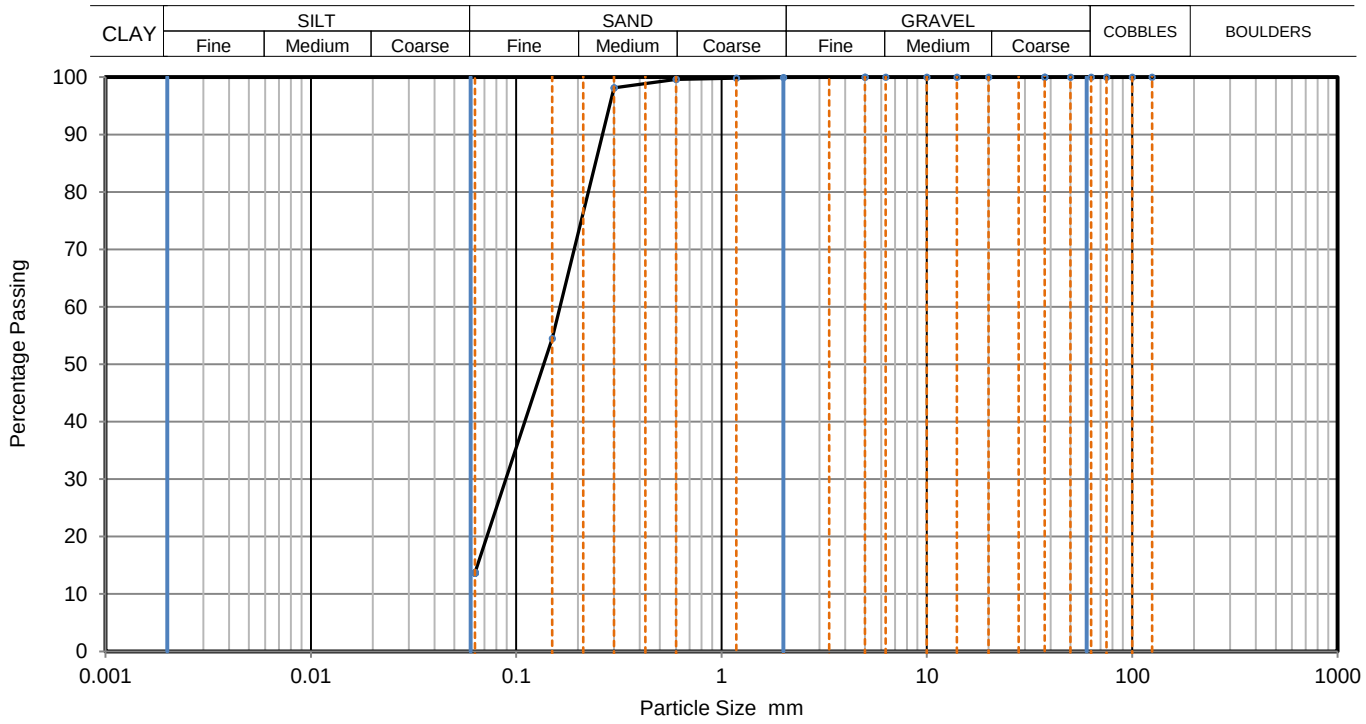
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB21
		Sample No.	
Project Number:	PC248770	Depth m	9.00 - 9.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled black clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	98		
0.15	55		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	86
Fines <0.063mm	14

Grading Analysis		
D100	mm	5
D60	mm	0.164
D30	mm	0.0891
D10	mm	
Uniformity Coefficient		

Remarks

Sample dried @ </= 50°C

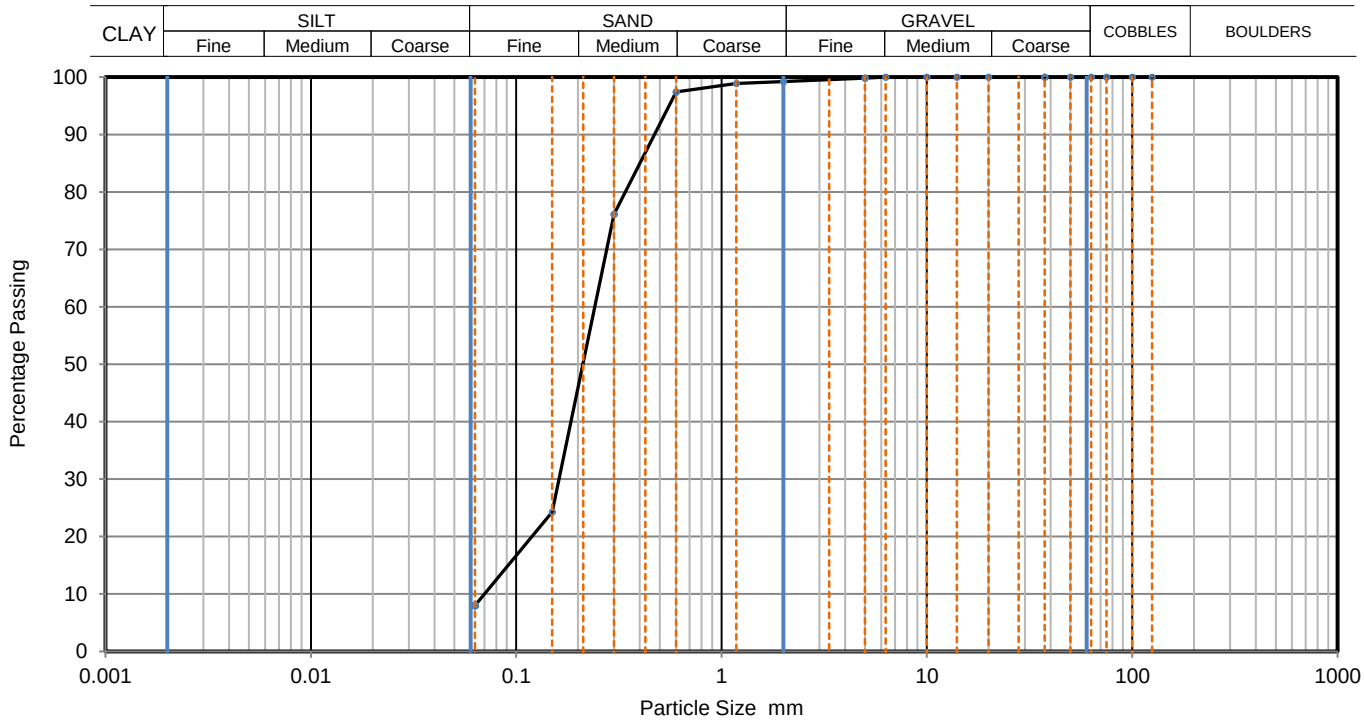
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB21
		Sample No.	
Project Number:	PC248770	Depth m	13.00 - 13.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	97		
0.3	76		
0.15	24		
0.063	8		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	91
Fines <0.063mm	8

Grading Analysis		
D100	mm	6.3
D60	mm	0.242
D30	mm	0.162
D10	mm	0.0699
Uniformity Coefficient		3.5

Remarks

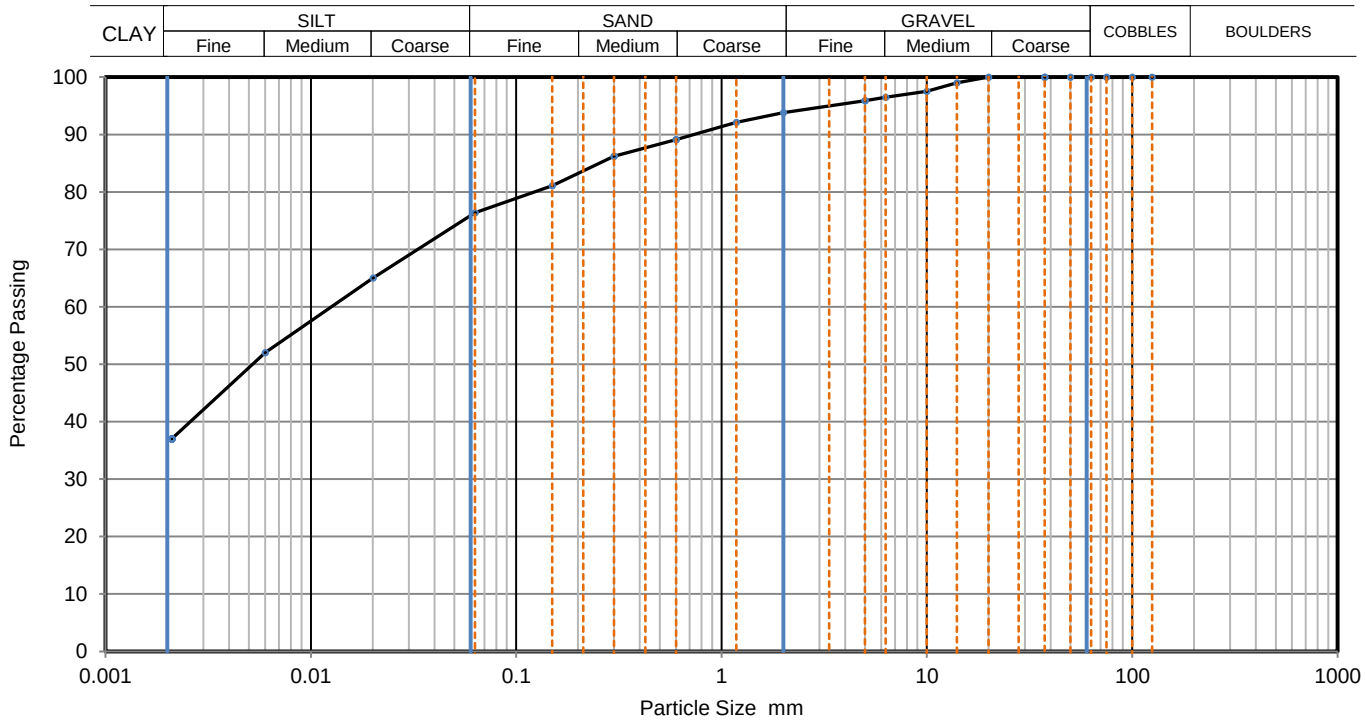
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB22
		Sample No.	
Project Number:	PC248770	Depth m	3.00 - 3.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	65
100	100	0.006	52
75	100	0.002	37
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
2	94		
1.18	92		
0.6	89		
0.3	86		
0.15	81	Particle density	(assumed)
0.063	76	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	17
Silt	40
Clay	37

Grading Analysis		
D100	mm	20
D60	mm	0.0124
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

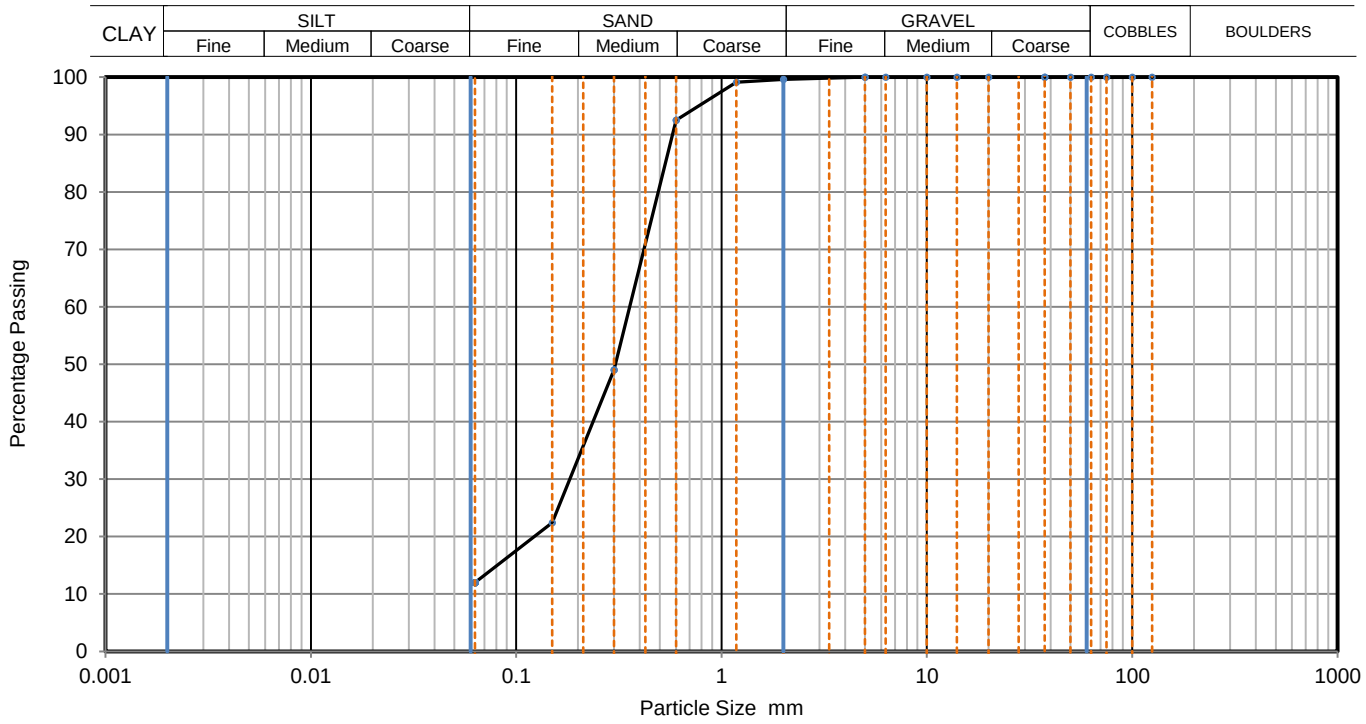
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB22
		Sample No.	
Project Number:	PC248770	Depth m	13.00 - 13.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	93		
0.3	49		
0.15	22		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	88
Fines <0.063mm	12

Grading Analysis		
D100	mm	5
D60	mm	0.357
D30	mm	0.183
D10	mm	
Uniformity Coefficient		

Remarks

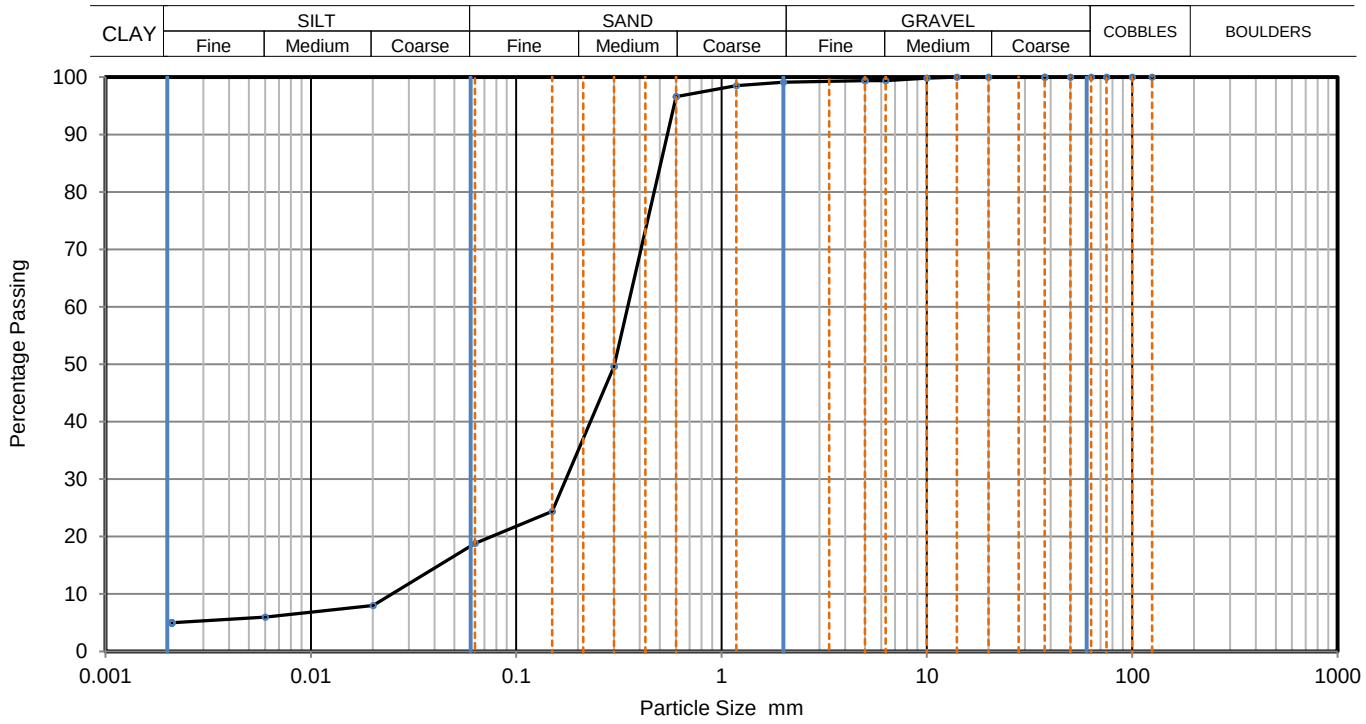
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB23
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 2.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	8
100	100	0.006	6
75	100	0.002	5
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	99		
1.18	99		
0.6	97		
0.3	50		
0.15	24	Particle density	(assumed)
0.063	19	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	80
Silt	14
Clay	5

Grading Analysis		
D100	mm	14
D60	mm	0.35
D30	mm	0.175
D10	mm	0.0258
Uniformity Coefficient		14

Remarks

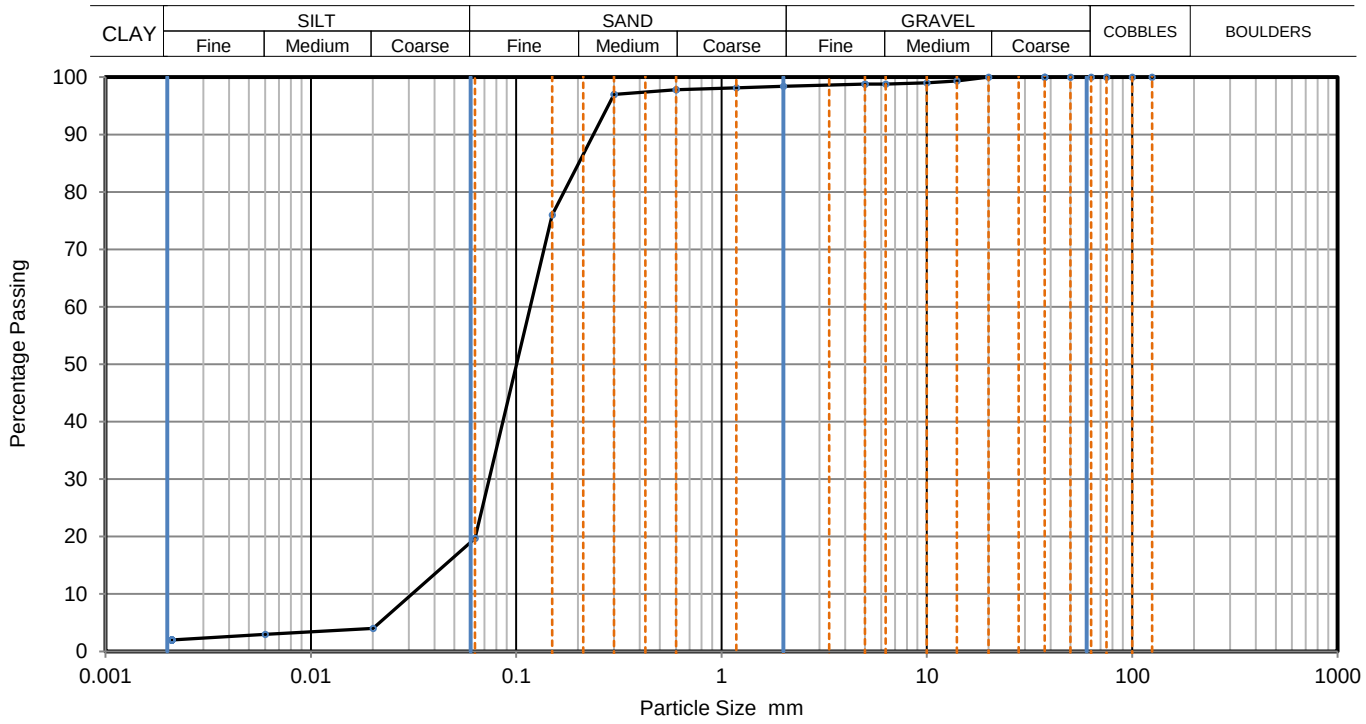
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB23
		Sample No.	
Project Number:	PC248770	Depth m	10.00 - 10.45
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Greyish brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	4
100	100	0.006	3
75	100	0.002	2
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
2	98		
1.18	98		
0.6	98		
0.3	97		
0.15	76	Particle density (assumed)	
0.063	20	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	79
Silt	17
Clay	2

Grading Analysis		
D100	mm	20
D60	mm	0.117
D30	mm	0.0738
D10	mm	0.0315
Uniformity Coefficient		3.7

Remarks

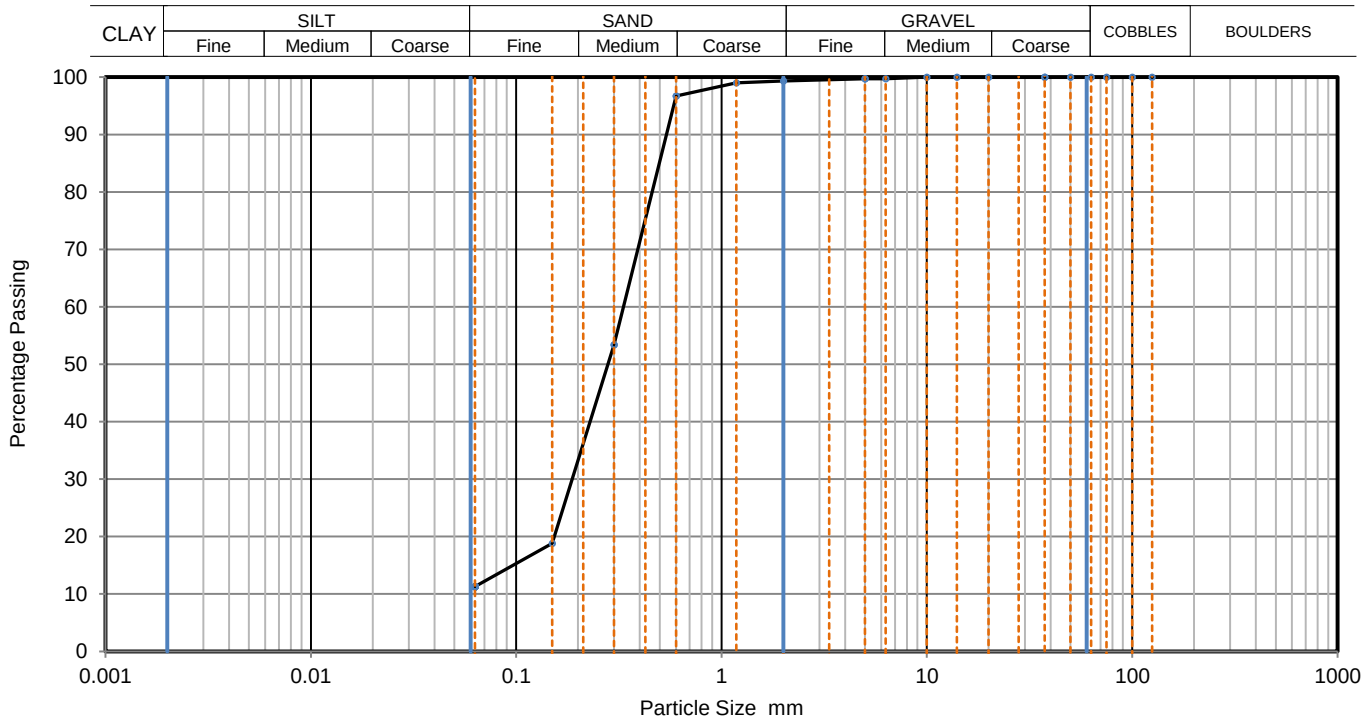
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB24
		Sample No.	
Project Number:	PC248770	Depth m	5.00 - 5.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	97		
0.3	53		
0.15	19		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	88
Fines <0.063mm	11

Grading Analysis		
D100	mm	10
D60	mm	0.333
D30	mm	0.188
D10	mm	
Uniformity Coefficient		

Remarks

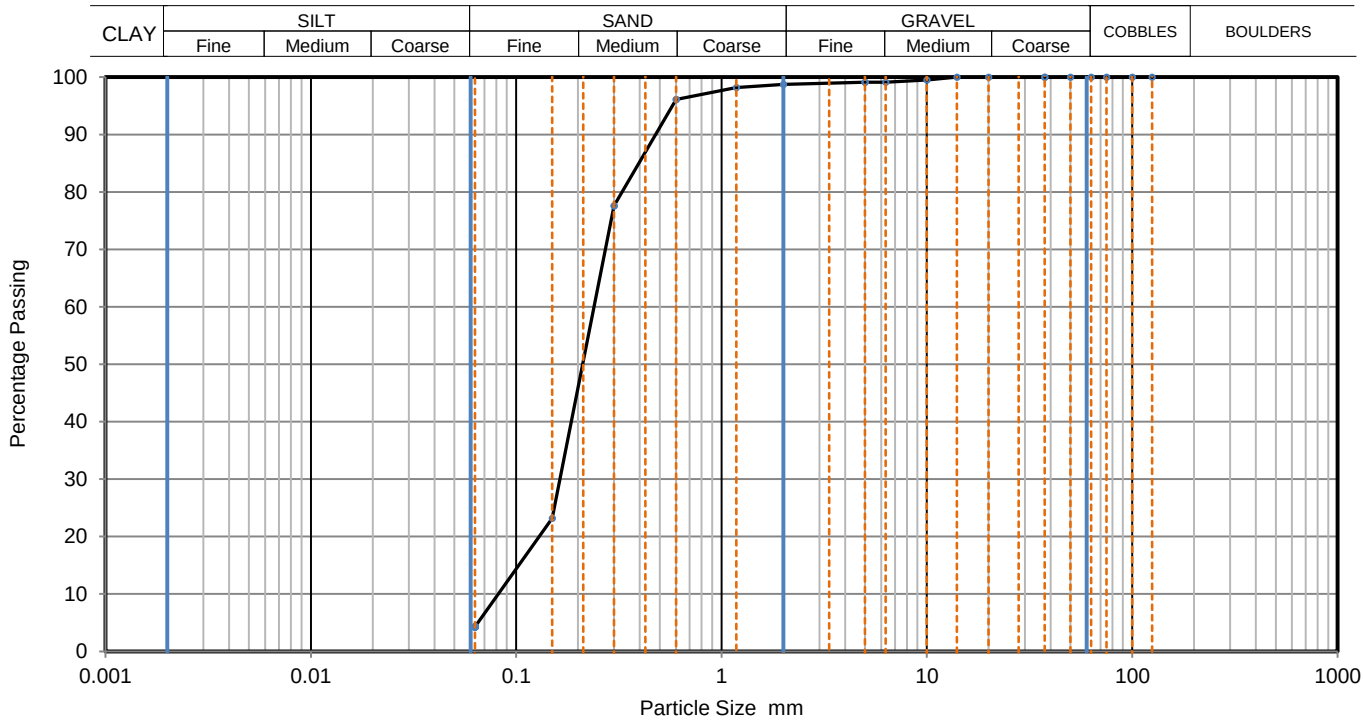
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHB24
		Sample No.	
Project Number:	PC248770	Depth m	14.00 - 15.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly slightly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	99		
1.18	98		
0.6	96		
0.3	78		
0.15	23		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	95
Fines <0.063mm	4

Grading Analysis		
D100	mm	14
D60	mm	0.24
D30	mm	0.163
D10	mm	0.0817
Uniformity Coefficient		2.9

Remarks

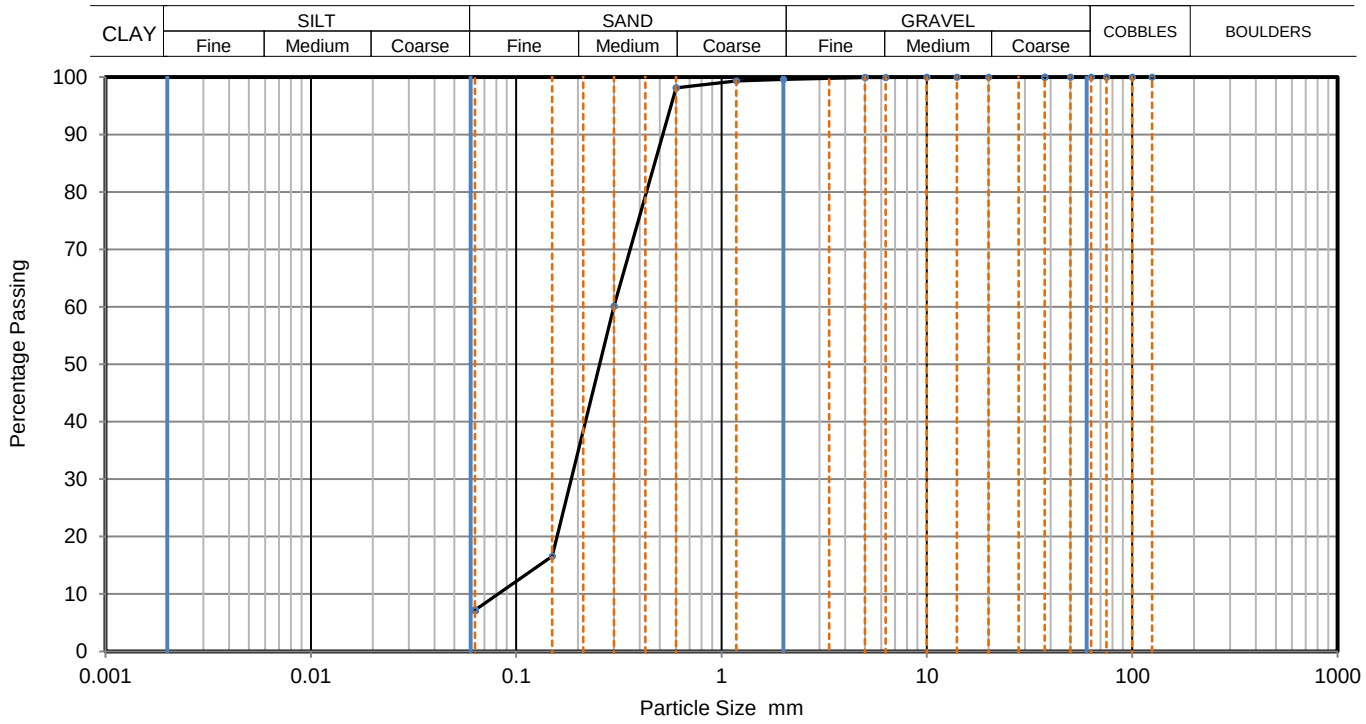
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC01
		Sample No.	
Project Number:	PC248770	Depth m	0.80 - 1.20
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	98		
0.3	60		
0.15	17		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	10
D60	mm	0.3
D30	mm	0.186
D10	mm	0.0814
Uniformity Coefficient		3.7

Remarks

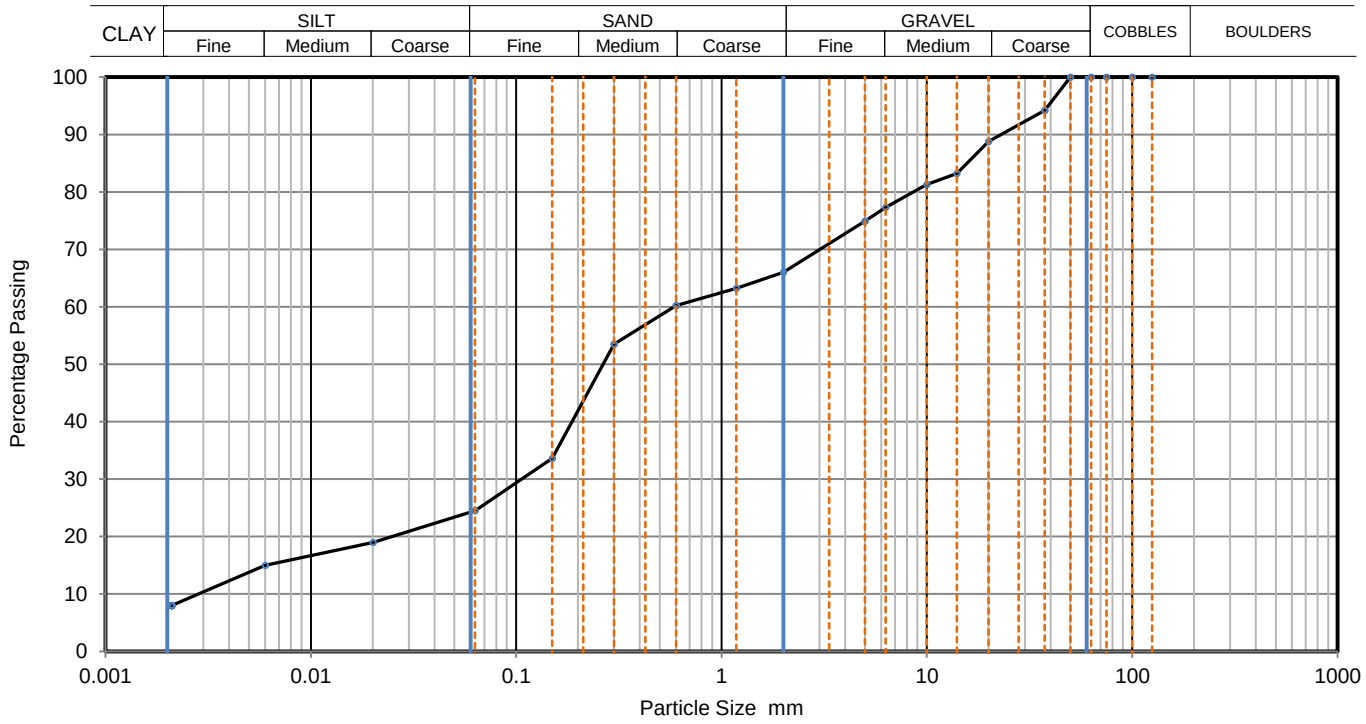
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC01
		Sample No.	
Project Number:	PC248770	Depth m	7.00 - 7.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Greyish brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	19
100	100	0.006	15
75	100	0.002	8
63	100		
50	100		
37.5	94		
20	89		
14	83		
10	81		
6.3	77		
5	75		
2	66		
1.18	63		
0.6	60		
0.3	54		
0.15	34	Particle density (assumed)	
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	34
Sand	41
Silt	17
Clay	8

Grading Analysis		
D100	mm	50
D60	mm	0.585
D30	mm	0.107
D10	mm	0.0029
Uniformity Coefficient		200

Remarks

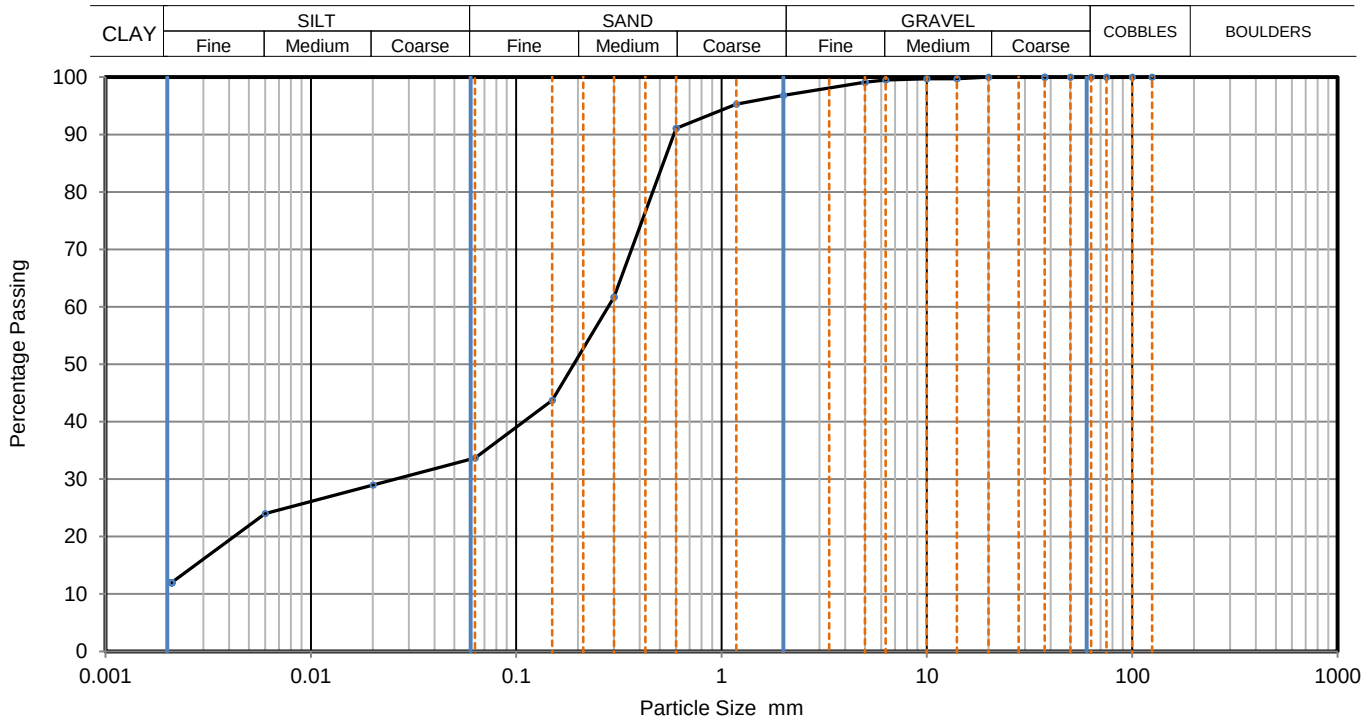
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC01
		Sample No.	
Project Number:	PC248770	Depth m	10.00 - 10.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey mottled brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	29
100	100	0.006	24
75	100	0.002	12
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
2	97		
1.18	95		
0.6	91		
0.3	62		
0.15	44	Particle density	(assumed)
0.063	34	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	64
Silt	21
Clay	12

Grading Analysis		
D100	mm	20
D60	mm	0.281
D30	mm	0.0262
D10	mm	
Uniformity Coefficient		

Remarks

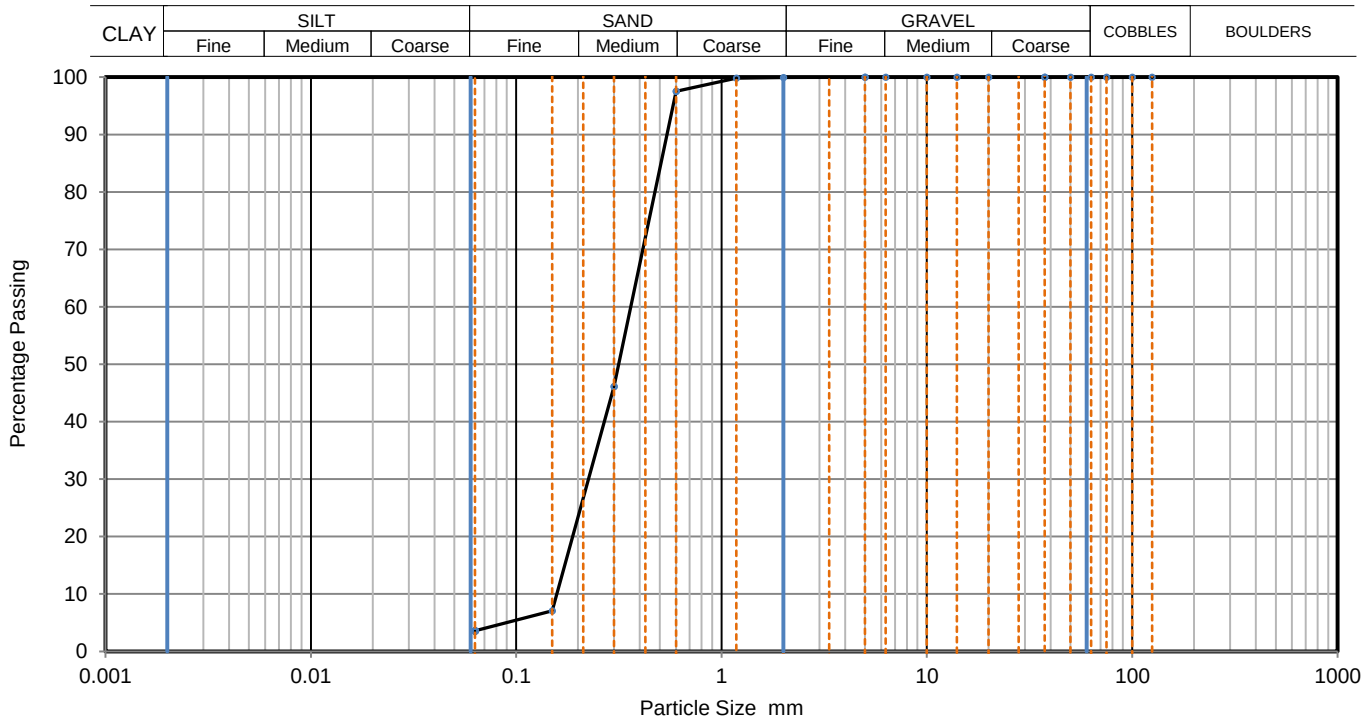
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC02
		Sample No.	
Project Number:	PC248770	Depth m	2.20 - 2.65
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	98		
0.3	46		
0.15	7		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	96
Fines <0.063mm	4

Grading Analysis		
D100	mm	5
D60	mm	0.362
D30	mm	0.225
D10	mm	0.158
Uniformity Coefficient		2.3

Remarks

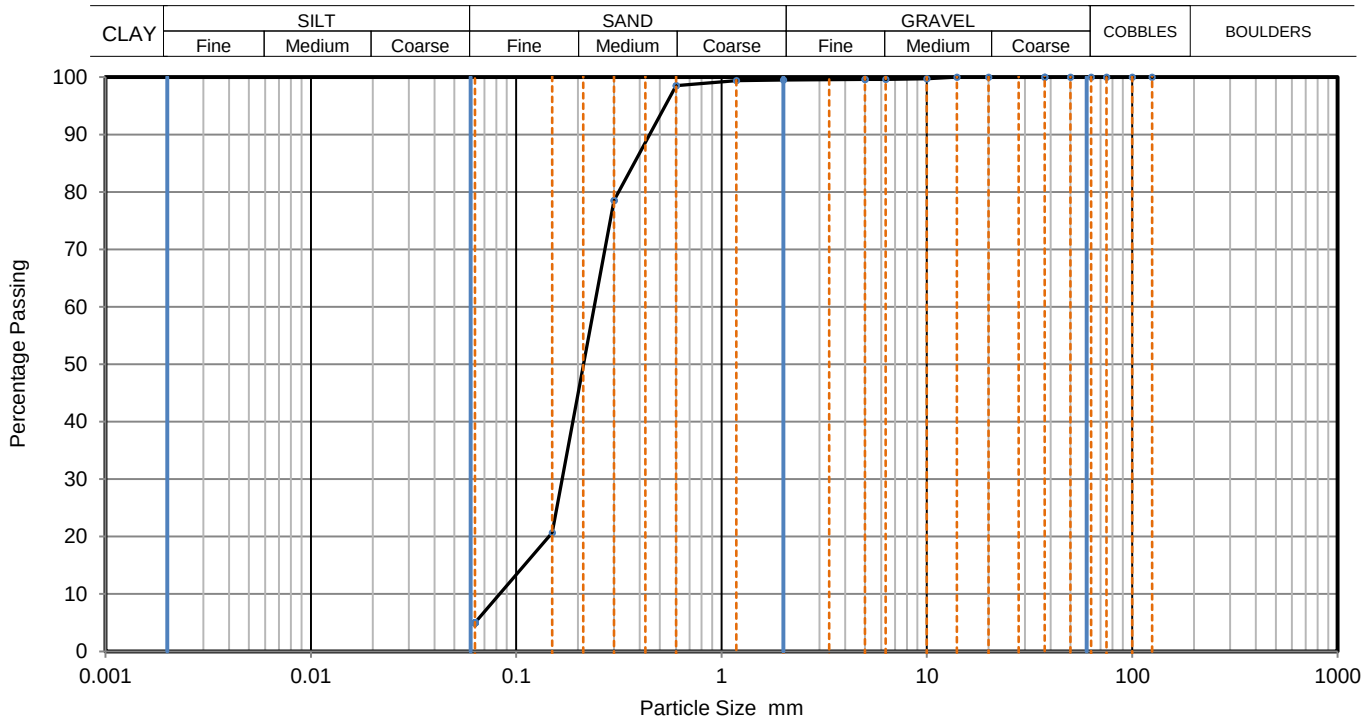
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC02
		Sample No.	
Project Number:	PC248770	Depth m	8.20 - 8.65
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	99		
0.3	79		
0.15	21		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	94
Fines <0.063mm	5

Grading Analysis		
D100	mm	14
D60	mm	0.24
D30	mm	0.168
D10	mm	0.0831
Uniformity Coefficient		2.9

Remarks

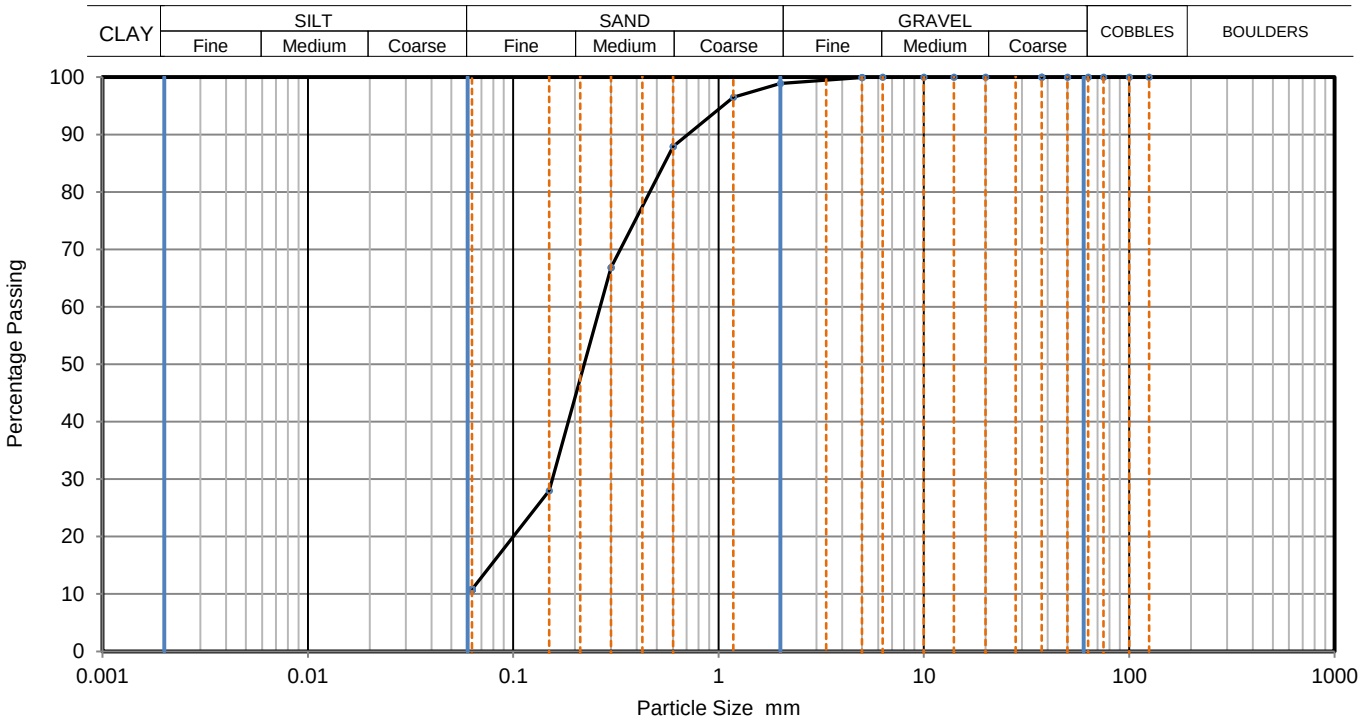
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC02
		Sample No.	
Project Number:	PC248770	Depth m	14.50 - 14.95
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	97		
0.6	88		
0.3	67		
0.15	28		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	88
Fines <0.063mm	11

Grading Analysis		
D100	mm	10
D60	mm	0.266
D30	mm	0.155
D10	mm	
Uniformity Coefficient		

Remarks

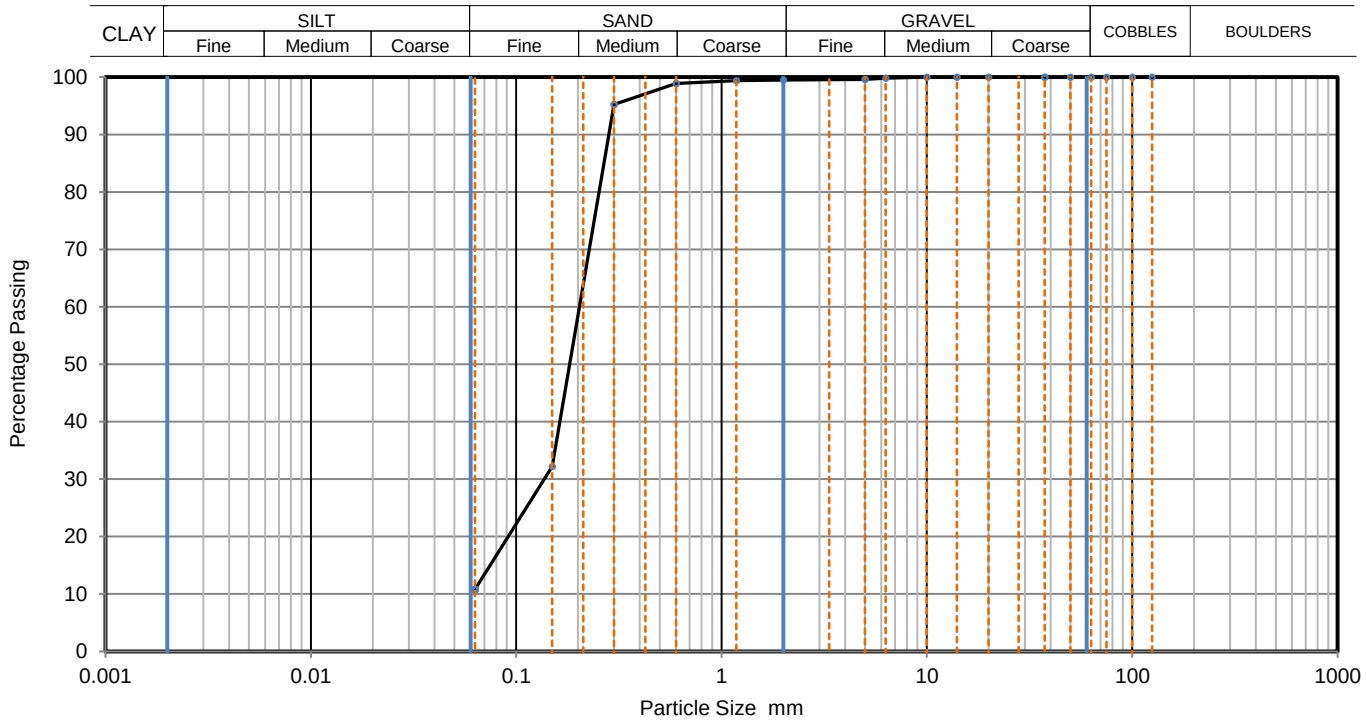
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC03
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	99		
0.3	95		
0.15	32		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	88
Fines <0.063mm	11

Grading Analysis		
D100	mm	10
D60	mm	0.204
D30	mm	0.137
D10	mm	
Uniformity Coefficient		

Remarks

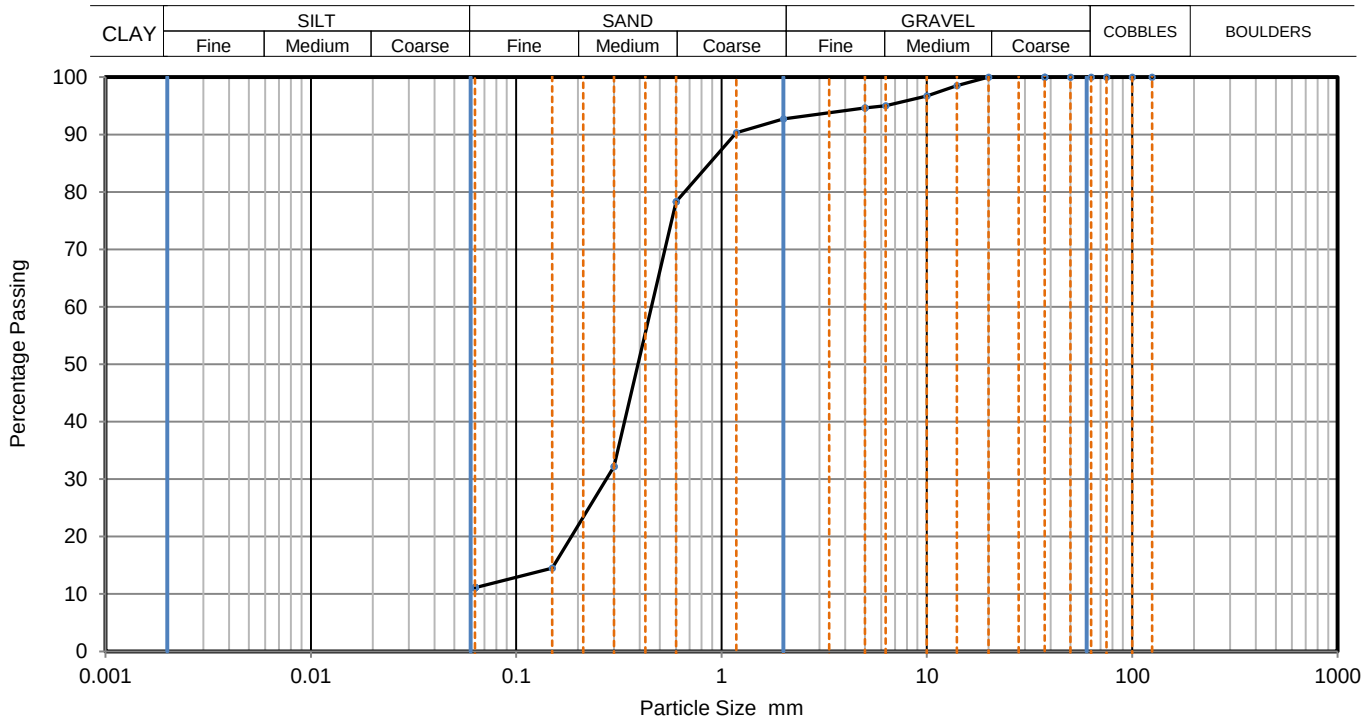
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC03
		Sample No.	
Project Number:	PC248770	Depth m	9.00 - 9.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	97		
6.3	95		
5	95		
2	93		
1.18	90		
0.6	78		
0.3	32		
0.15	15		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	82
Fines <0.063mm	11

Grading Analysis		
D100	mm	20
D60	mm	0.456
D30	mm	0.275
D10	mm	
Uniformity Coefficient		

Remarks

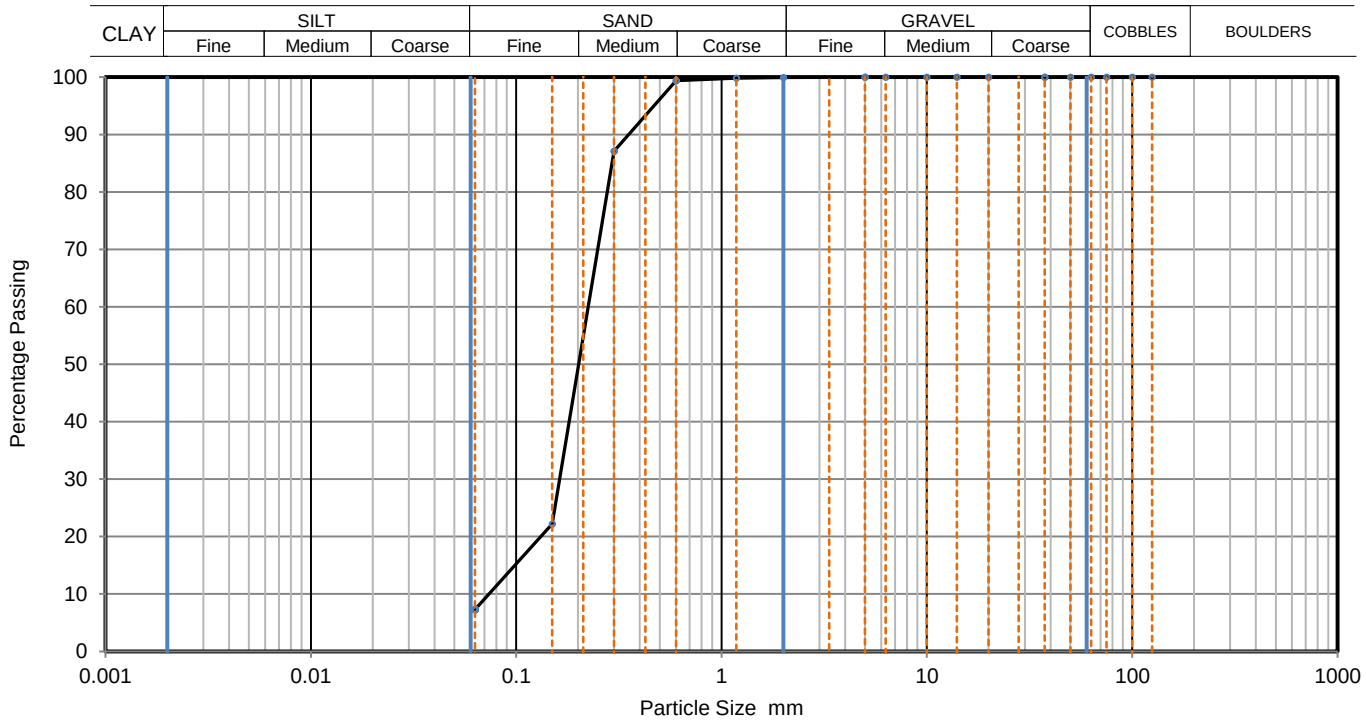
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC04
		Sample No.	
Project Number:	PC248770	Depth m	6.00 - 6.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	87		
0.15	22		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	5
D60	mm	0.225
D30	mm	0.163
D10	mm	0.0736
Uniformity Coefficient		3

Remarks

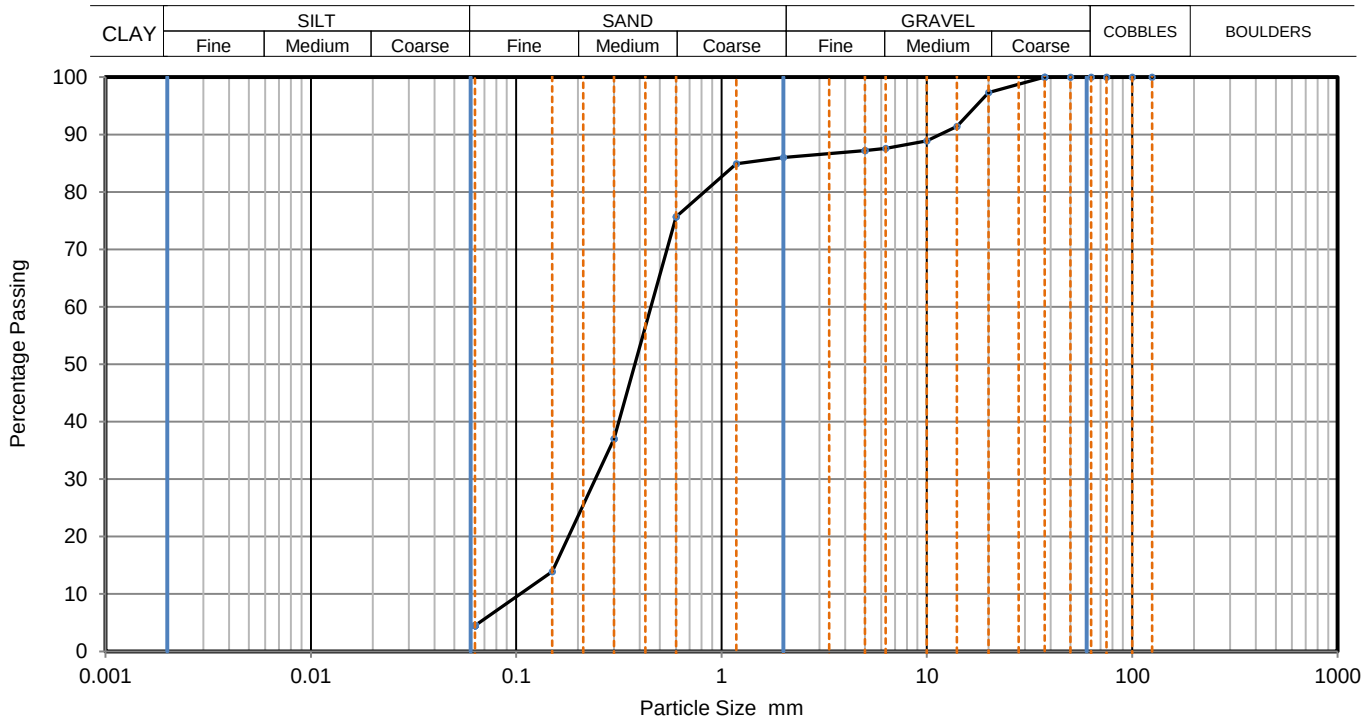
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC04
		Sample No.	
Project Number:	PC248770	Depth m	13.00 - 13.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	97		
14	91		
10	89		
6.3	88		
5	87		
2	86		
1.18	85		
0.6	76		
0.3	37		
0.15	14		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	14
Sand	81
Fines <0.063mm	5

Grading Analysis		
D100	mm	37.5
D60	mm	0.453
D30	mm	0.243
D10	mm	0.104
Uniformity Coefficient		4.3

Remarks

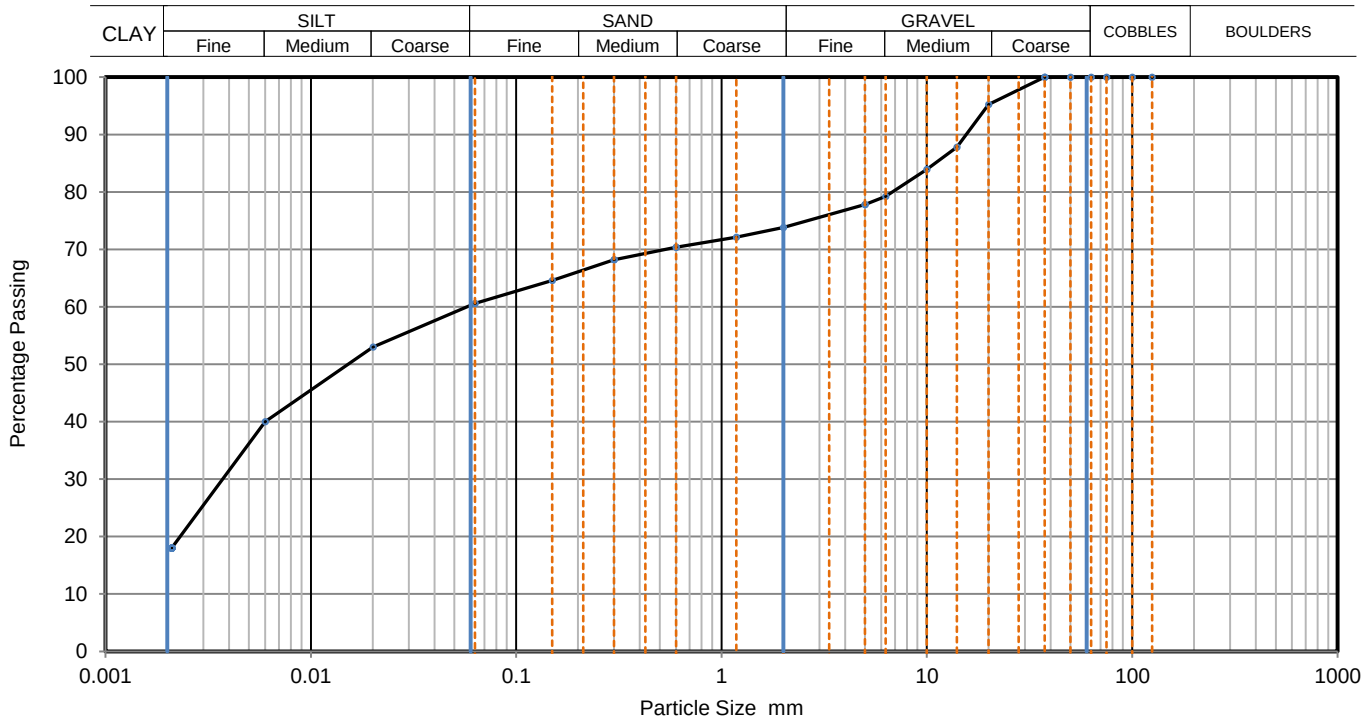
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC07
		Sample No.	
Project Number:	PC248770	Depth m	7.10 - 7.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark brown mottled white slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	53
100	100	0.006	40
75	100	0.002	18
63	100		
50	100		
37.5	100		
20	95		
14	88		
10	84		
6.3	79		
5	78		
2	74		
1.18	72		
0.6	70		
0.3	68		
0.15	65	Particle density (assumed)	
0.063	61	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	26
Sand	13
Silt	43
Clay	18

Grading Analysis		
D100	mm	37.5
D60	mm	0.0577
D30	mm	0.00369
D10	mm	
Uniformity Coefficient		

Remarks

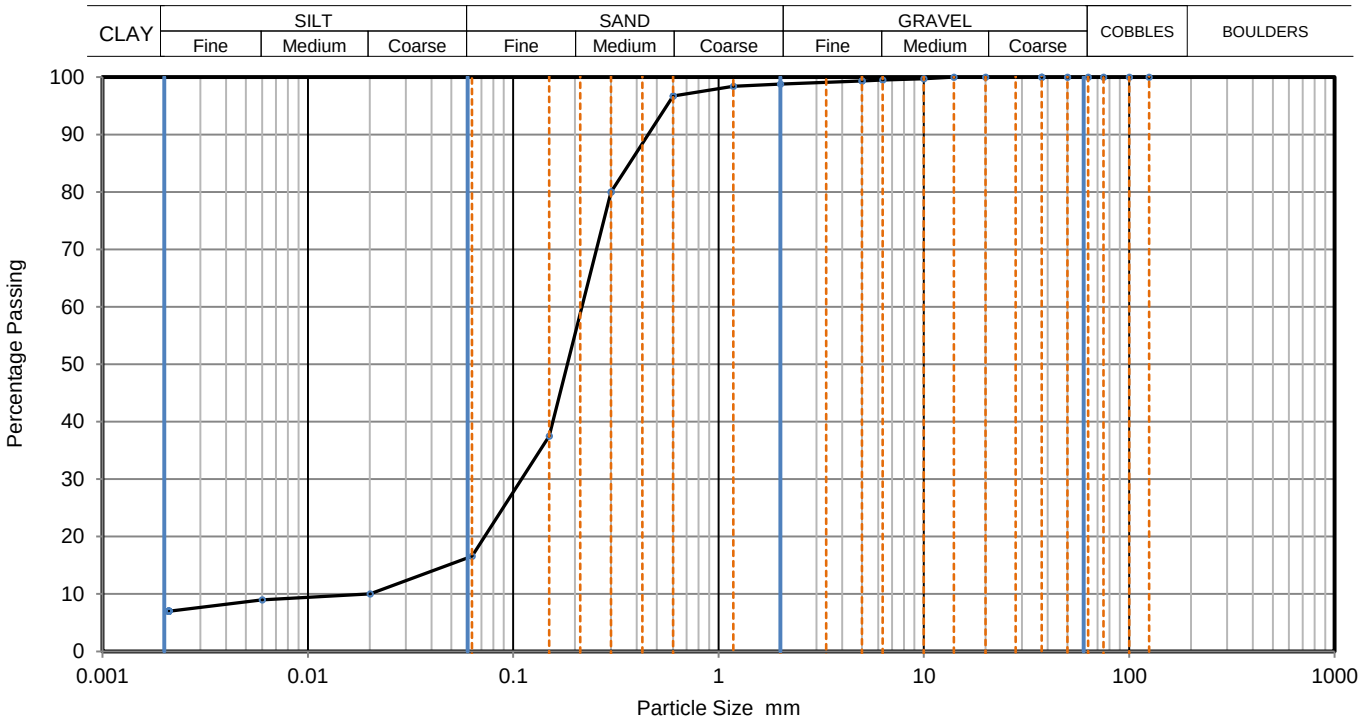
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC07
		Sample No.	
Project Number:	PC248770	Depth m	9.00 - 9.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey mottled brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	9
75	100	0.002	7
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
2	99		
1.18	98		
0.6	97		
0.3	80		
0.15	38	Particle density (assumed)	
0.063	17	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	82
Silt	10
Clay	7

Grading Analysis		
D100	mm	14
D60	mm	0.216
D30	mm	0.11
D10	mm	0.0207
Uniformity Coefficient		10

Remarks

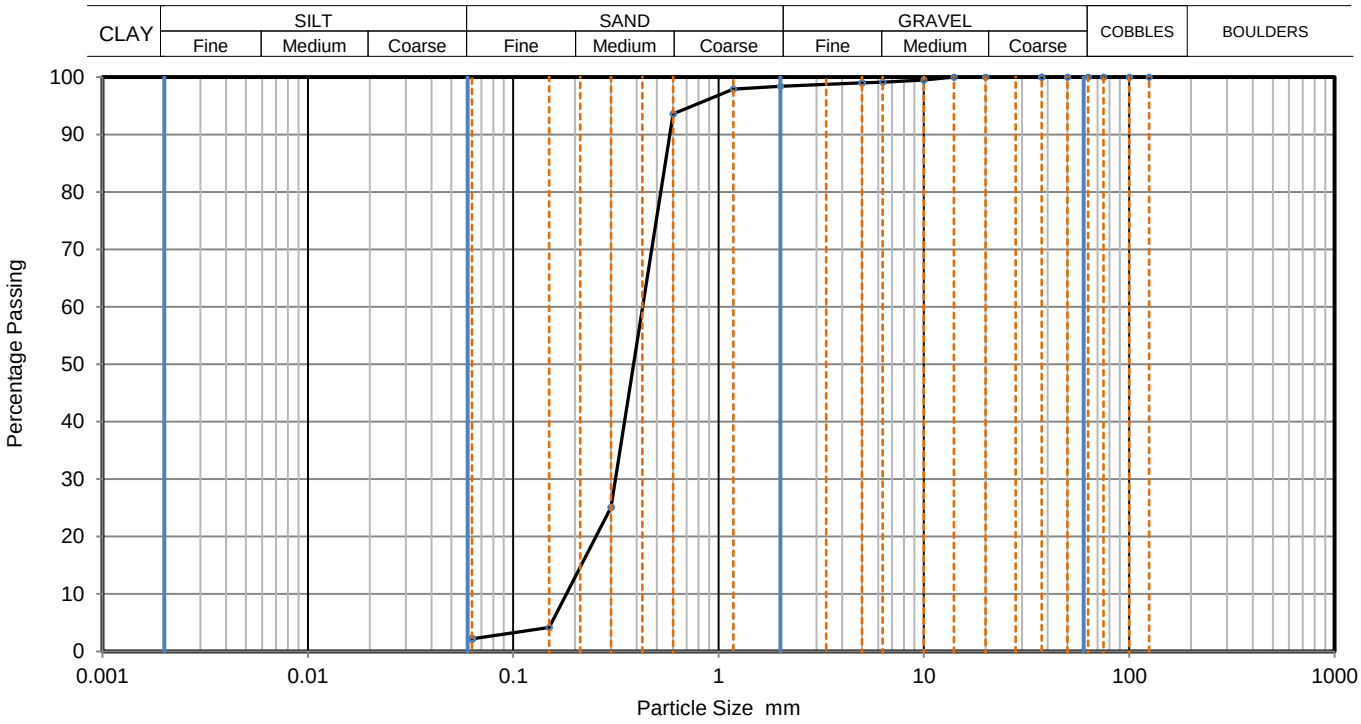
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC08
		Sample No.	
Project Number:	PC248770	Depth m	1.20 - 1.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	98		
1.18	98		
0.6	94		
0.3	25		
0.15	4		
0.063	2		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	96
Fines <0.063mm	2

Grading Analysis		
D100	mm	14
D60	mm	0.427
D30	mm	0.315
D10	mm	0.182
Uniformity Coefficient		2.3

Remarks

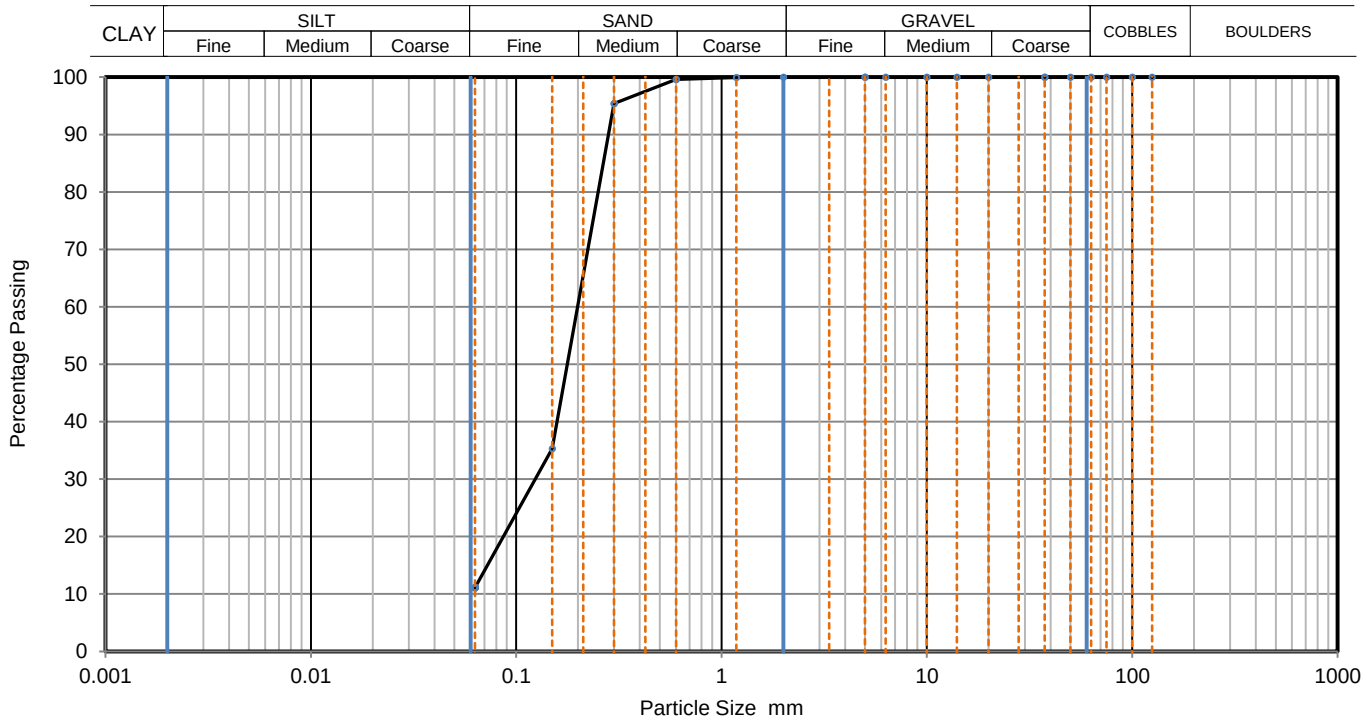
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC08
		Sample No.	
Project Number:	PC248770	Depth m	5.00 - 5.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	95		
0.15	35		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	89
Fines <0.063mm	11

Grading Analysis		
D100	mm	2
D60	mm	0.199
D30	mm	0.124
D10	mm	
Uniformity Coefficient		

Remarks

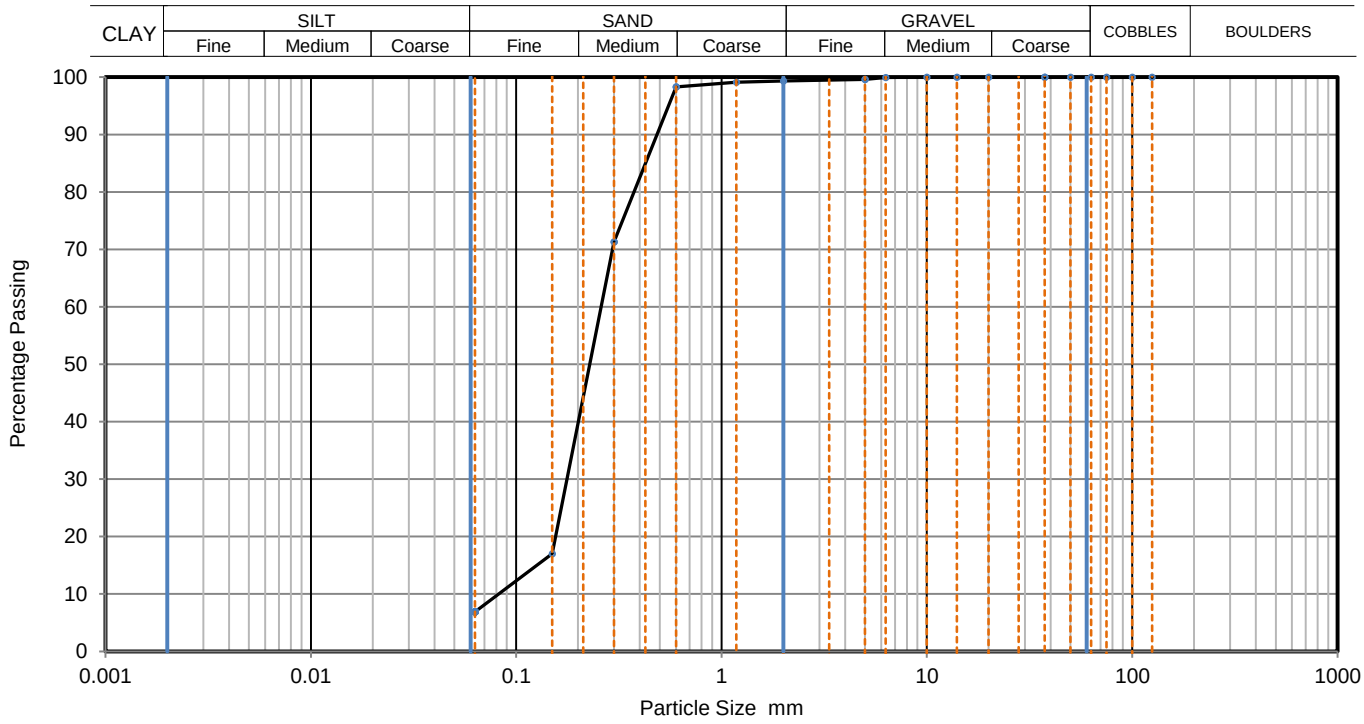
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BHC08
		Sample No.	
Project Number:	PC248770	Depth m	11.50 - 12.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	71		
0.15	17		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	92
Fines <0.063mm	7

Grading Analysis		
D100	mm	10
D60	mm	0.26
D30	mm	0.177
D10	mm	0.0823
Uniformity Coefficient		3.2

Remarks

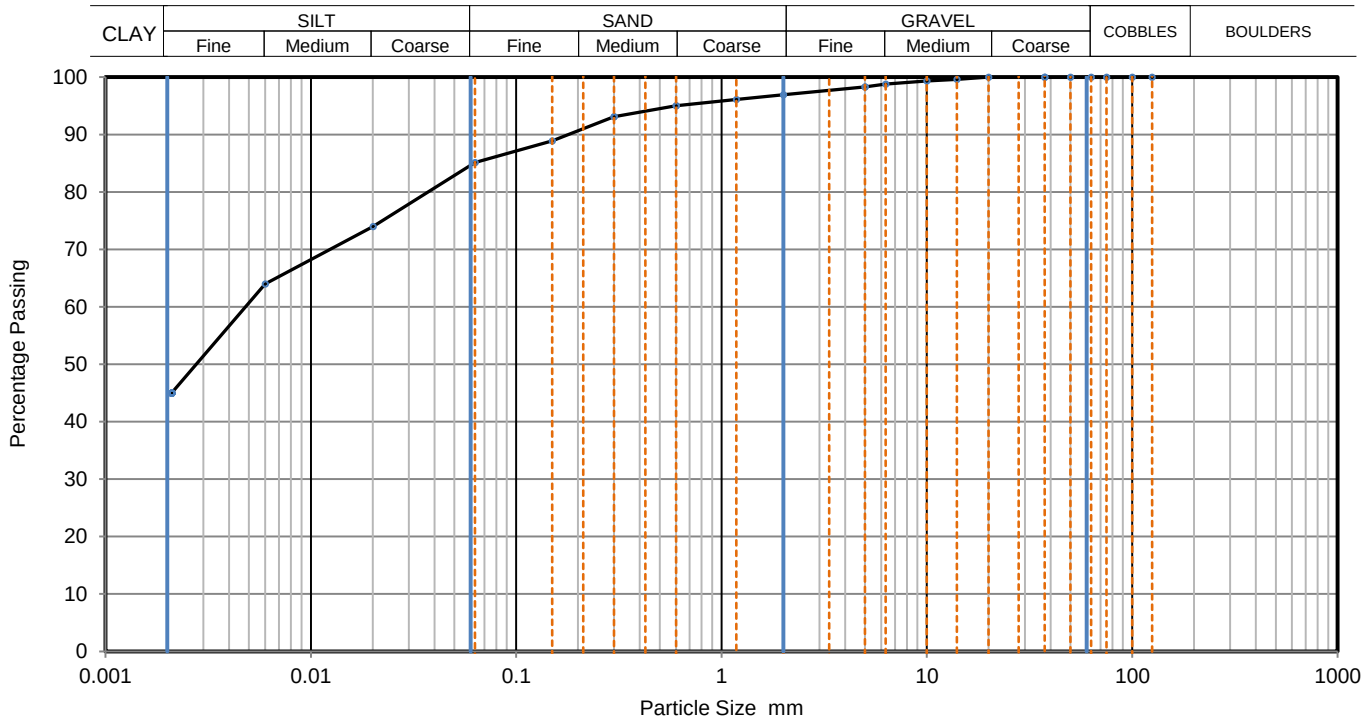
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB02
		Sample No.	
Project Number:	PC248770	Depth m	1.20 - 2.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	74
100	100	0.006	64
75	100	0.002	45
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
2	97		
1.18	96		
0.6	95		
0.3	93		
0.15	89	Particle density	(assumed)
0.063	85	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	12
Silt	40
Clay	45

Grading Analysis		
D100	mm	20
D60	mm	0.0049
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

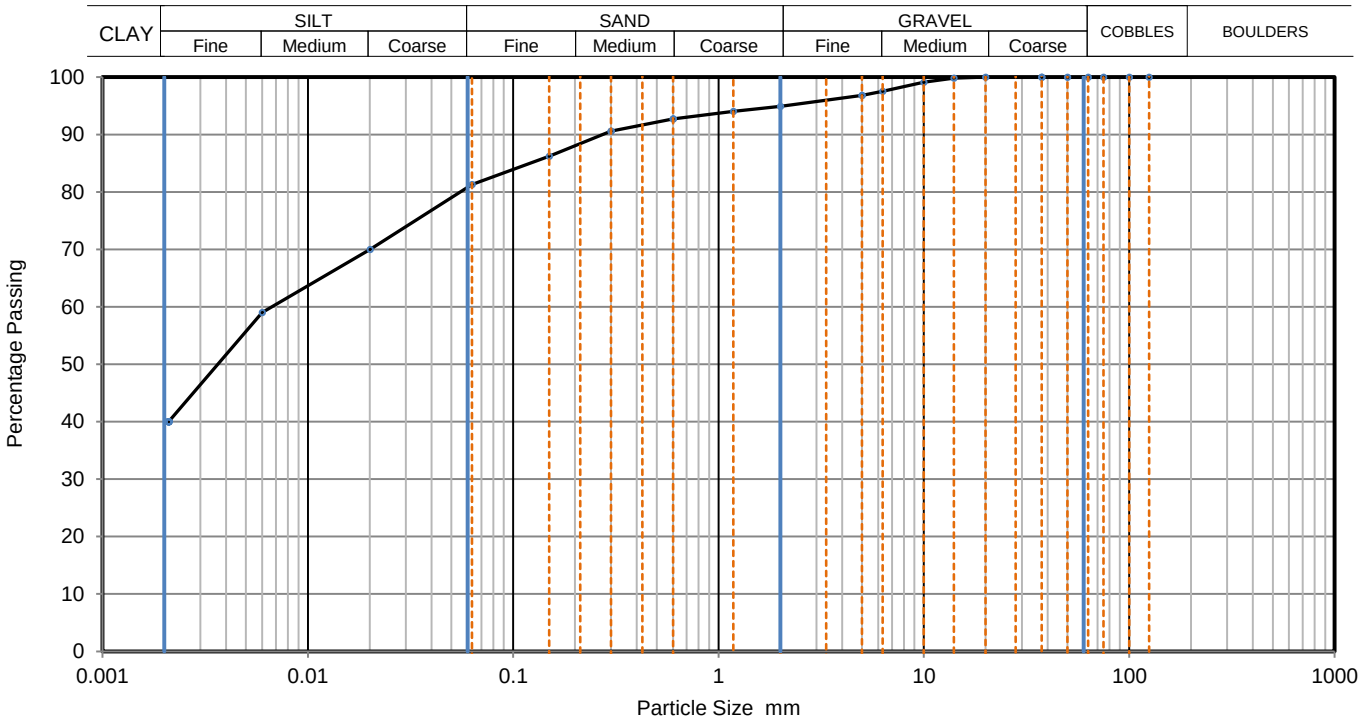
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB06
		Sample No.	
Project Number:	PC248770	Depth m	1.50 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	70
100	100	0.006	59
75	100	0.002	40
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
2	95		
1.18	94		
0.6	93		
0.3	91		
0.15	86	Particle density (assumed)	
0.063	81	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	14
Silt	41
Clay	40

Grading Analysis		
D100	mm	20
D60	mm	0.00676
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

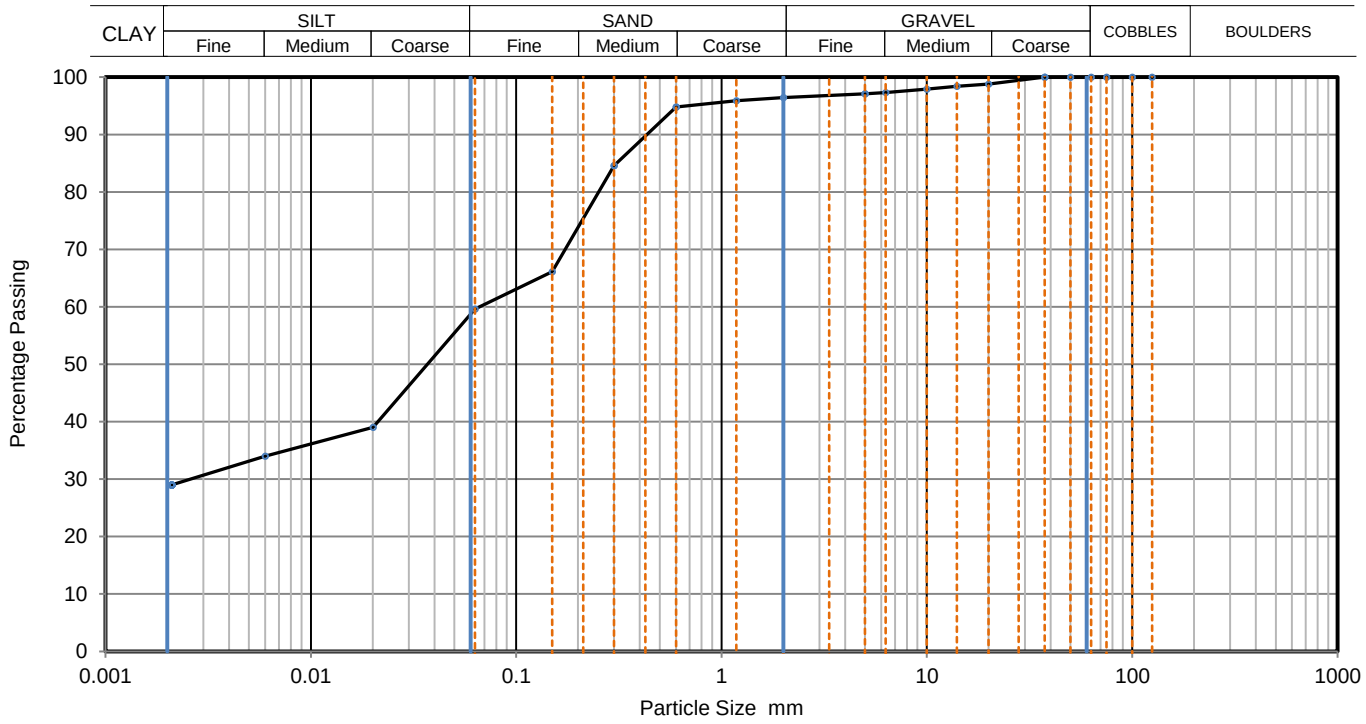
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB08
		Sample No.	
Project Number:	PC248770	Depth m	0.30 - 0.75
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown mottled grey slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	39
100	100	0.006	34
75	100	0.002	29
63	100		
50	100		
37.5	100		
20	99		
14	98		
10	98		
6.3	97		
5	97		
2	96		
1.18	96		
0.6	95		
0.3	85		
0.15	66	Particle density	(assumed)
0.063	60	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	37
Silt	30
Clay	29

Grading Analysis		
D100	mm	37.5
D60	mm	0.0666
D30	mm	0.00246
D10	mm	
Uniformity Coefficient		

Remarks

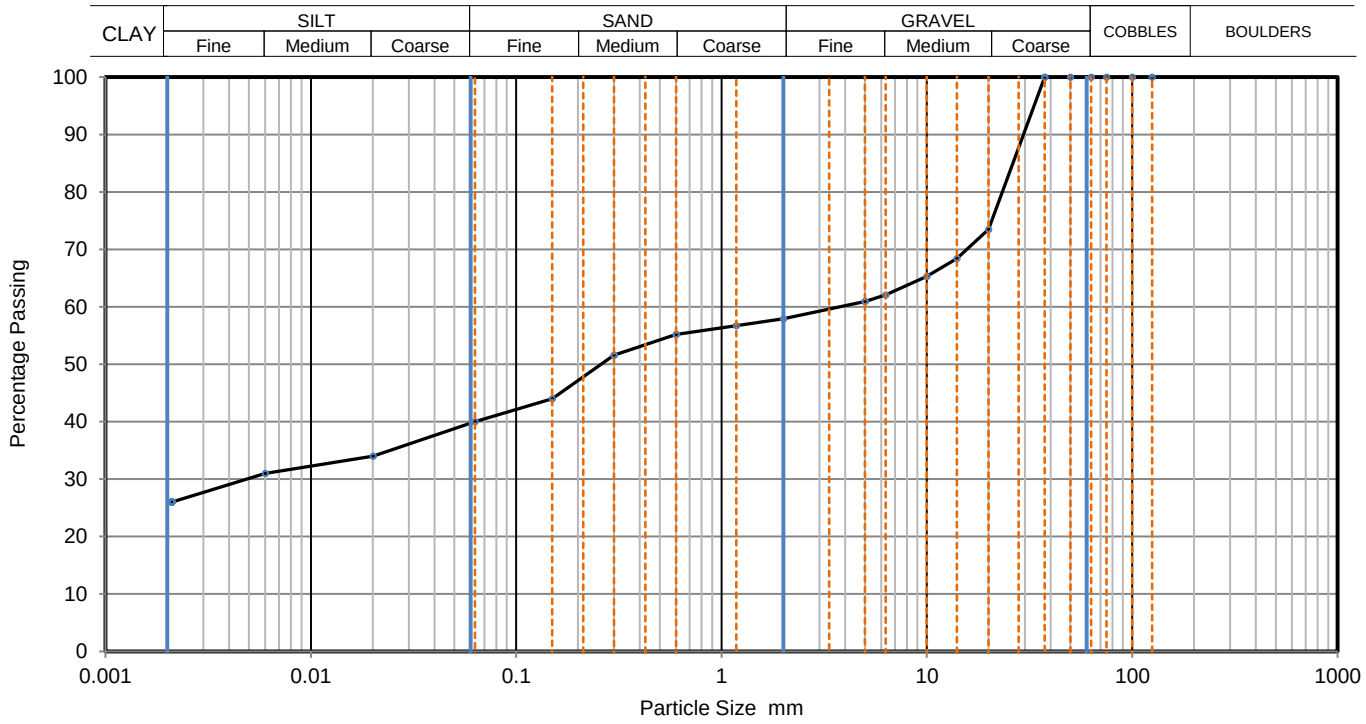
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB10
		Sample No.	
Project Number:	PC248770	Depth m	0.30 - 0.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	34
100	100	0.006	31
75	100	0.002	26
63	100		
50	100		
37.5	100		
20	74		
14	68		
10	65		
6.3	62		
5	61		
2	58		
1.18	57		
0.6	55		
0.3	52		
0.15	44	Particle density	(assumed)
0.063	40	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	42
Sand	18
Silt	14
Clay	26

Grading Analysis		
D100	mm	37.5
D60	mm	3.76
D30	mm	0.00494
D10	mm	
Uniformity Coefficient		

Remarks

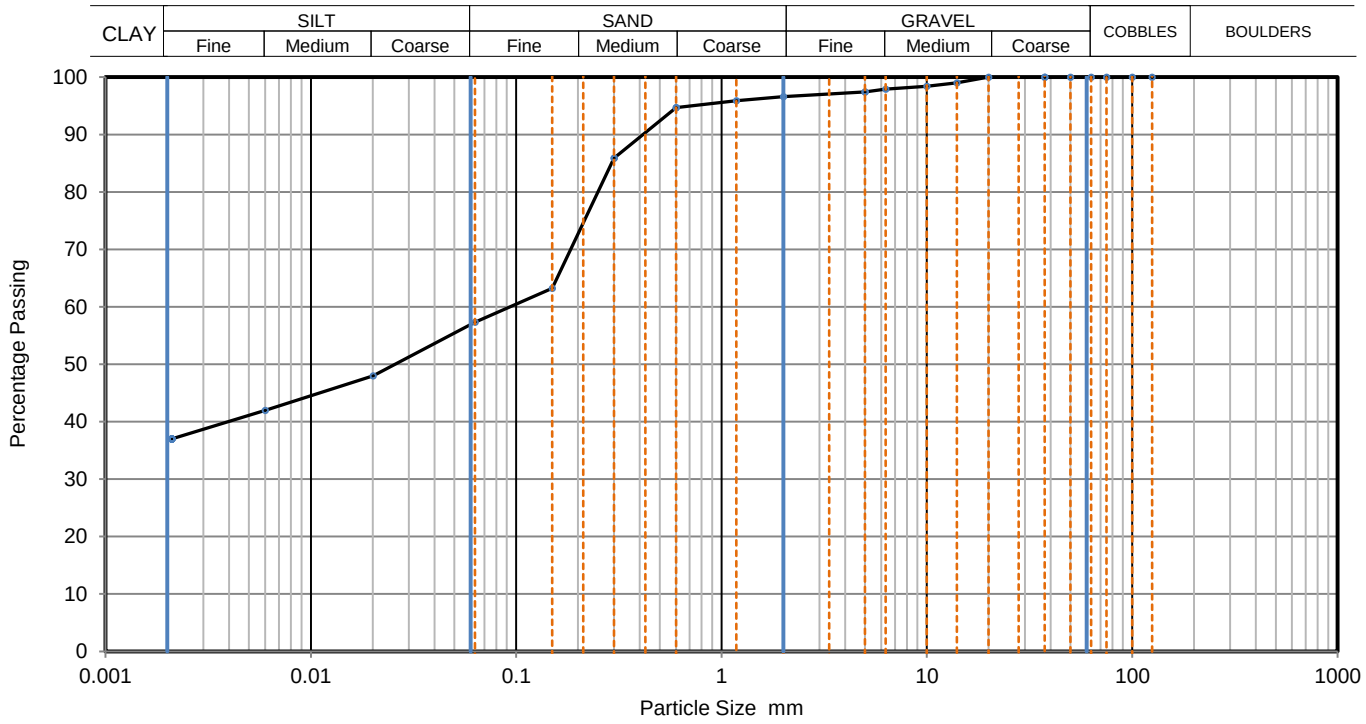
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB11
		Sample No.	
Project Number:	PC248770	Depth m	0.35 - 0.60
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown mottled grey slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	48
100	100	0.006	42
75	100	0.002	37
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	98		
5	97		
2	97		
1.18	96		
0.6	95		
0.3	86		
0.15	63	Particle density (assumed)	
0.063	57	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	39
Silt	21
Clay	37

Grading Analysis		
D100	mm	20
D60	mm	0.0939
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

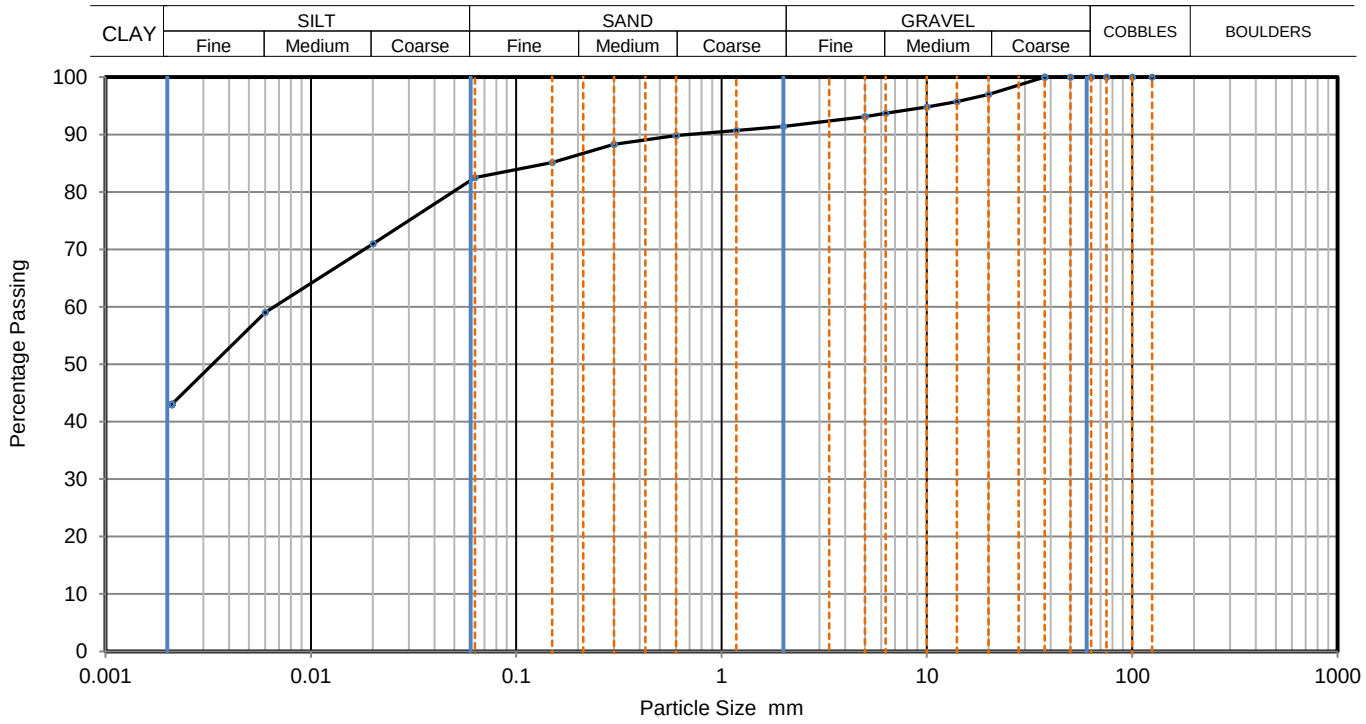
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB12
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey mottled brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	71
100	100	0.006	59
75	100	0.002	43
63	100		
50	100		
37.5	100		
20	97		
14	96		
10	95		
6.3	94		
5	93		
2	91		
1.18	91		
0.6	90		
0.3	88		
0.15	85	Particle density (assumed)	
0.063	83	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	9
Silt	40
Clay	42

Grading Analysis		
D100	mm	37.5
D60	mm	0.0065
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

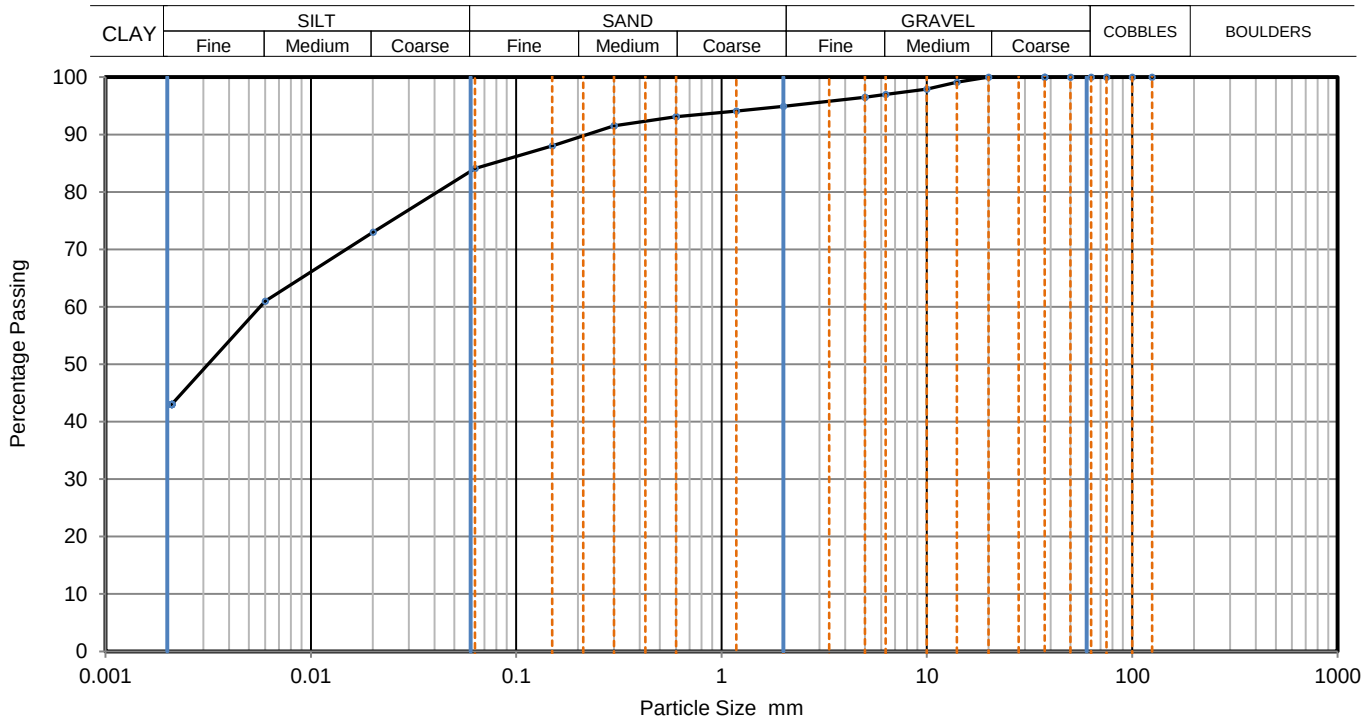
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1365

GEOTECHNICS	**PARTICLE SIZE DISTRIBUTION**	Hole No.	TPB13
		Sample No.	
Project Number:	PC248770	Depth m	1.50 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey mottled brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	73
100	100	0.006	61
75	100	0.002	43
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	95		
1.18	94		
0.6	93		
0.3	92		
0.15	88	Particle density (assumed)	
0.063	84	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	11
Silt	41
Clay	43

Grading Analysis		
D100	mm	20
D60	mm	0.00557
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

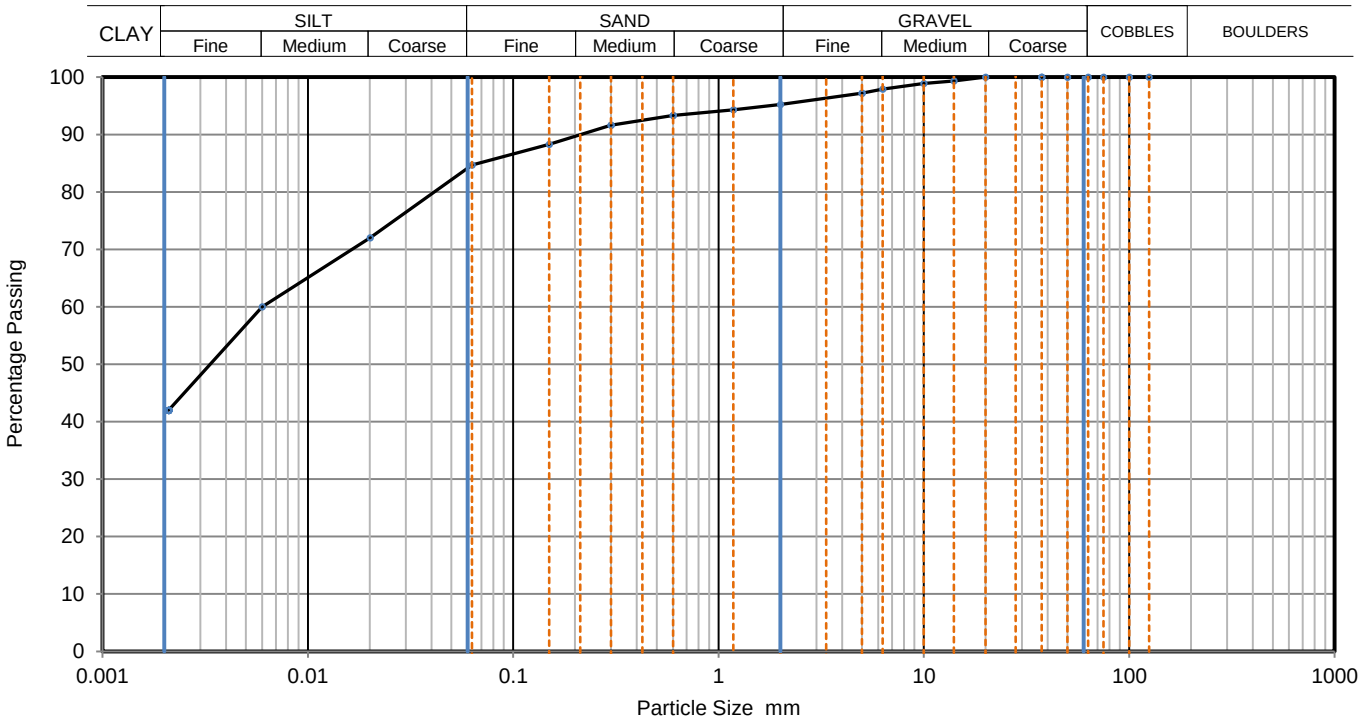
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1365

GEOTECHNICS	**PARTICLE SIZE DISTRIBUTION**	Hole No.	TPB16
		Sample No.	
Project Number:	PC248770	Depth m	1.20 - 2.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	72
100	100	0.006	60
75	100	0.002	42
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	98		
5	97		
2	95		
1.18	94		
0.6	93		
0.3	92		
0.15	88	Particle density (assumed)	
0.063	85	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	10
Silt	43
Clay	42

Grading Analysis		
D100	mm	20
D60	mm	0.00607
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

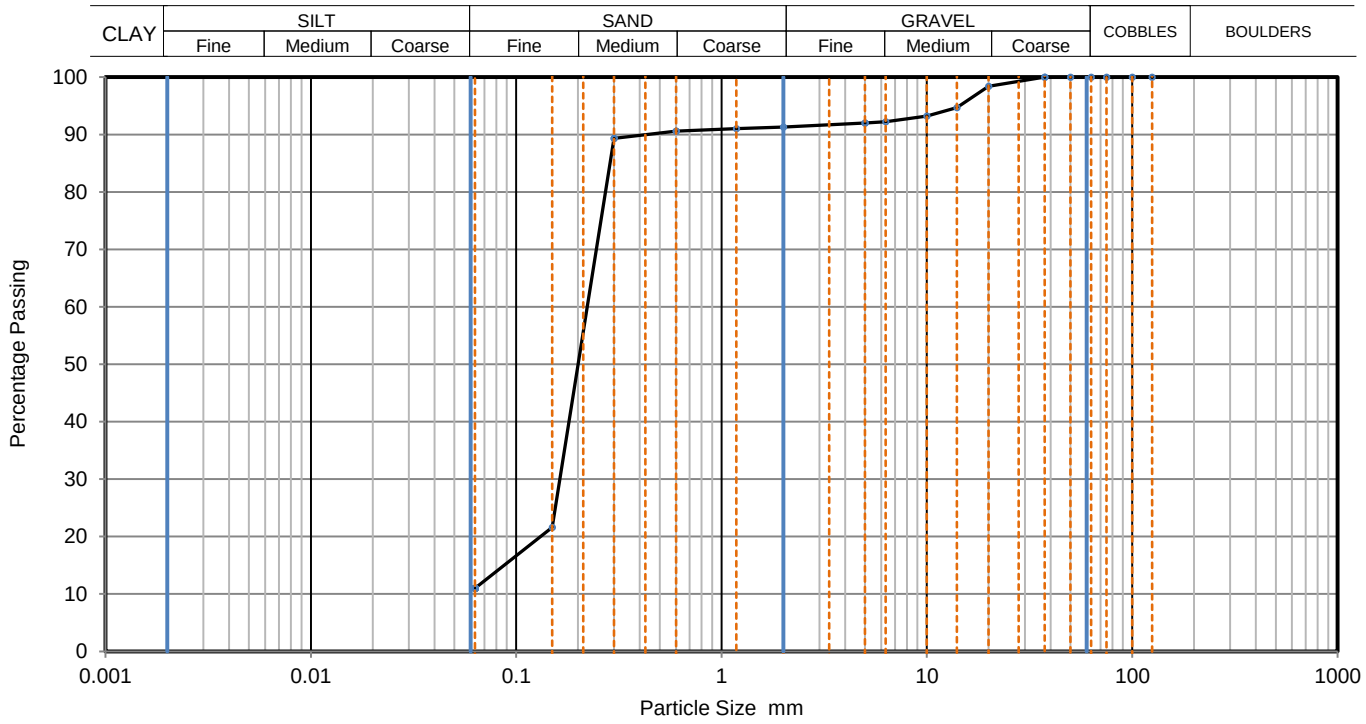
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB20
		Sample No.	
Project Number:	PC248770	Depth m	2.40 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	98		
14	95		
10	93		
6.3	92		
5	92		
2	91		
1.18	91		
0.6	91		
0.3	89		
0.15	22		
0.063	11		

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	80
Fines <0.063mm	11

Grading Analysis		
D100	mm	37.5
D60	mm	0.222
D30	mm	0.164
D10	mm	
Uniformity Coefficient		

Remarks

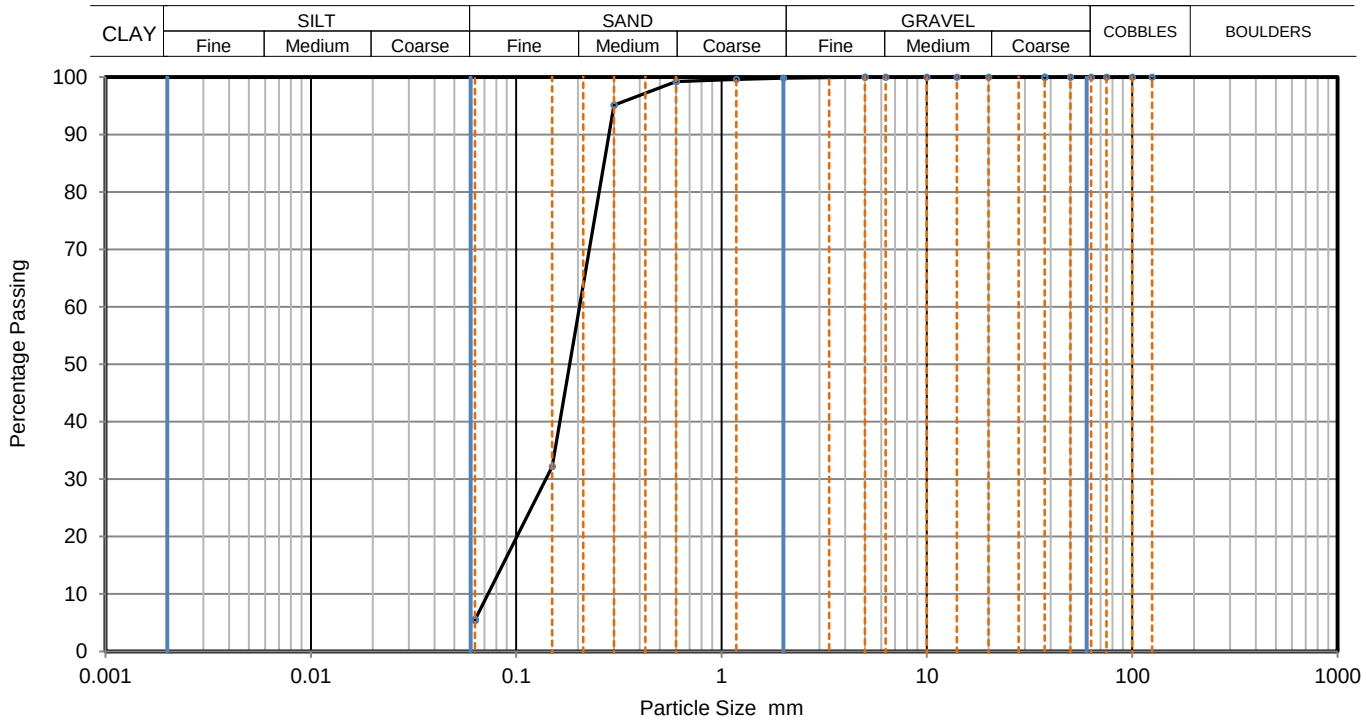
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB21
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	95		
0.15	32		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	94
Fines <0.063mm	6

Grading Analysis		
D100	mm	6.3
D60	mm	0.204
D30	mm	0.14
D10	mm	0.0728
Uniformity Coefficient		2.8

Remarks

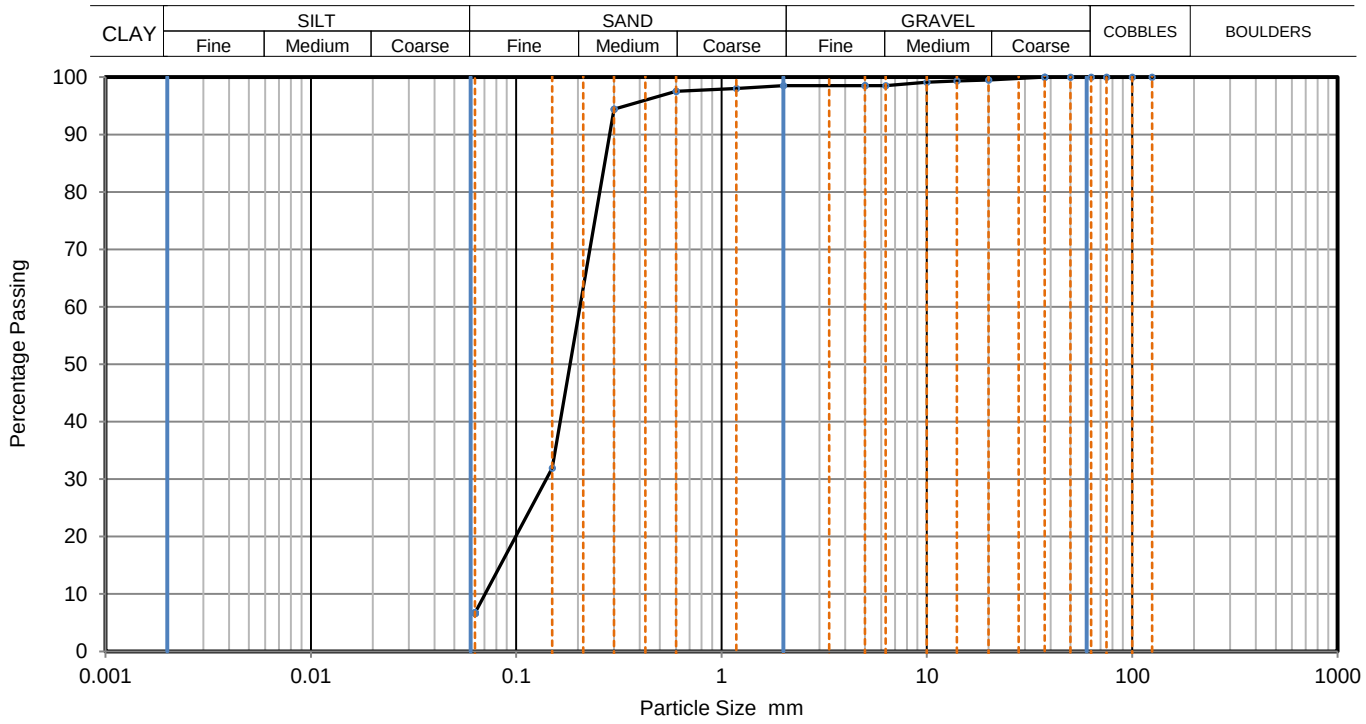
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB22
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
2	99		
1.18	98		
0.6	98		
0.3	94		
0.15	32		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	92
Fines <0.063mm	7

Grading Analysis		
D100	mm	37.5
D60	mm	0.205
D30	mm	0.141
D10	mm	0.0707
Uniformity Coefficient		2.9

Remarks

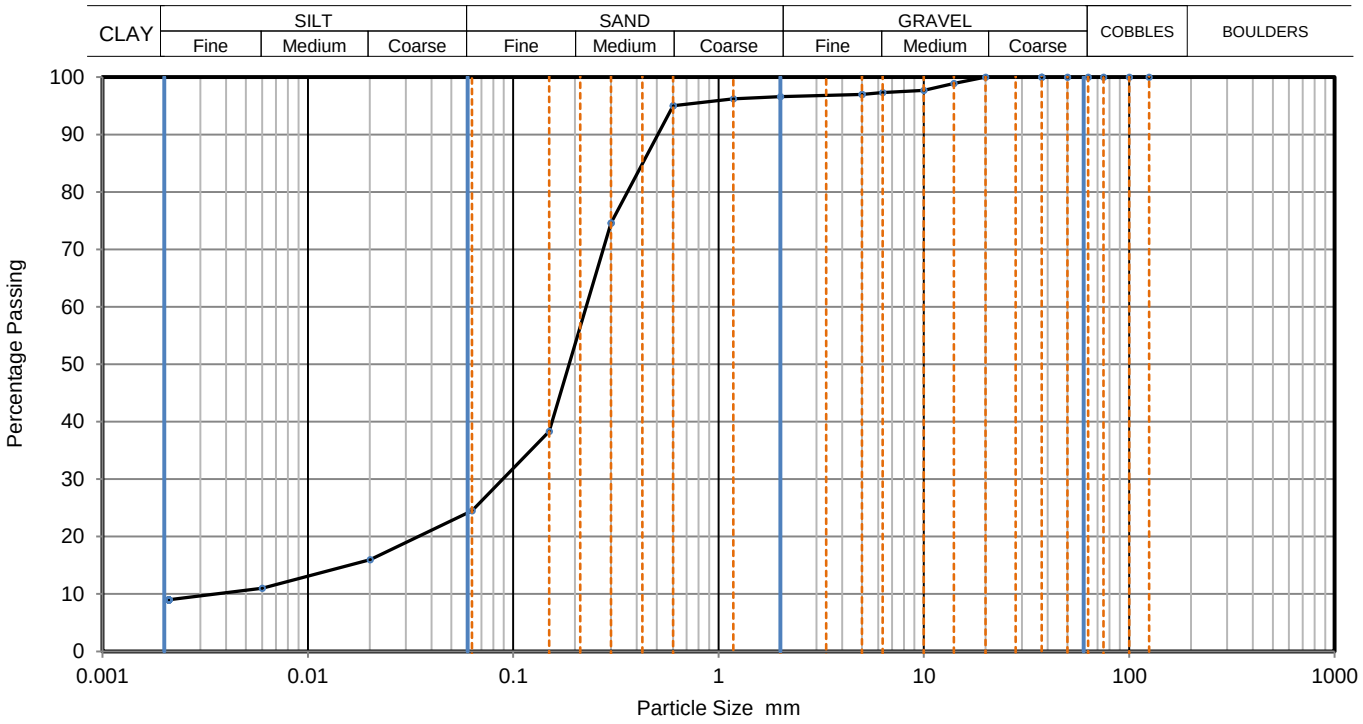
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB23
		Sample No.	
Project Number:	PC248770	Depth m	0.40 - 1.60
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	MADE GROUND: Brown slightly gravelly very clayey sand.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	16
100	100	0.006	11
75	100	0.002	9
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	97		
1.18	96		
0.6	95		
0.3	75		
0.15	38	Particle density (assumed)	
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	73
Silt	15
Clay	9

Grading Analysis		
D100	mm	20
D60	mm	0.227
D30	mm	0.0891
D10	mm	0.00396
Uniformity Coefficient		57

Remarks

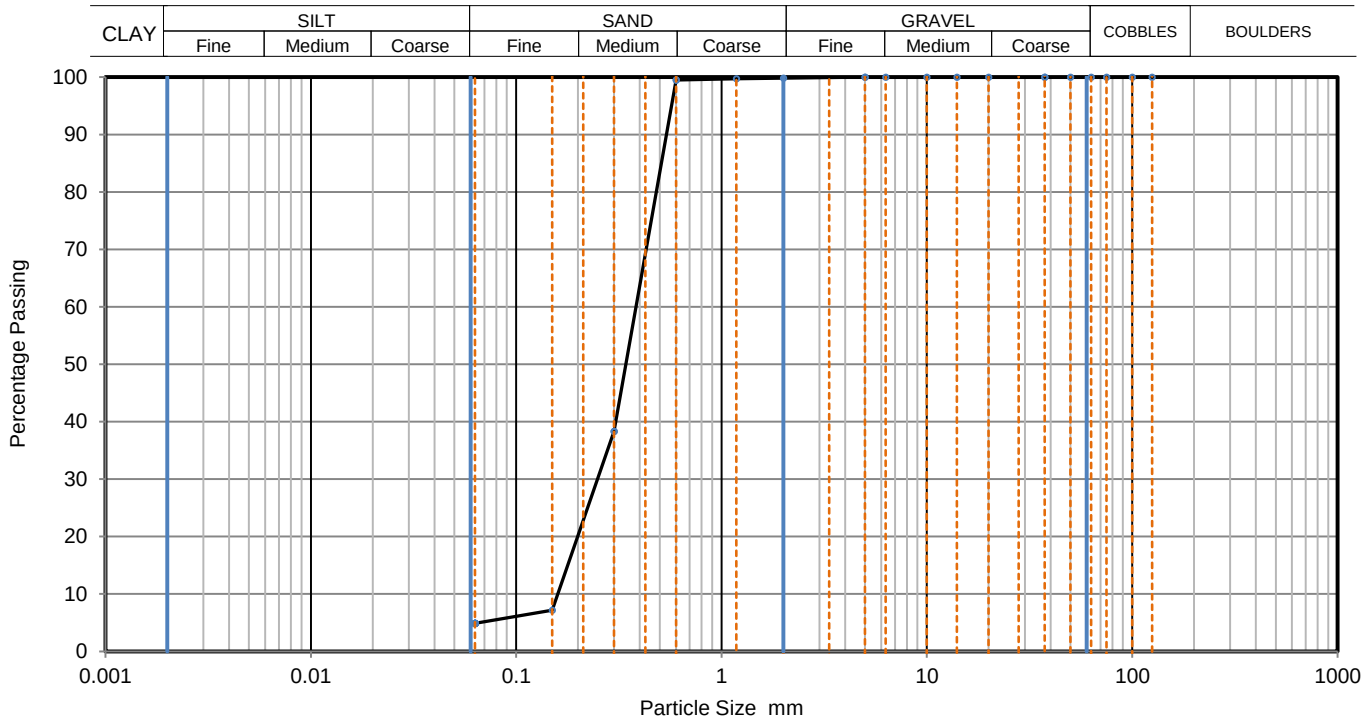
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB24
		Sample No.	
Project Number:	PC248770	Depth m	0.80 - 1.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	38		
0.15	7		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	95
Fines <0.063mm	5

Grading Analysis		
D100	mm	5
D60	mm	0.384
D30	mm	0.25
D10	mm	0.16
Uniformity Coefficient		2.4

Remarks

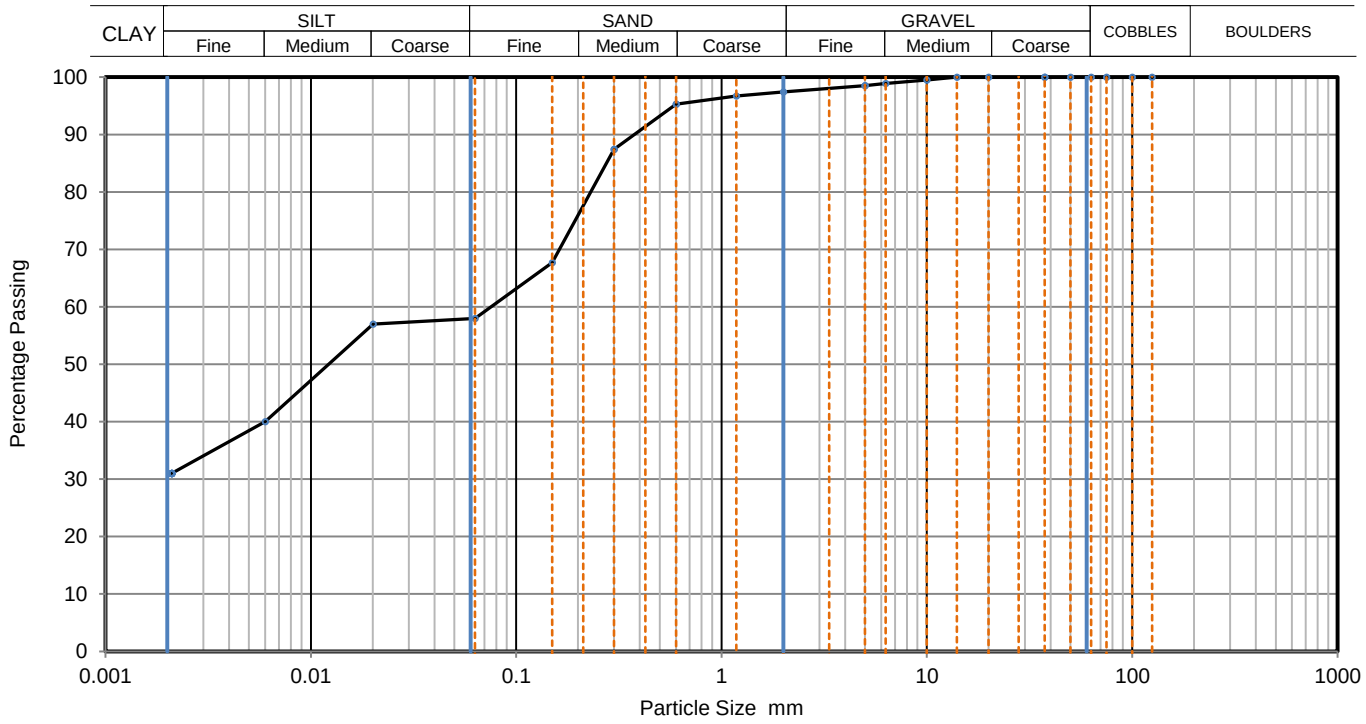
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB25
		Sample No.	
Project Number:	PC248770	Depth m	0.70 - 1.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	MADE GROUND: Brown slightly gravelly sandy clay.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	57
100	100	0.006	40
75	100	0.002	31
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	97		
1.18	97		
0.6	95		
0.3	87		
0.15	68	Particle density (assumed)	
0.063	58	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	39
Silt	27
Clay	31

Grading Analysis		
D100	mm	14
D60	mm	0.0756
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

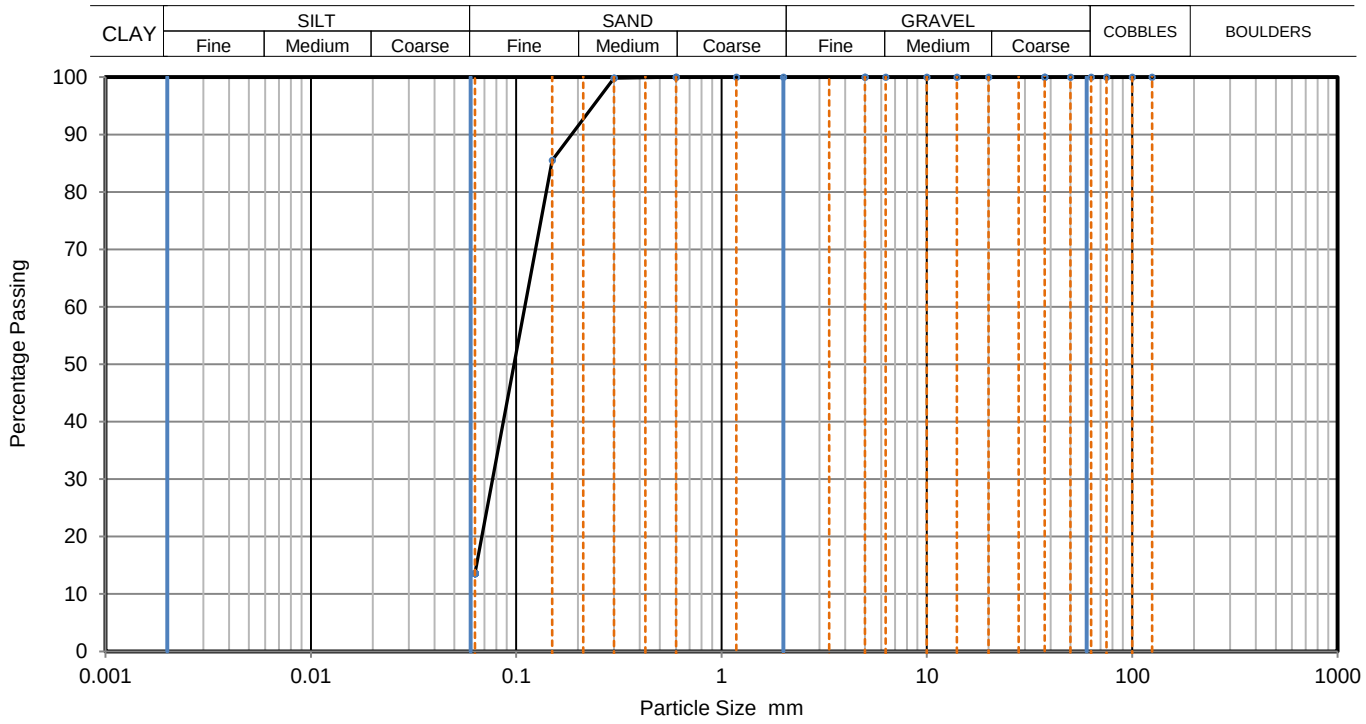
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB25
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	100		
0.15	86		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	86
Fines <0.063mm	14

Grading Analysis		
D100	mm	2
D60	mm	0.11
D30	mm	0.0768
D10	mm	
Uniformity Coefficient		

Remarks

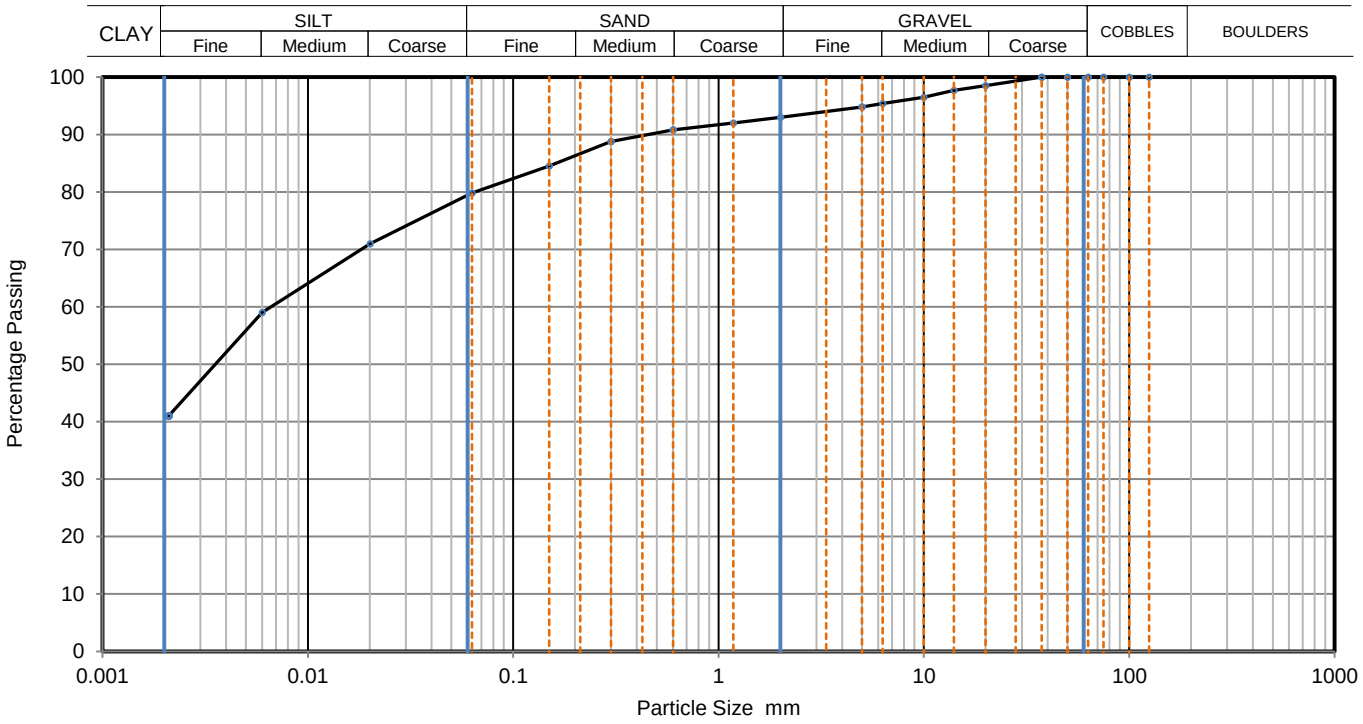
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB26
		Sample No.	
Project Number:	PC248770	Depth m	1.60 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	71
100	100	0.006	59
75	100	0.002	41
63	100		
50	100		
37.5	100		
20	99		
14	98		
10	97		
6.3	95		
5	95		
2	93		
1.18	92		
0.6	91		
0.3	89		
0.15	85	Particle density (assumed)	
0.063	80	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	13
Silt	39
Clay	41

Grading Analysis		
D100	mm	37.5
D60	mm	0.00635
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

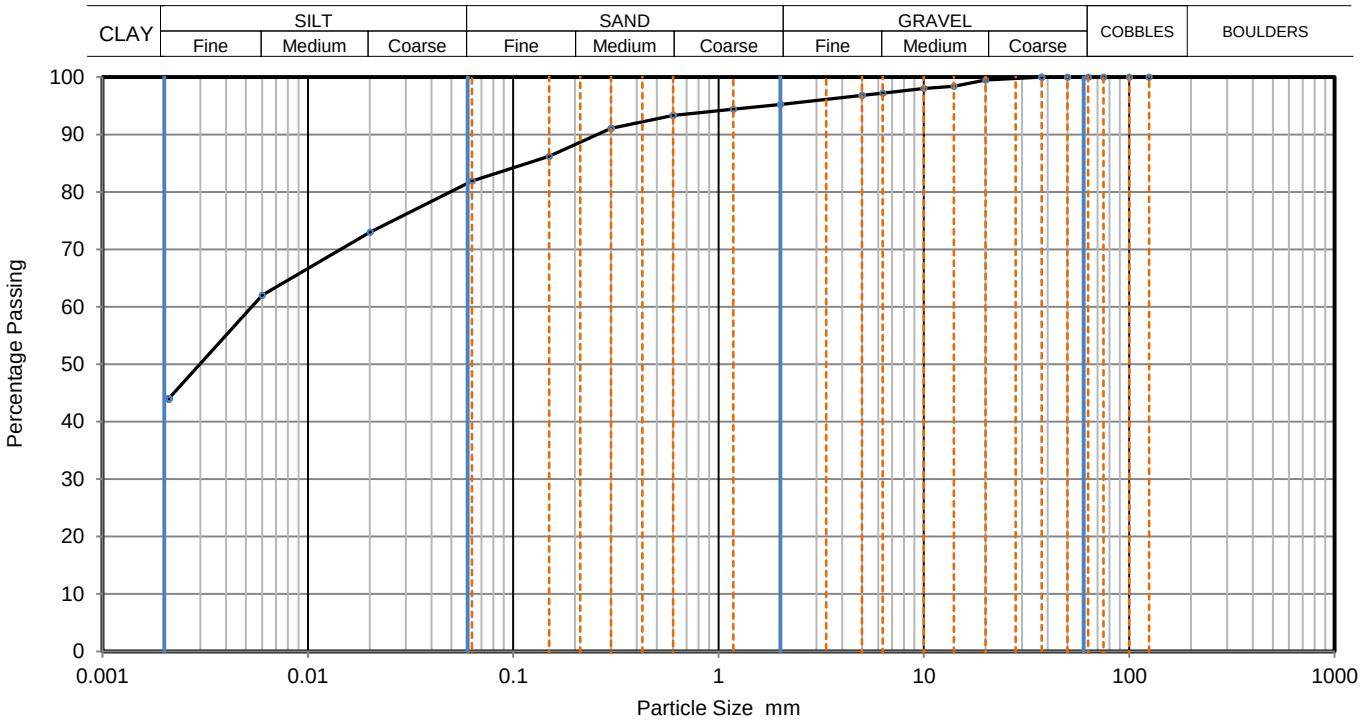
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB27
		Sample No.	
Project Number:	PC248770	Depth m	0.90 - 1.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey mottled brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	73
100	100	0.006	62
75	100	0.002	44
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	98		
6.3	97		
5	97		
2	95		
1.18	94		
0.6	93		
0.3	91		
0.15	86	Particle density (assumed)	
0.063	82	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	13
Silt	38
Clay	44

Grading Analysis		
D100	mm	37.5
D60	mm	0.00534
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

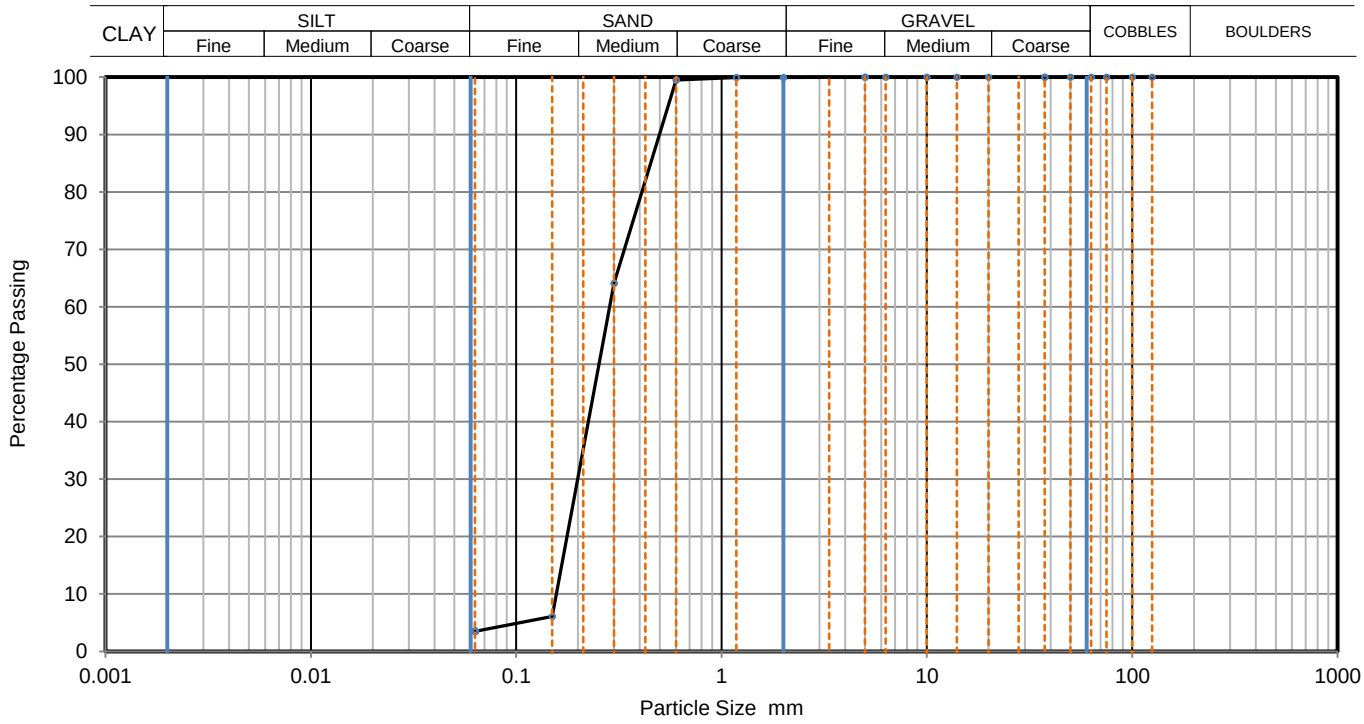
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB29
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	64		
0.15	6		
0.063	4		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	96
Fines <0.063mm	4

Grading Analysis		
D100	mm	5
D60	mm	0.286
D30	mm	0.2
D10	mm	0.157
Uniformity Coefficient		1.8

Remarks

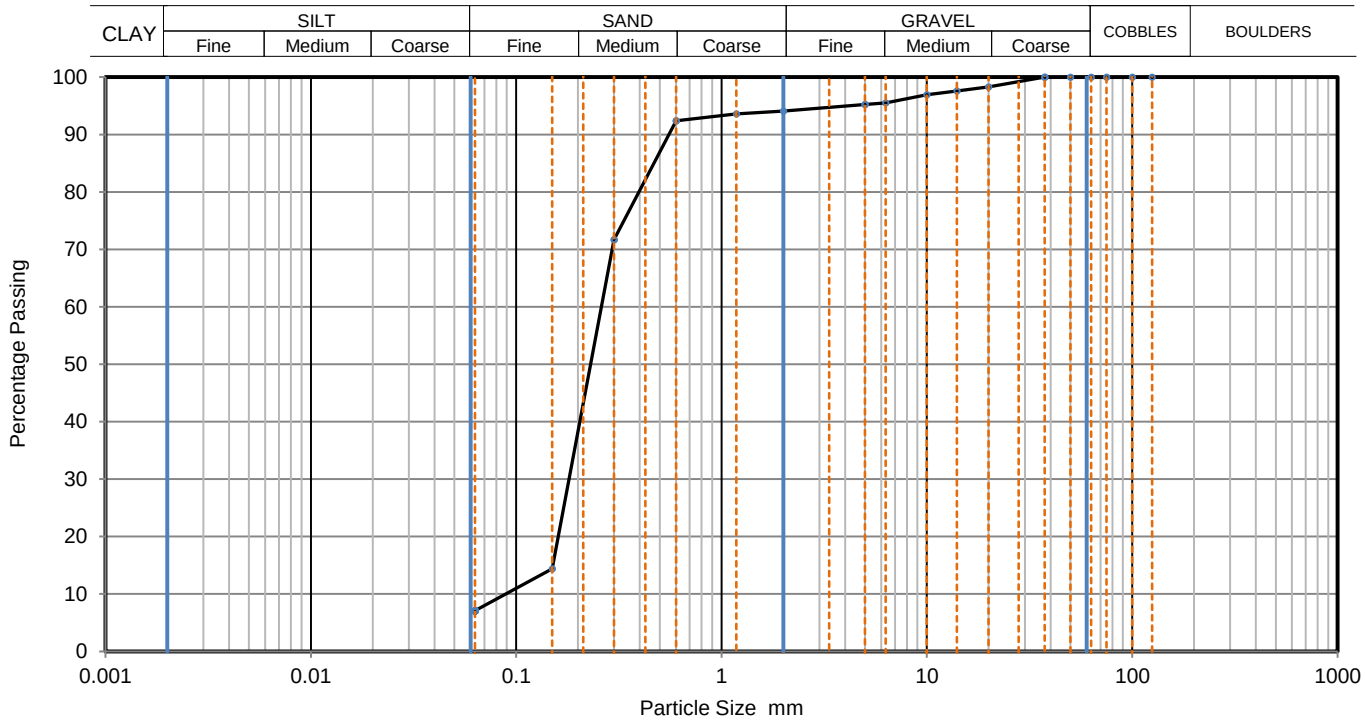
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB30
		Sample No.	
Project Number:	PC248770	Depth m	0.80 - 1.40
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	98		
14	98		
10	97		
6.3	96		
5	95		
2	94		
1.18	94		
0.6	92		
0.3	72		
0.15	14		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	87
Fines <0.063mm	7

Grading Analysis		
D100	mm	37.5
D60	mm	0.26
D30	mm	0.181
D10	mm	0.0894
Uniformity Coefficient		2.9

Remarks

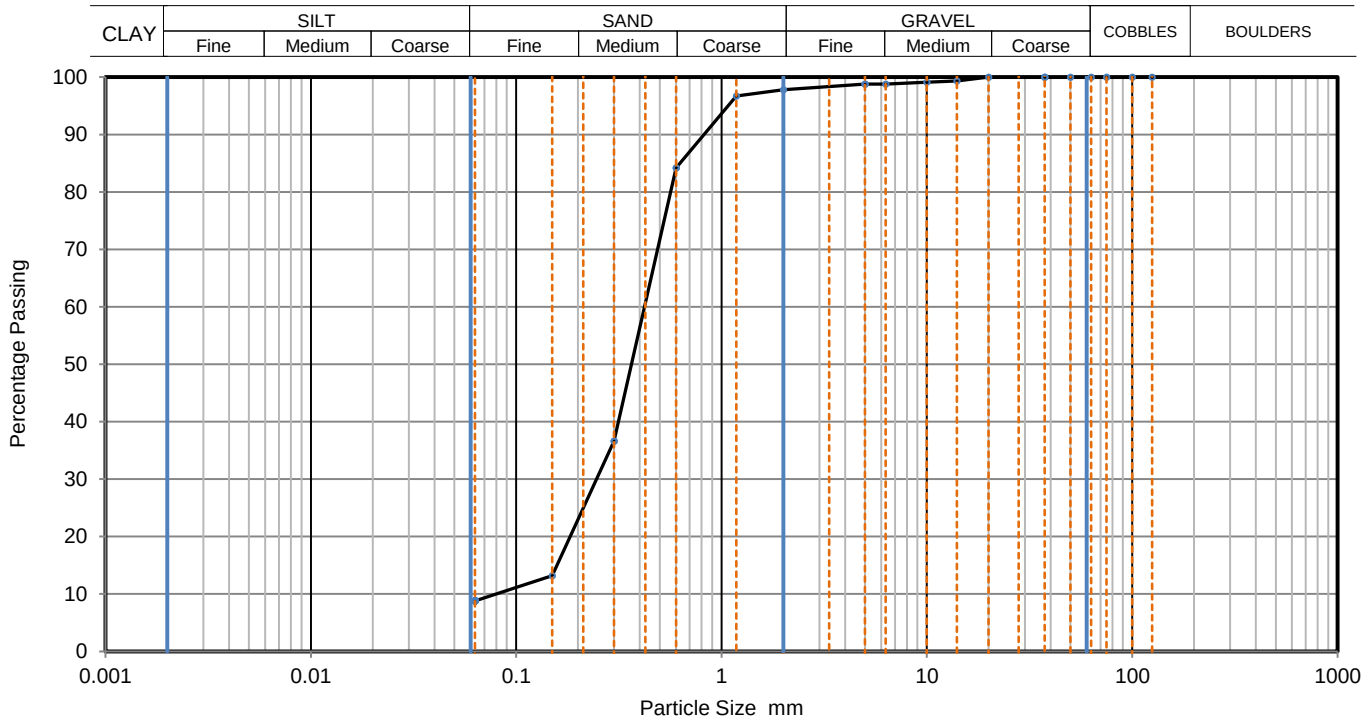
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB31
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
2	98		
1.18	97		
0.6	84		
0.3	37		
0.15	13		
0.063	9		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	89
Fines <0.063mm	9

Grading Analysis		
D100	mm	20
D60	mm	0.422
D30	mm	0.247
D10	mm	0.0797
Uniformity Coefficient		5.3

Remarks

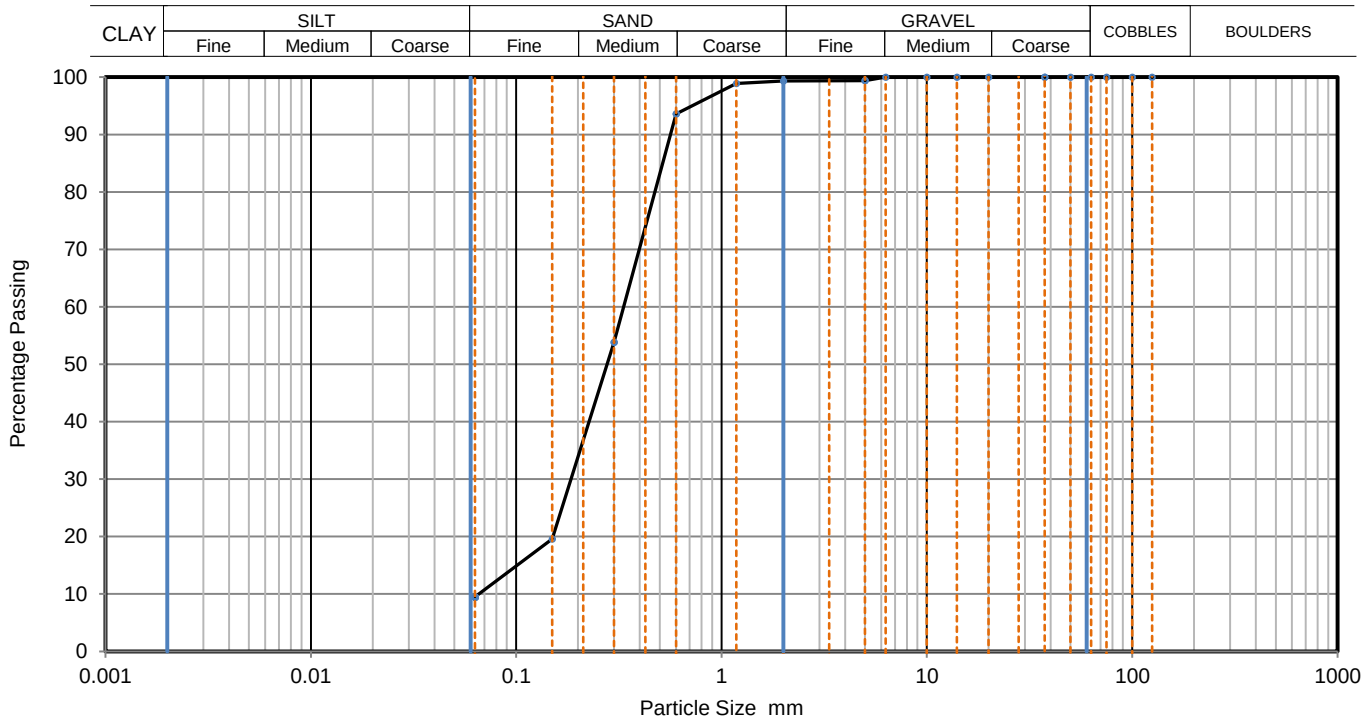
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB32
		Sample No.	
Project Number:	PC248770	Depth m	2.40 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
2	99		
1.18	99		
0.6	94		
0.3	54		
0.15	20		
0.063	10		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis		
D100	mm	6.3
D60	mm	0.334
D30	mm	0.185
D10	mm	0.0658
Uniformity Coefficient		5.1

Remarks

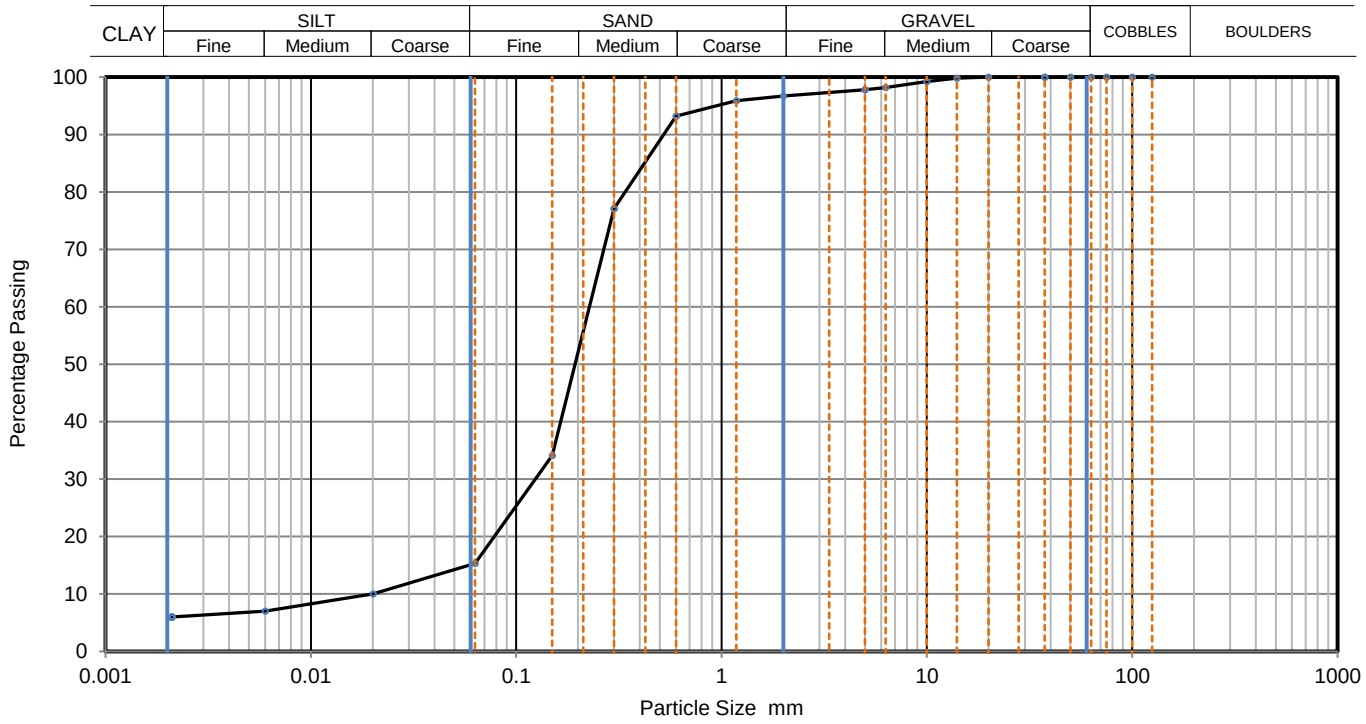
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPB33
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	7
75	100	0.002	6
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
2	97		
1.18	96		
0.6	93		
0.3	77		
0.15	34	Particle density (assumed)	
0.063	15	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	82
Silt	9
Clay	6

Grading Analysis		
D100	mm	20
D60	mm	0.228
D30	mm	0.124
D10	mm	0.0213
Uniformity Coefficient		11

Remarks

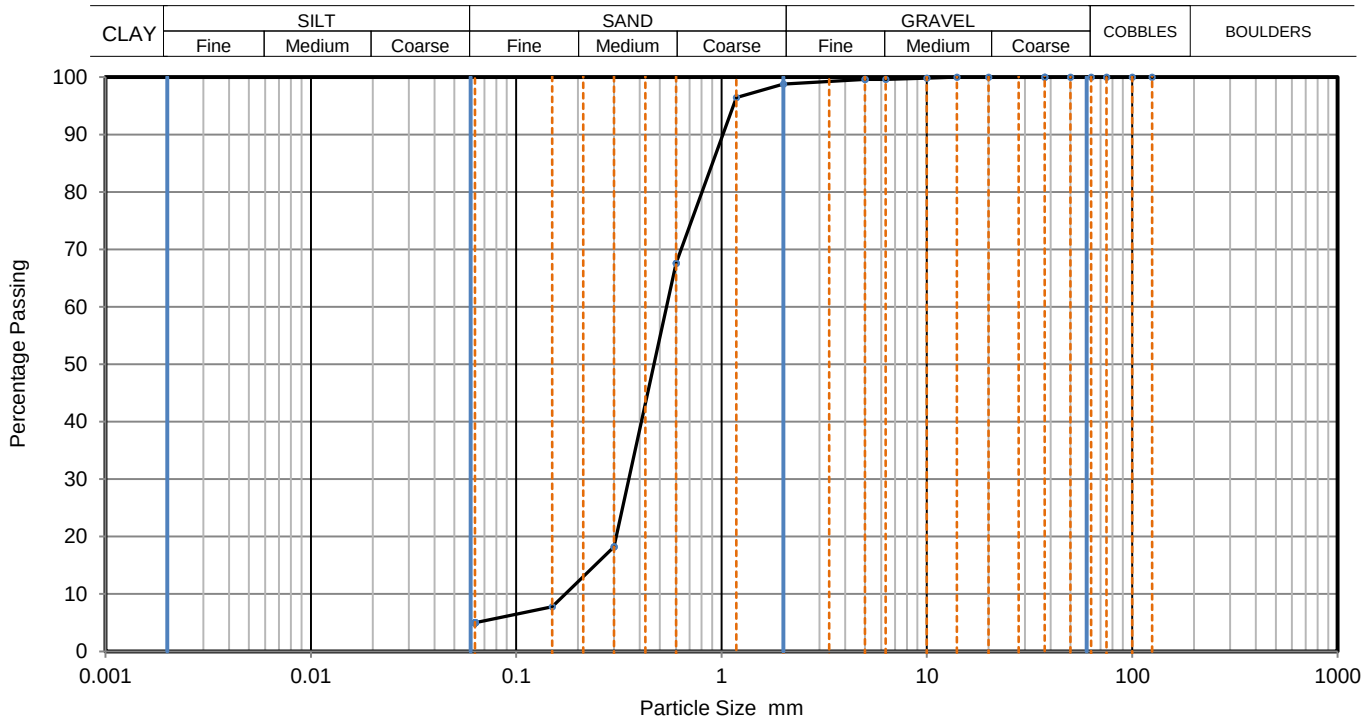
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC01
		Sample No.	
Project Number:	PC248770	Depth m	1.80 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	96		
0.6	68		
0.3	18		
0.15	8		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	94
Fines <0.063mm	5

Grading Analysis		
D100	mm	14
D60	mm	0.539
D30	mm	0.354
D10	mm	0.173
Uniformity Coefficient		3.1

Remarks

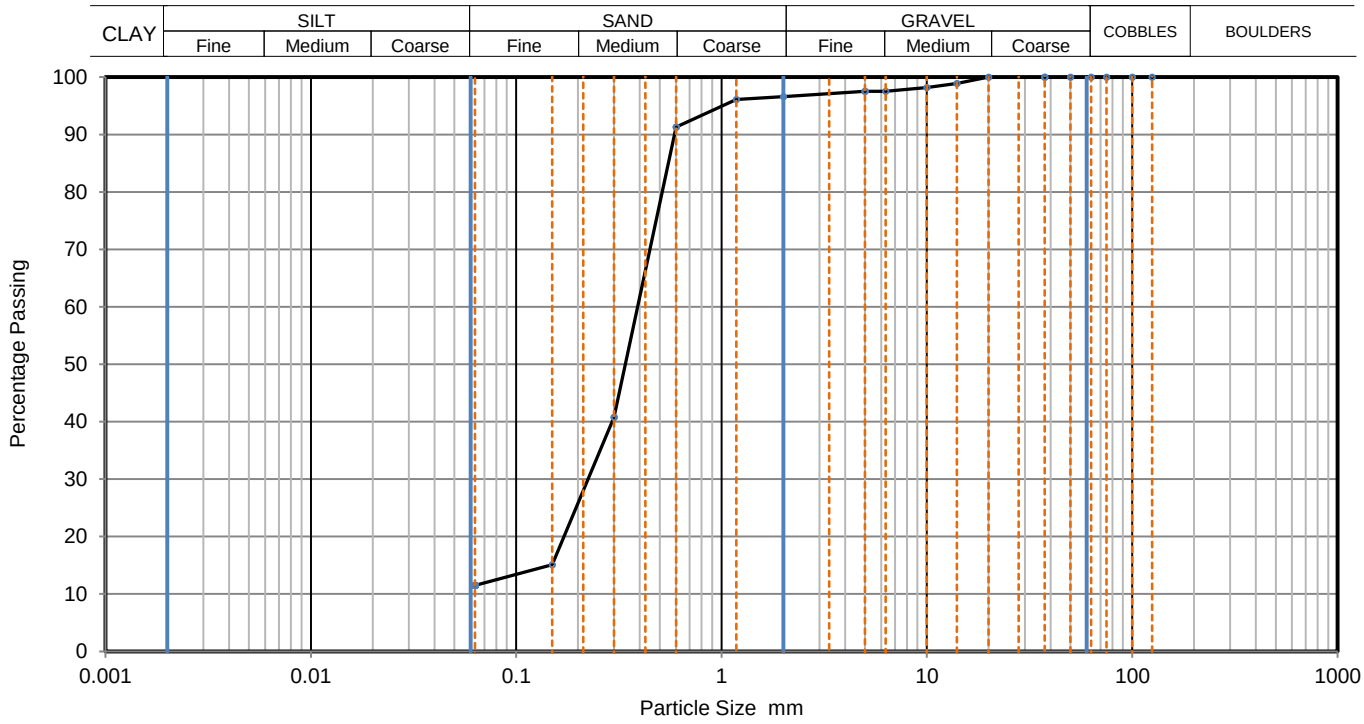
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC02
		Sample No.	
Project Number:	PC248770	Depth m	2.30 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	98		
5	98		
2	97		
1.18	96		
0.6	91		
0.3	41		
0.15	15		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	86
Fines <0.063mm	11

Grading Analysis		
D100	mm	20
D60	mm	0.39
D30	mm	0.224
D10	mm	
Uniformity Coefficient		

Remarks

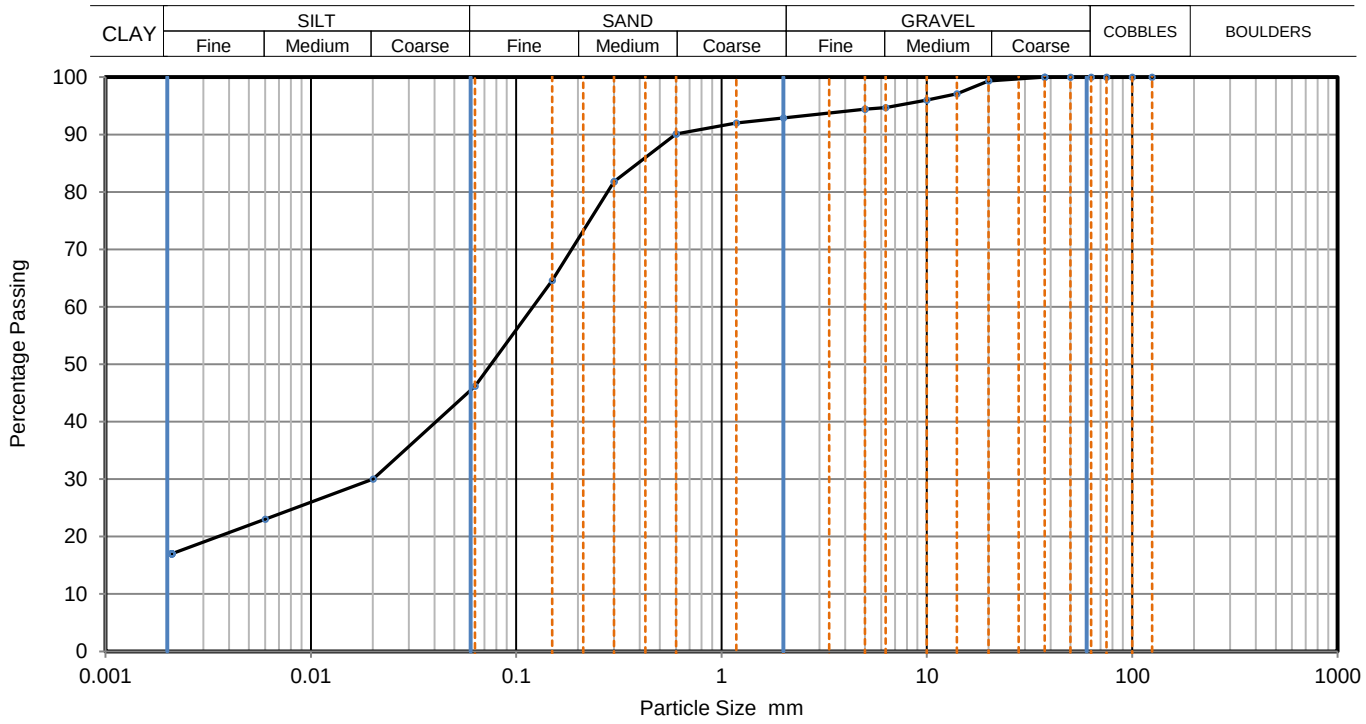
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC03
		Sample No.	
Project Number:	PC248770	Depth m	2.00 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	30
100	100	0.006	23
75	100	0.002	17
63	100		
50	100		
37.5	100		
20	99		
14	97		
10	96		
6.3	95		
5	94		
2	93		
1.18	92		
0.6	90		
0.3	82		
0.15	65	Particle density	(assumed)
0.063	46	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	47
Silt	29
Clay	17

Grading Analysis		
D100	mm	37.5
D60	mm	0.121
D30	mm	0.0204
D10	mm	
Uniformity Coefficient		

Remarks

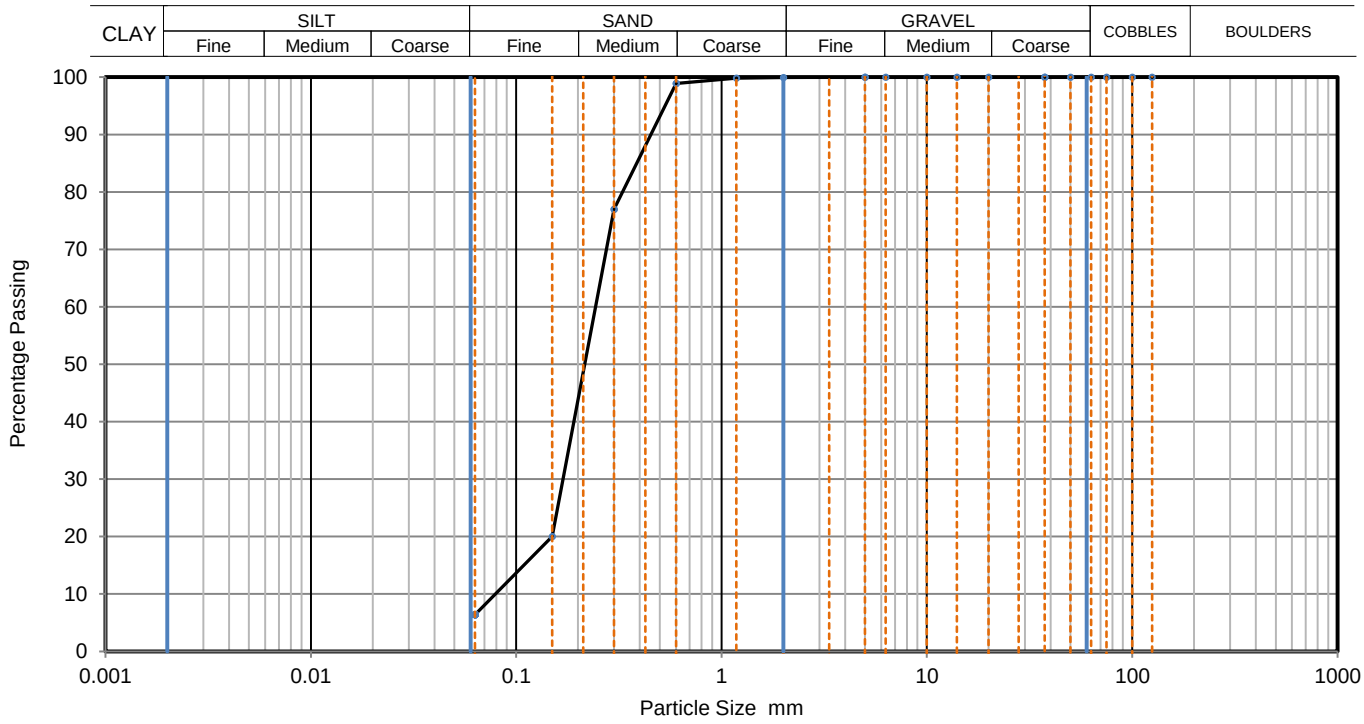
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC04
		Sample No.	
Project Number:	PC248770	Depth m	1.50 - 2.50
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	77		
0.15	20		
0.063	6		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	94
Fines <0.063mm	6

Grading Analysis		
D100	mm	6.3
D60	mm	0.244
D30	mm	0.169
D10	mm	0.0794
Uniformity Coefficient		3.1

Remarks

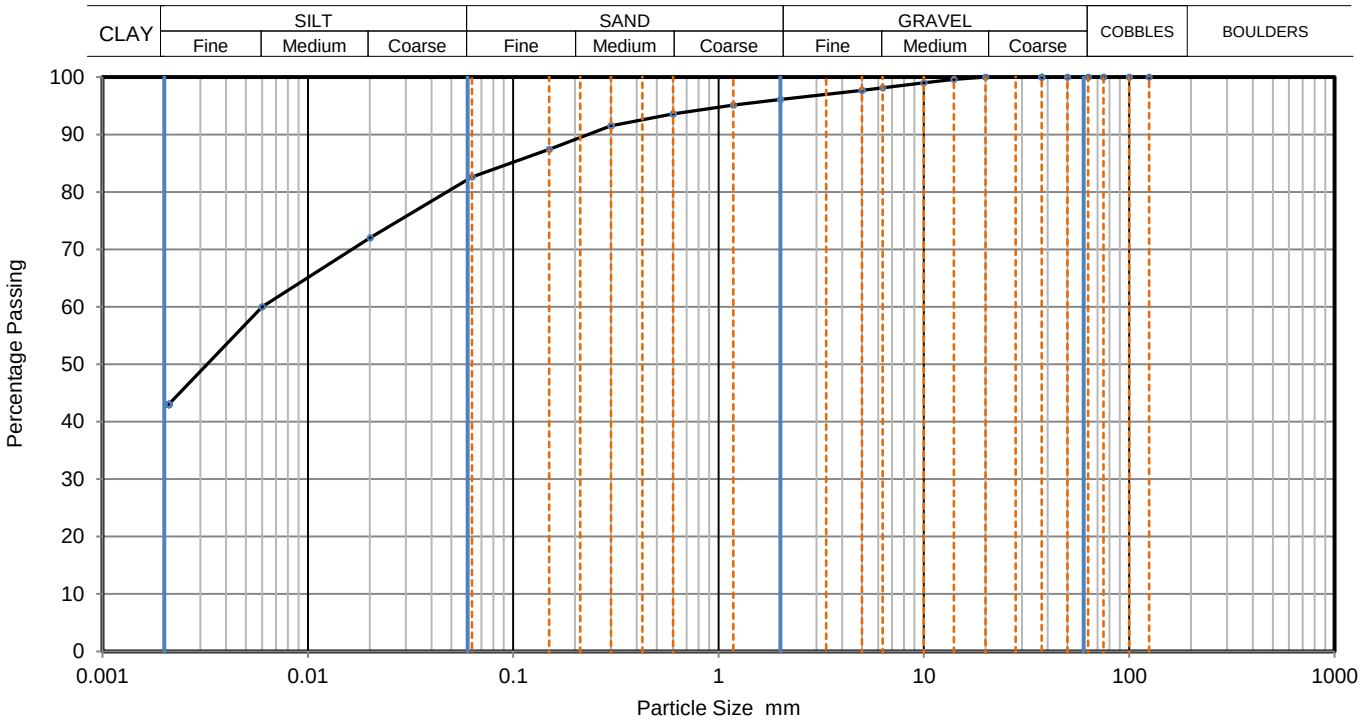
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC11
		Sample No.	
Project Number:	PC248770	Depth m	2.50 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Grey mottled brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	72
100	100	0.006	60
75	100	0.002	43
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
2	96		
1.18	95		
0.6	94		
0.3	92		
0.15	87	Particle density (assumed)	
0.063	83	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	14
Silt	40
Clay	42

Grading Analysis		
D100	mm	20
D60	mm	0.00608
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

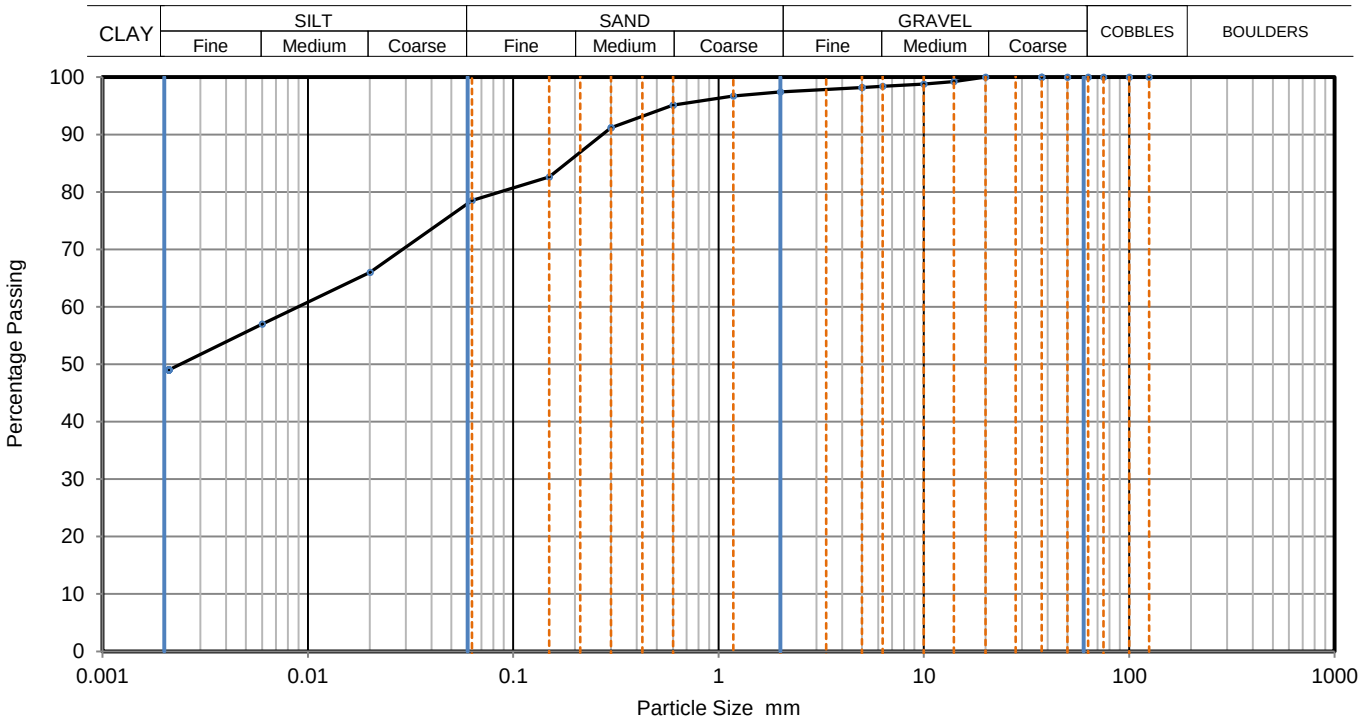
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC13
		Sample No.	
Project Number:	PC248770	Depth m	0.40 - 0.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	66
100	100	0.006	57
75	100	0.002	49
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
2	97		
1.18	97		
0.6	95		
0.3	91		
0.15	83	Particle density (assumed)	
0.063	79	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	19
Silt	29
Clay	49

Grading Analysis		
D100	mm	20
D60	mm	0.00873
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

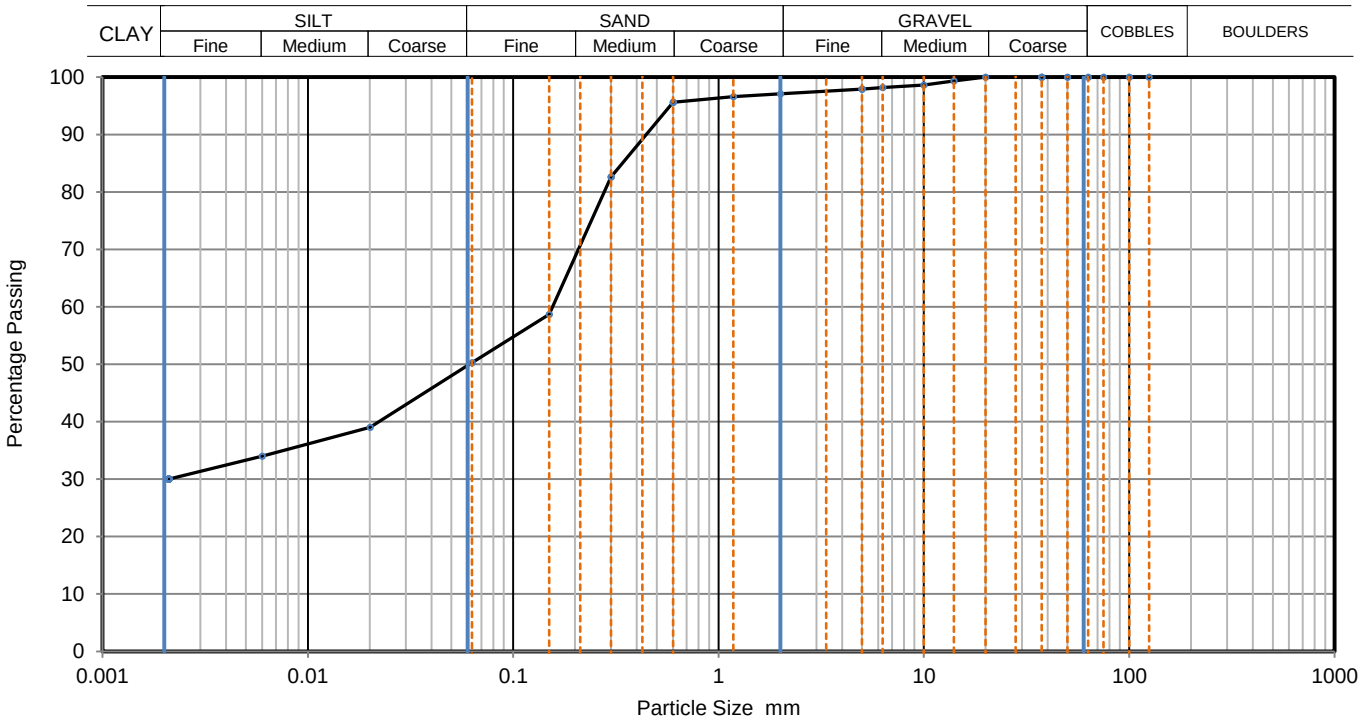
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC16
		Sample No.	
Project Number:	PC248770	Depth m	0.40 - 0.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	39
100	100	0.006	34
75	100	0.002	30
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
2	97		
1.18	97		
0.6	96		
0.3	83		
0.15	59	Particle density	(assumed)
0.063	50	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	47
Silt	20
Clay	30

Grading Analysis		
D100	mm	20
D60	mm	0.156
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

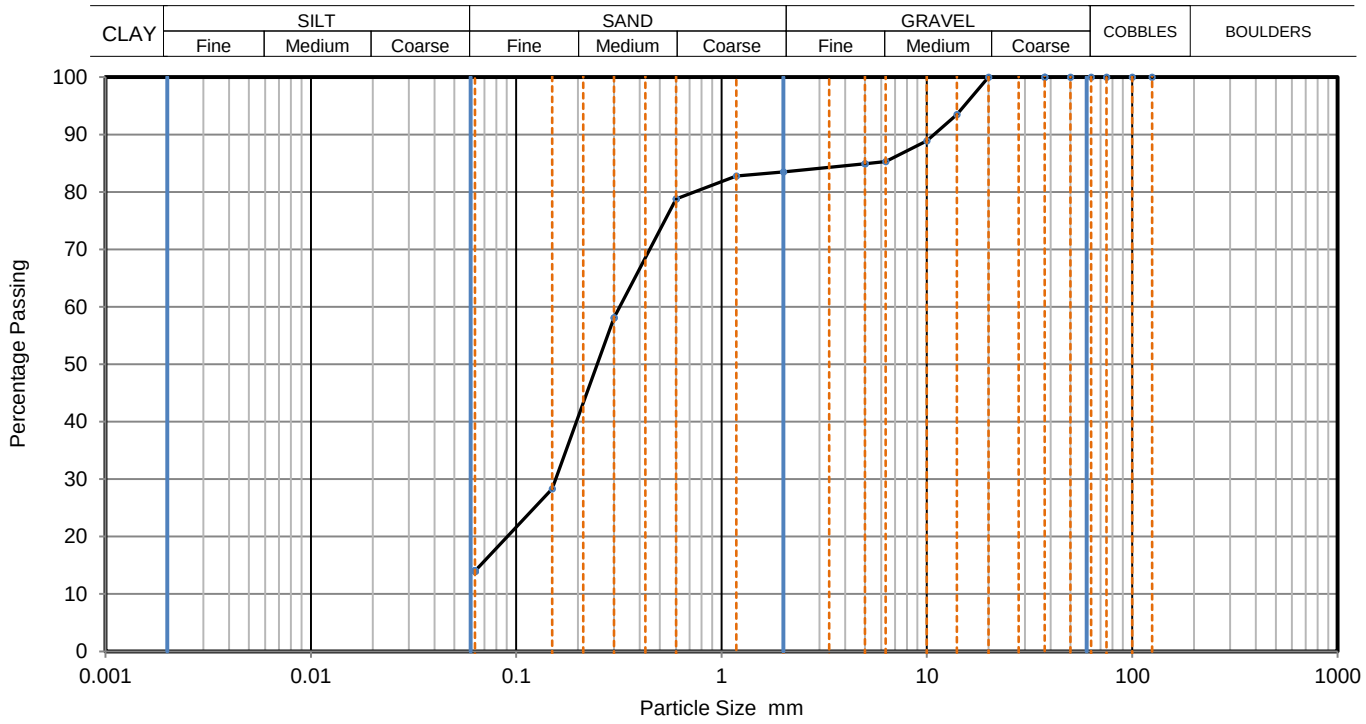
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC17
		Sample No.	
Project Number:	PC248770	Depth m	1.70 - 2.70
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown gravelly clayey SAND .	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	94		
10	89		
6.3	85		
5	85		
2	84		
1.18	83		
0.6	79		
0.3	58		
0.15	28		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	16
Sand	70
Fines <0.063mm	14

Grading Analysis		
D100	mm	20
D60	mm	0.32
D30	mm	0.156
D10	mm	
Uniformity Coefficient		

Remarks

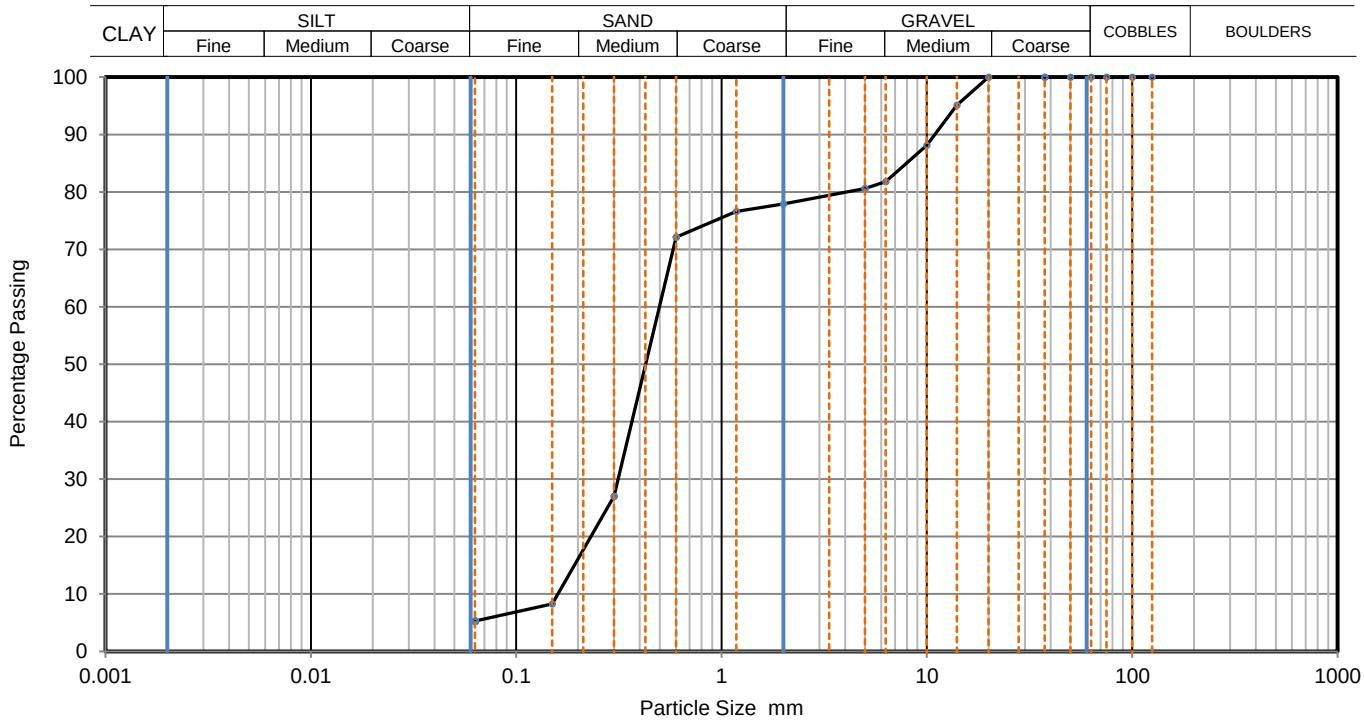
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC19
		Sample No.	
Project Number:	PC248770	Depth m	1.10 - 1.60
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Brown very gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	95		
10	88		
6.3	82		
5	81		
2	78		
1.18	77		
0.6	72		
0.3	27		
0.15	8		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	22
Sand	73
Fines <0.063mm	5

Grading Analysis		
D100	mm	20
D60	mm	0.498
D30	mm	0.314
D10	mm	0.16
Uniformity Coefficient		3.1

Remarks

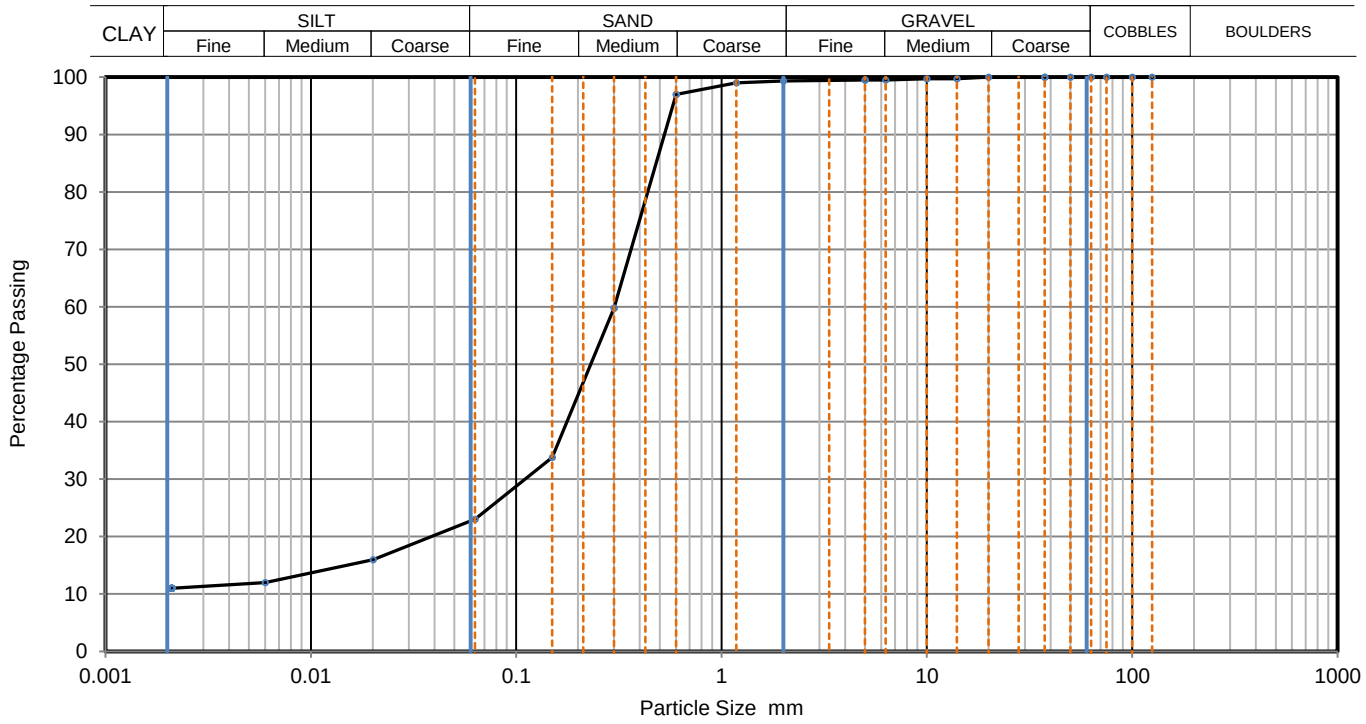
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TPC20
		Sample No.	
Project Number:	PC248770	Depth m	2.10 - 3.00
Project Name:	LionLink - Cable Route	Sample Type	B
Specimen Description	Light brown slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	16
100	100	0.006	12
75	100	0.002	11
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	97		
0.3	60		
0.15	34	Particle density (assumed)	
0.063	23	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	76
Silt	12
Clay	11

Grading Analysis		
D100	mm	20
D60	mm	0.301
D30	mm	0.111
D10	mm	
Uniformity Coefficient		

Remarks

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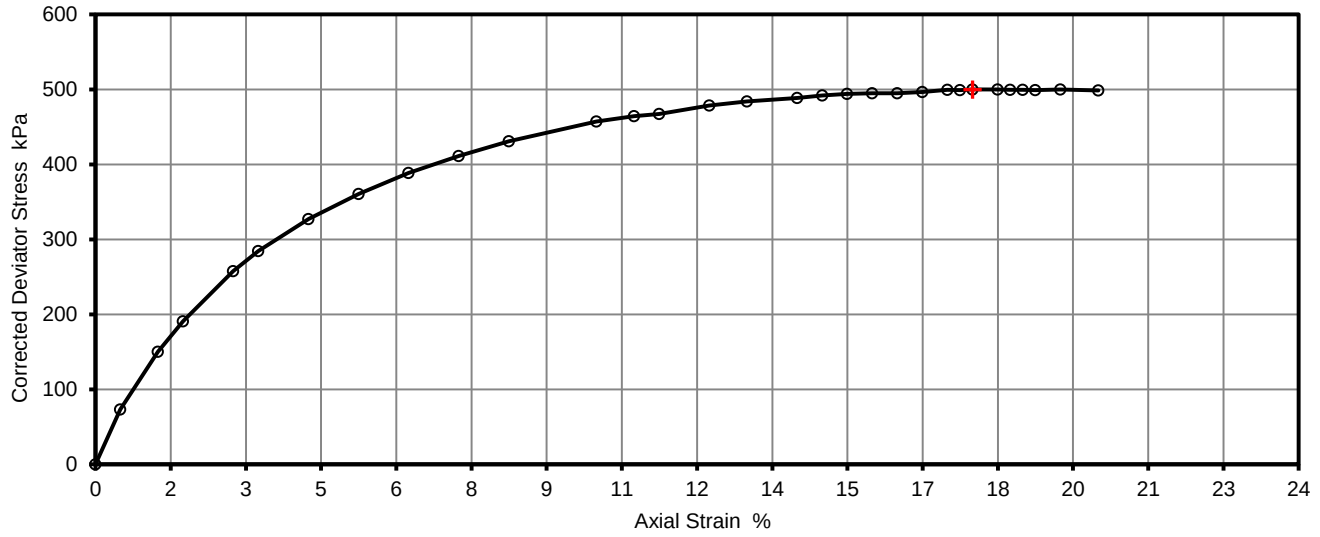
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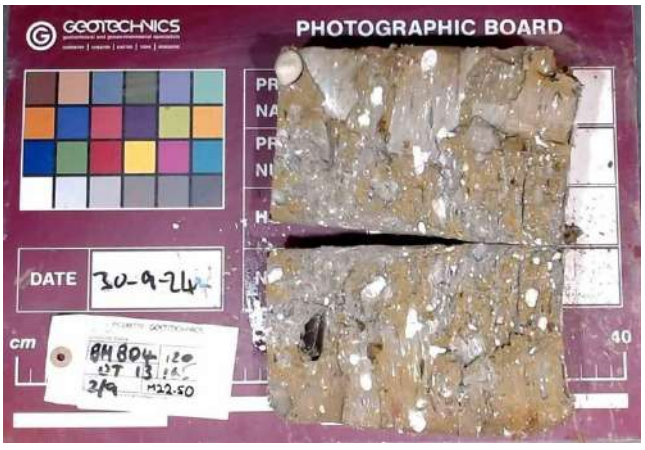
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB04
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	1.44	Depth m	1.20 - 1.65
Specimen Description	Brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	30/09/2024

Test Number		1	
Length		210.1	mm
Diameter		102.2	mm
Bulk Density		2.14	Mg/m3
Water Content		18.8	%
Dry Density		1.80	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		25	kPa
At failure	Axial Strain	17.5	%
	Deviator Stress, (σ1 - σ3)f	500	kPa
	Undrained Shear Strength cu	250	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 17.7% Gravel > one sixth of specimen diameter may affect test results.

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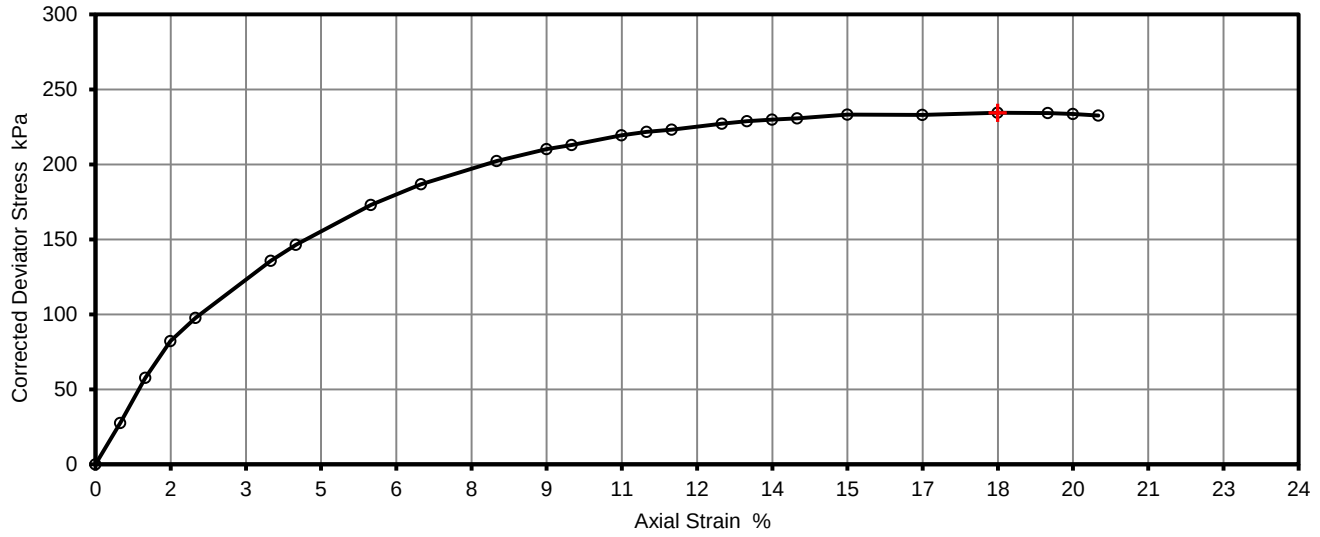
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB05
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.79	Depth m	2.55 - 3.00
Specimen Description	Grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	01/10/2024

Test Number		1	
Length		210.8	mm
Diameter		99.3	mm
Bulk Density		2.01	Mg/m3
Water Content		19.9	%
Dry Density		1.68	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		50	kPa
At failure	Axial Strain	18.0	%
	Deviator Stress, (σ1 - σ3)f	234	kPa
	Undrained Shear Strength cu	117	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 21.3% Gravel > one sixth of specimen diameter may affect test results.

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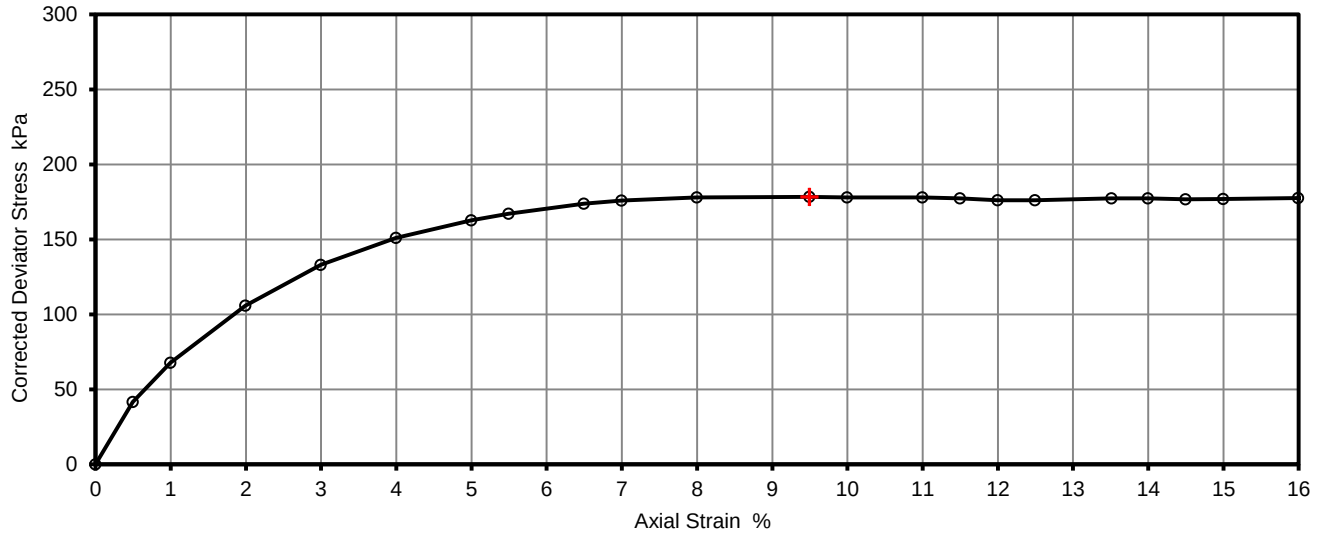
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB06
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.24	Depth m	2.00 - 2.45
Specimen Description	Grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	01/10/2024

Test Number		1	
Length		210.6	mm
Diameter		100.1	mm
Bulk Density		2.06	Mg/m3
Water Content		22.7	%
Dry Density		1.68	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	9.5	%
	Deviator Stress, (σ1 - σ3)f	178	kPa
	Undrained Shear Strength cu	89	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 22.9% Gravel > one sixth of specimen diameter may affect test results.

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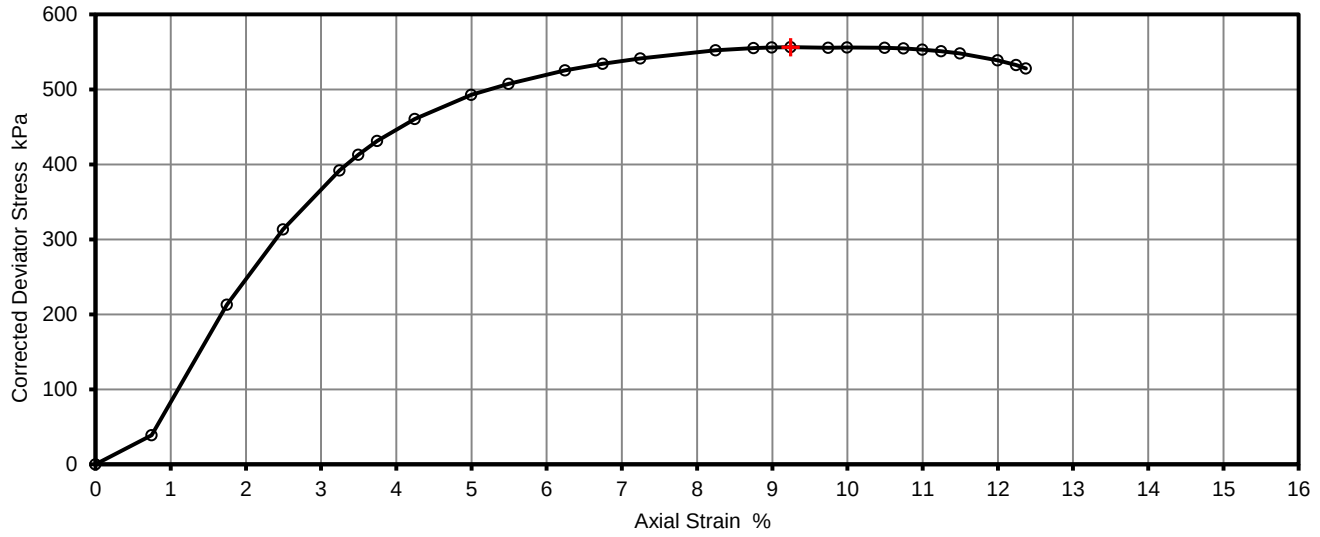
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB06A
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	1	Specimen Depth (m)	4.22	Depth m	4.00 - 4.45
Specimen Description	Grey slioghtly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	25/10/2024

Test Number		1	
Length		210.3	mm
Diameter		102.6	mm
Bulk Density		2.10	Mg/m3
Water Content		15.9	%
Dry Density		1.81	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	9.2	%
	Deviator Stress, (σ1 - σ3)f	556	kPa
	Undrained Shear Strength cu	278	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.1% Gravel >one sixth of specimen diameter may affect test results.

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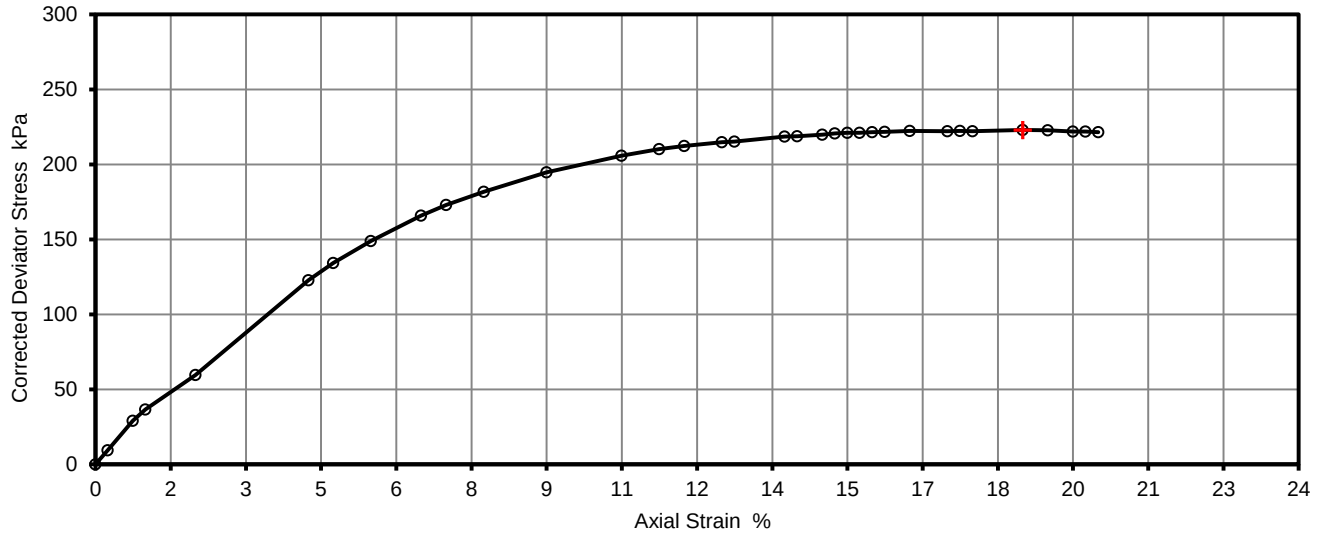
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB07
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.00	Depth m	2.00 - 2.45
Specimen Description	Grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	16/10/2024

Test Number		1	
Length		210.8	mm
Diameter		102.4	mm
Bulk Density		2.12	Mg/m3
Water Content		20.5	%
Dry Density		1.75	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	18.5	%
	Deviator Stress, (σ1 - σ3)f	223	kPa
	Undrained Shear Strength cu	111	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 20.7%

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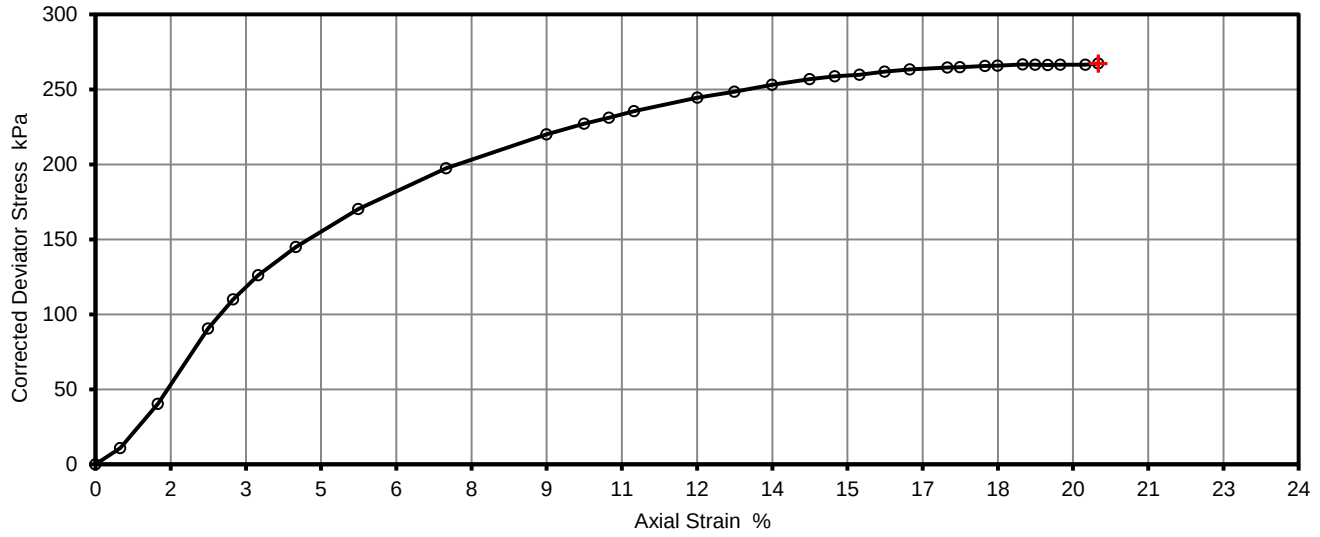
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB07
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	1	Specimen Depth (m)	4.24	Depth m	4.00 - 4.45
Specimen Description	Grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	25/10/2024

Test Number		1	
Length		210.2	mm
Diameter		102.4	mm
Bulk Density		2.05	Mg/m3
Water Content		20.1	%
Dry Density		1.71	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	20.0	%
	Deviator Stress, (σ1 - σ3)f	267	kPa
	Undrained Shear Strength cu	134	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 19.7%

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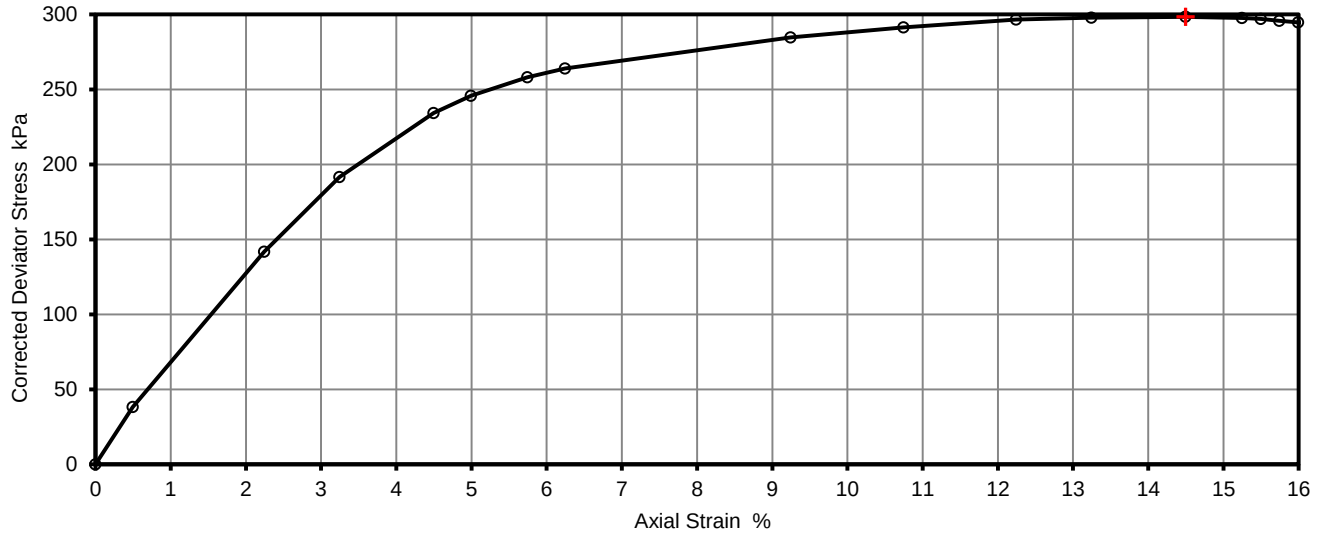
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB08
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.24	Depth m	2.00 - 2.45
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	14/10/2024

Test Number		1	
Length		186.3	mm
Diameter		102.8	mm
Bulk Density		2.09	Mg/m3
Water Content		20.1	%
Dry Density		1.74	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	14.5	%
	Deviator Stress, (σ1 - σ3)f	298	kPa
	Undrained Shear Strength cu	149	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 19.9% Gravel > one sixth of specimen diameter may affect test results.

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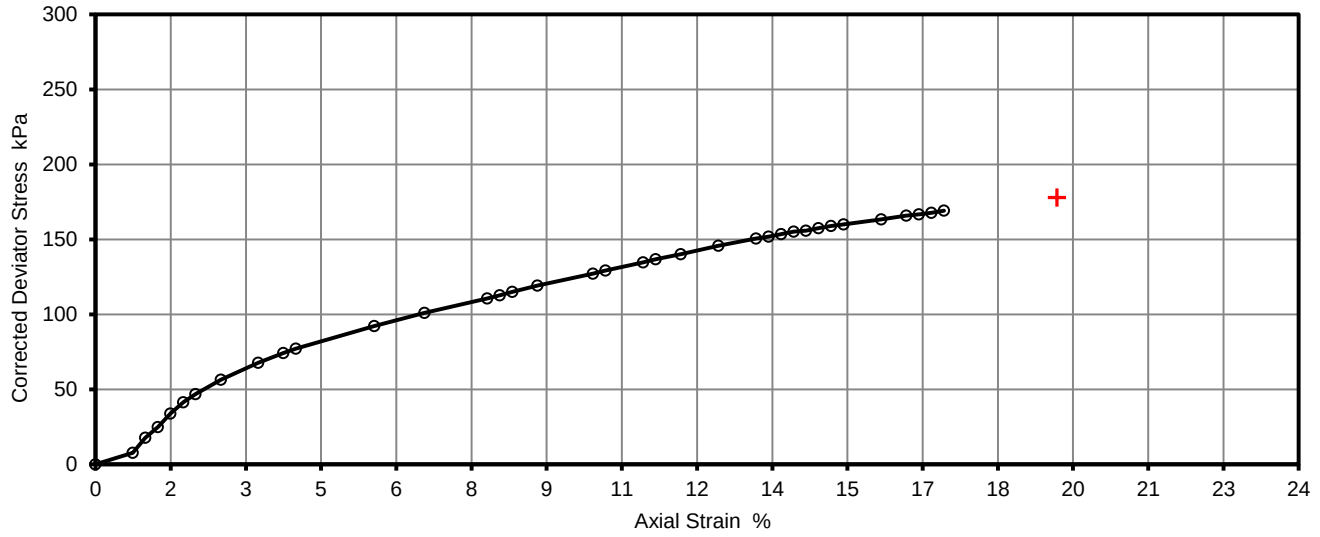
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB08
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	4.24	Depth m	4.00 - 4.45
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	16/10/2024

Test Number		1	
Length		210.9	mm
Diameter		102.2	mm
Bulk Density		2.02	Mg/m3
Water Content		19.1	%
Dry Density		1.70	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	19.2	%
	Deviator Stress, (σ1 - σ3)f	178	kPa
	Undrained Shear Strength cu	89	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 19.2% Gravel > one sixth of specimen diameter may affect test results.

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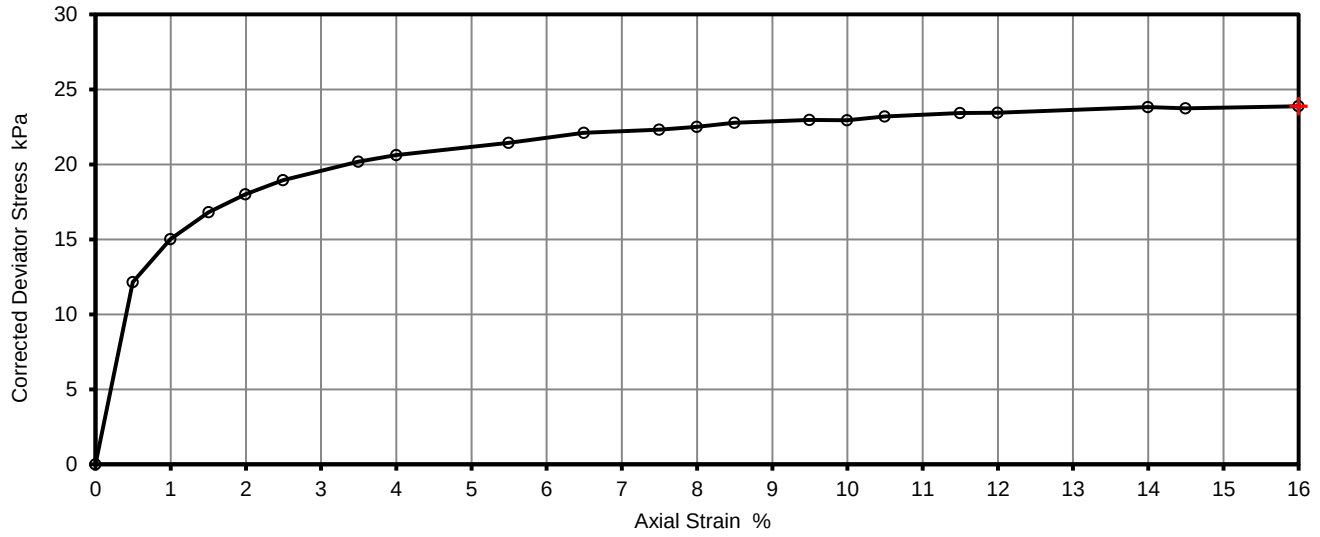
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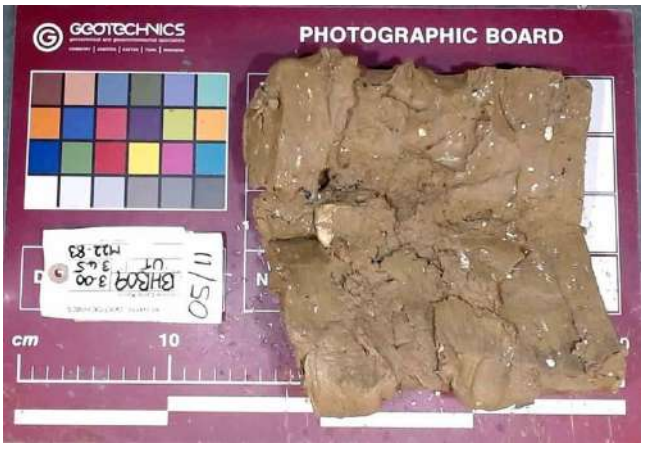
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB09
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	3.25	Depth m	3.00 - 3.45
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		211.3	mm
Diameter		103.1	mm
Bulk Density		2.18	Mg/m3
Water Content		19.5	%
Dry Density		1.82	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		60	kPa
At failure	Axial Strain	16.0	%
	Deviator Stress, (σ1 - σ3)f	24	kPa
	Undrained Shear Strength cu	12	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.8%

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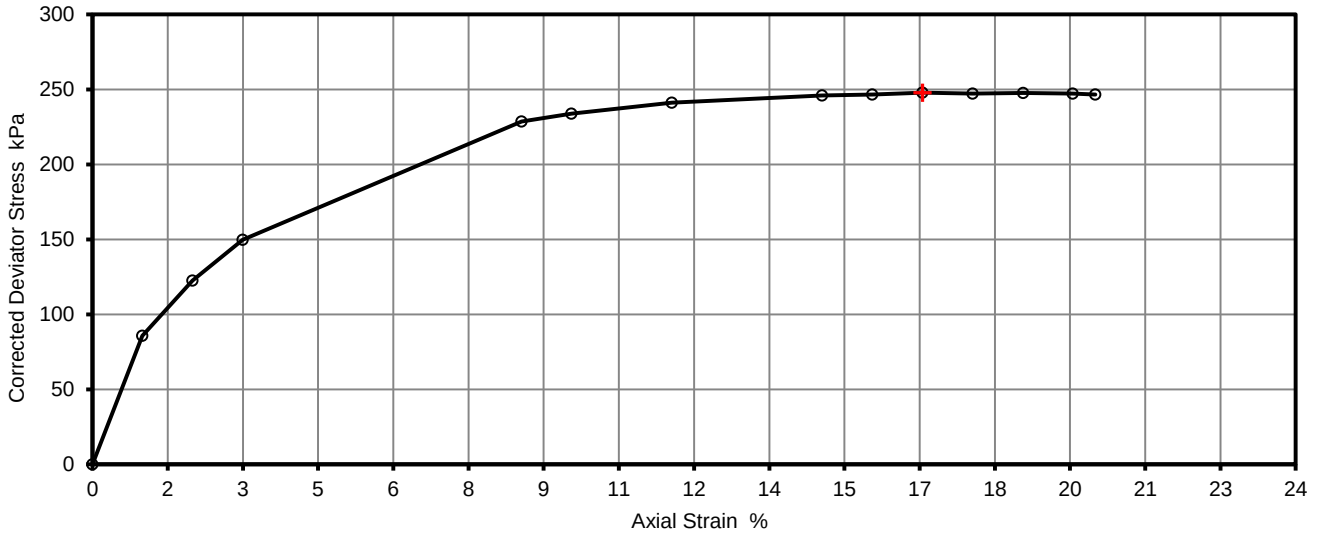
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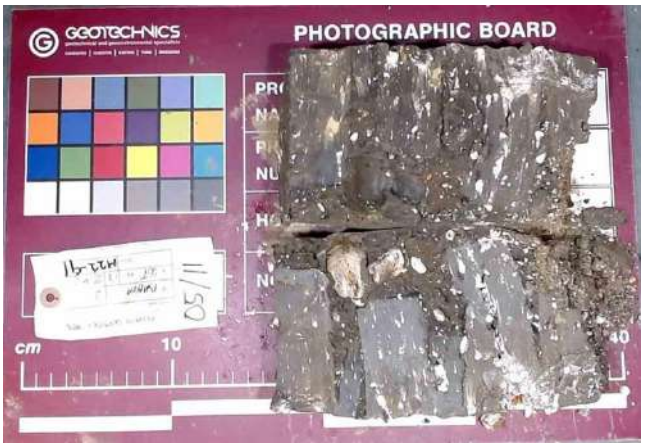
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB10
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.15	Depth m	2.00 - 2.45
Specimen Description	Greyish brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		209.7	mm
Diameter		103.4	mm
Bulk Density		2.05	Mg/m3
Water Content		23.4	%
Dry Density		1.66	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	16.6	%
	Deviator Stress, (σ1 - σ3)f	248	kPa
	Undrained Shear Strength cu	124	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 21.3%

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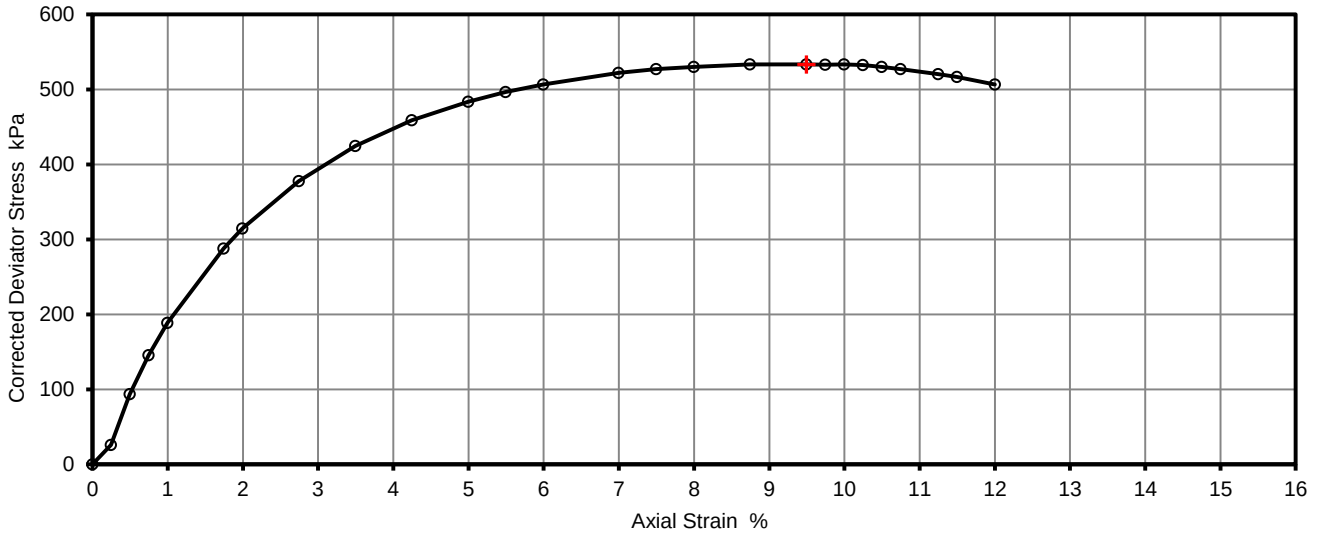
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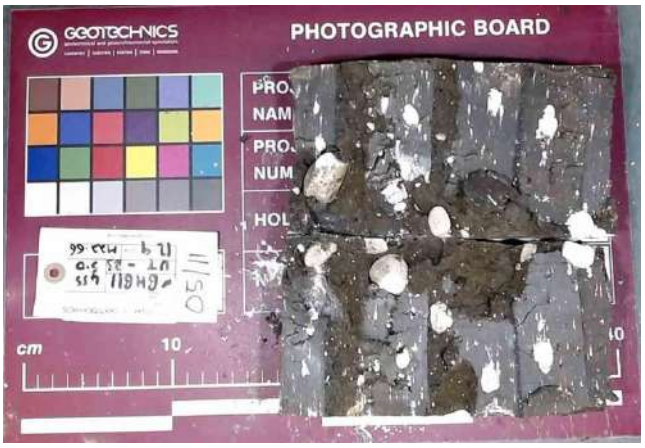
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB11
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	4.70	Depth m	4.55 - 5.00
Specimen Description	Grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		210.6	mm
Diameter		104.0	mm
Bulk Density		2.10	Mg/m3
Water Content		18.0	%
Dry Density		1.78	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		90	kPa
At failure	Axial Strain	9.5	%
	Deviator Stress, (σ1 - σ3)f	533	kPa
	Undrained Shear Strength cu	267	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 17.9%

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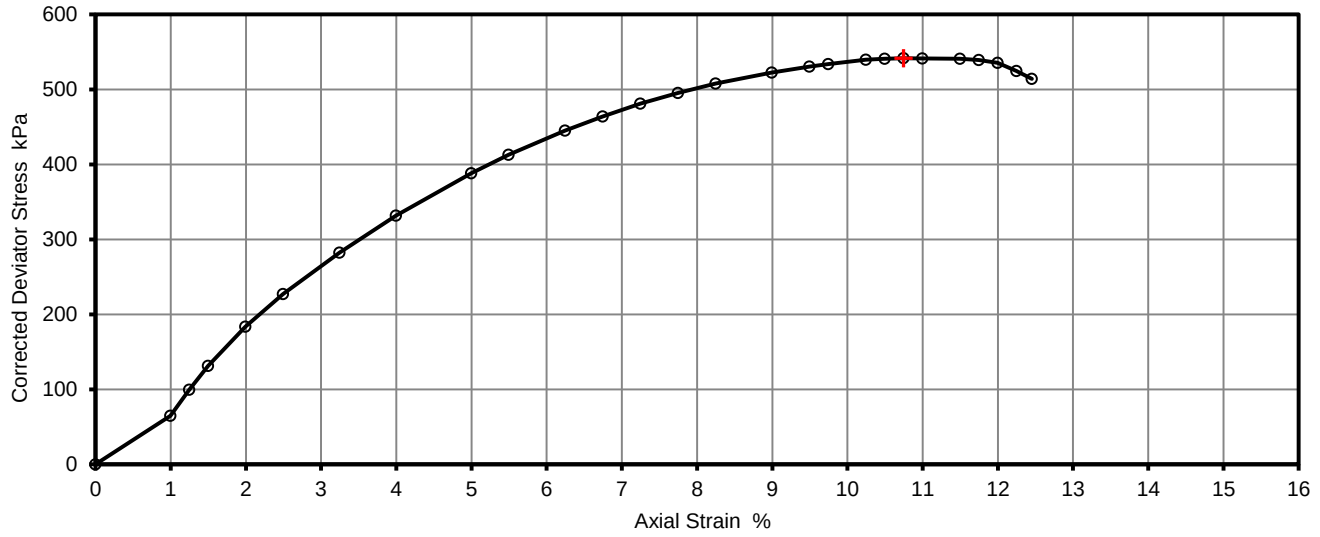
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1365

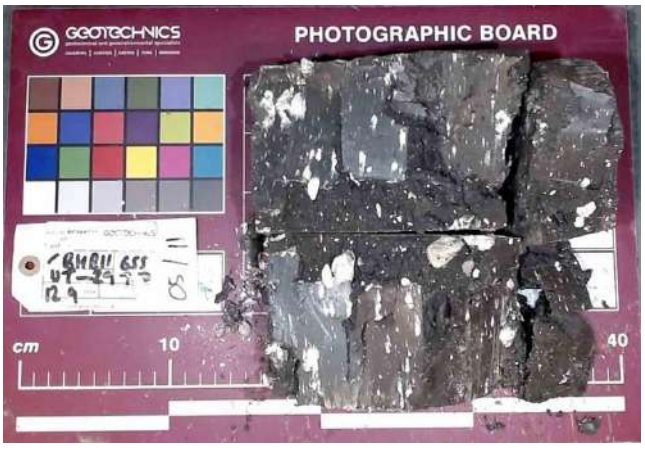
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB11
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	6.75	Depth m	6.55 - 7.00
Specimen Description	Grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		210.7	mm
Diameter		103.4	mm
Bulk Density		2.12	Mg/m3
Water Content		16.7	%
Dry Density		1.82	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		130	kPa
At failure	Axial Strain	10.7	%
	Deviator Stress, (σ1 - σ3)f	542	kPa
	Undrained Shear Strength cu	271	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.2%

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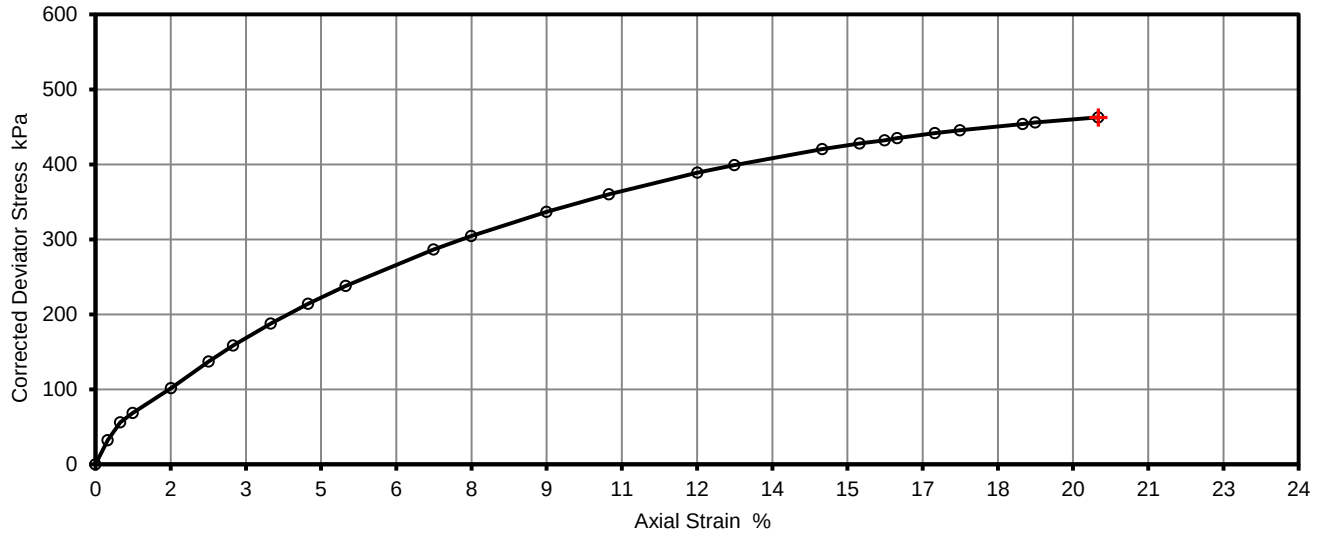
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB11
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	8.80	Depth m	8.55 - 9.00
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		210.7	mm
Diameter		103.1	mm
Bulk Density		2.26	Mg/m3
Water Content		11.4	%
Dry Density		2.03	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		170	kPa
At failure	Axial Strain	20.0	%
	Deviator Stress, (σ1 - σ3)f	463	kPa
	Undrained Shear Strength cu	231	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 11.8%

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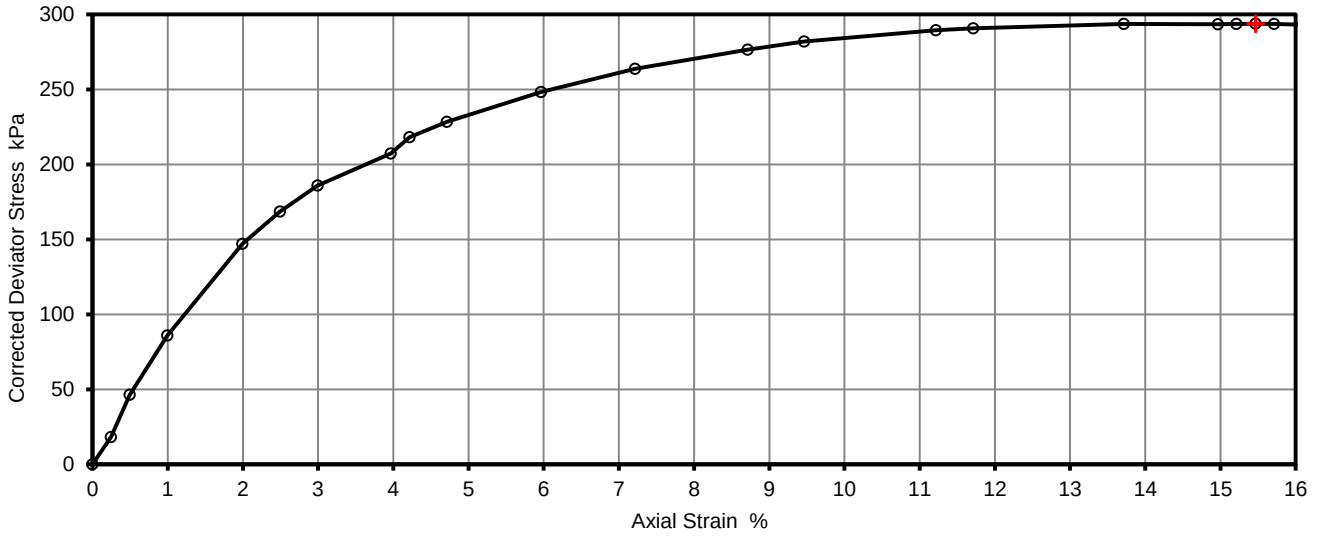
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB12
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	1.79	Depth m	1.55 - 2.00
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	16/10/2024

Test Number		1	
Length		210.5	mm
Diameter		103.4	mm
Bulk Density		2.10	Mg/m3
Water Content		20.7	%
Dry Density		1.74	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		30	kPa
At failure	Axial Strain	15.5	%
	Deviator Stress, (σ1 - σ3)f	294	kPa
	Undrained Shear Strength cu	147	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 20.4%

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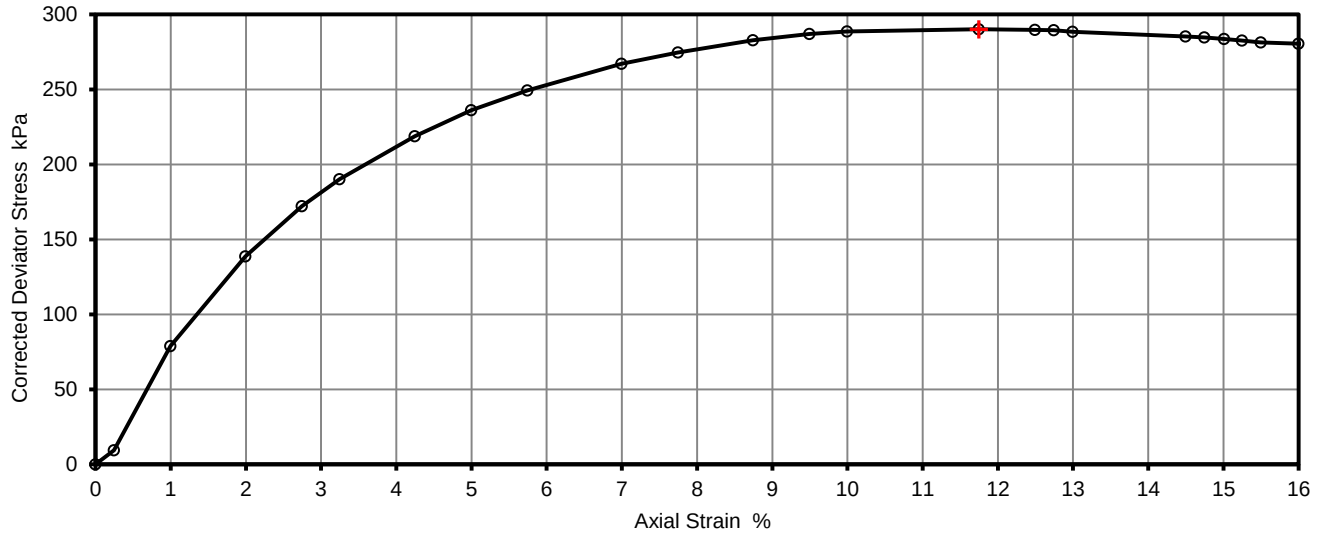
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB12
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	3.79	Depth m	3.55 - 4.00
Specimen Description	Dark grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	16/10/2024

Test Number		1	
Length		209.3	mm
Diameter		102.4	mm
Bulk Density		2.13	Mg/m3
Water Content		19.9	%
Dry Density		1.77	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		70	kPa
At failure	Axial Strain	11.7	%
	Deviator Stress, (σ1 - σ3)f	290	kPa
	Undrained Shear Strength cu	145	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 21.2% Gravel > one sixth of sample dimater may affect test results.

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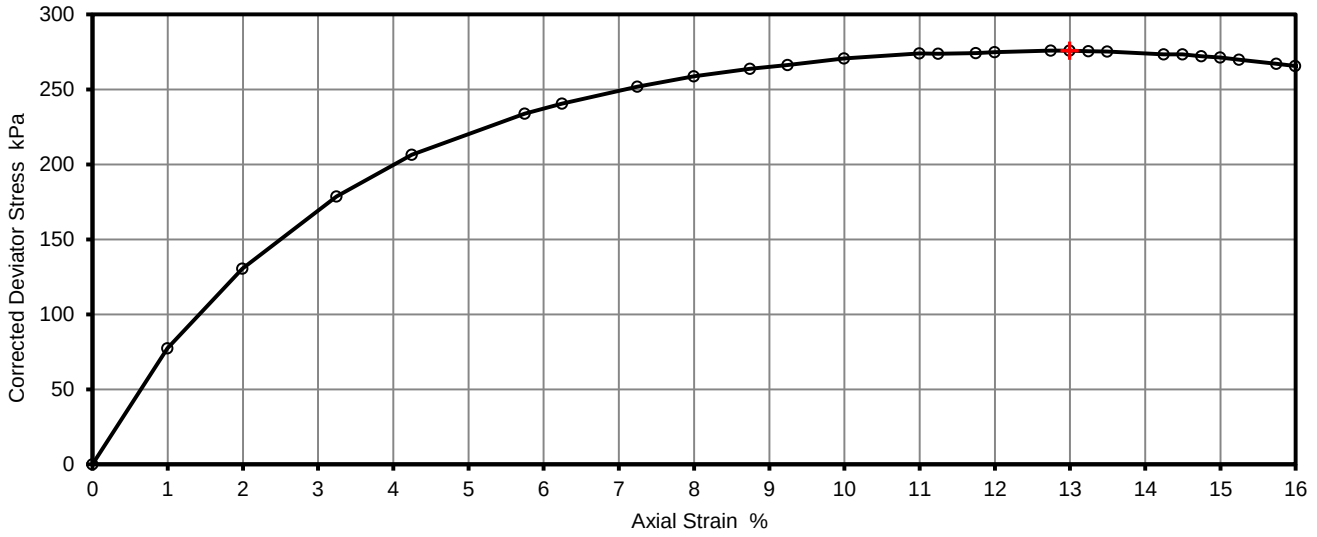
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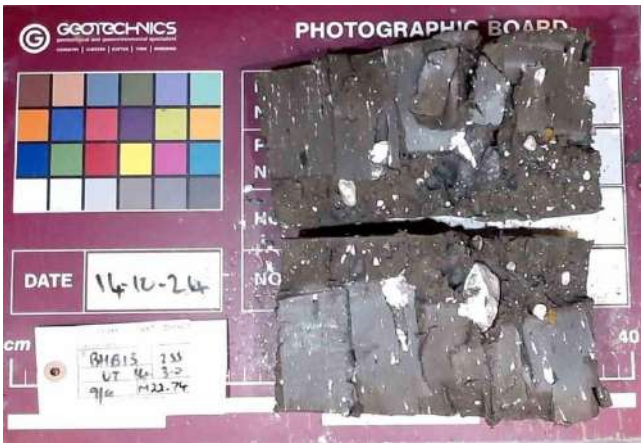
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB13
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.79	Depth m	2.55 - 3.00
Specimen Description	Dark grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	14/10/2024

Test Number		1	
Length		210.9	mm
Diameter		102.6	mm
Bulk Density		2.04	Mg/m3
Water Content		21.9	%
Dry Density		1.68	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		50	kPa
At failure	Axial Strain	13.0	%
	Deviator Stress, (σ1 - σ3)f	276	kPa
	Undrained Shear Strength cu	138	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 21.9% Gravel > one sixth of specimen diameter may affect test results.

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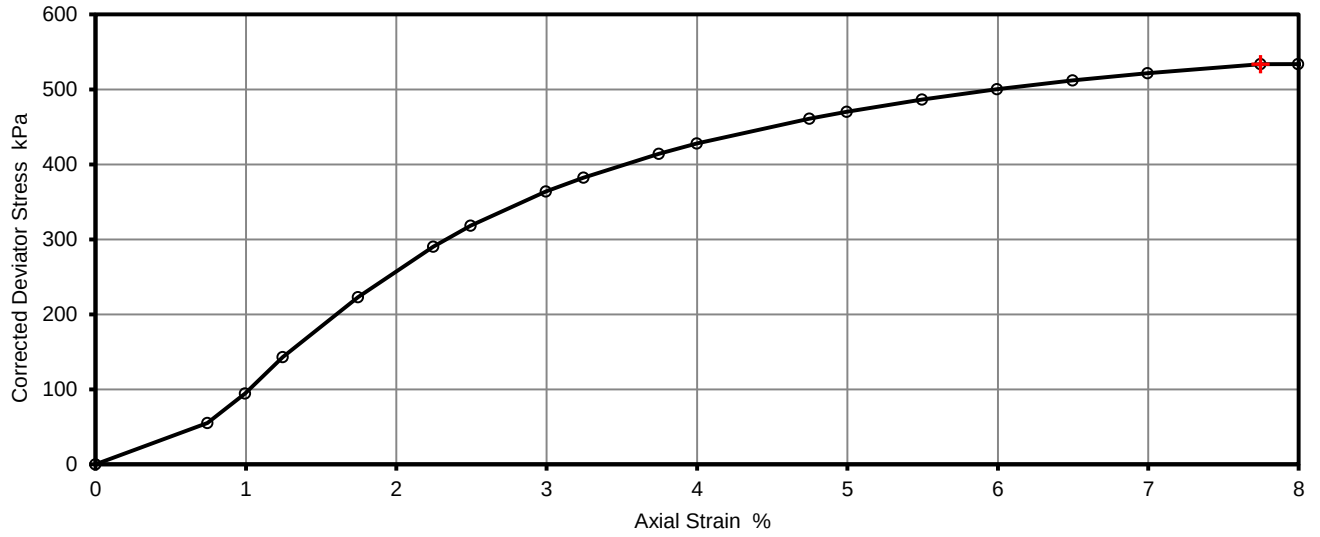
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB13
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	4.79	Depth m	4.55 - 5.00
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	11/10/2024

Test Number		1	
Length		210.9	mm
Diameter		104.1	mm
Bulk Density		2.11	Mg/m3
Water Content		17.5	%
Dry Density		1.79	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		90	kPa
At failure	Axial Strain	7.7	%
	Deviator Stress, (σ1 - σ3)f	534	kPa
	Undrained Shear Strength cu	267	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.8%

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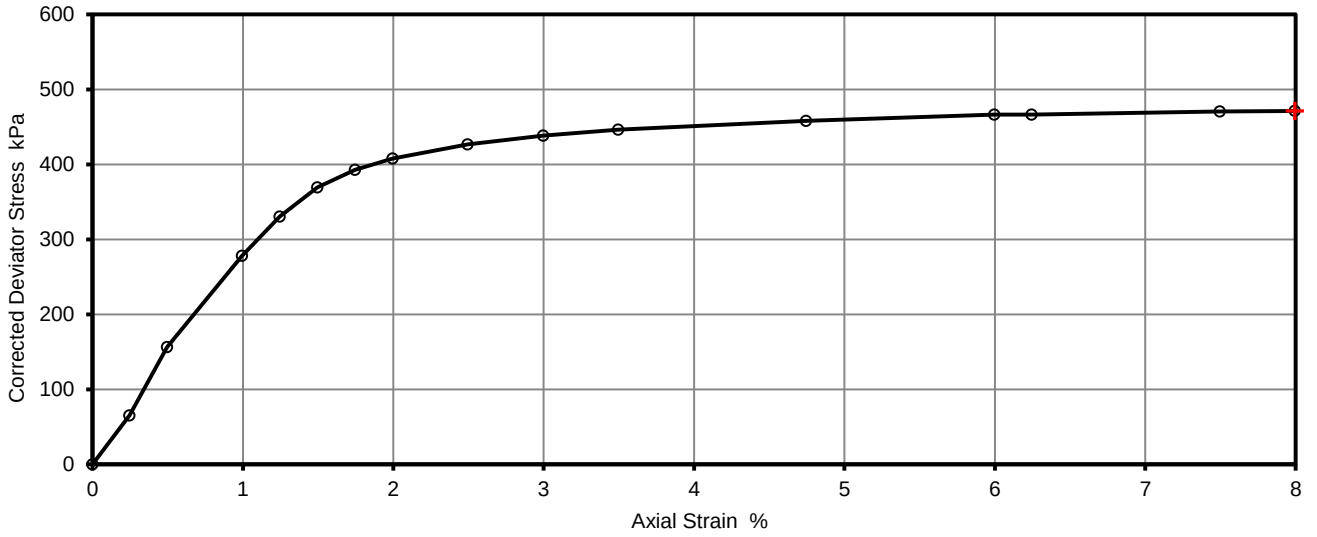
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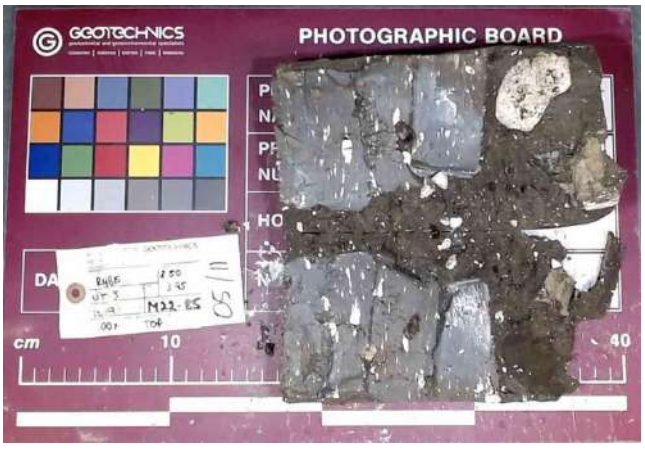
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB15
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	3.75	Depth m	3.50 - 3.95
Specimen Description	Greyish brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	05/11/2024

Test Number		1	
Length		210.2	mm
Diameter		103.6	mm
Bulk Density		2.11	Mg/m3
Water Content		19.7	%
Dry Density		1.76	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		70	kPa
At failure	Axial Strain	8.0	%
	Deviator Stress, (σ1 - σ3)f	471	kPa
	Undrained Shear Strength cu	236	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 19.6% Gravel > one sixth of specimen diameter may affect test results.

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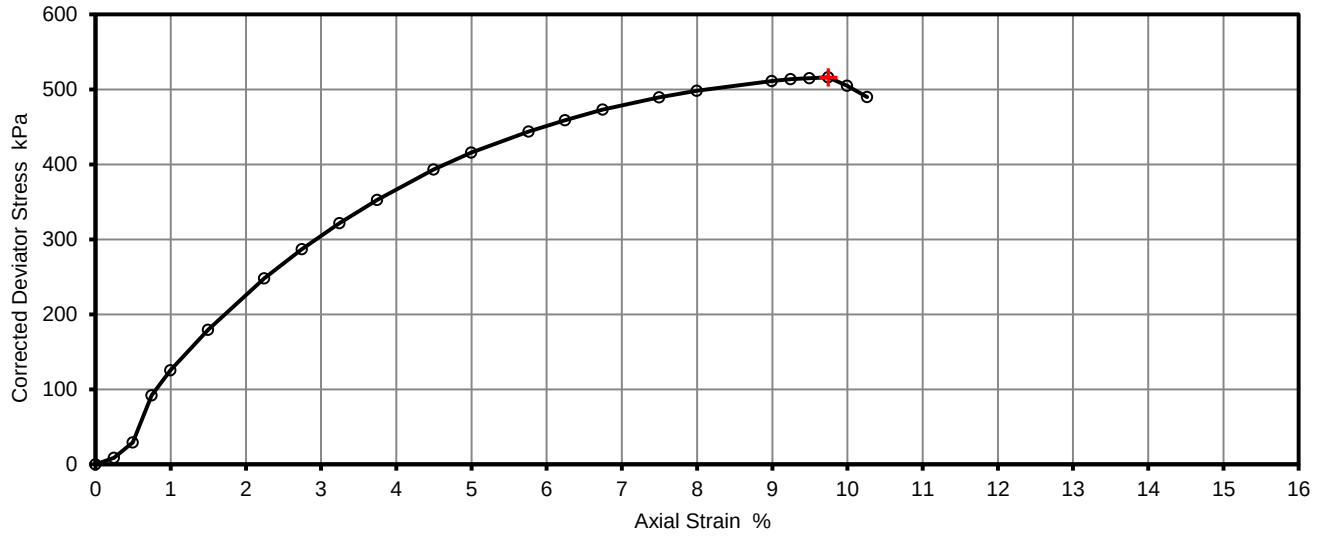
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB15
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	6.10	Depth m	6.00 - 6.45
Specimen Description	Grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	06/11/2024

Test Number		1	
Length		186.8	mm
Diameter		103.4	mm
Bulk Density		2.11	Mg/m3
Water Content		17.5	%
Dry Density		1.80	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		120	kPa
At failure	Axial Strain	9.7	%
	Deviator Stress, (σ1 - σ3)f	516	kPa
	Undrained Shear Strength cu	258	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 17.3%

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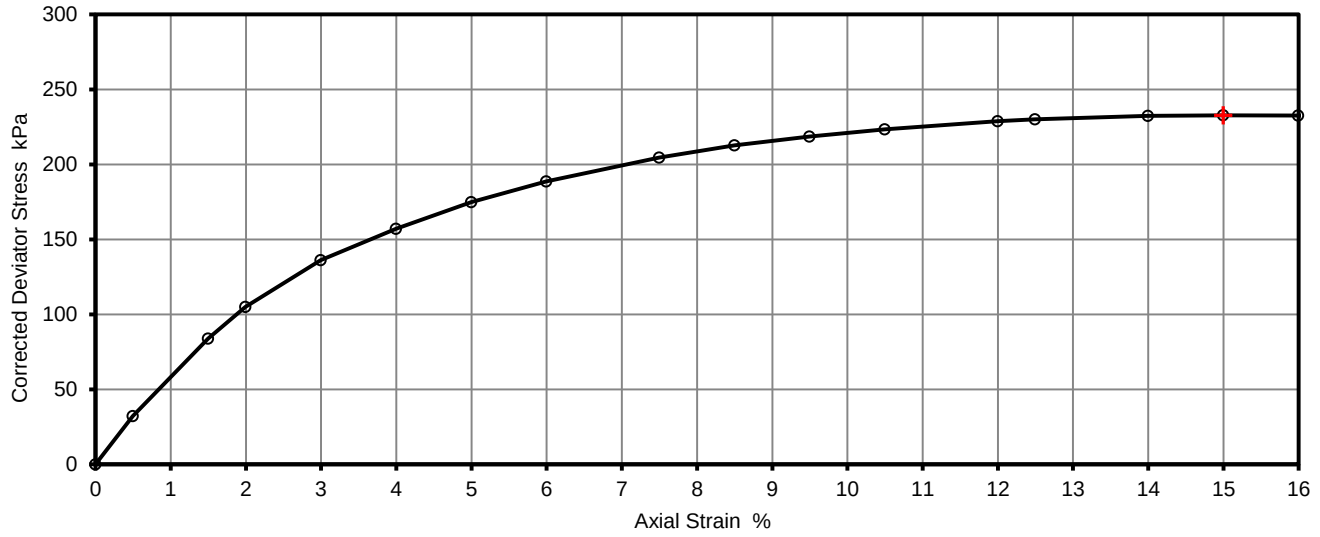
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB18
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.10	Depth m	2.00 - 2.45
Specimen Description	Greyish brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	06/11/2024

Test Number		1	
Length		210.2	mm
Diameter		102.6	mm
Bulk Density		2.08	Mg/m3
Water Content		20.8	%
Dry Density		1.72	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	15.0	%
	Deviator Stress, (σ1 - σ3)f	233	kPa
	Undrained Shear Strength cu	116	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain





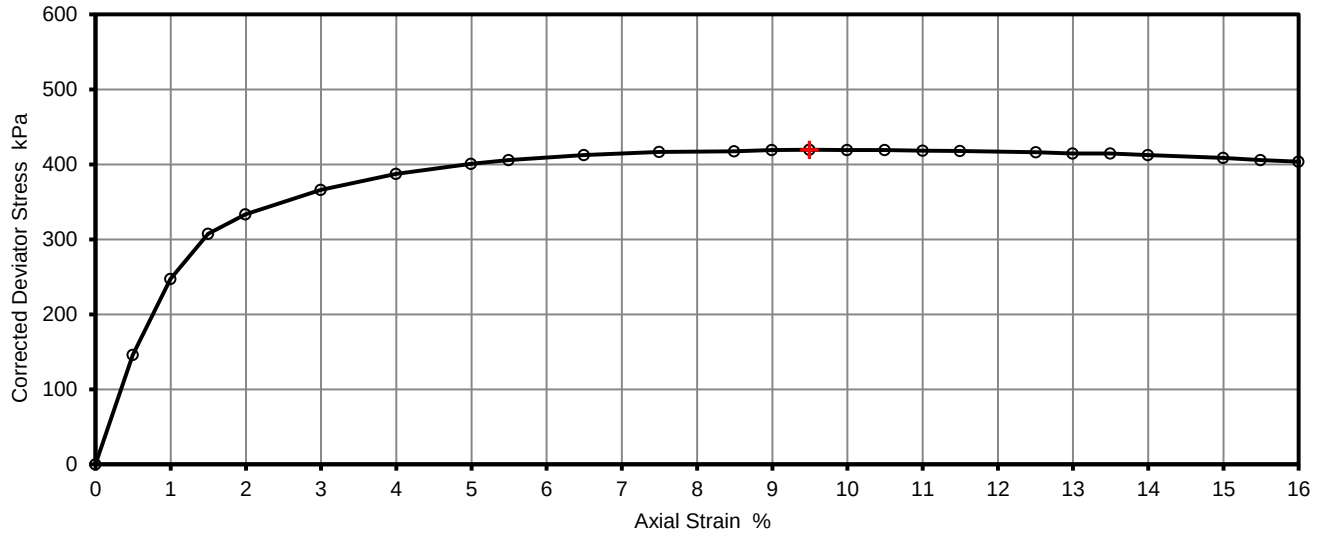


Remarks	Printed	
WC at failure Zone = 21.2%	22/01/2025	UKAS TESTING 1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB18
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	4.10	Depth m	4.00 - 4.45
Specimen Description	Grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	06/11/2024

Test Number		1	
Length		187.3	mm
Diameter		103.4	mm
Bulk Density		2.09	Mg/m3
Water Content		17.9	%
Dry Density		1.77	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	9.5	%
	Deviator Stress, (σ1 - σ3)f	419	kPa
	Undrained Shear Strength cu	210	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.7% Gravel > one sixth of specimen diameter may affect test results.

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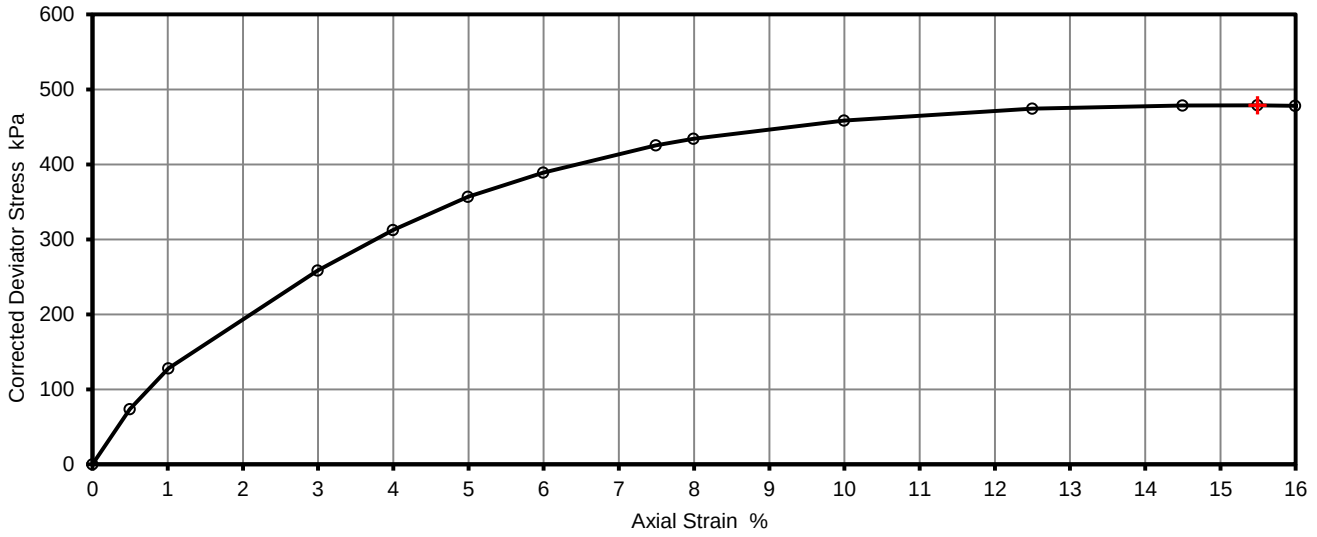
UKAS TESTING

1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB19
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	3.25	Depth m	3.00 - 3.45
Specimen Description	Greyish brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	06/11/2024

Test Number		1	
Length		210.5	mm
Diameter		103.5	mm
Bulk Density		2.05	Mg/m3
Water Content		18.0	%
Dry Density		1.73	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		60	kPa
At failure	Axial Strain	15.5	%
	Deviator Stress, (σ1 - σ3)f	479	kPa
	Undrained Shear Strength cu	239	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 17.7% Sample dried @ </= 50°C

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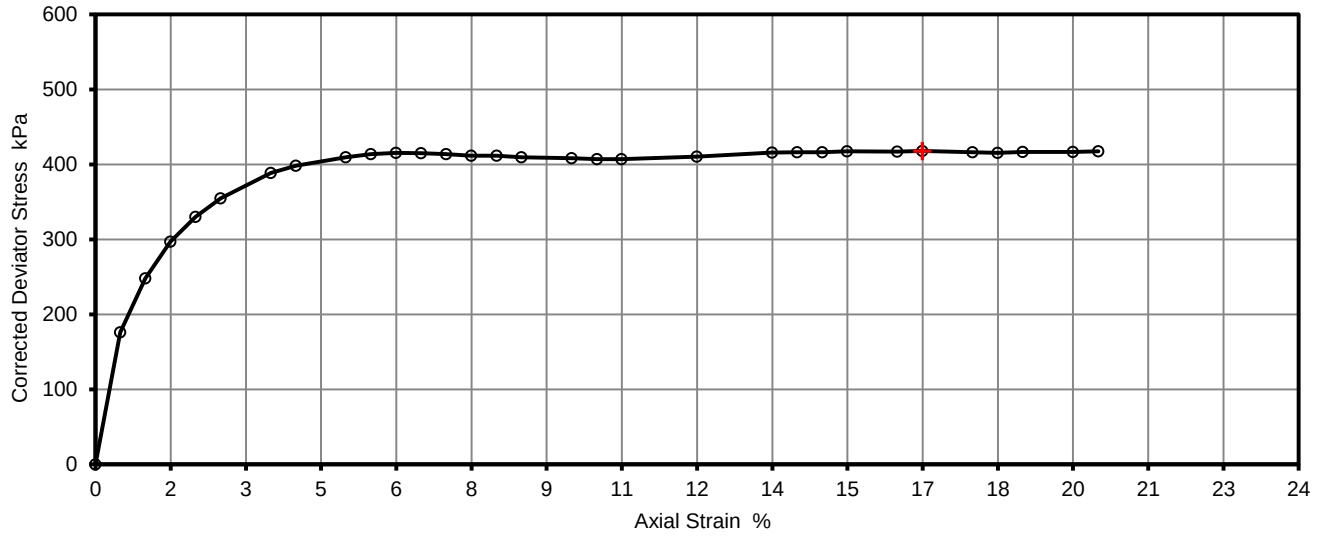
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB19
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	7.24	Depth m	7.00 - 7.45
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	06/11/2024

Test Number		1	
Length		208.5	mm
Diameter		102.8	mm
Bulk Density		2.23	Mg/m3
Water Content		13.0	%
Dry Density		1.97	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		150	kPa
At failure	Axial Strain	16.5	%
	Deviator Stress, (σ1 - σ3)f	418	kPa
	Undrained Shear Strength cu	209	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 13.1% Gravel > one sixth of sample diameter may affect test results.

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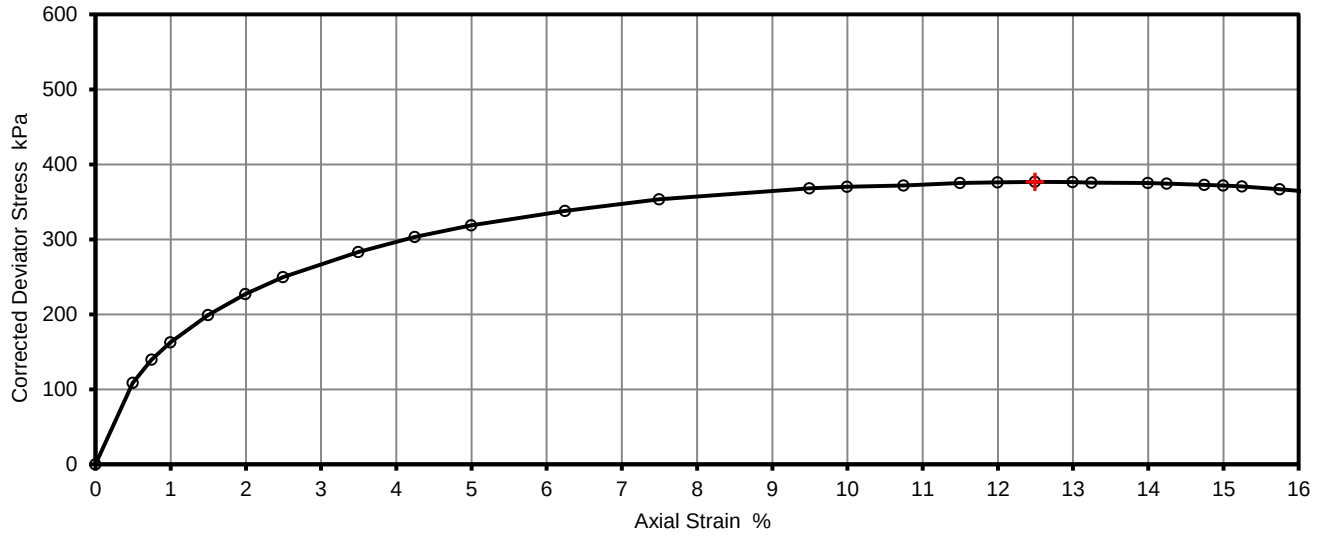
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB21
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	1.45	Depth m	1.20 - 1.65
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	08/11/2024

Test Number		1	
Length		210.1	mm
Diameter		102.9	mm
Bulk Density		2.11	Mg/m3
Water Content		17.1	%
Dry Density		1.80	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		24	kPa
At failure	Axial Strain	12.5	%
	Deviator Stress, (σ1 - σ3)f	377	kPa
	Undrained Shear Strength cu	188	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 20.3%

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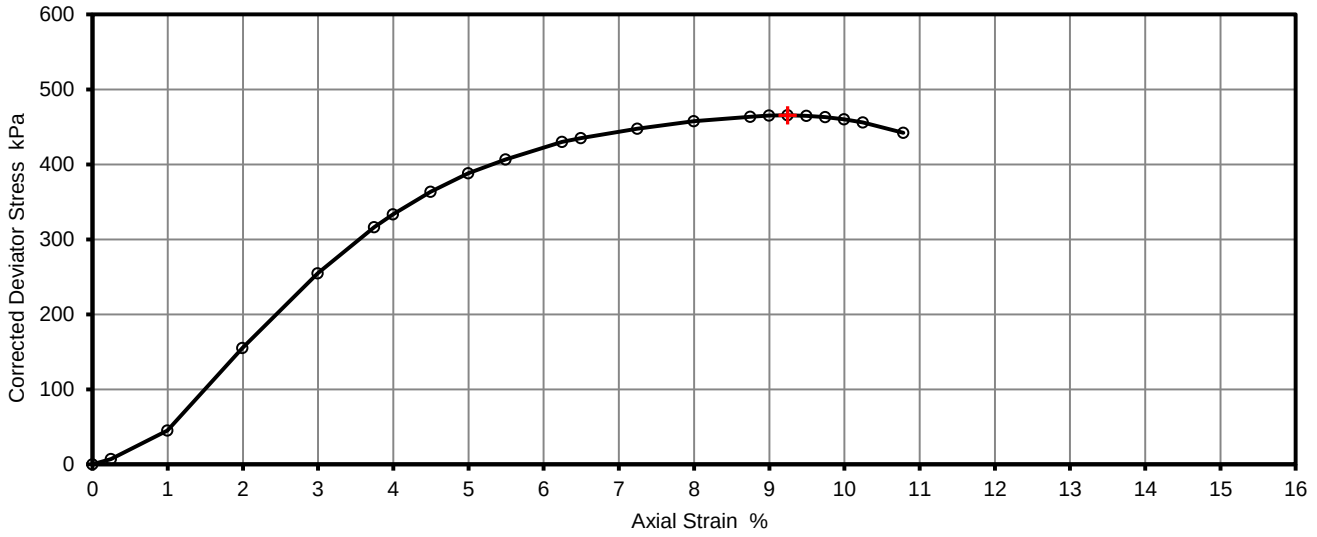
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB21
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	5.25	Depth m	5.00 - 5.45
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	08/11/2024

Test Number		1	
Length		209.7	mm
Diameter		103.9	mm
Bulk Density		2.11	Mg/m3
Water Content		16.7	%
Dry Density		1.81	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		100	kPa
At failure	Axial Strain	9.2	%
	Deviator Stress, (σ1 - σ3)f	465	kPa
	Undrained Shear Strength cu	233	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.2%

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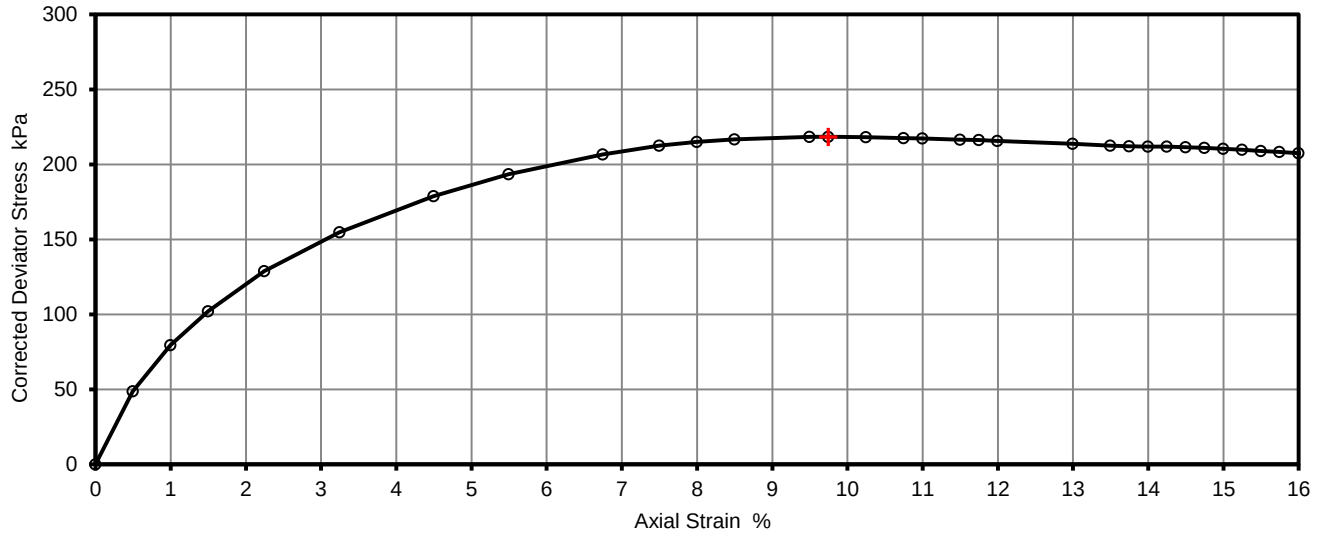
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB22
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.20	Depth m	2.00 - 2.45
Specimen Description	Greyish brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	15/11/2024

Test Number		1	
Length		209.9	mm
Diameter		103.3	mm
Bulk Density		2.04	Mg/m3
Water Content		21.9	%
Dry Density		1.67	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	9.7	%
	Deviator Stress, (σ1 - σ3)f	218	kPa
	Undrained Shear Strength cu	109	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 21.6%

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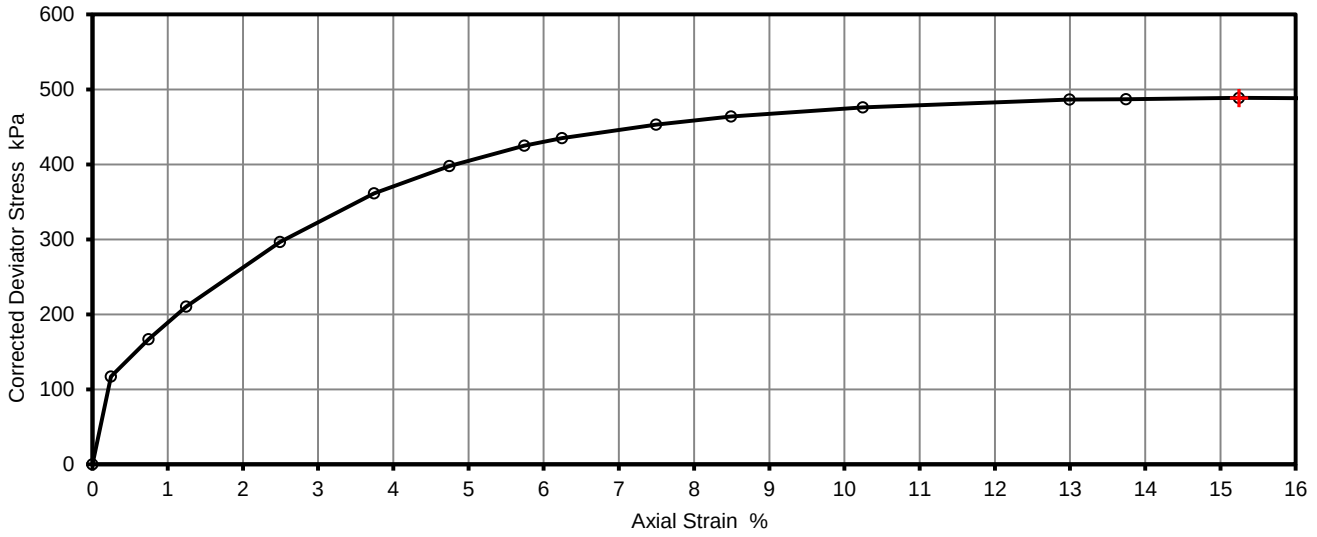
UKAS TESTING

1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHB22
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	6.25	Depth m	6.00 - 6.45
Specimen Description	Greyish brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	15/11/2024

Test Number		1	
Length		210.9	mm
Diameter		103.6	mm
Bulk Density		2.08	Mg/m3
Water Content		19.5	%
Dry Density		1.74	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		120	kPa
At failure	Axial Strain	15.2	%
	Deviator Stress, (σ1 - σ3)f	489	kPa
	Undrained Shear Strength cu	244	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.9%

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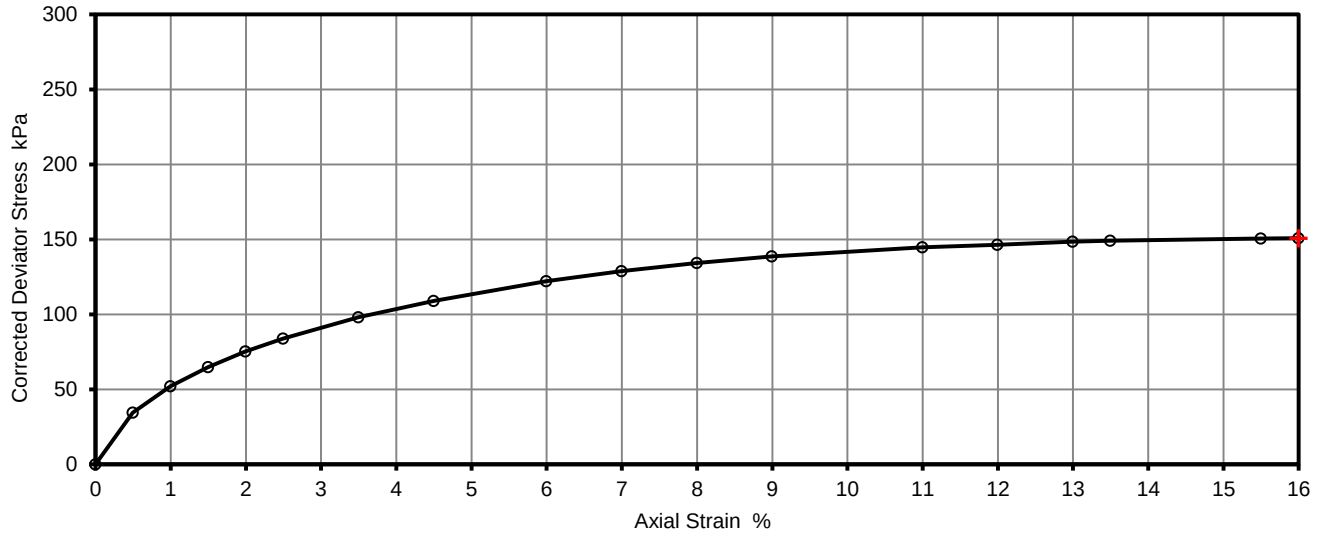
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHC01
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	2	Specimen Depth (m)	2.25	Depth m	2.00 - 2.45
Specimen Description	Greyish brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	19/11/2024

Test Number		1	
Length		210.3	mm
Diameter		102.3	mm
Bulk Density		2.12	Mg/m3
Water Content		18.5	%
Dry Density		1.79	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	16.0	%
	Deviator Stress, (σ1 - σ3)f	151	kPa
	Undrained Shear Strength cu	75	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.1% Gravel > one sixth of specimen diameter may affect test results.

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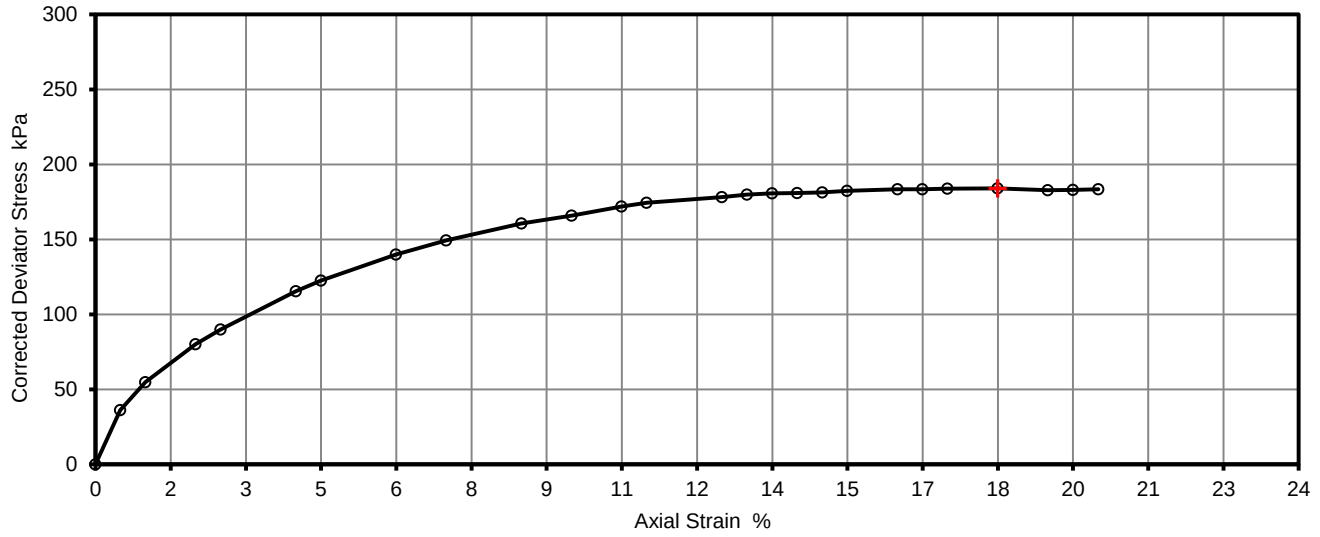
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHC01
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	6.25	Depth m	6.00 - 6.45
Specimen Description	Grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	19/11/2024

Test Number		1	
Length		210.1	mm
Diameter		103.8	mm
Bulk Density		2.08	Mg/m3
Water Content		20.6	%
Dry Density		1.72	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		120	kPa
At failure	Axial Strain	18.0	%
	Deviator Stress, (σ1 - σ3)f	184	kPa
	Undrained Shear Strength cu	92	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.9% Gravel > one sixth of specimen diameter may affect test results.

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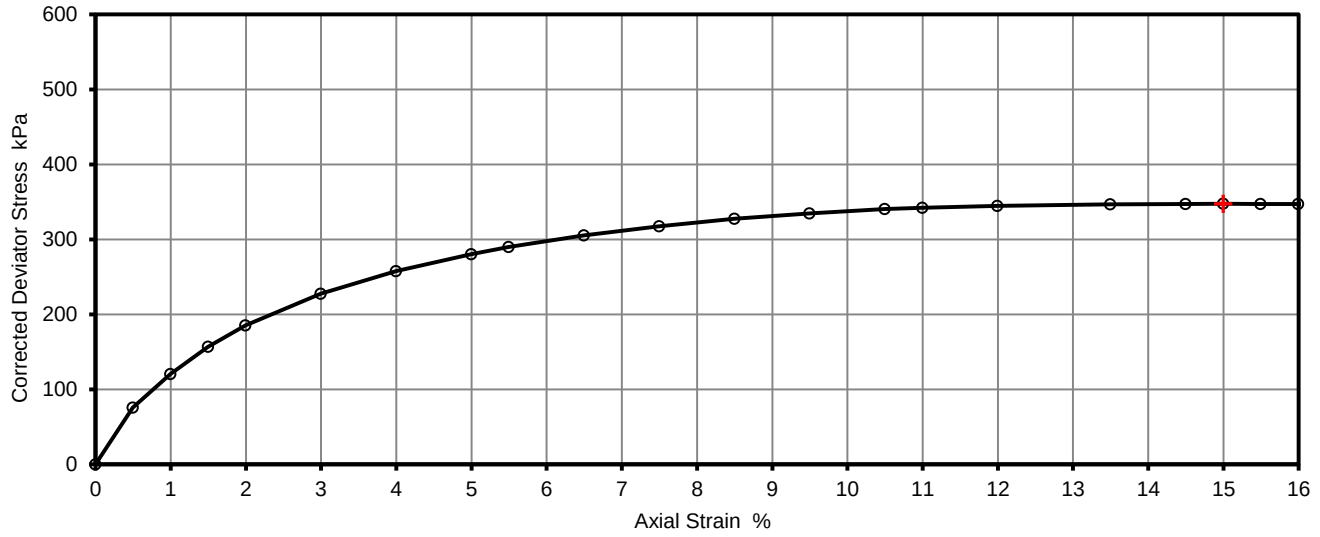
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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC248770
				Hole No.	BHC04
Project Name	LionLink - Cable Route			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	2.25	Depth m	2.00 - 2.45
Specimen Description	Greyish brown slightly gravelly sandy CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8:2018			Date of Test	19/11/2024

Test Number		1	
Length		210.5	mm
Diameter		102.9	mm
Bulk Density		2.11	Mg/m3
Water Content		16.6	%
Dry Density		1.81	Mg/m3
Rate of Strain		1.5	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	15.0	%
	Deviator Stress, (σ1 - σ3)f	347	kPa
	Undrained Shear Strength cu	174	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.7%

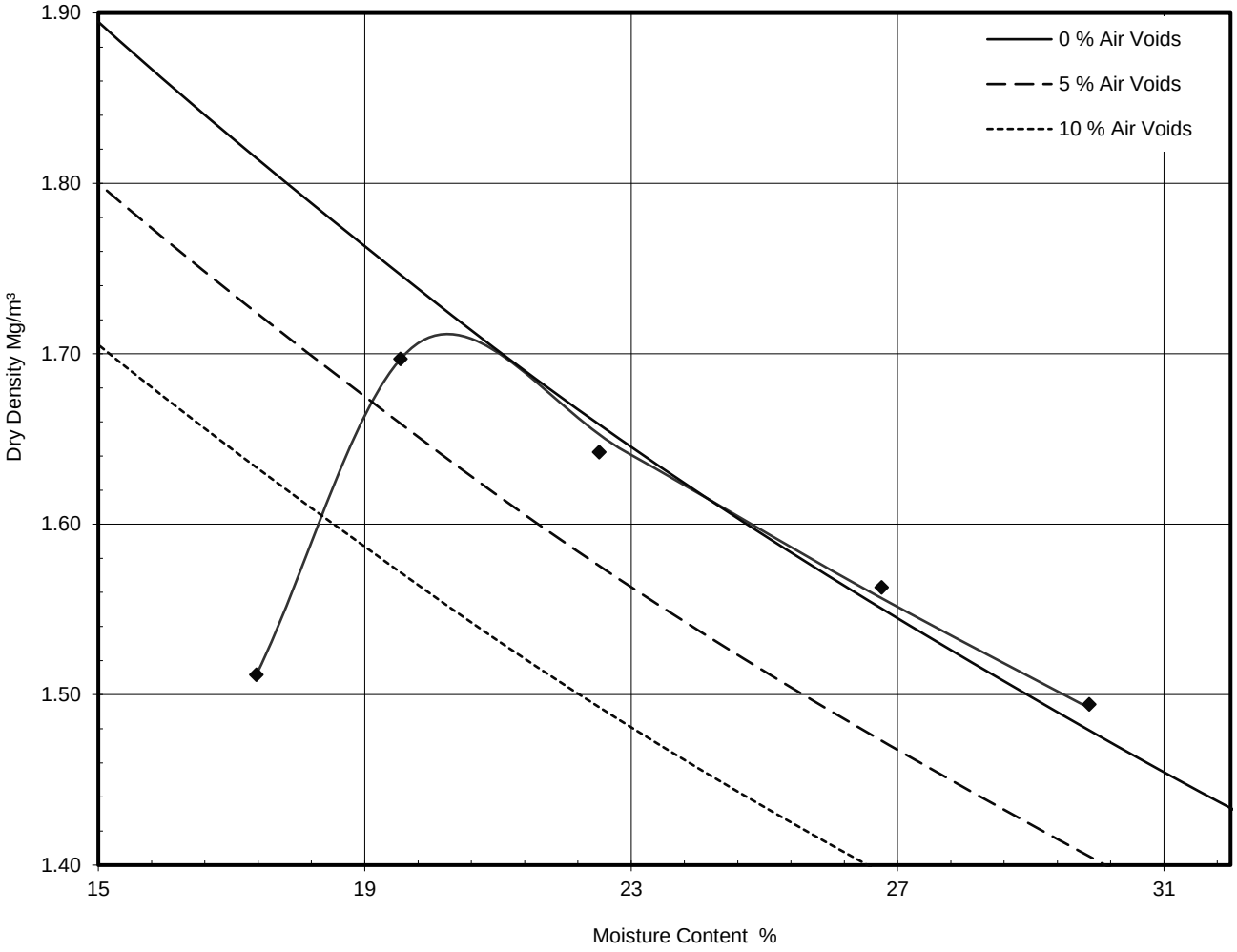
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB01
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	1.20 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.71**

Optimum Moisture Content	%	**20**

Remarks

NMC = 20%

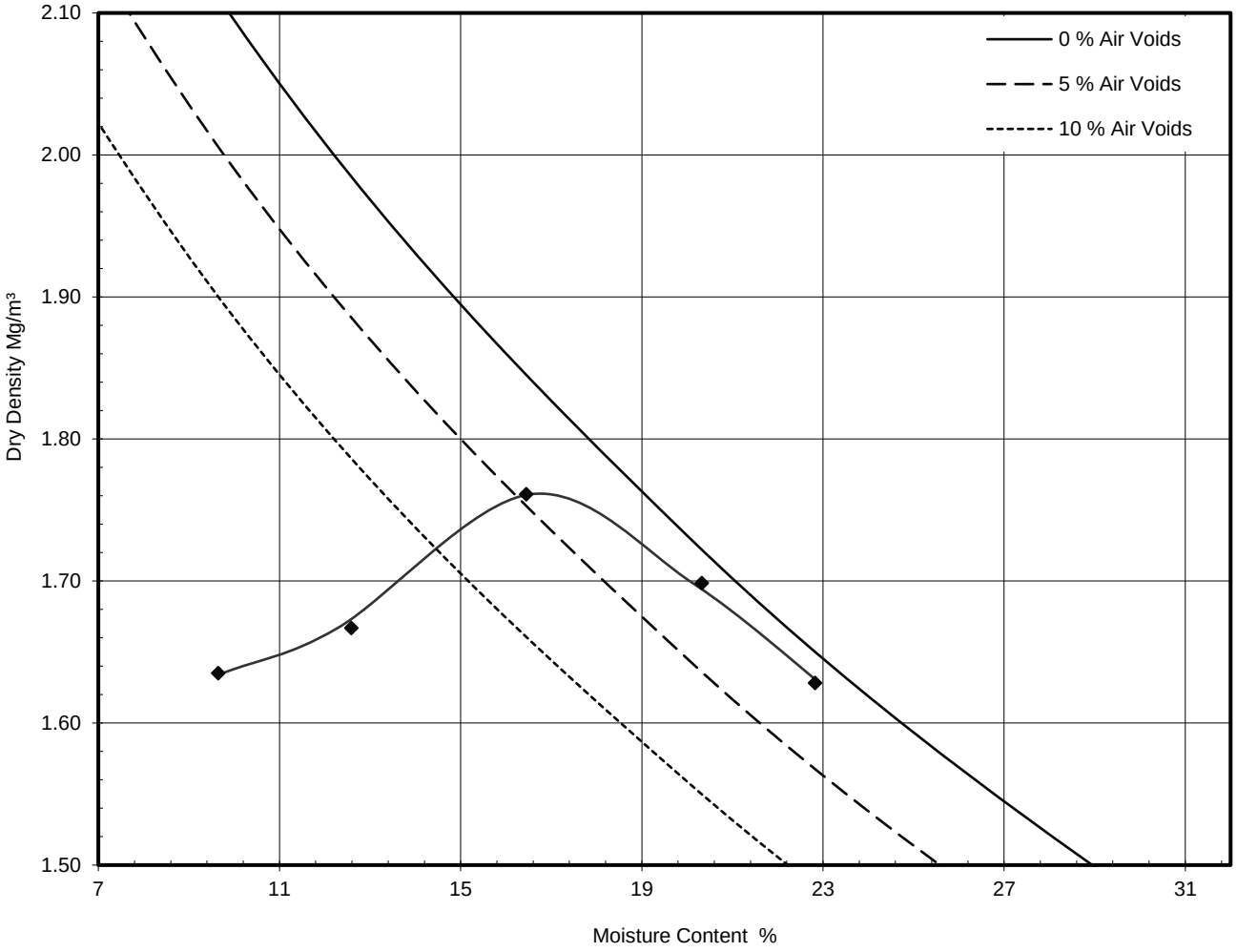
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB03
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY	Depth m	1.30 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.77**

Optimum Moisture Content	%	**17**

Remarks

NMC = 16%

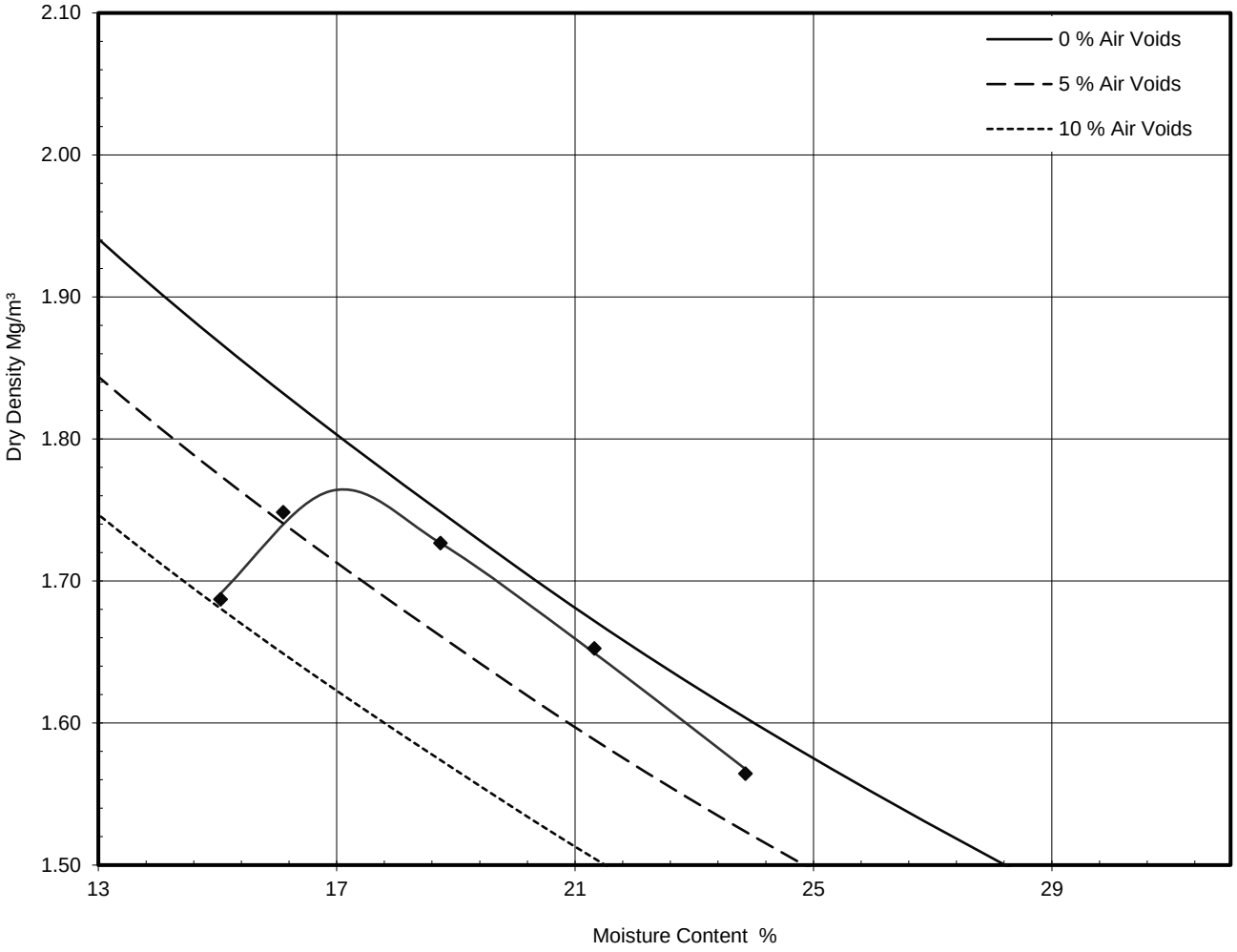
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB05
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light grey mottled brown slightly sandy slightly gravelly CLAY	Depth m	0.85 - 1.20
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using gas jar	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.76**
Optimum Moisture Content	%	**17**

Remarks

NMC = 16%

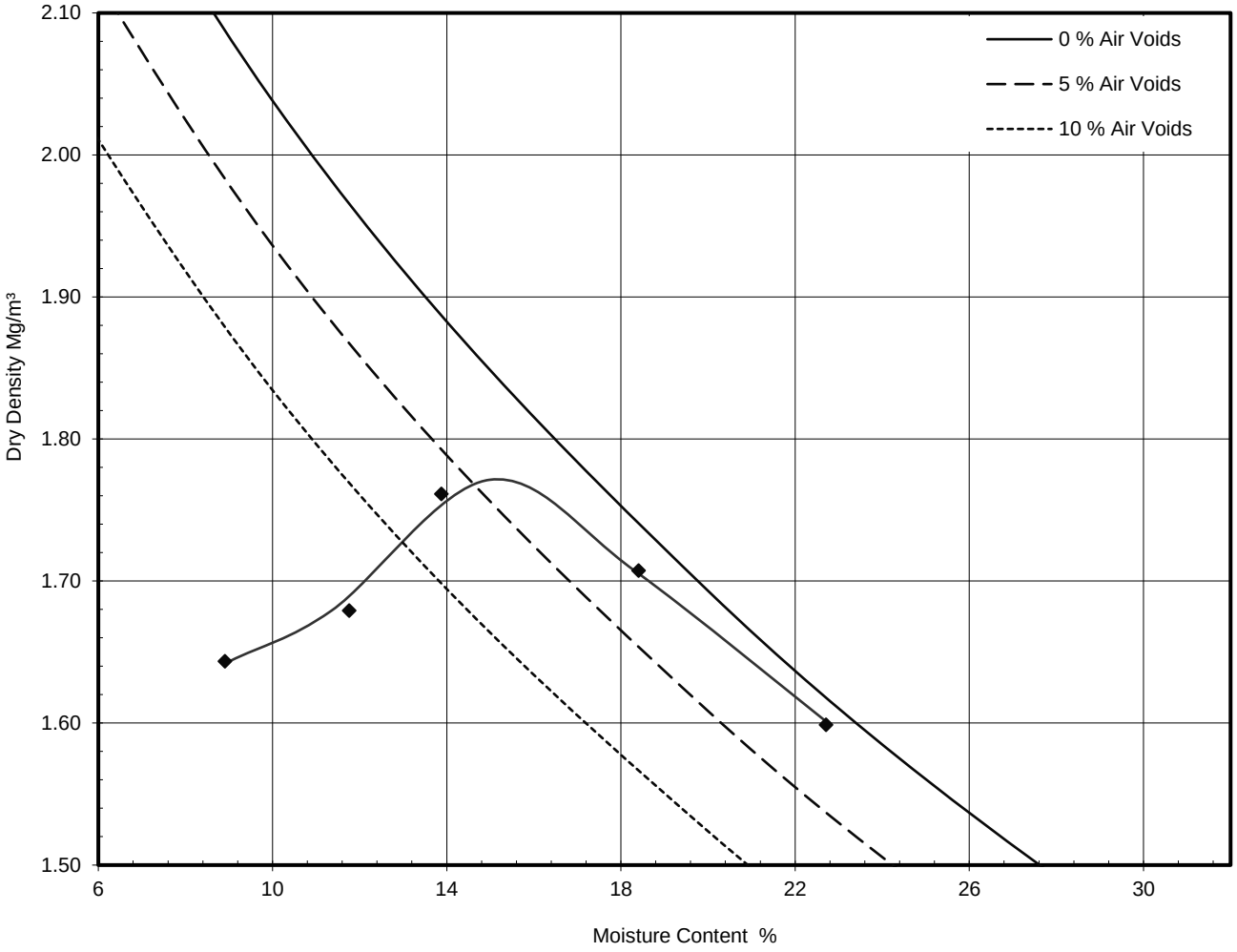
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB07
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light grey mottled brown slightly sandy slightly gravelly CLAY	Depth m	1.00 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



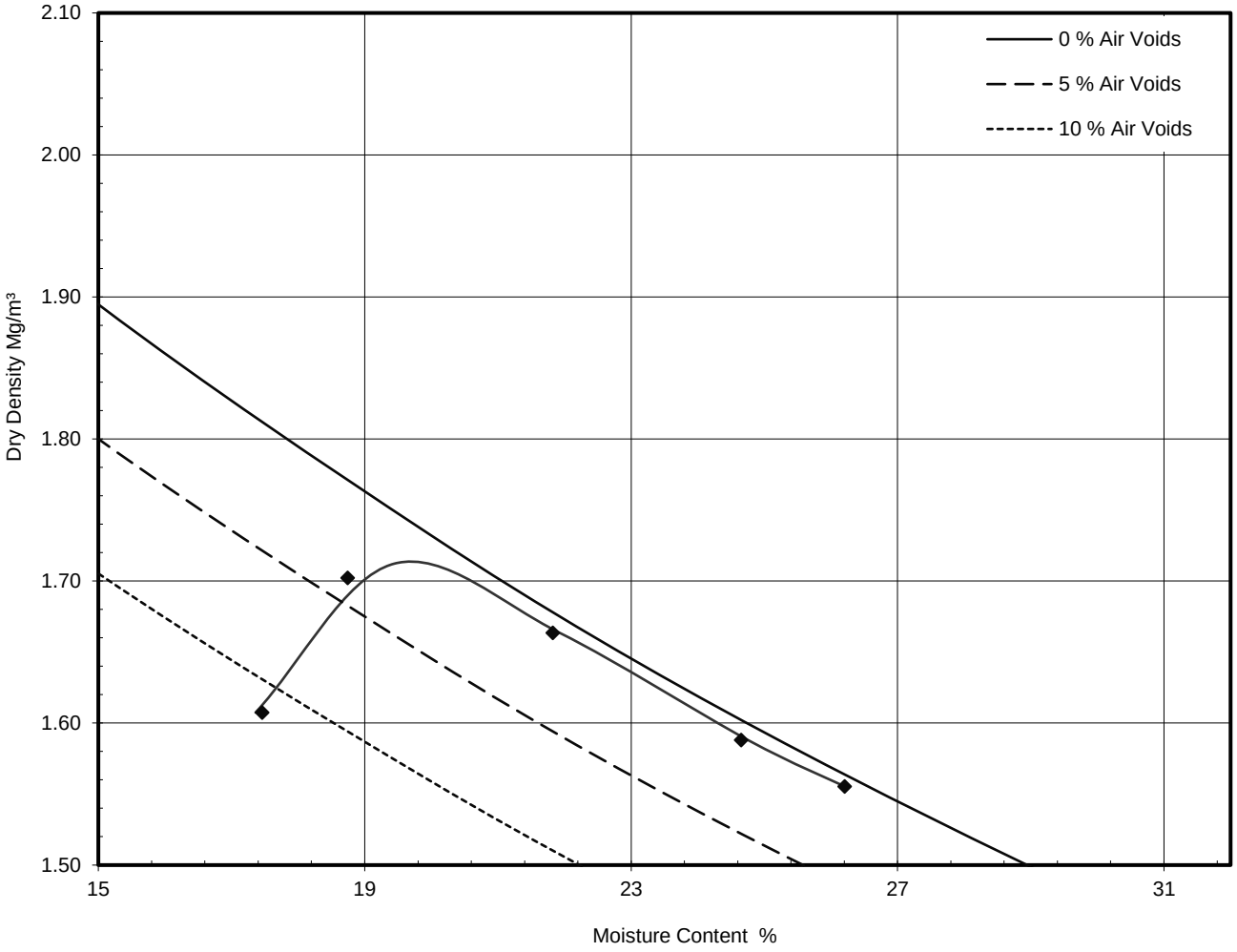
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	1
Material Retained on 20.0 mm Sieve	%	3
Particle Density - Measured using small pyknometer	Mg/m³	2.56

Maximum Dry Density	Mg/m³	**1.77**

Optimum Moisture Content	%	**15**

Remarks	Printed	
NMC = 12%	22/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB09
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY	Depth m	1.15 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.71**
Optimum Moisture Content	%	**20**

Remarks

NMC = 22%

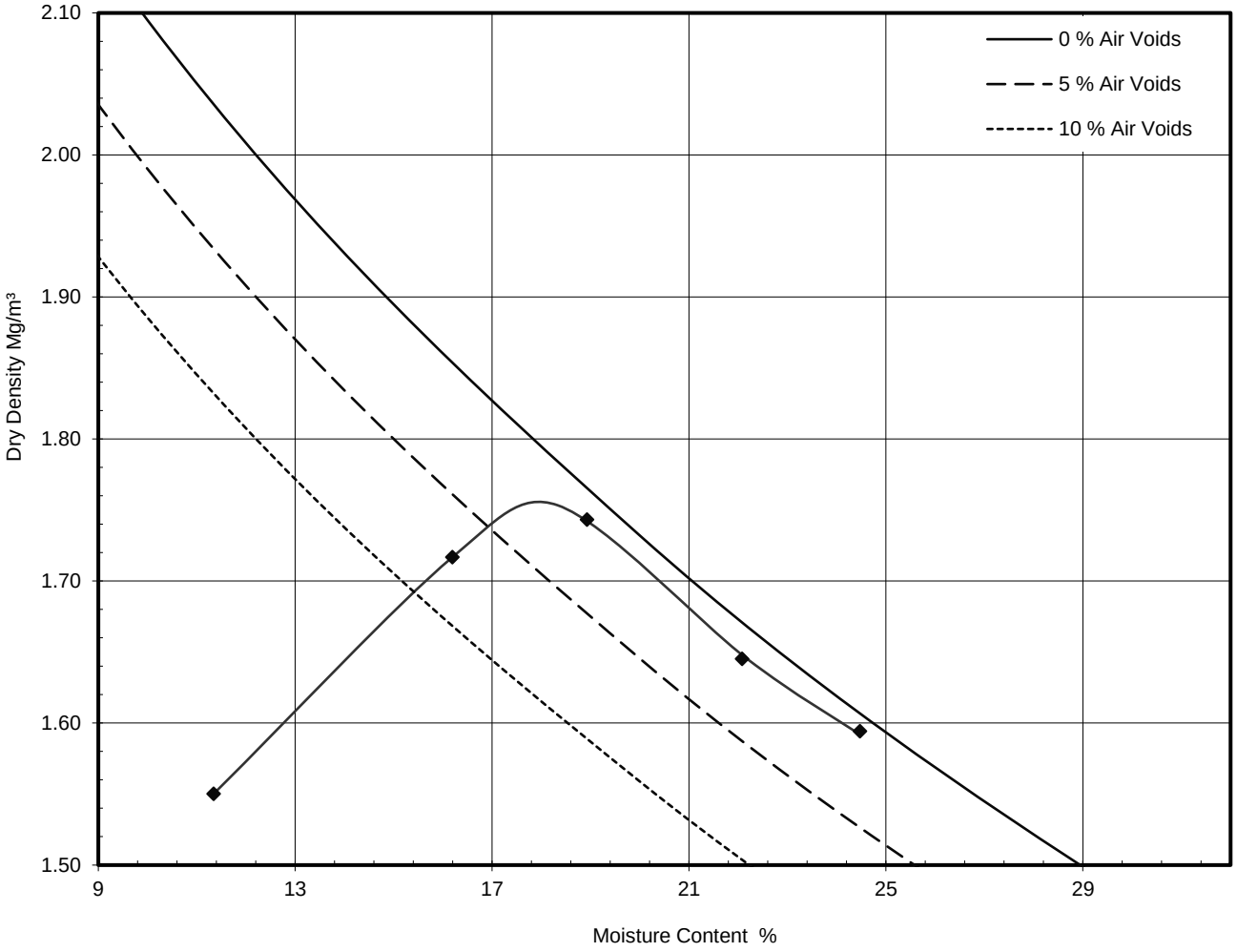
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB09
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Grey slightly sandy slightly gravelly CLAY	Depth m	2.00 - 3.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.75**
Optimum Moisture Content	%	**18**

Remarks

NMC = 19%

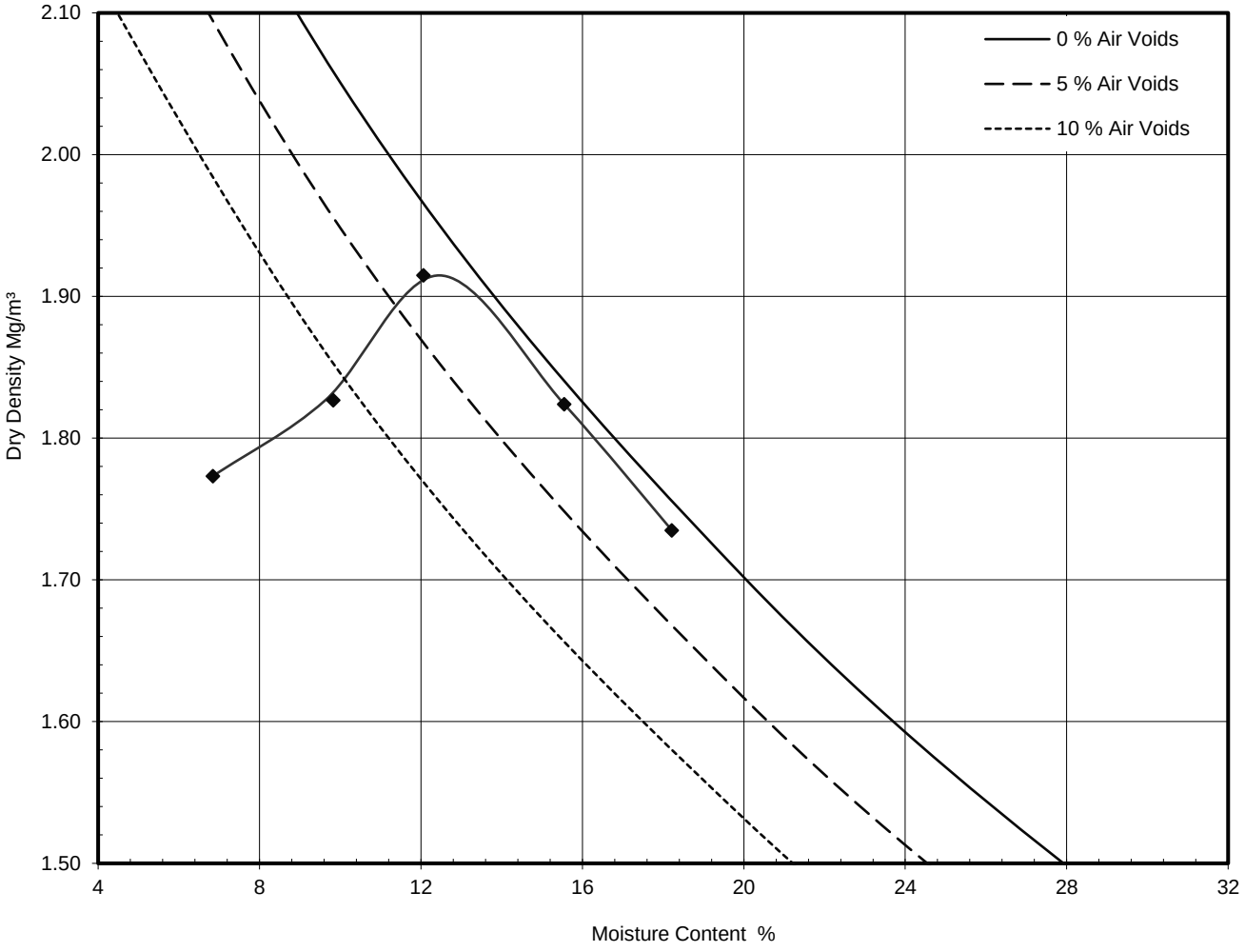
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB11
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light brown slightly sandy slightly gravelly CLAY	Depth m	0.60 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	4
Particle Density - Measured using small pyknometer	Mg/m³	2.58

Maximum Dry Density	Mg/m³	**1.91**

Optimum Moisture Content	%	**12**

Remarks

NMC = 12%

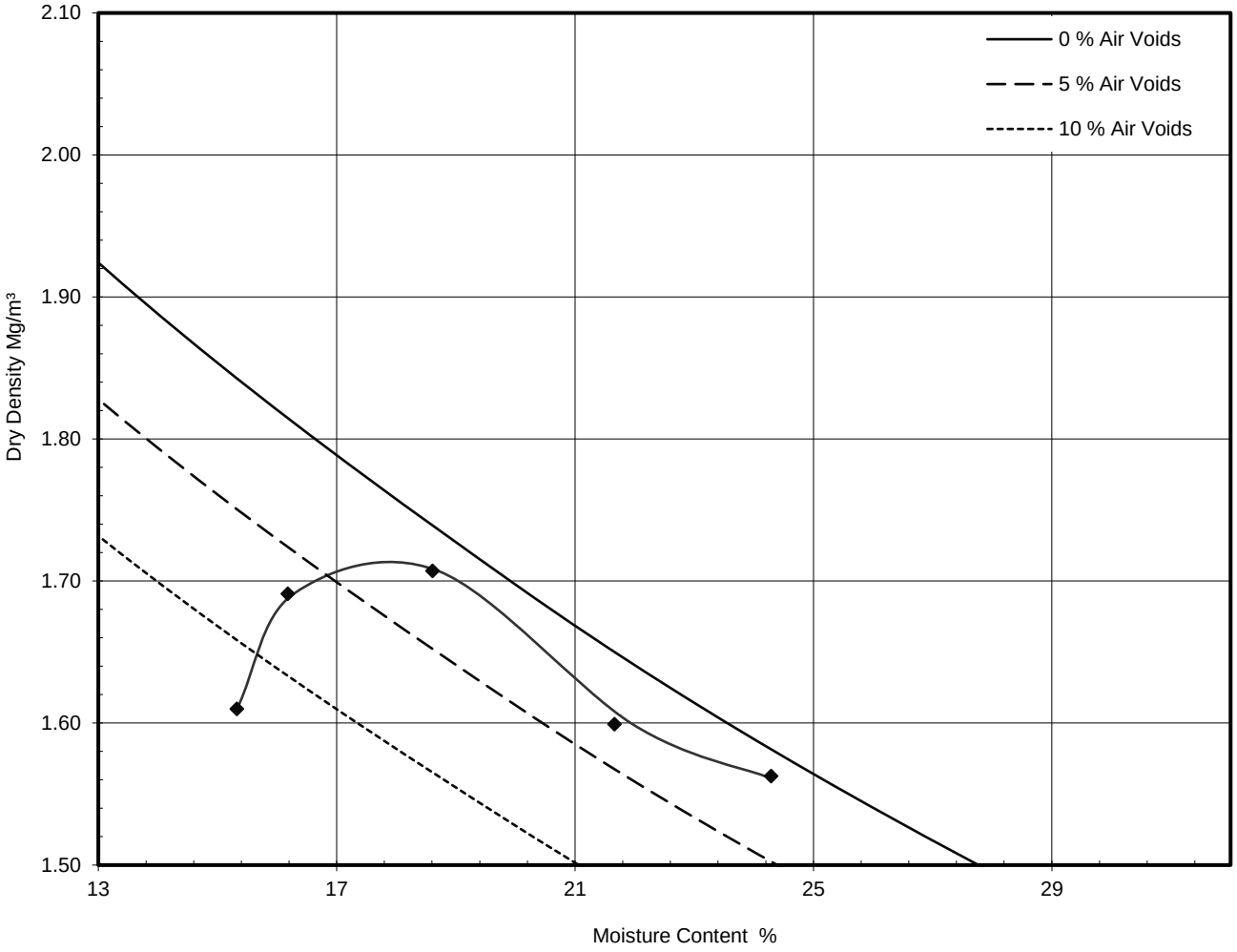
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB13
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	0.30 - 0.75
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.57

Maximum Dry Density	Mg/m³	**1.72**
Optimum Moisture Content	%	**18**

Remarks

NMC = 19%

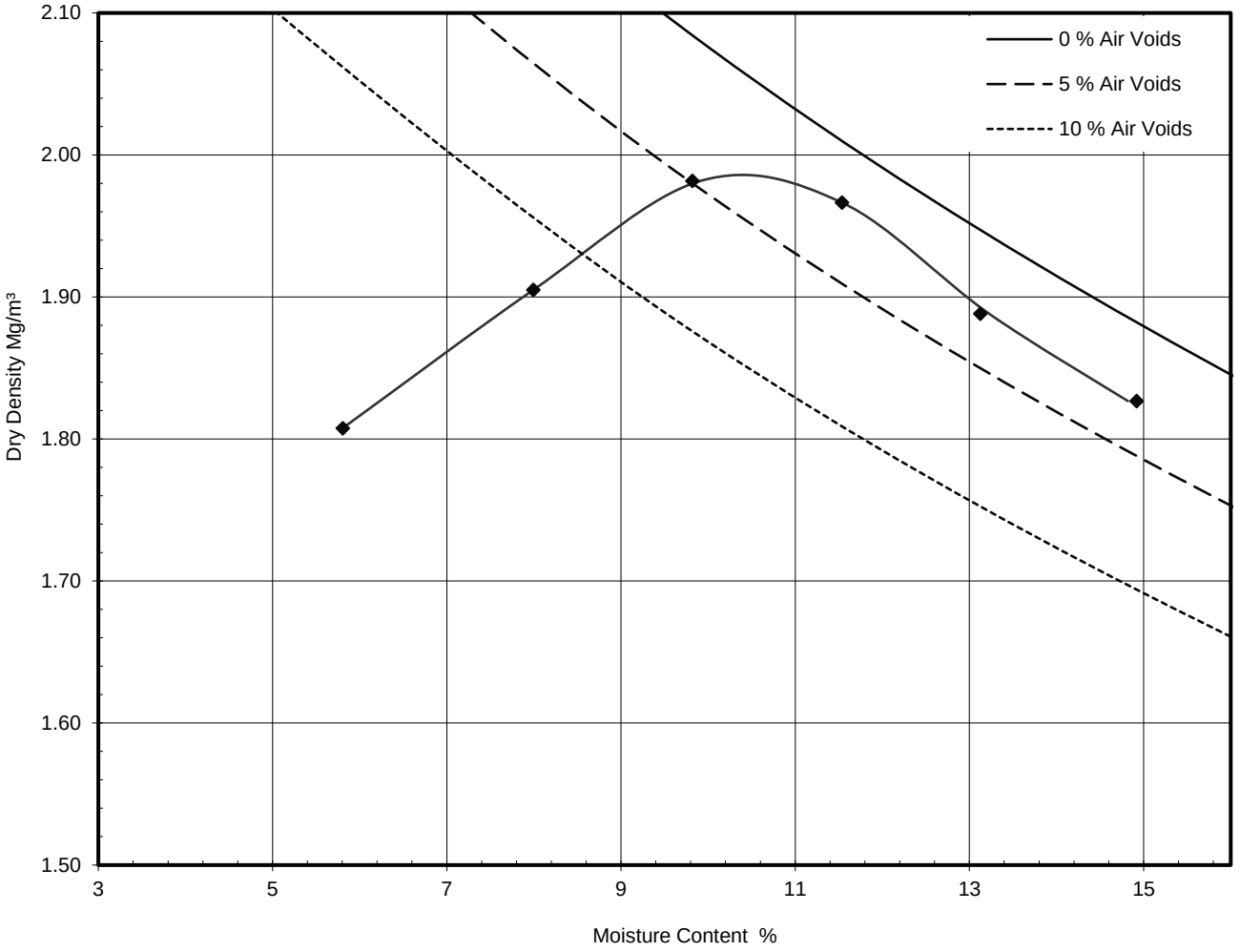
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB21
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly gravelly SAND	Depth m	0.40 - 1.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.62

Maximum Dry Density	Mg/m³	**1.99**

Optimum Moisture Content	%	**10**

Remarks

NMC = 3.9%

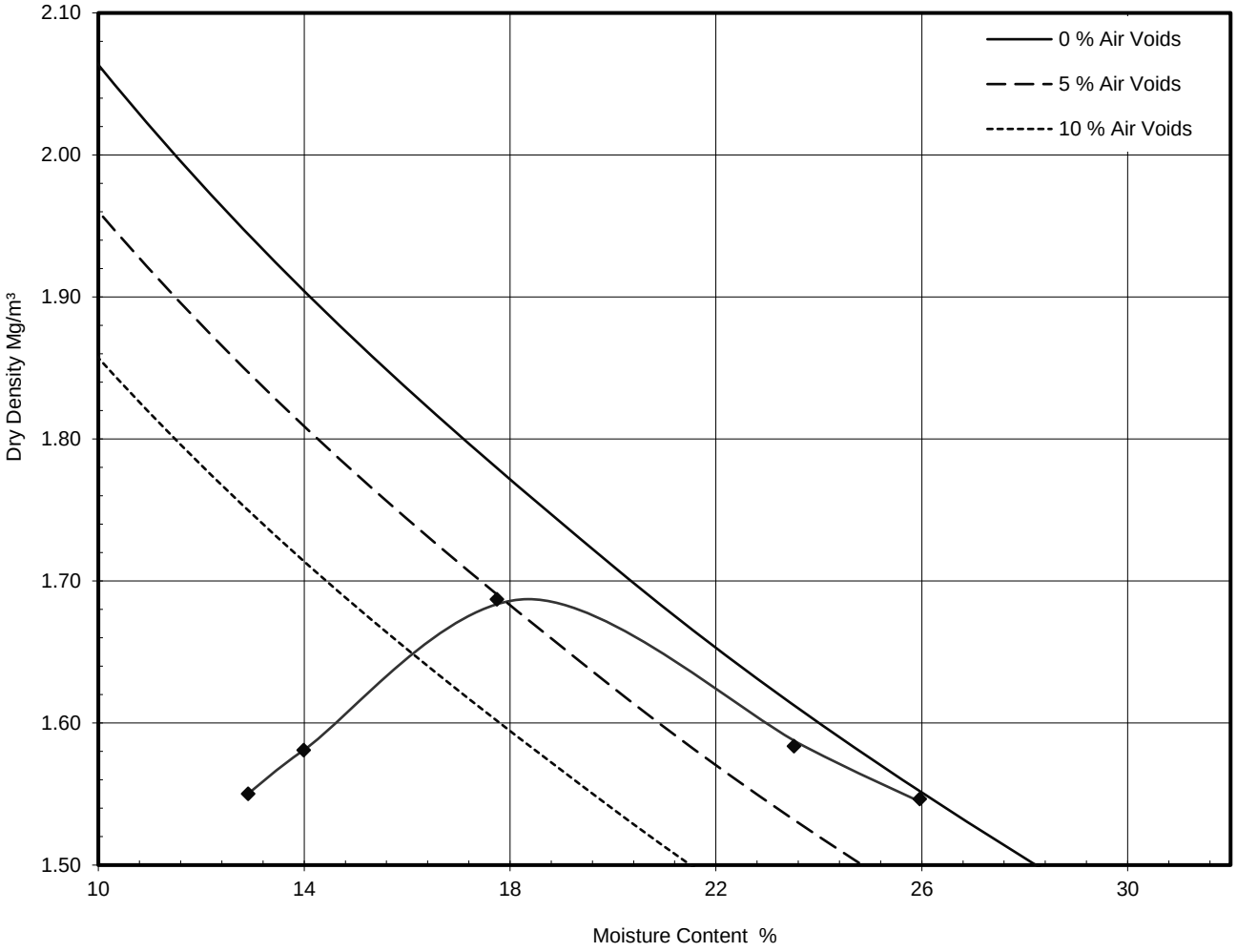
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB27
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Dark grey mottled brown slightly sandy slightly gravelly CLAY	Depth m	1.50 - 2.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	3
Material Retained on 20.0 mm Sieve	%	5
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.69**

Optimum Moisture Content	%	**18**

Remarks

NMC = 19%

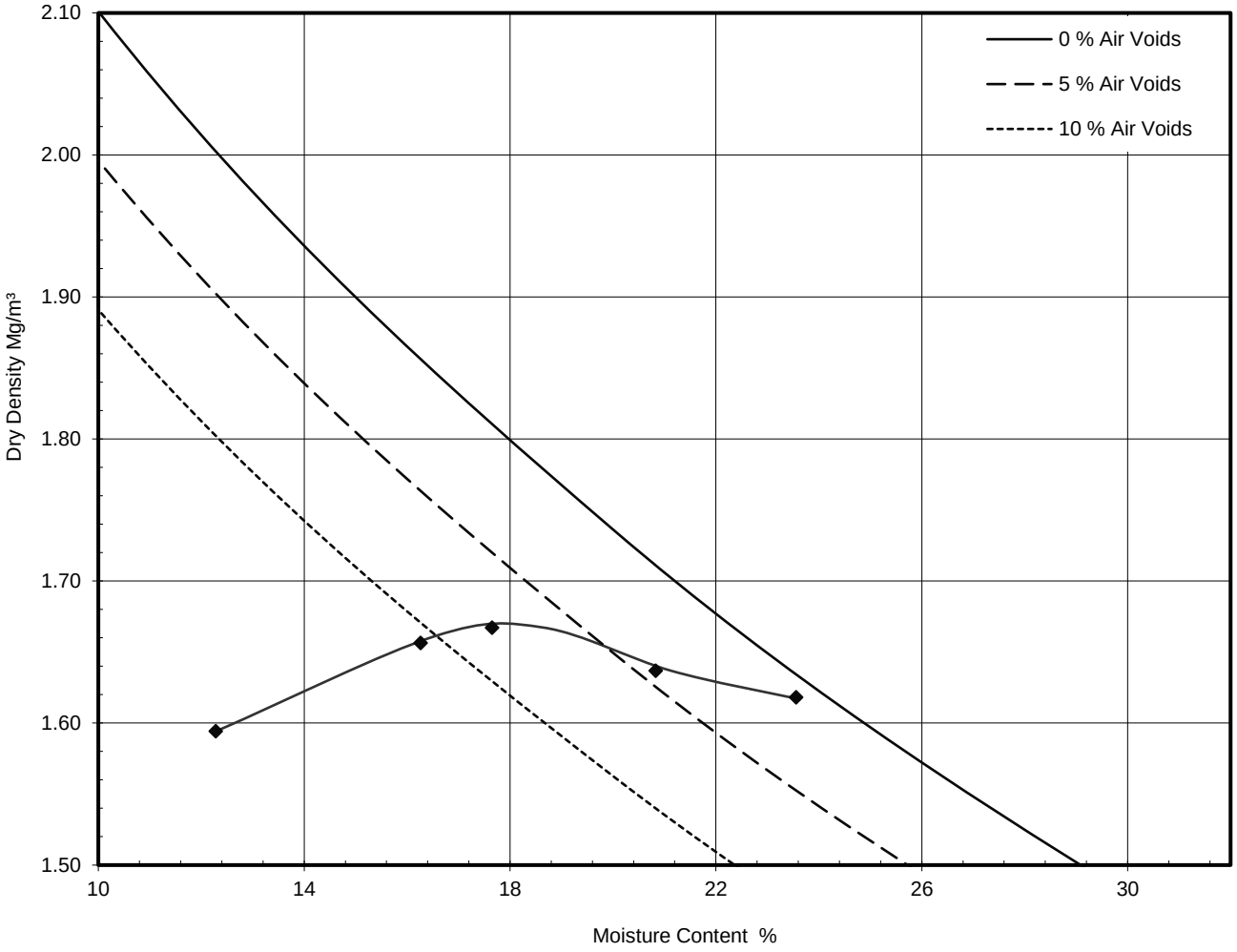
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB29
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Light brown slightly gravelly slightly clayey SAND	Depth m	1.00 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.66

Maximum Dry Density	Mg/m³	**1.67**
Optimum Moisture Content	%	**18**

Remarks

NMC = 3.0%

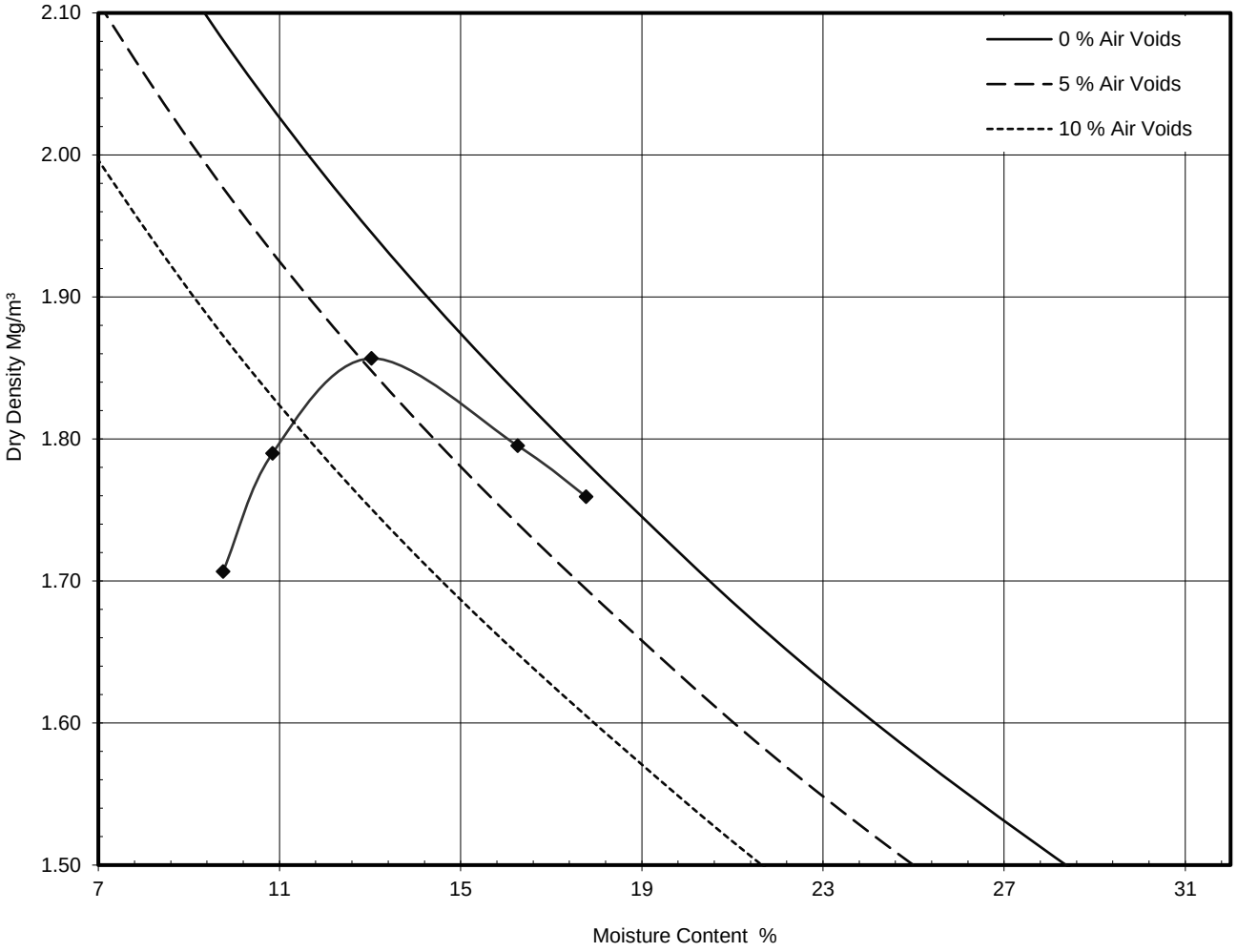
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB31
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Dark brown gravelly SAND	Depth m	0.40 - 1.30
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		CBR
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	5
Material Retained on 20.0 mm Sieve	%	6
Particle Density - Measured using small pyknometer	Mg/m³	2.61

Maximum Dry Density	Mg/m³	**1.86**

Optimum Moisture Content	%	**13**

Remarks

NMC = 6.7%

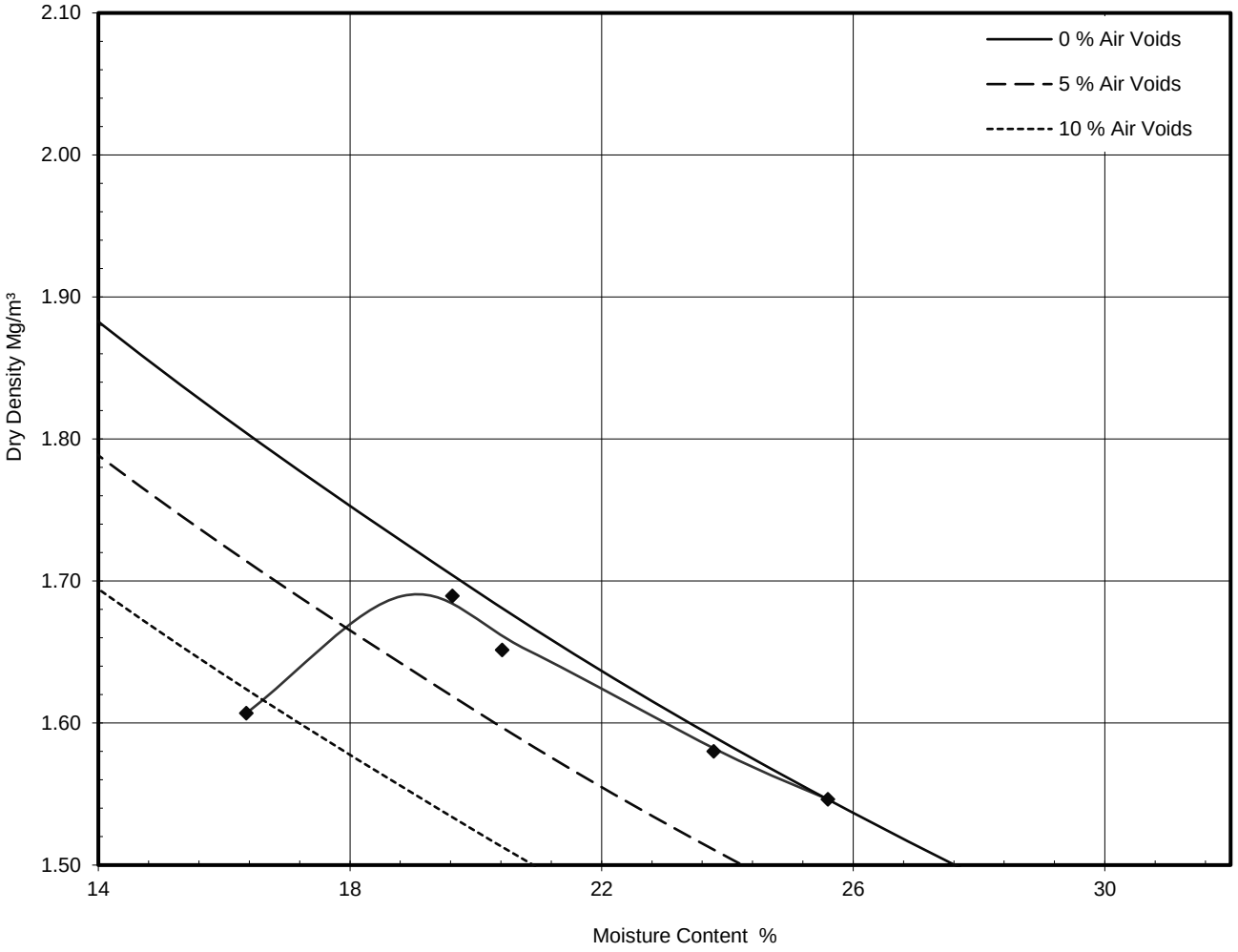
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPB33
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	0.40 - 1.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.56

Maximum Dry Density	Mg/m³	**1.69**
Optimum Moisture Content	%	**19**

Remarks

NMC = 16%

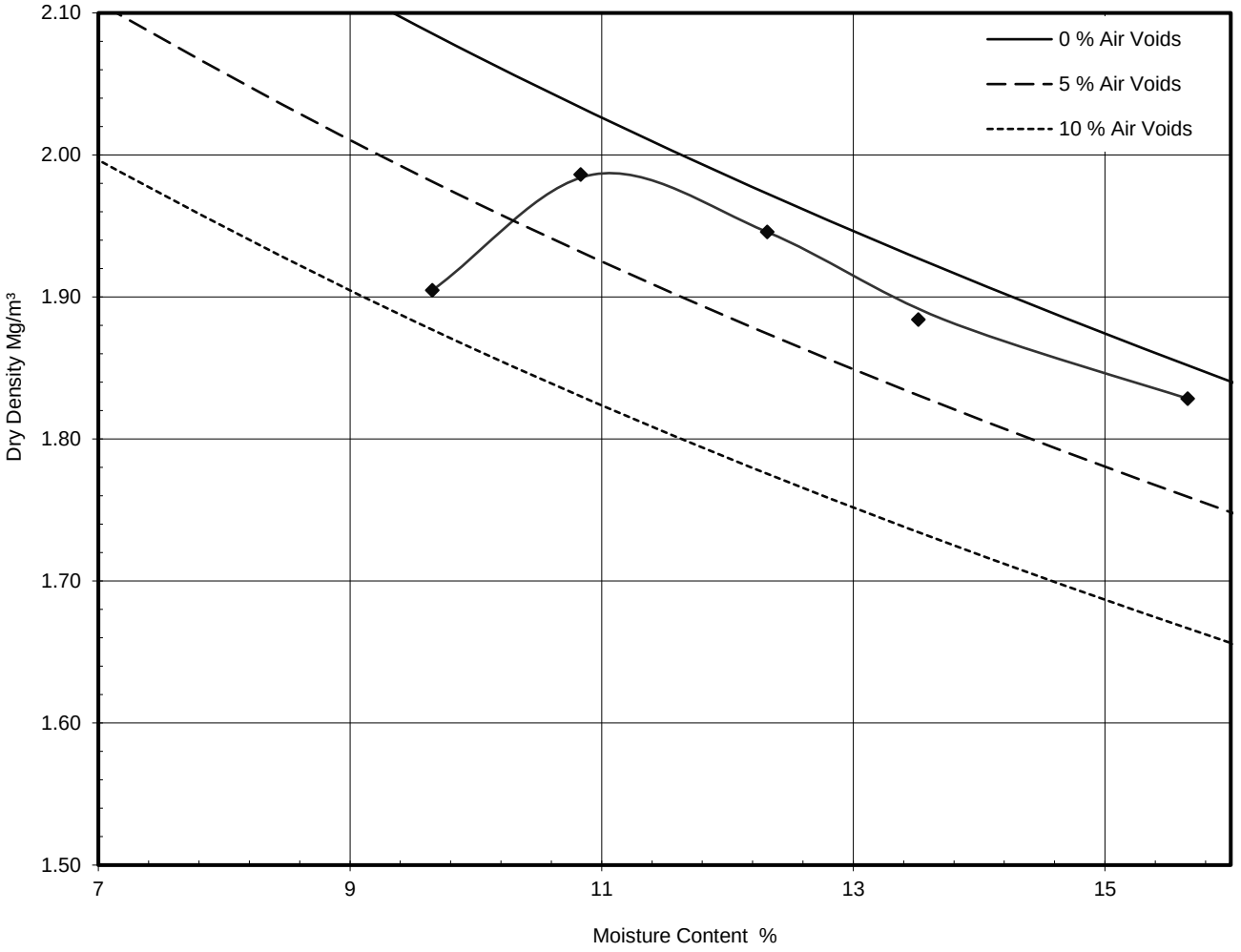
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC01
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly gravelly SAND with clay pockets	Depth m	0.40 - 1.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



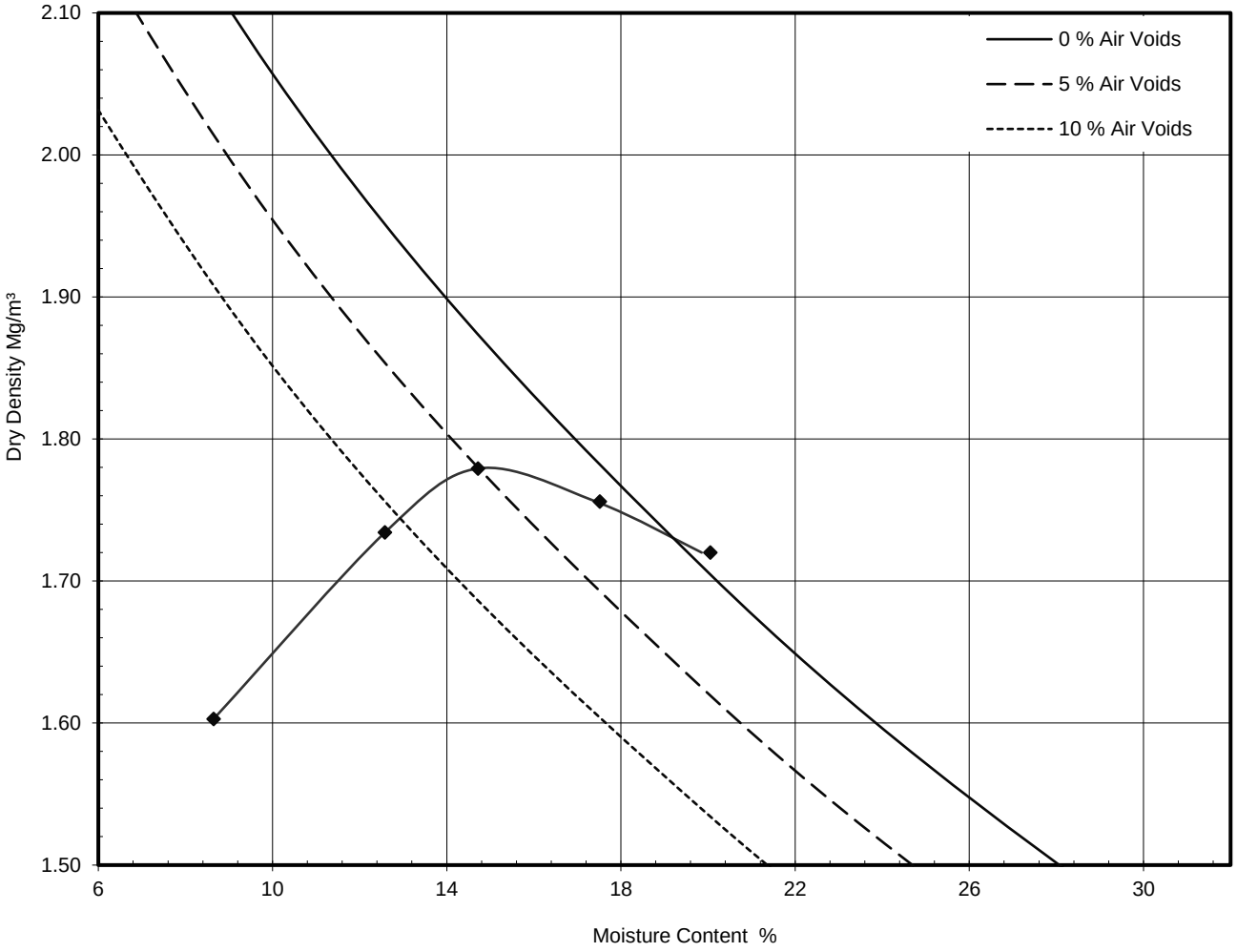
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.61

Maximum Dry Density	Mg/m³	**1.99**

Optimum Moisture Content	%	**11**

Remarks	Printed	
NMC = 9.7%	22/01/2025	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC03
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	1.40 - 2.00
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.59

Maximum Dry Density	Mg/m³	**1.78**

Optimum Moisture Content	%	**15**

Remarks

NMC = 18%

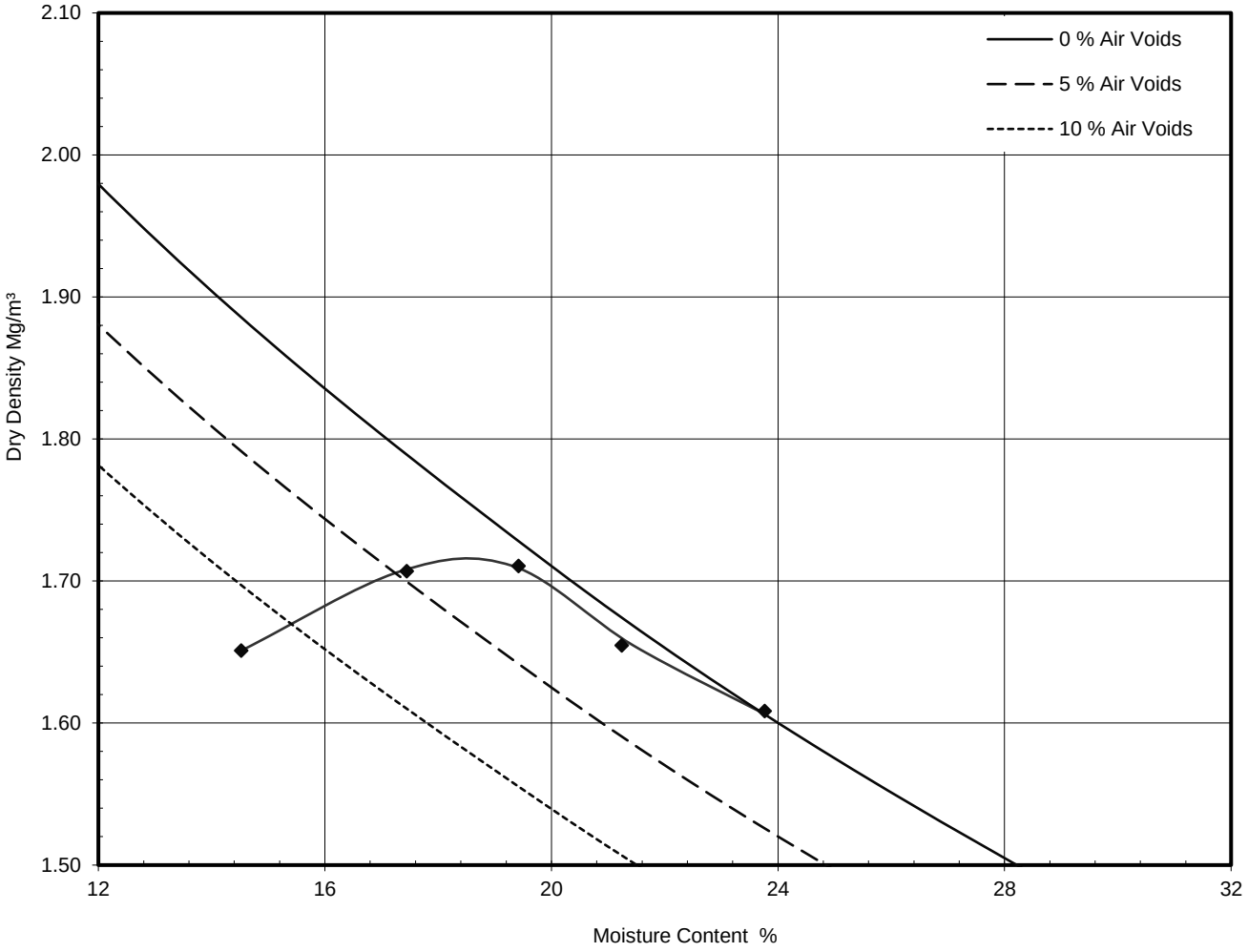
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC05
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY	Depth m	0.70 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.72**

Optimum Moisture Content	%	**19**

Remarks

NMC = 19%

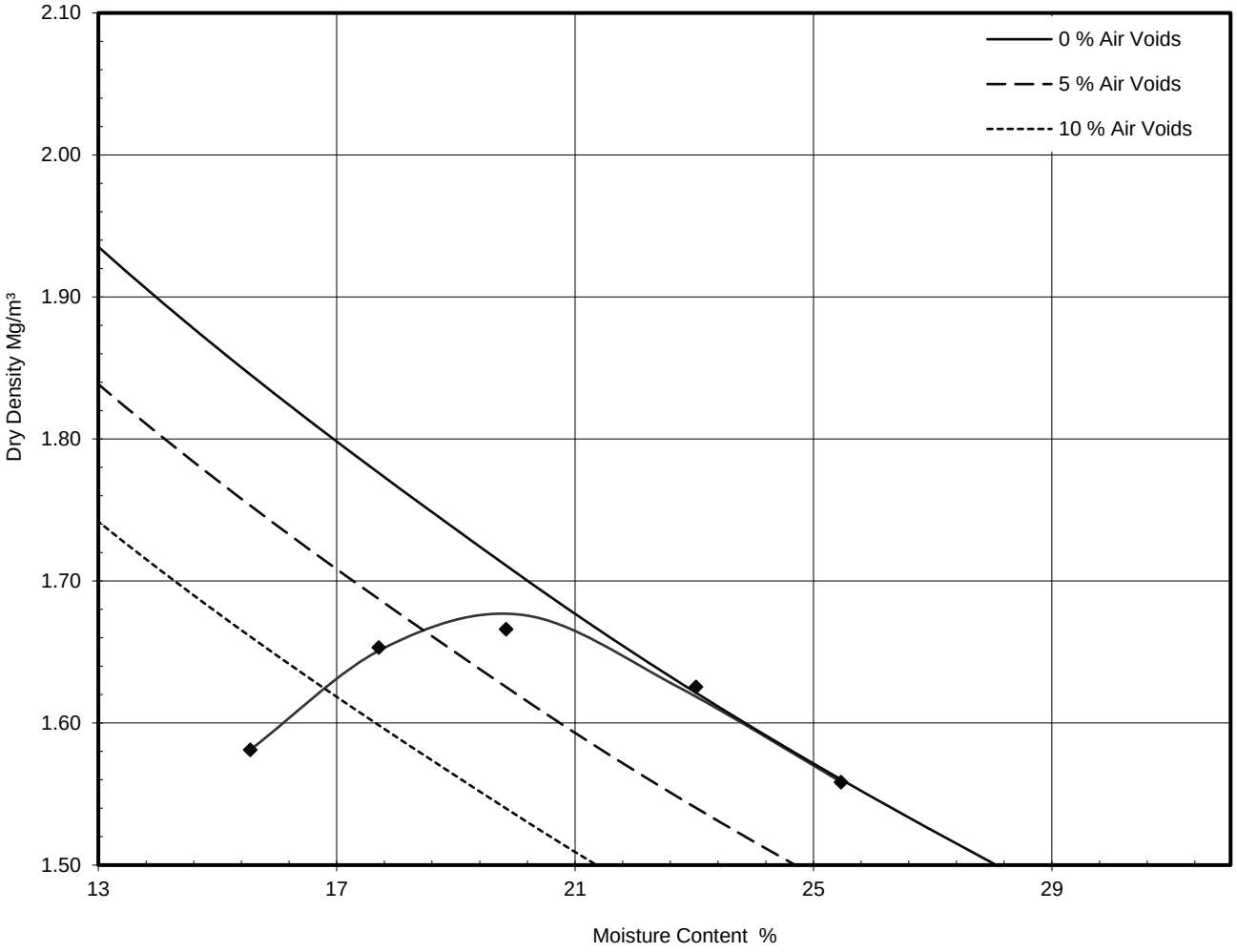
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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC07
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brownish grey slightly sandy slightly gravelly CLAY	Depth m	1.20 - 2.20
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.59

Maximum Dry Density	Mg/m³	**1.68**

Optimum Moisture Content	%	**20**

Remarks

NMC = 20%

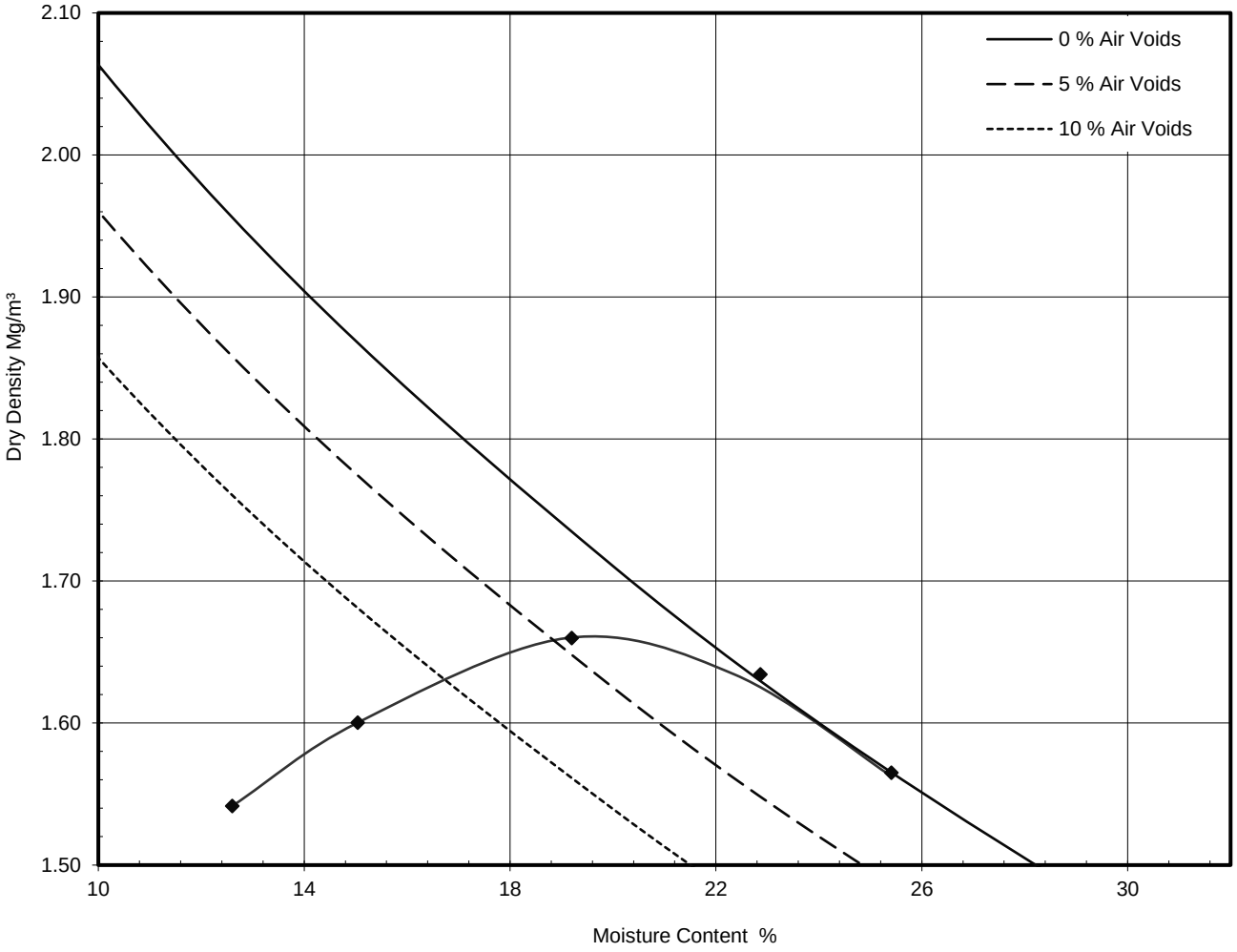
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC09
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	1.00 - 1.90
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.66**

Optimum Moisture Content	%	**20**

Remarks

NMC = 23%

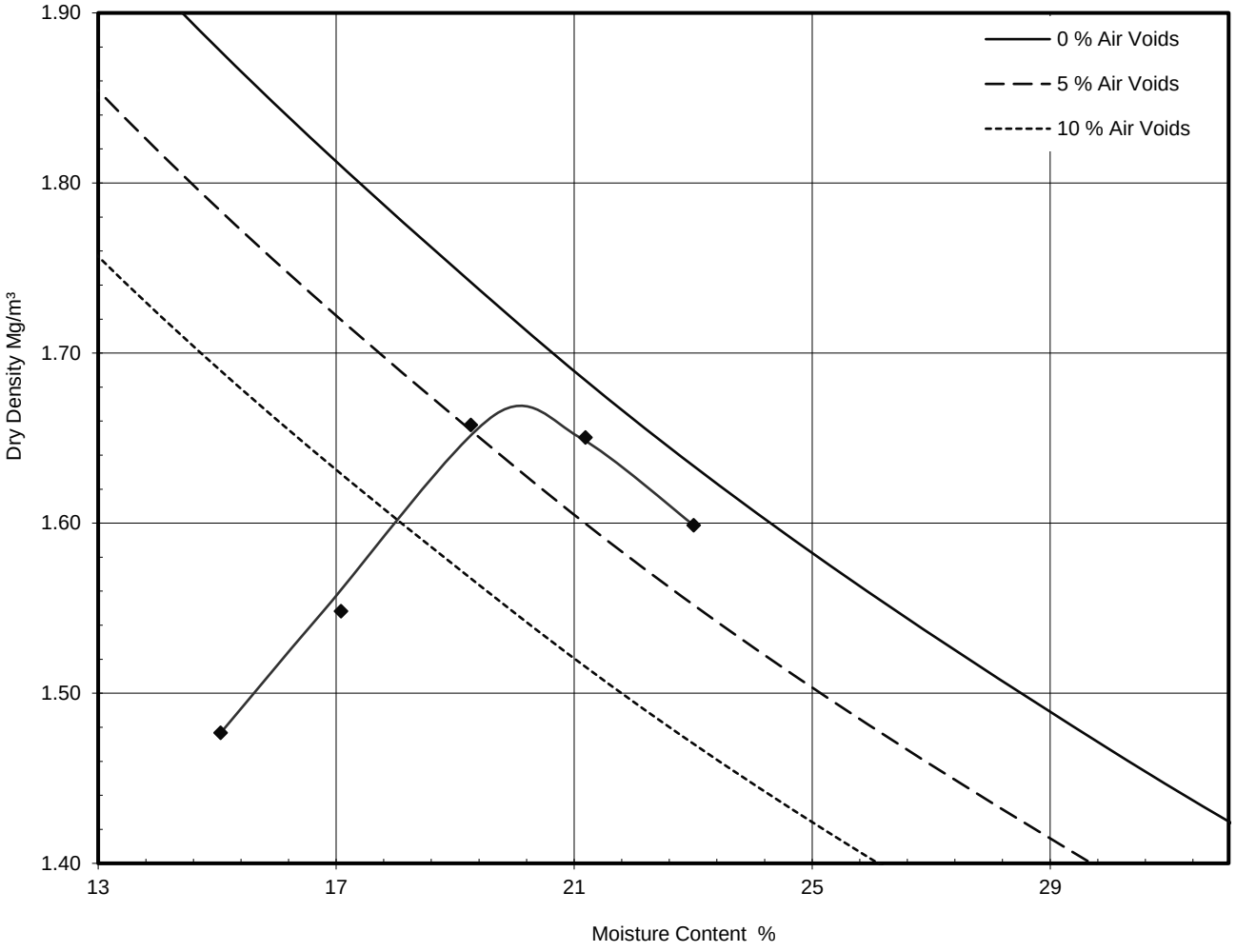
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC11
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	0.60 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.62

Maximum Dry Density	Mg/m³	**1.67**

Optimum Moisture Content	%	**20**

Remarks

NMC = 17%

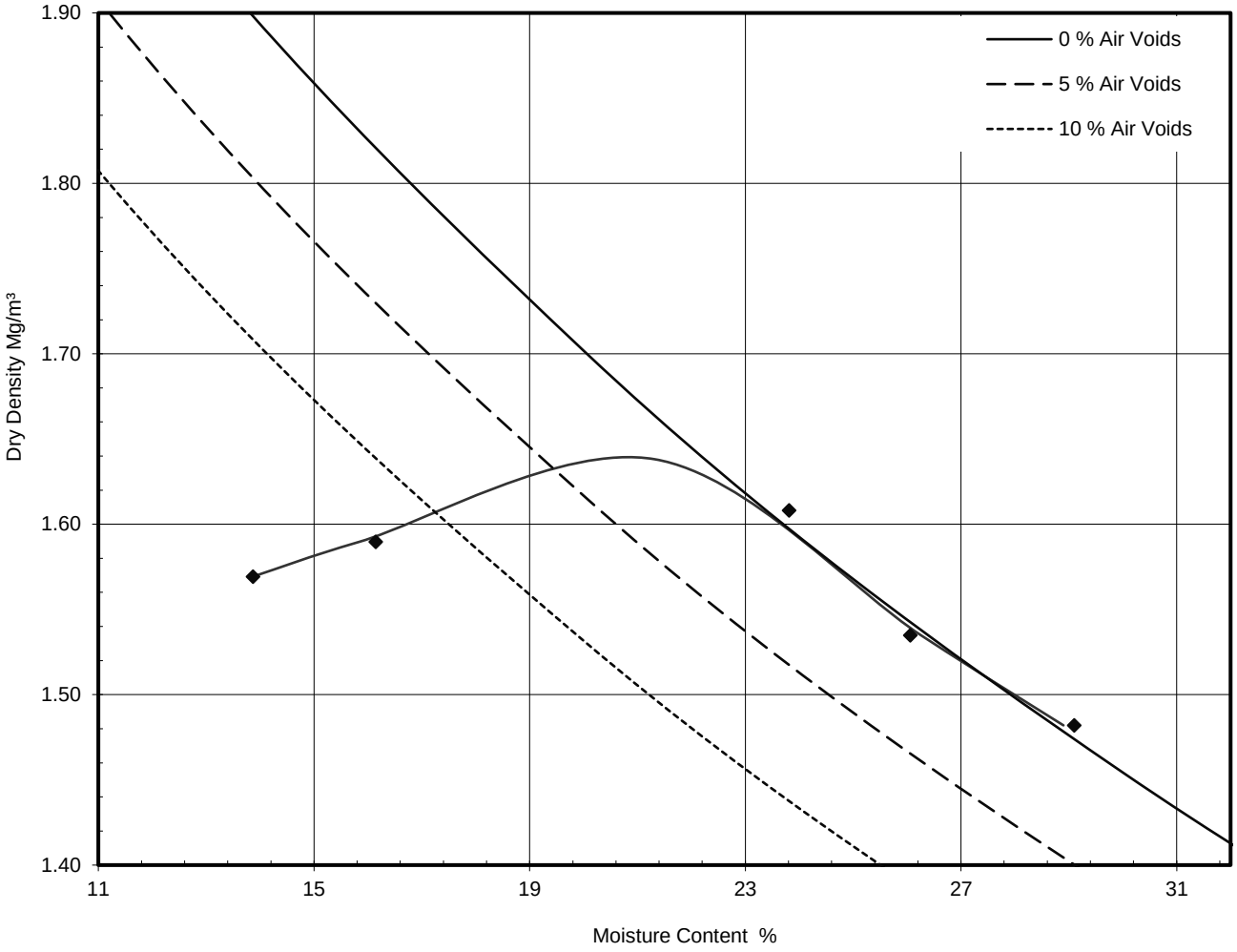
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC13
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY	Depth m	1.50 - 2.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using small pyknometer	Mg/m³	2.58

Maximum Dry Density	Mg/m³	**1.64**

Optimum Moisture Content	%	**21**

Remarks

NMC = 21%

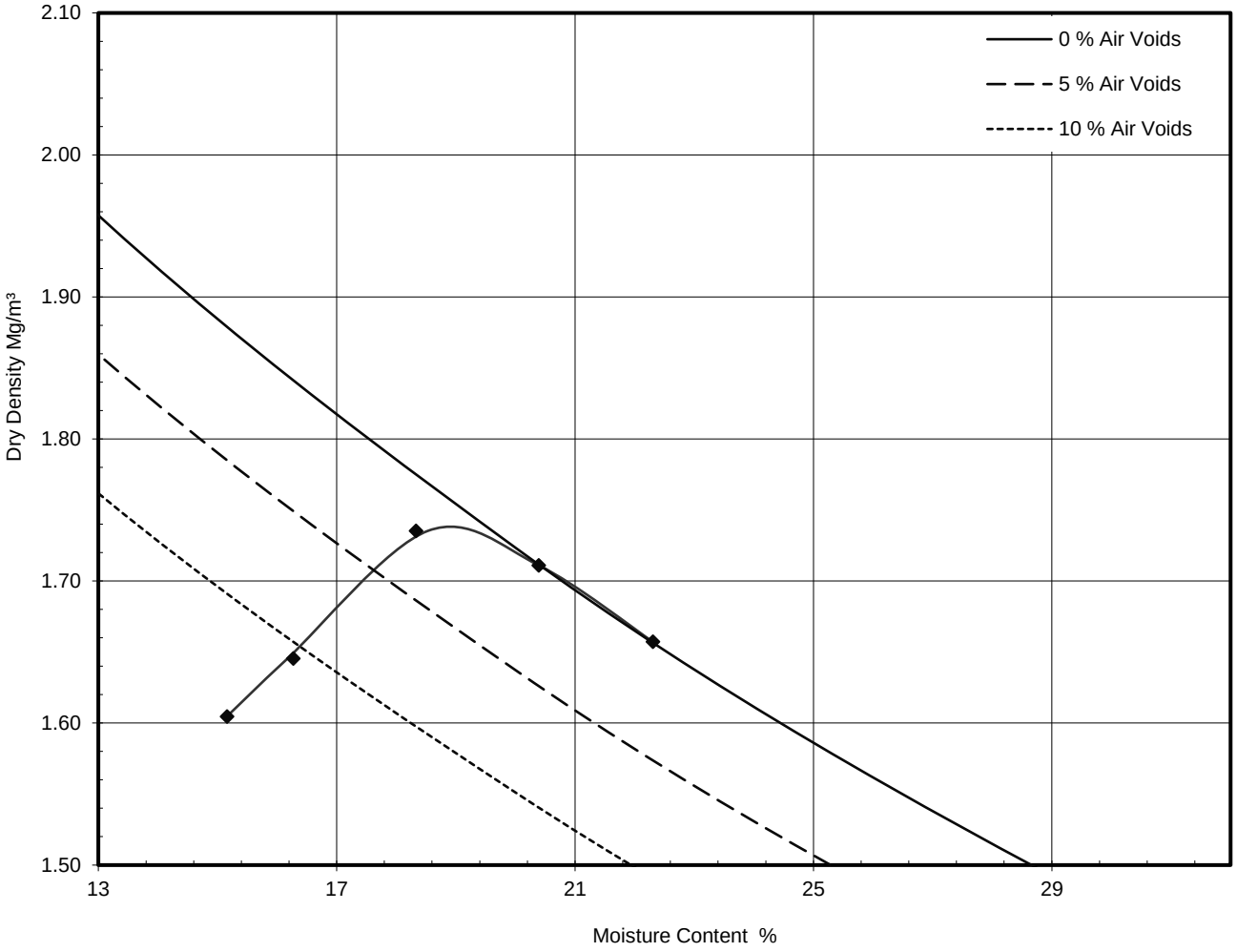
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC15
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Grey mottled brown slightly gravelly CLAY	Depth m	1.20 - 2.20
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.74**
Optimum Moisture Content	%	**19**

Remarks

NMC = 16%

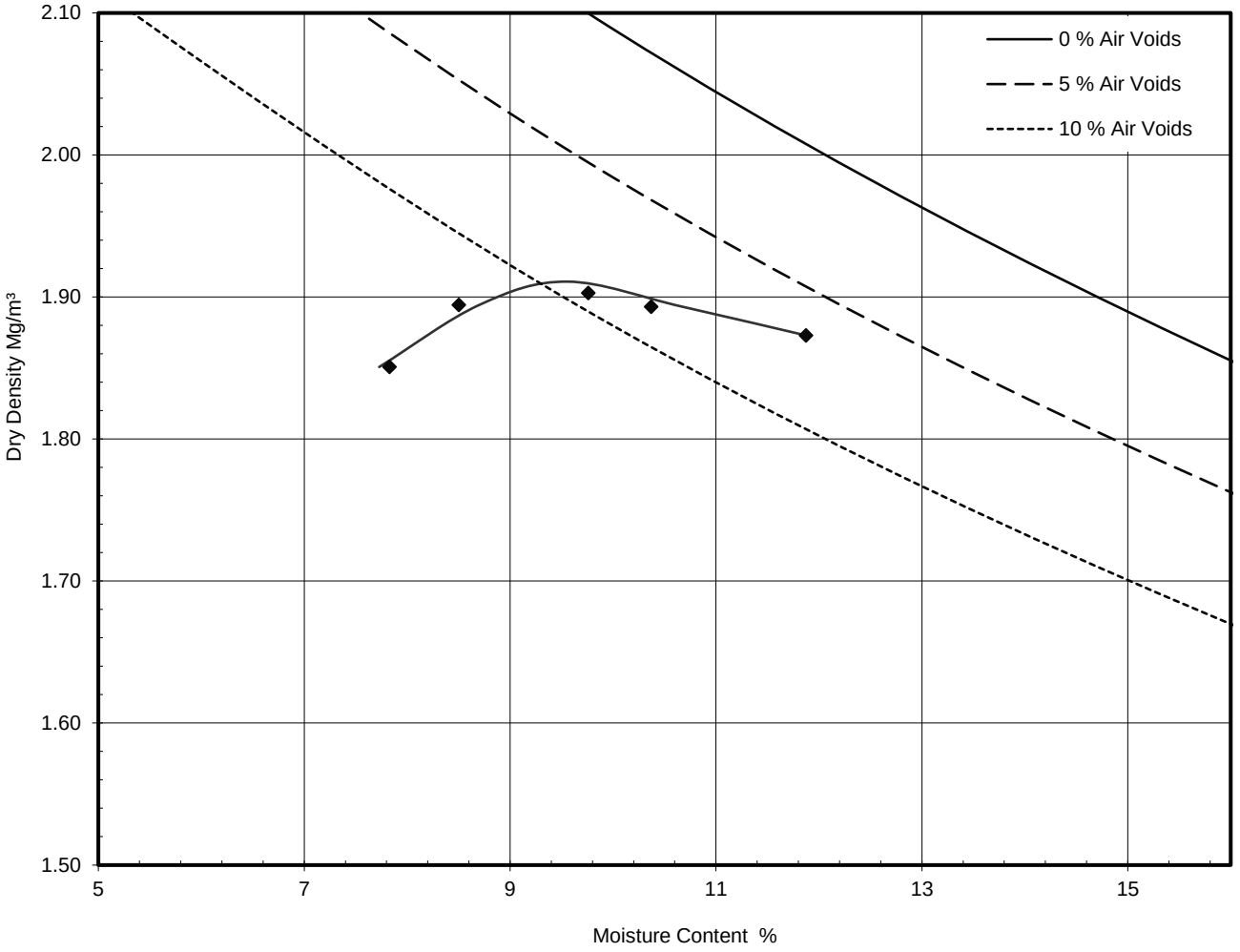
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC17
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown gravelly clayey SAND	Depth m	1.10 - 1.70
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.64

Maximum Dry Density	Mg/m³	**1.91**
Optimum Moisture Content	%	**9.6**

Remarks

NMC = 6.3%

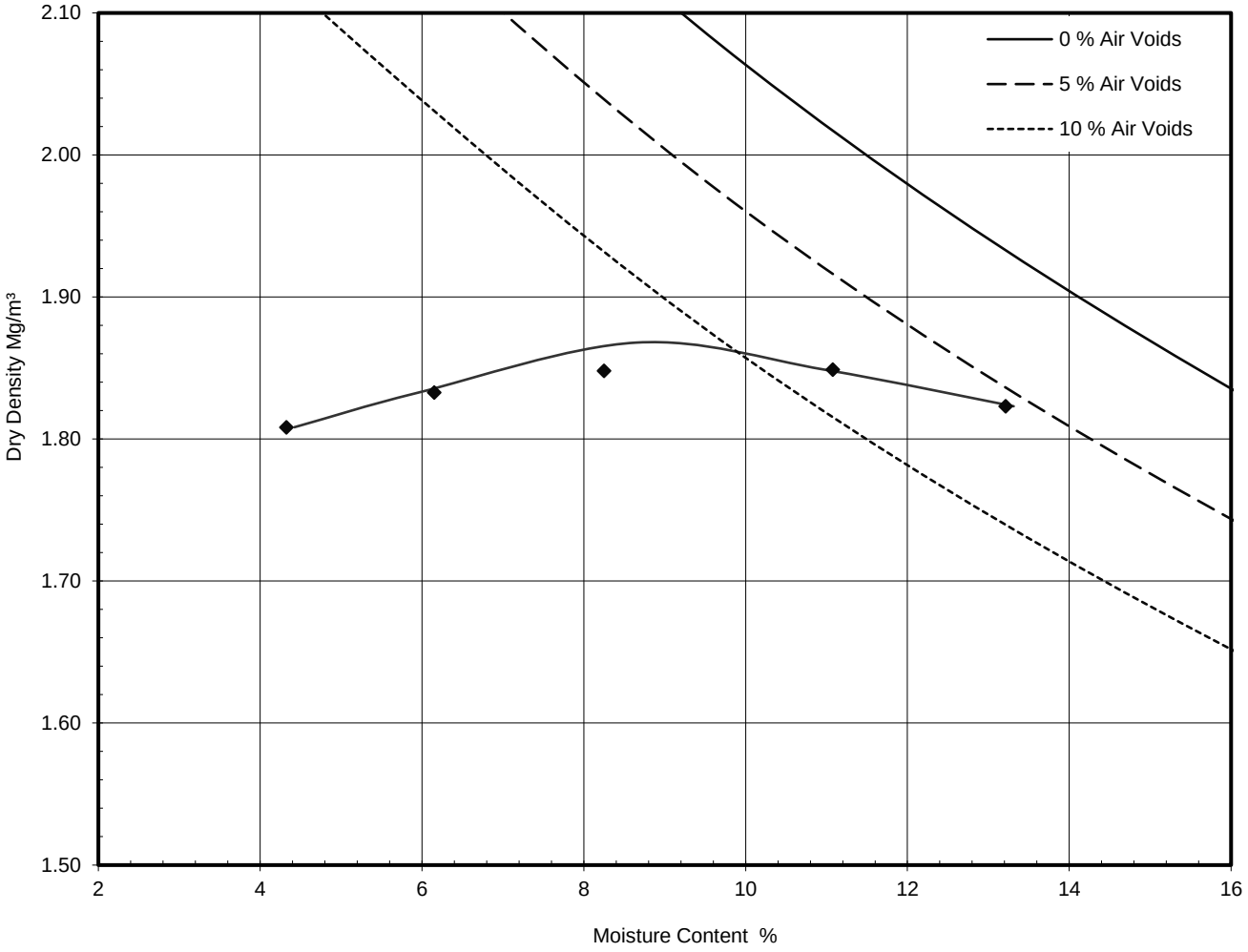
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC248770
		Hole Number	TPC19
Project Name	LionLink - Cable Route	Sample Number	
Specimen Description	Brown gravelly slightly clayey SAND	Depth m	1.60 - 2.20
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.87**

Optimum Moisture Content	%	**8.8**

Remarks

NMC = 11%

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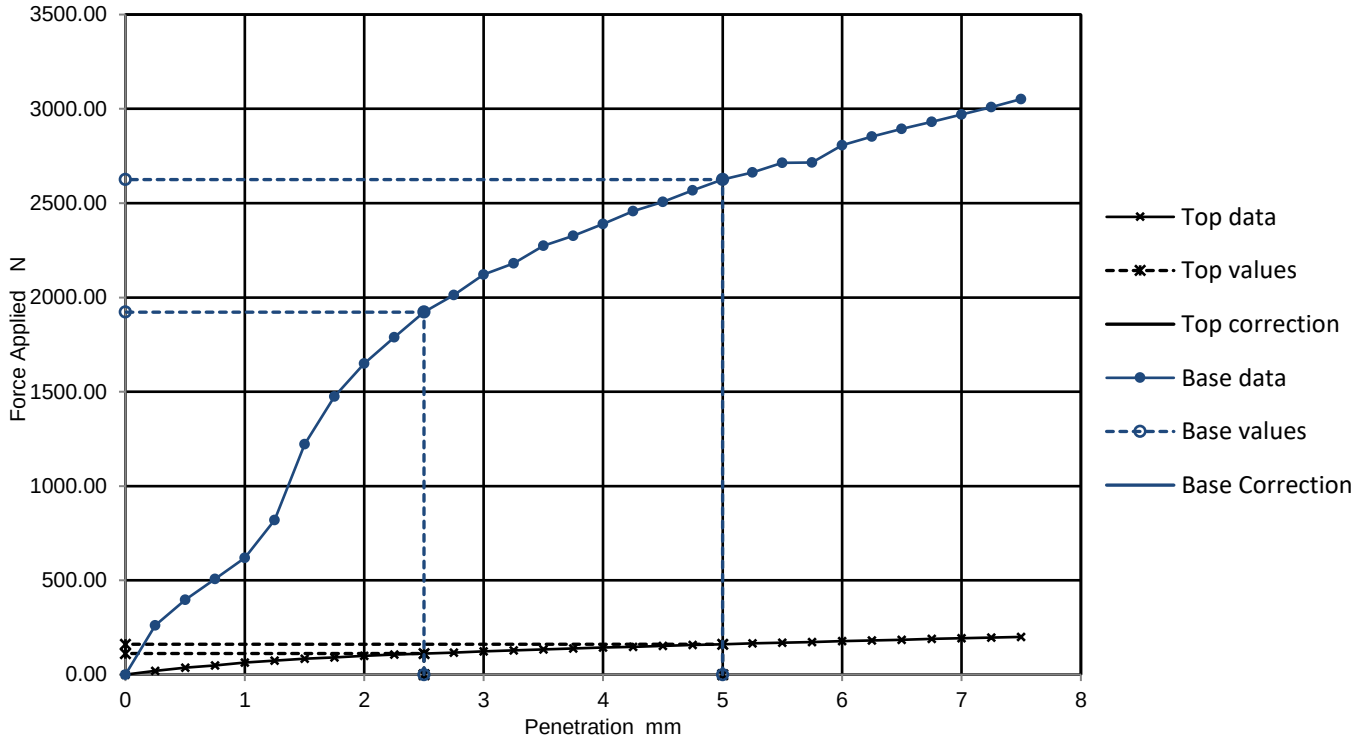
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB02
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.30 - 0.90
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	16	days
			Time to surface	4	days
			Amount of swell recorded	11.63	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.85	Mg/m3
Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.89	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	14.9	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	0.9	0.8	0.9		20.6
BASE	No	15.0	13.0	15.0		13.9

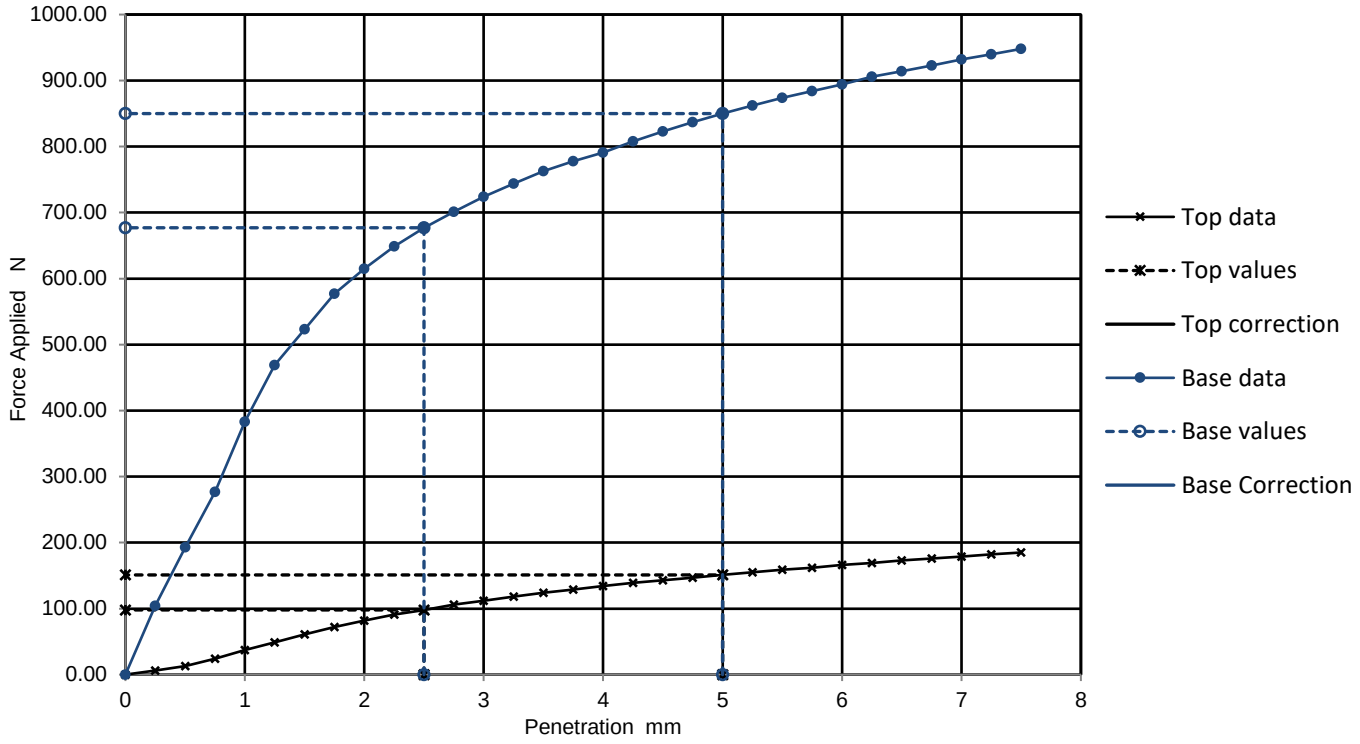
Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB04
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.20 - 1.20
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	16	days
			Time to surface	4	days
			Amount of swell recorded	6.81	mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	1.66	Mg/m3
Initial Specimen details	Bulk density	2.04	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.69	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	20.5	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	0.7	0.8	0.8		25.6
BASE	No	5.1	4.3	5.1		20.2

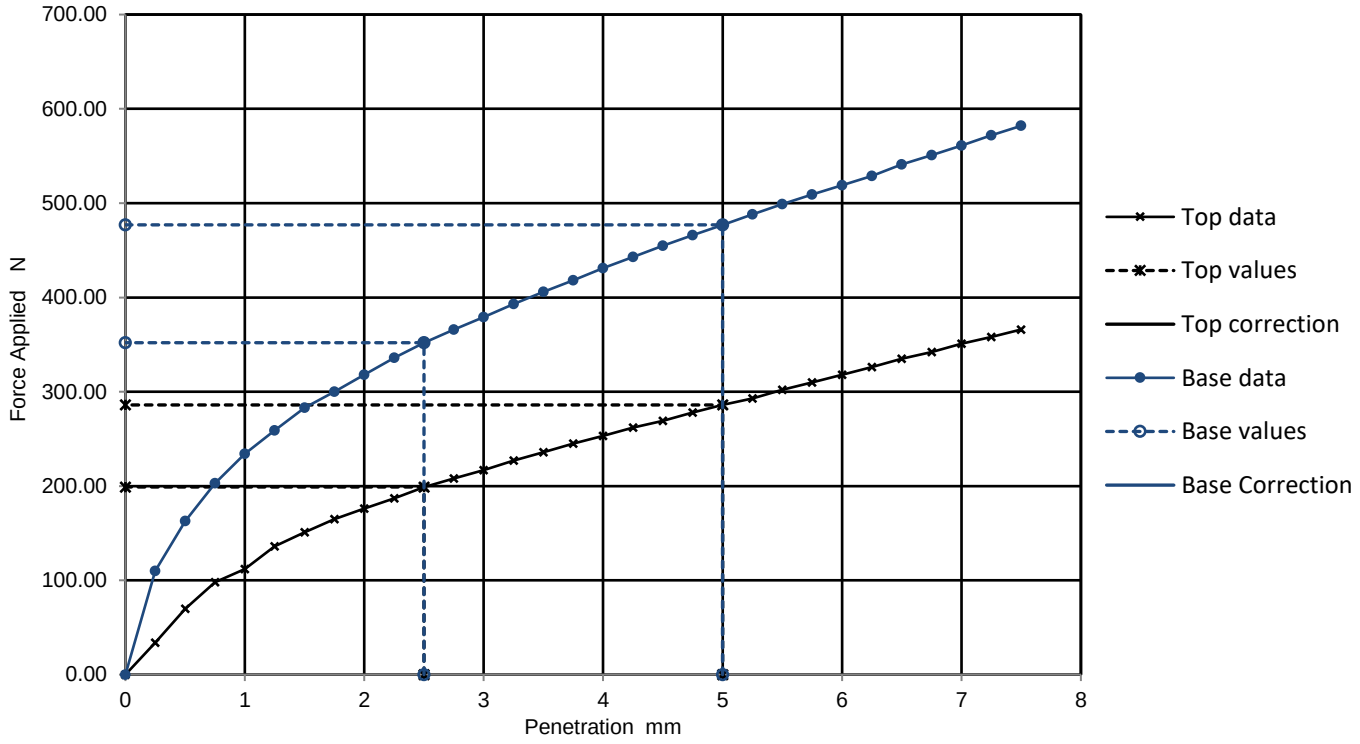
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB06
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.25 - 0.75
Specimen Description	Brown slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	16	days
			Time to surface	4	days
			Amount of swell recorded	8.30	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.68	Mg/m3
Initial Specimen details	Bulk density	2.01	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.73	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	16.4	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.5	1.4	1.5		19.6
BASE	No	2.7	2.4	2.7		19.0

Remarks	Test Specific Remarks	Printed
		22/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

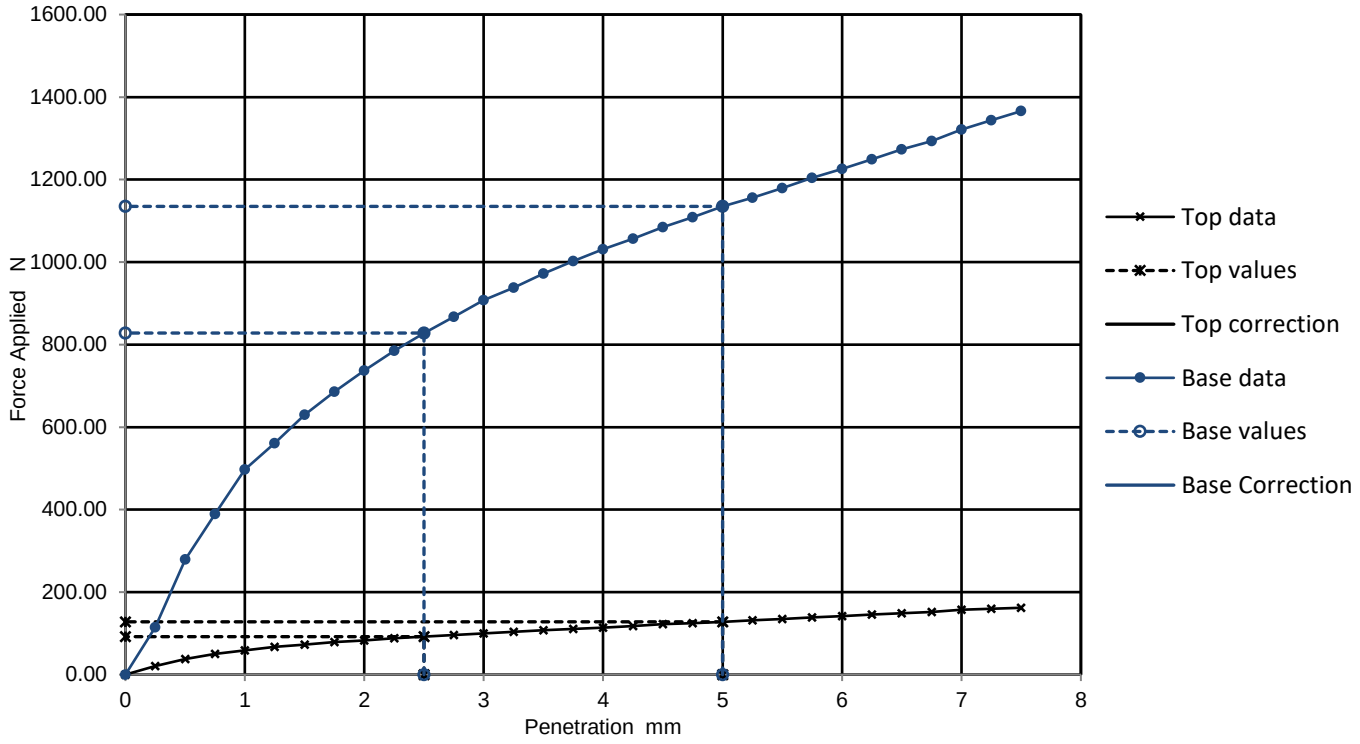
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GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB08
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.75 - 1.00
Specimen Description	Dark grey slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	21	days
			Time to surface	4	days
			Amount of swell recorded	12.42	mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.74	Mg/m3
Initial Specimen details	Bulk density	2.10	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.81	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	16.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.7	0.6	0.7		22.8
BASE	No	6.3	5.7	6.3		19.0

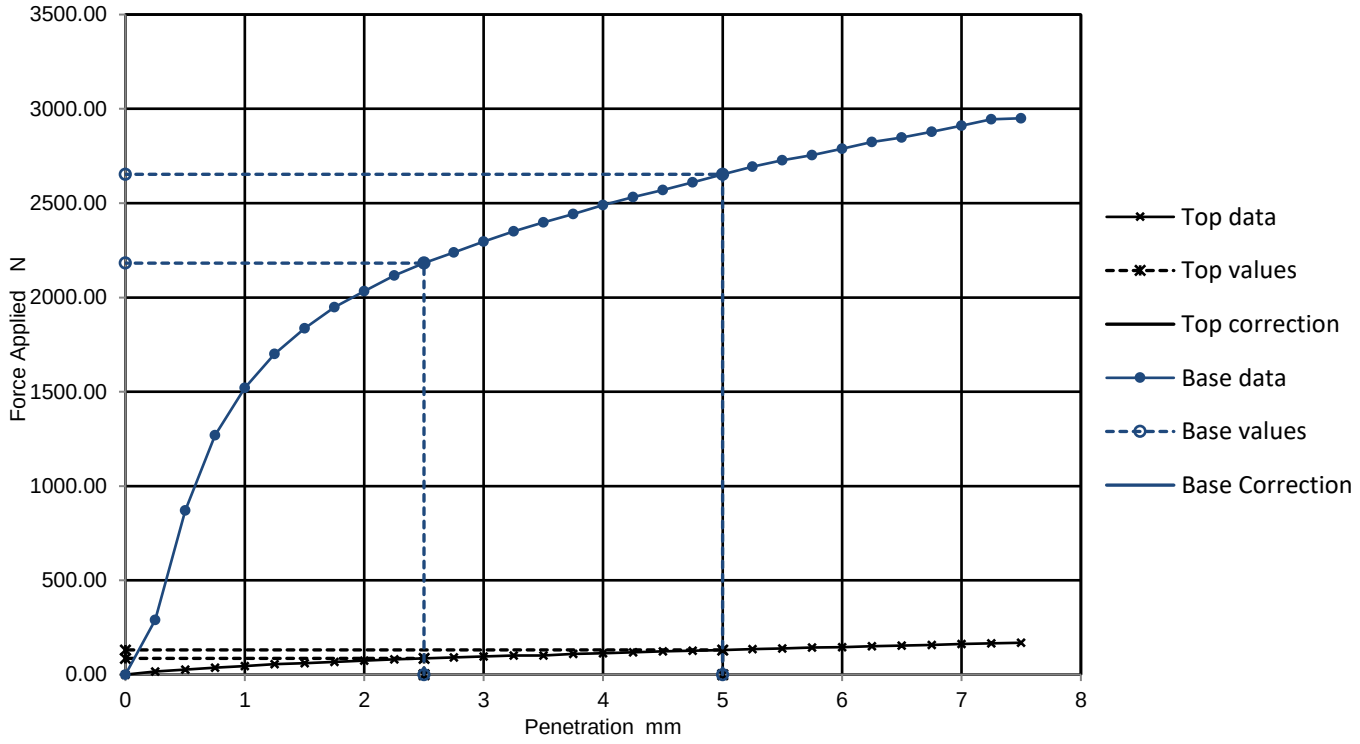
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB10
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.30 - 0.70
Specimen Description	Brown slightly sandy gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	16	days
			Time to surface	4	days
			Amount of swell recorded	14.15	mm
Material retained on 20mm sieve removed	26	%	Dry density after soaking	1.84	Mg/m3
Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.91	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	13.7	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.7	0.7	0.7		20.9
BASE	No	17.0	13.0	17.0		14.6

Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365

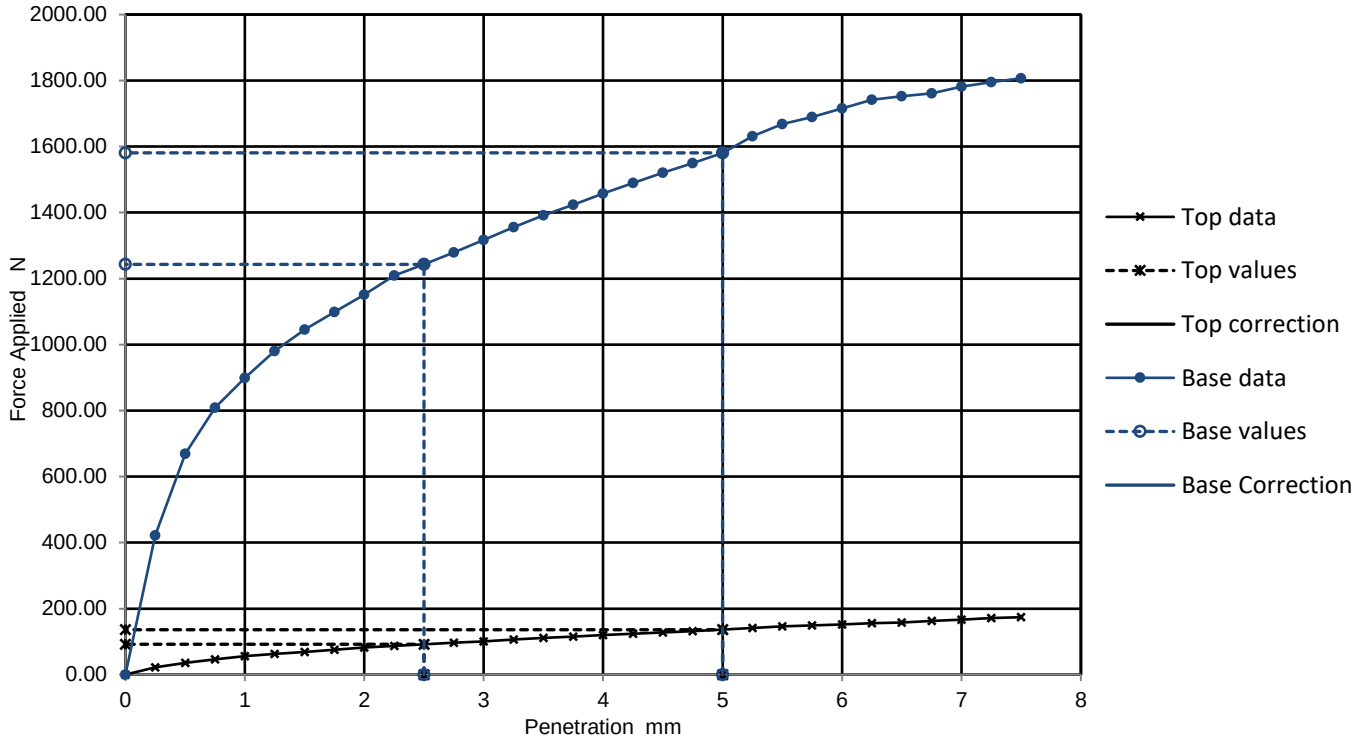
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB12
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.35 - 0.75
Specimen Description	Brown slightly sandy slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	17	days
			Time to surface	4	days
			Amount of swell recorded	11.77	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.80	Mg/m3
Initial Specimen details	Bulk density	2.14	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.84	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	16.2	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.7	0.7	0.7		22.1
BASE	No	9.4	7.9	9.4		16.2

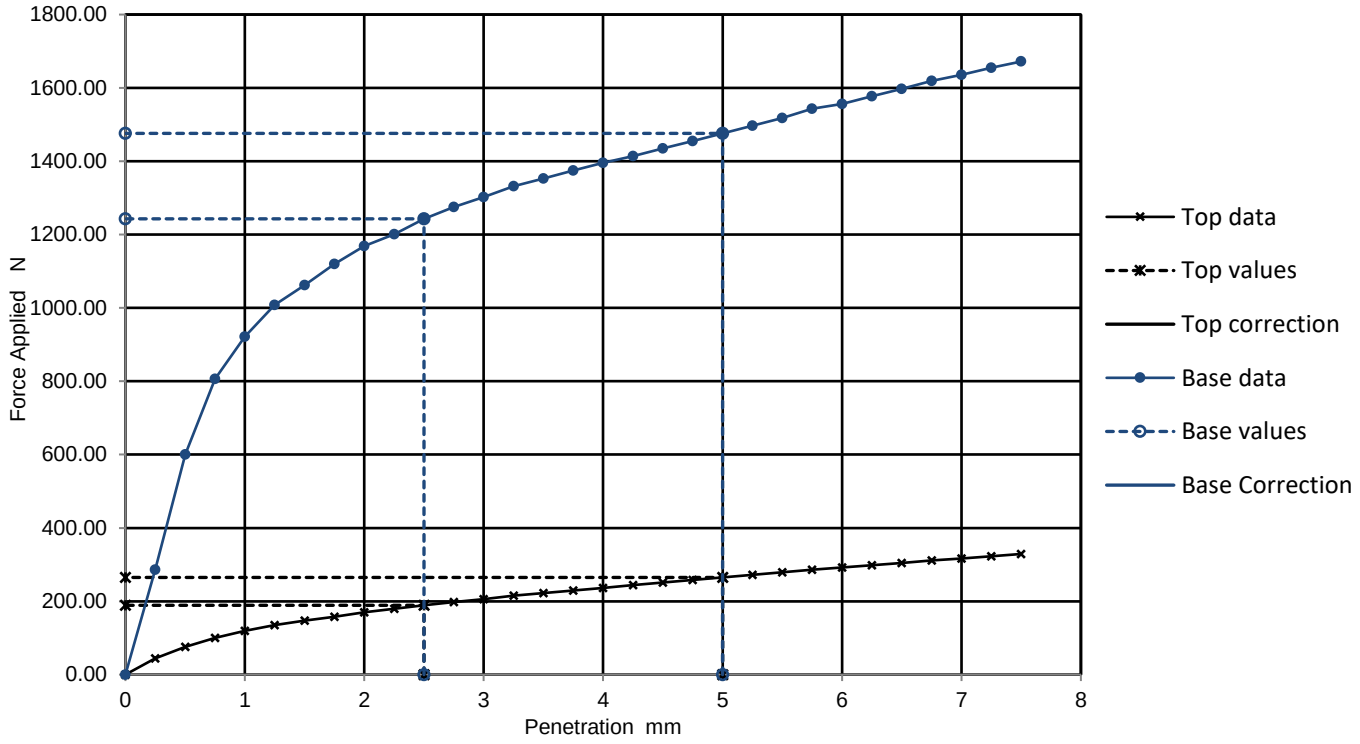
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB14
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.20 - 0.80
Specimen Description	Brown slightly sandy slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	20	days
			Time to surface	4	days
			Amount of swell recorded	6.21	mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.73	Mg/m3
Initial Specimen details	Bulk density	2.09	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.76	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	18.5	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.4	1.3	1.4		22.9
BASE	No	9.4	7.4	9.4		18.2

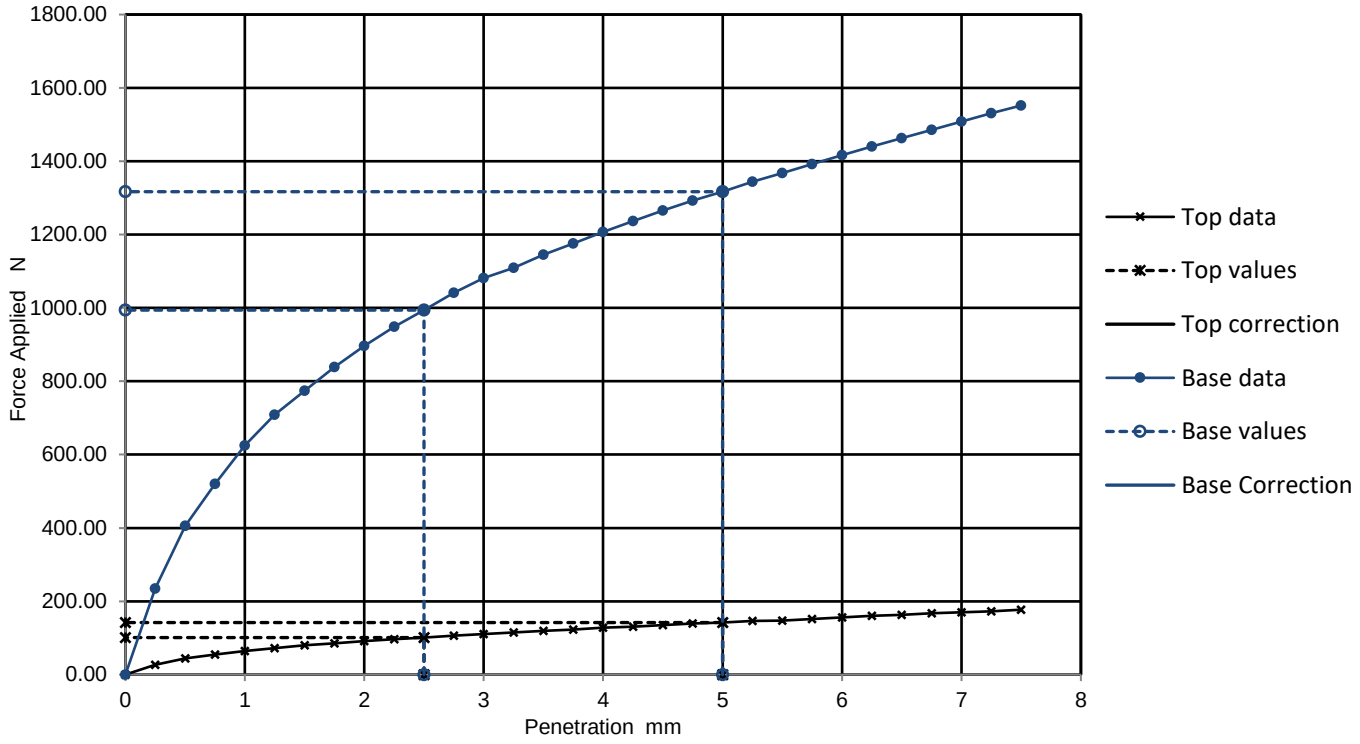
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB16
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.70 - 1.20
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	17	days
			Time to surface	4	days
			Amount of swell recorded	7.31	mm
Material retained on 20mm sieve removed	4	%	Dry density after soaking	1.73	Mg/m3
Initial Specimen details	Bulk density	2.09	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.76	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	18.5	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.8	0.7	0.8		22.9
BASE	No	7.5	6.6	7.5		19.0

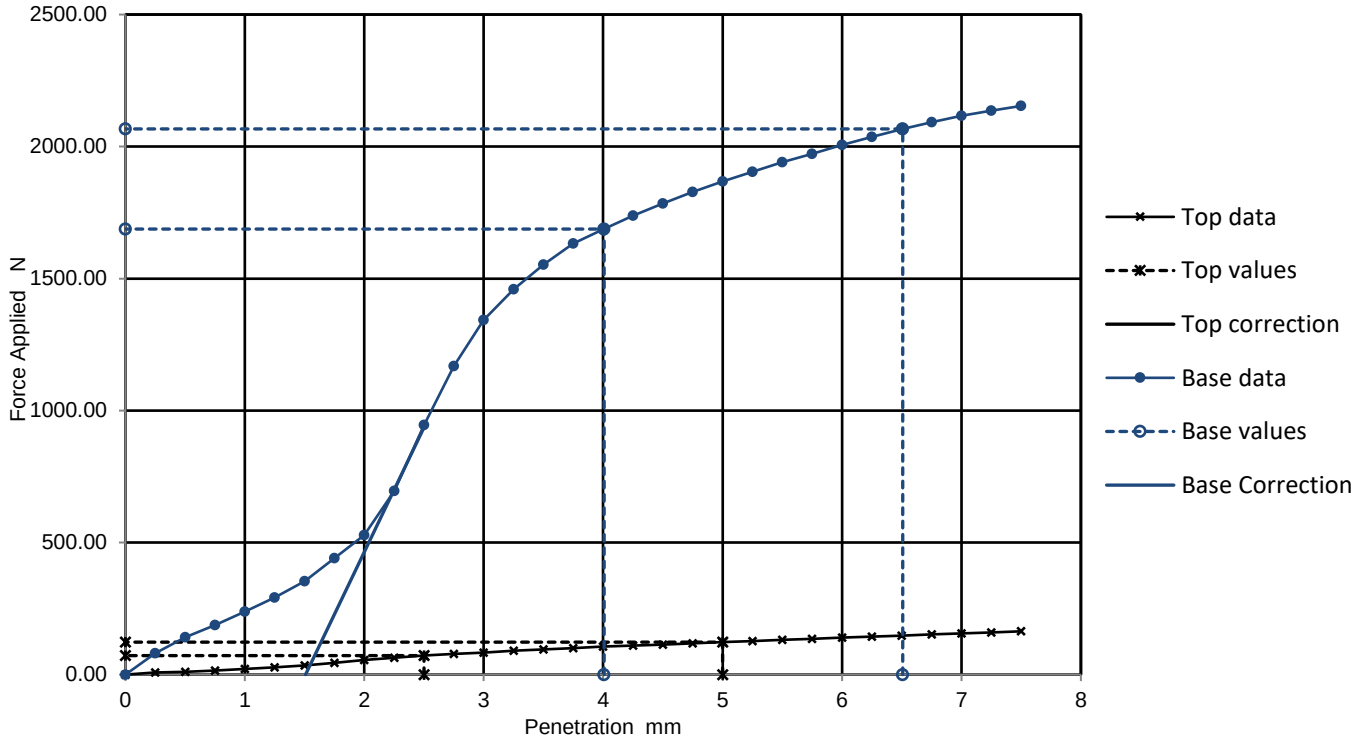
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB18
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.30 - 0.70
Specimen Description	Brown slightly sandy slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	27	days
			Time to surface	4	days
			Amount of swell recorded	13.23	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.78	Mg/m3
Initial Specimen details	Bulk density	2.15	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.82	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	18.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.6	0.6	0.6		23.7
BASE	Yes	13.0	10.0	13.0		17.3

Remarks	Test Specific Remarks	Printed
		22/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

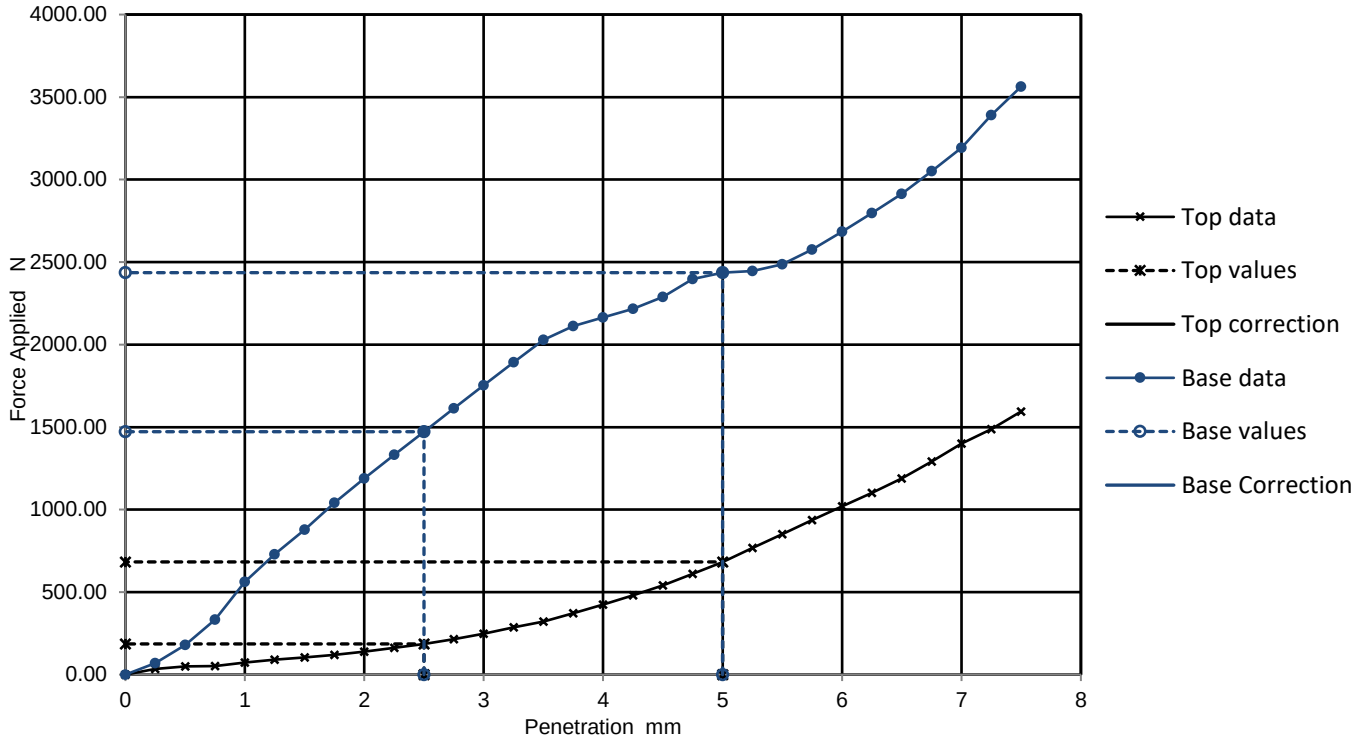
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GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB20
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.40 - 2.40
Specimen Description	Brown SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.68	Mg/m3
Initial Specimen details	Bulk density	1.76 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.68 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	1.4	3.4	3.4		4.8
BASE	No	11.0	12.0	12.0		4.6

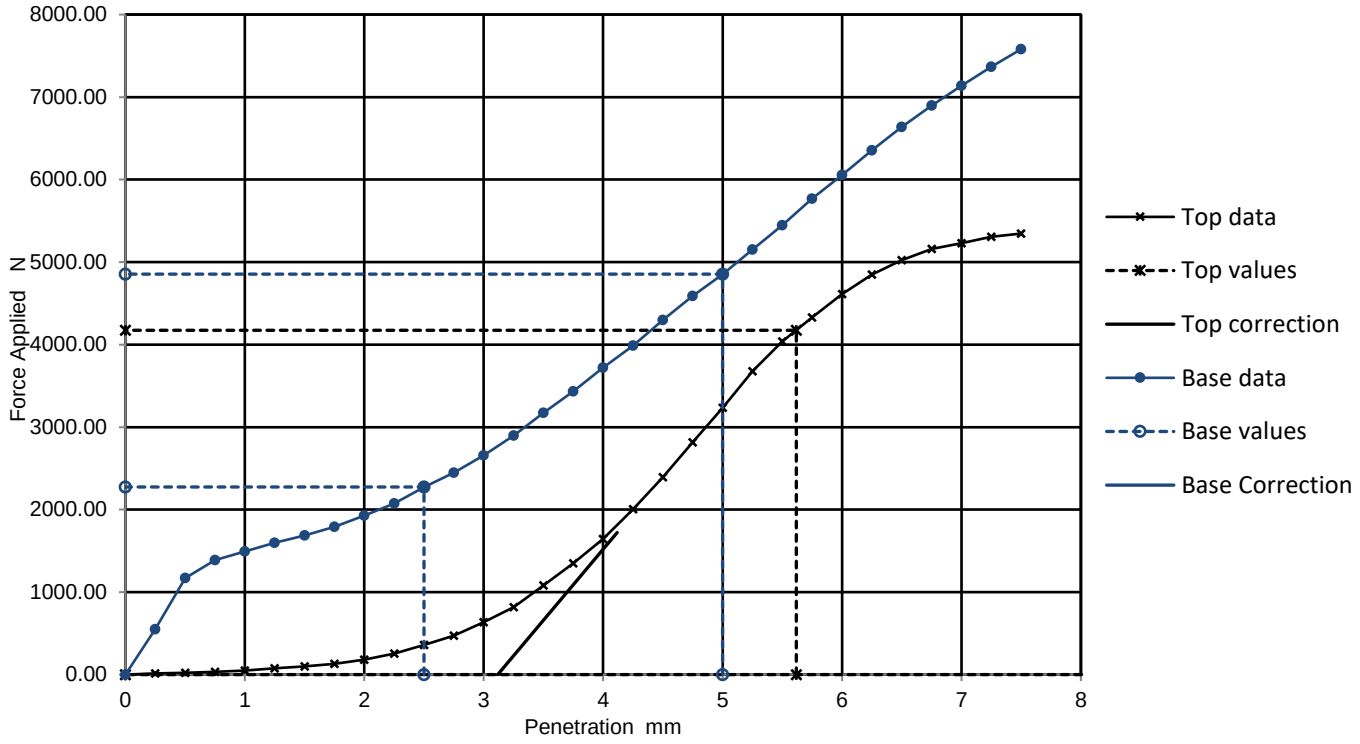
Remarks	Test Specific Remarks	Printed
Not suitable for soaking method		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB22
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.00 - 2.00
Specimen Description	Brown slightly gravelly SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	10	days
			Time to surface	4	days
			Amount of swell recorded	2.26	mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.58	Mg/m3
Initial Specimen details	Bulk density	1.75	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.65	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	5.9	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	Yes	32.0		32.0		11.4
BASE	No	17.0	24.0	24.0		10.5

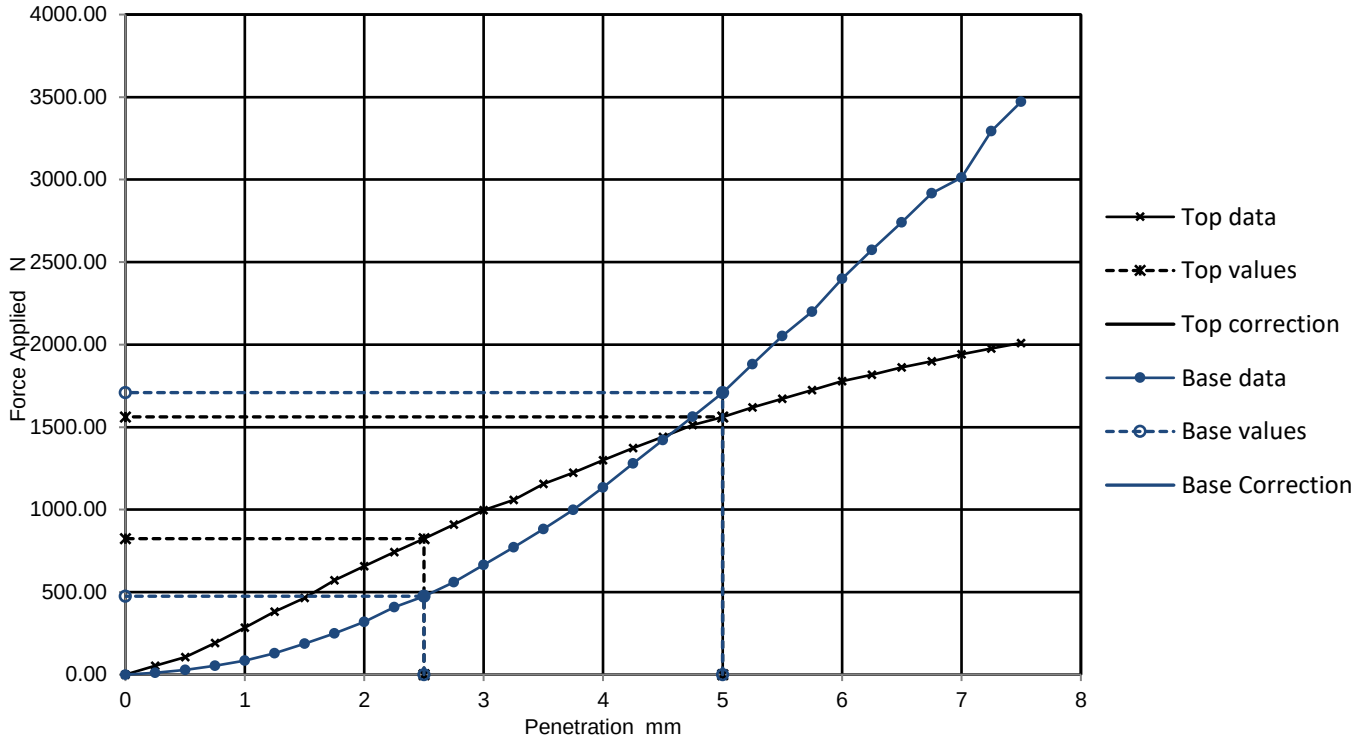
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB24
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	2.50 - 3.00
Specimen Description	Brown slightly gravelly clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.68	Mg/m3
Initial Specimen details	Bulk density	1.78 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.68 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	6.2	7.8	7.8	8.2	5.6
BASE	No	3.6	8.5	8.5		6.4

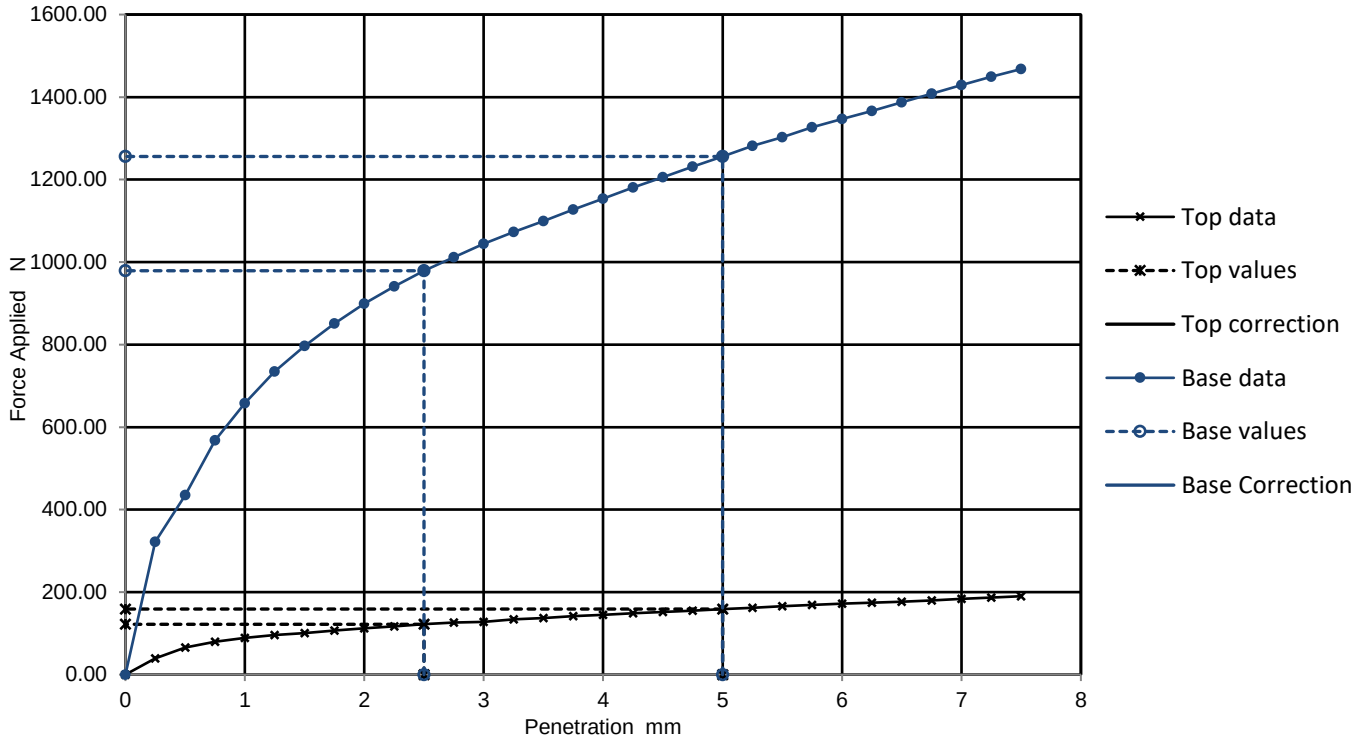
Remarks	Test Specific Remarks	Printed
Not suitable for soaking method		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB26
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.80 - 1.60
Specimen Description	Grey slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	44	days
			Time to surface	4	days
			Amount of swell recorded	17.27	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.72	Mg/m3
Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.90	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	14.2	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.9	0.8	0.9		29.6
BASE	No	7.4	6.3	7.4		23.2

Remarks	Test Specific Remarks	Printed
		22/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

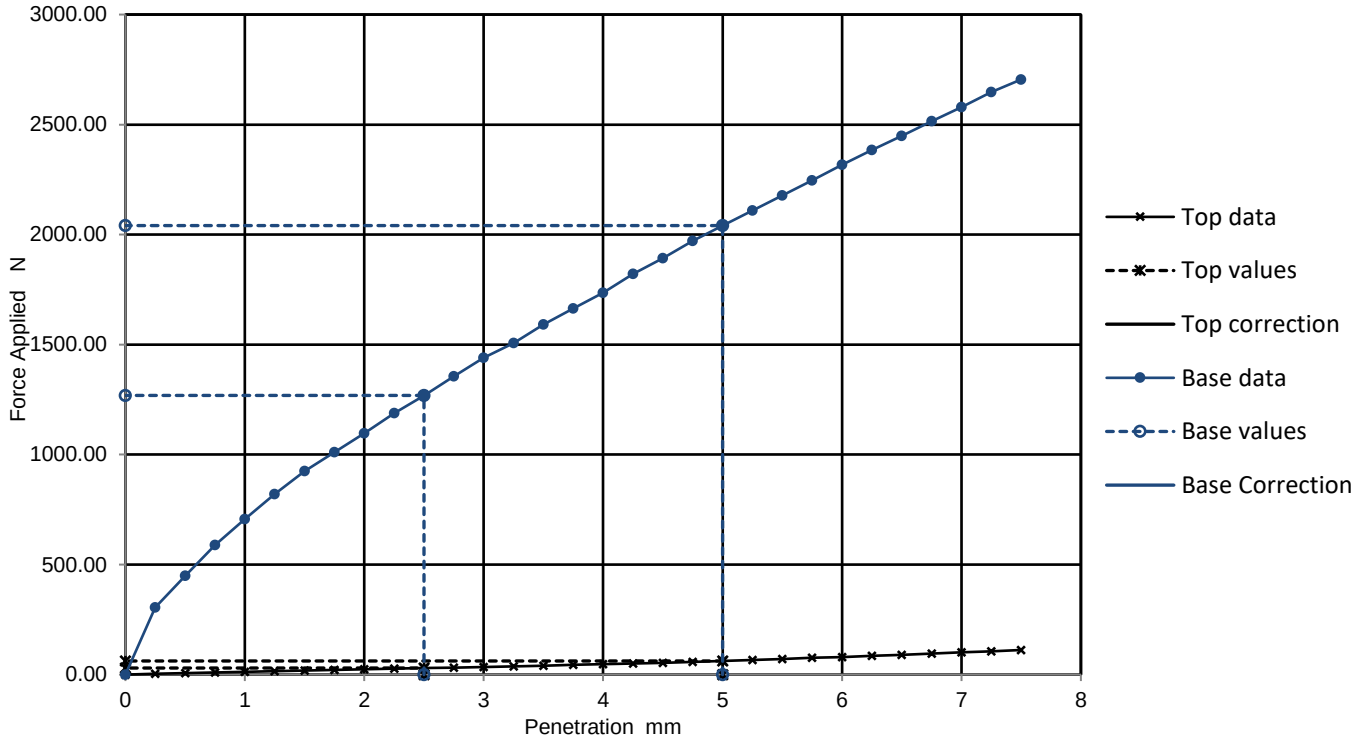
UKAS TESTING 1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB30
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 0.80
Specimen Description	Brown clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	15	days
			Time to surface	4	days
			Amount of swell recorded	5.44	mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.79	Mg/m3
Initial Specimen details	Bulk density	2.13	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.91	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	11.6	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.2	0.3	0.3		19.9
BASE	No	9.6	10.0	10.0		17.8

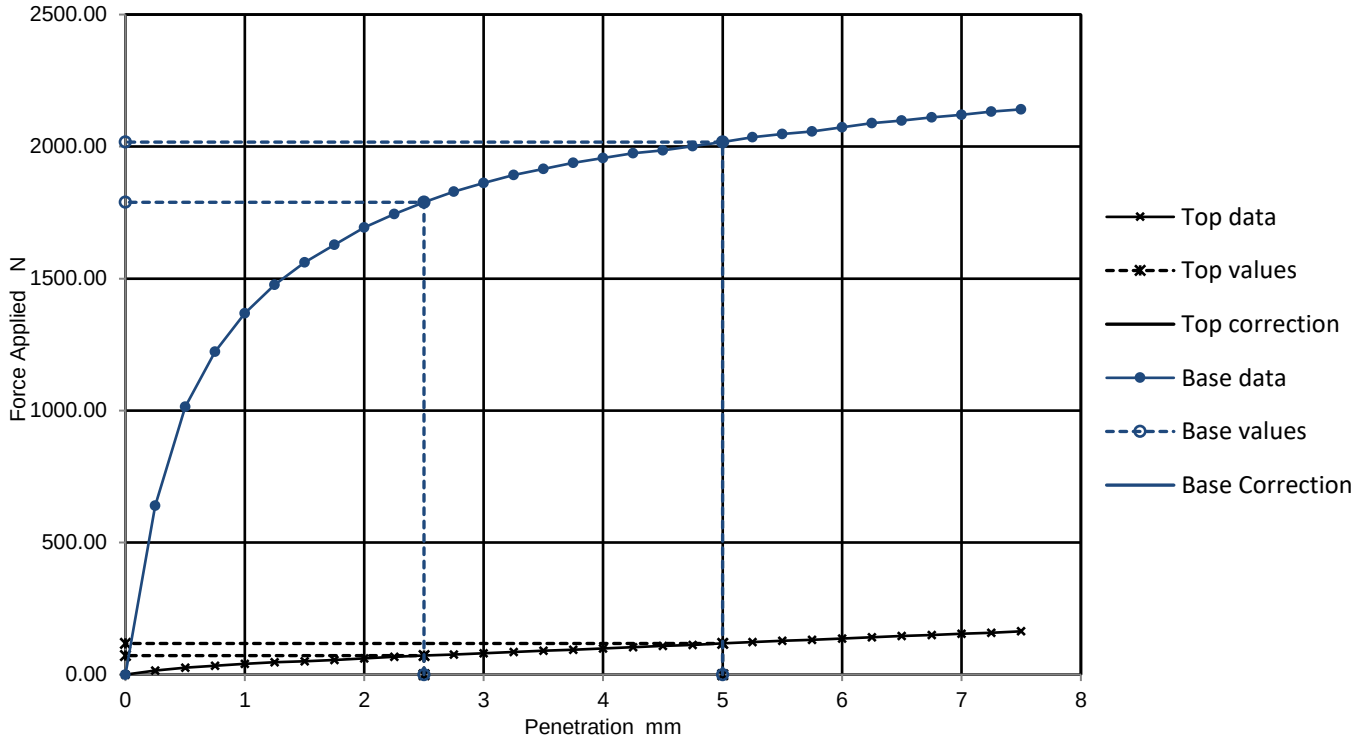
Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPB32
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 0.80
Specimen Description	Brown slightly sandy slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	17	days
			Time to surface	4	days
			Amount of swell recorded	15.48	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.82	Mg/m3
Initial Specimen details	Bulk density	2.16	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.82	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	19.0	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	0.6	0.6	0.6		22.7
BASE	No	14.0	10.0	14.0		14.8

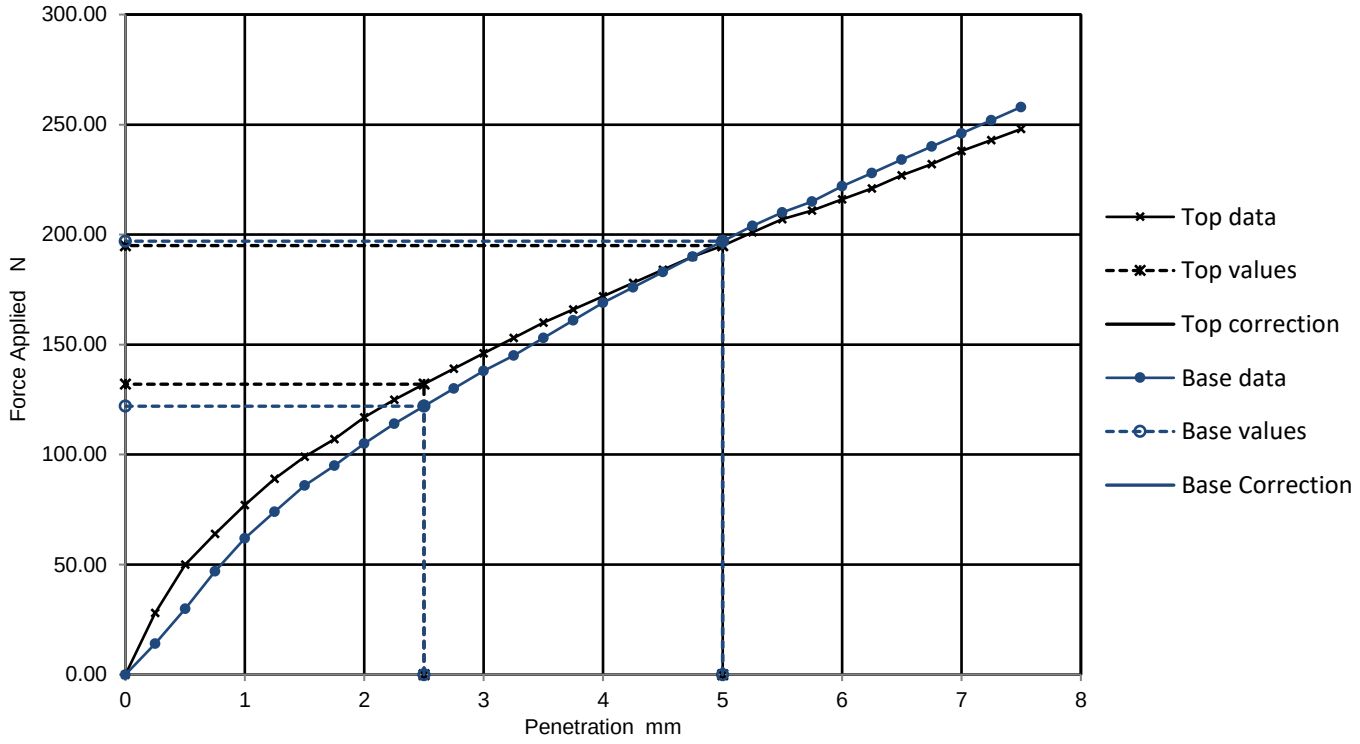
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC02
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.00 - 2.30
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	10	days
			Time to surface	4	days
			Amount of swell recorded	1.50	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.81	Mg/m3
Initial Specimen details	Bulk density	2.12	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.82	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	16.8	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.0	1.0	1.0	1.0	17.7
BASE	No	0.9	1.0	1.0		16.9

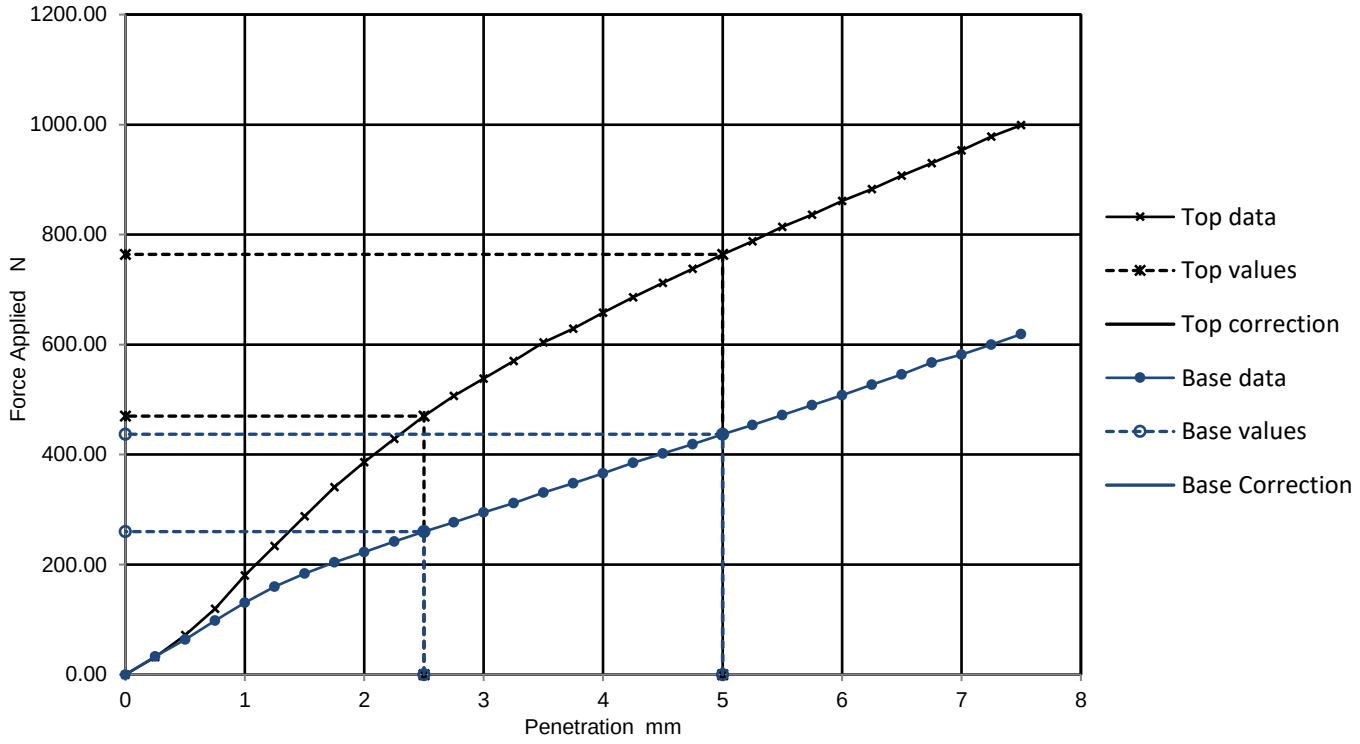
Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC04
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	2.50 - 3.00
Specimen Description	Light brown clayey SAND				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.56	Mg/m3
Initial Specimen details	Bulk density	1.64 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.56 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	3.6	3.8	3.8		4.9
BASE	No	2.0	2.2	2.2		4.9

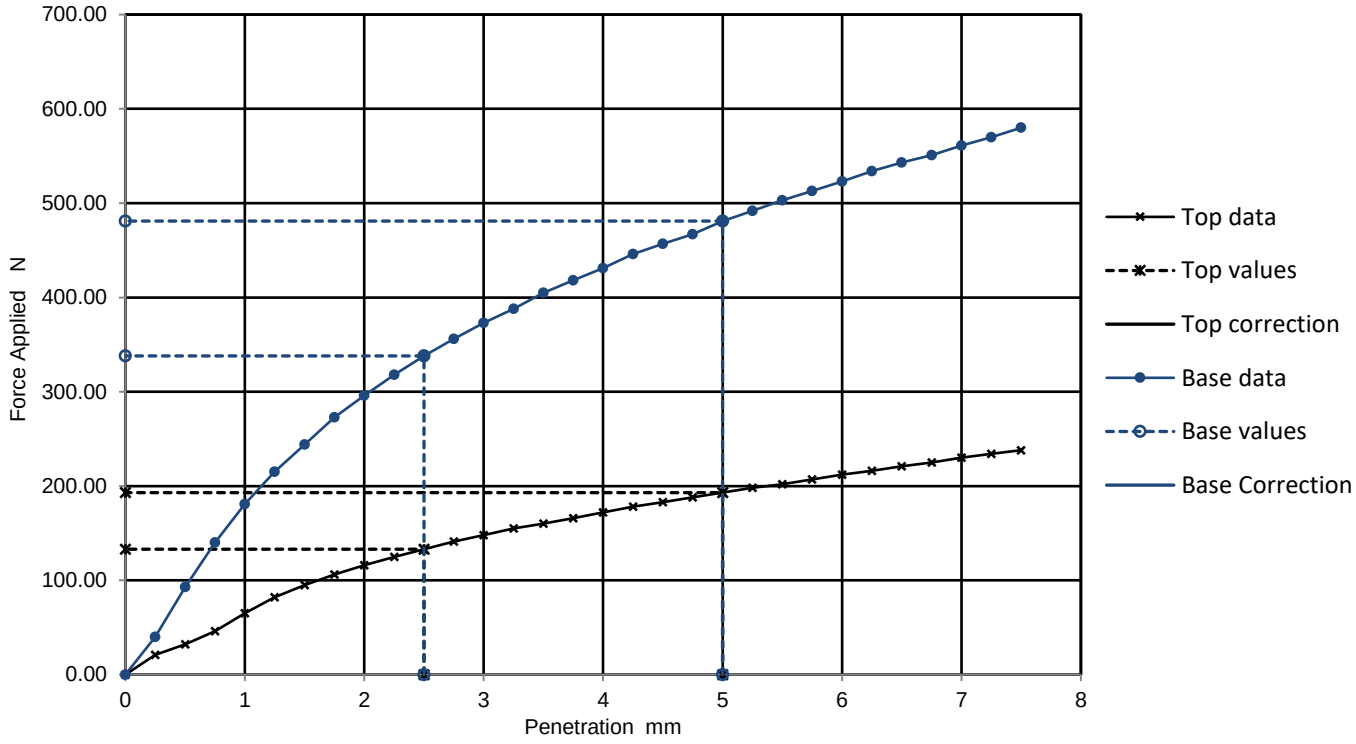
Remarks	Test Specific Remarks	Printed
Not suitable for soaking method		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC06
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.50 - 2.50
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED			* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer			Period of soaking	6	days
				Time to surface	1	days
				Amount of swell recorded	1.26	mm
Material retained on 20mm sieve removed		4	%	Dry density after soaking	1.77	Mg/m3
Initial Specimen details	Bulk density	2.09	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.81	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	15.3	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.0	1.0	1.0		19.3
BASE	No	2.6	2.4	2.6		17.2

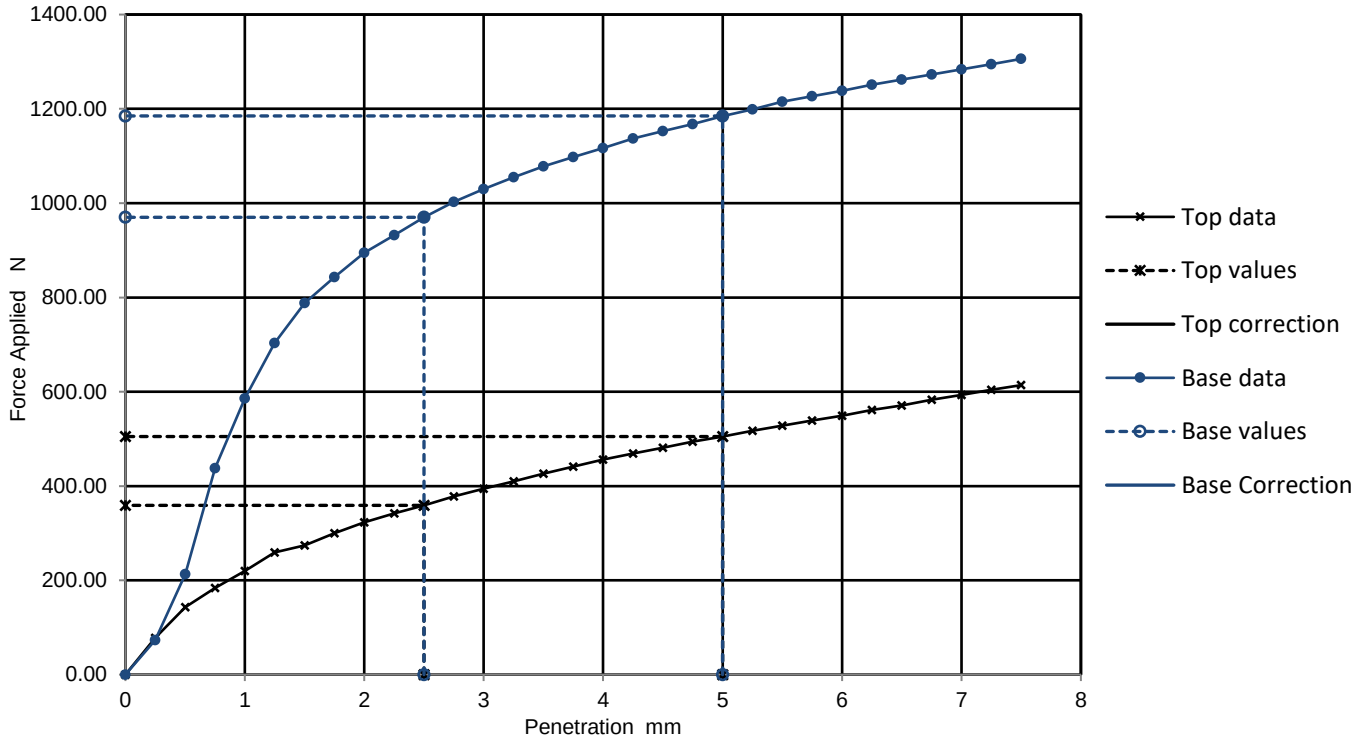
Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC08
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 1.00
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	11	days
			Time to surface	4	days
			Amount of swell recorded	1.97	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.73	Mg/m3
Initial Specimen details	Bulk density	2.10	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.75	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	20.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	2.7	2.5	2.7		22.3
BASE	No	7.3	5.9	7.3		20.0

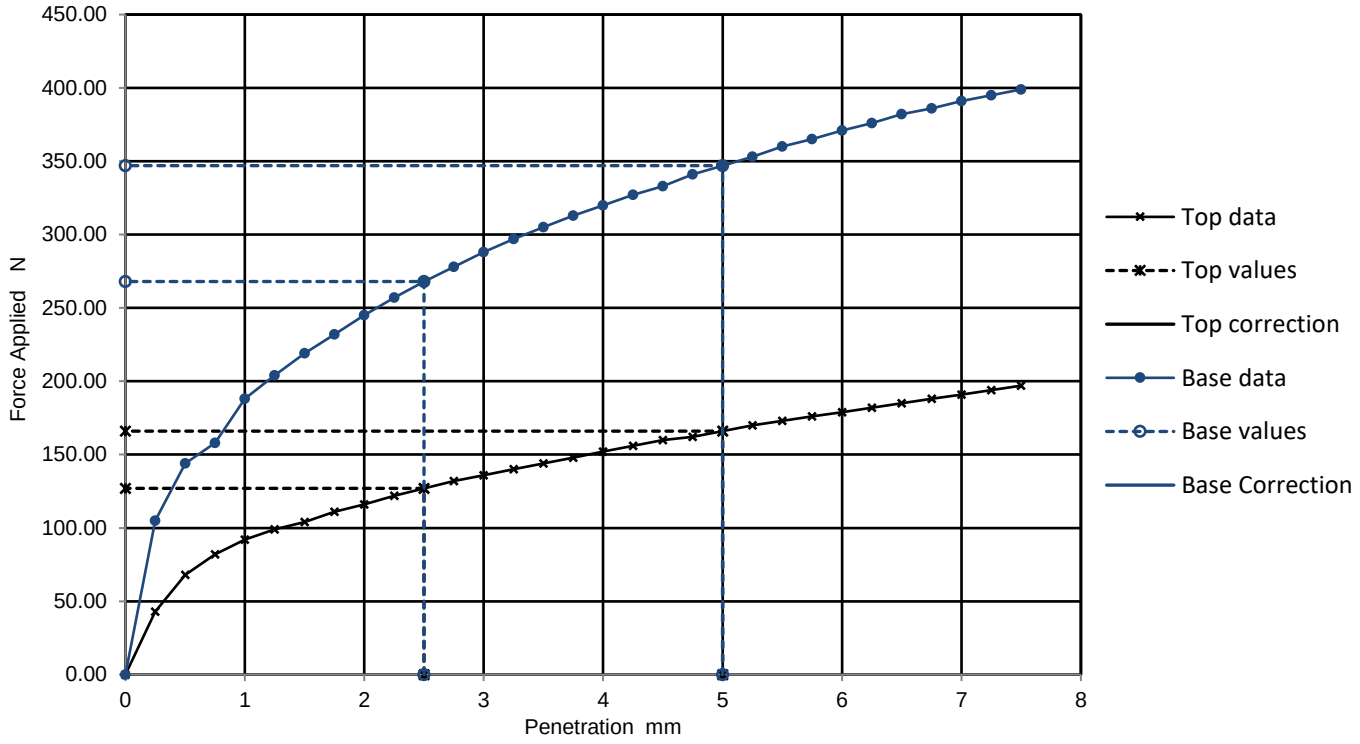
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC10
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 0.80
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	14	days
			Time to surface	4	days
			Amount of swell recorded	3.30	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.62	Mg/m3
Initial Specimen details	Bulk density	2.01	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.81	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	11.0	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.0	0.8	1.0		25.4
BASE	No	2.0	1.7	2.0		22.7

Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC12
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	1.30 - 2.00
Specimen Description	Dark grey slightly gravelly CLAY				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED
Details	Recompacted with specified standard effort using 4.5kg rammer

Material retained on 20mm sieve removed: 1 %

Initial Specimen details

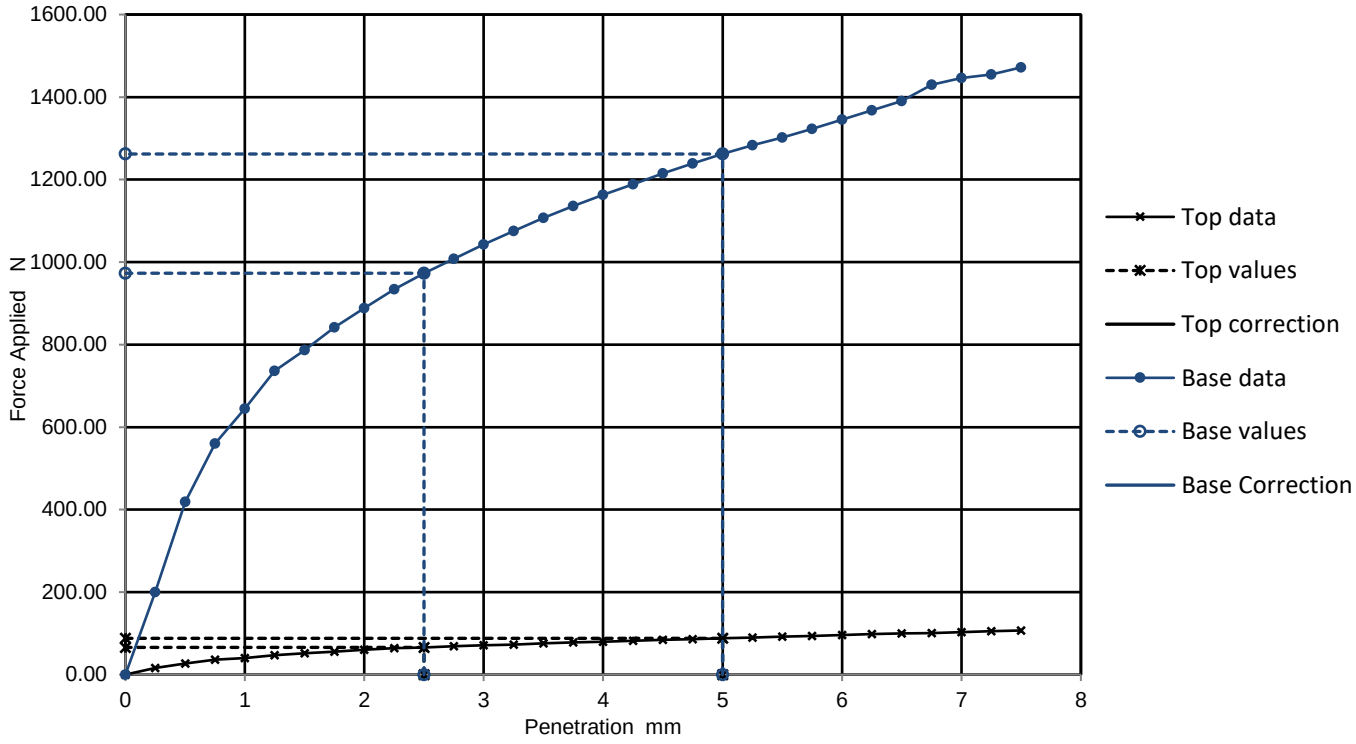
Bulk density	2.09	Mg/m3
Dry density	1.73	Mg/m3
Moisture content	20.6	%

* Soaking details

Period of soaking	22	days
Time to surface	4	days
Amount of swell recorded	10.90	mm
Dry density after soaking	1.69	Mg/m3

Surcharge applied	12.3	kg
Equivalent Overburden	7	kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.5	0.4	0.5		26.6
BASE	No	7.4	6.3	7.4		21.3

Remarks	Test Specific Remarks	Printed
		22/01/2025

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

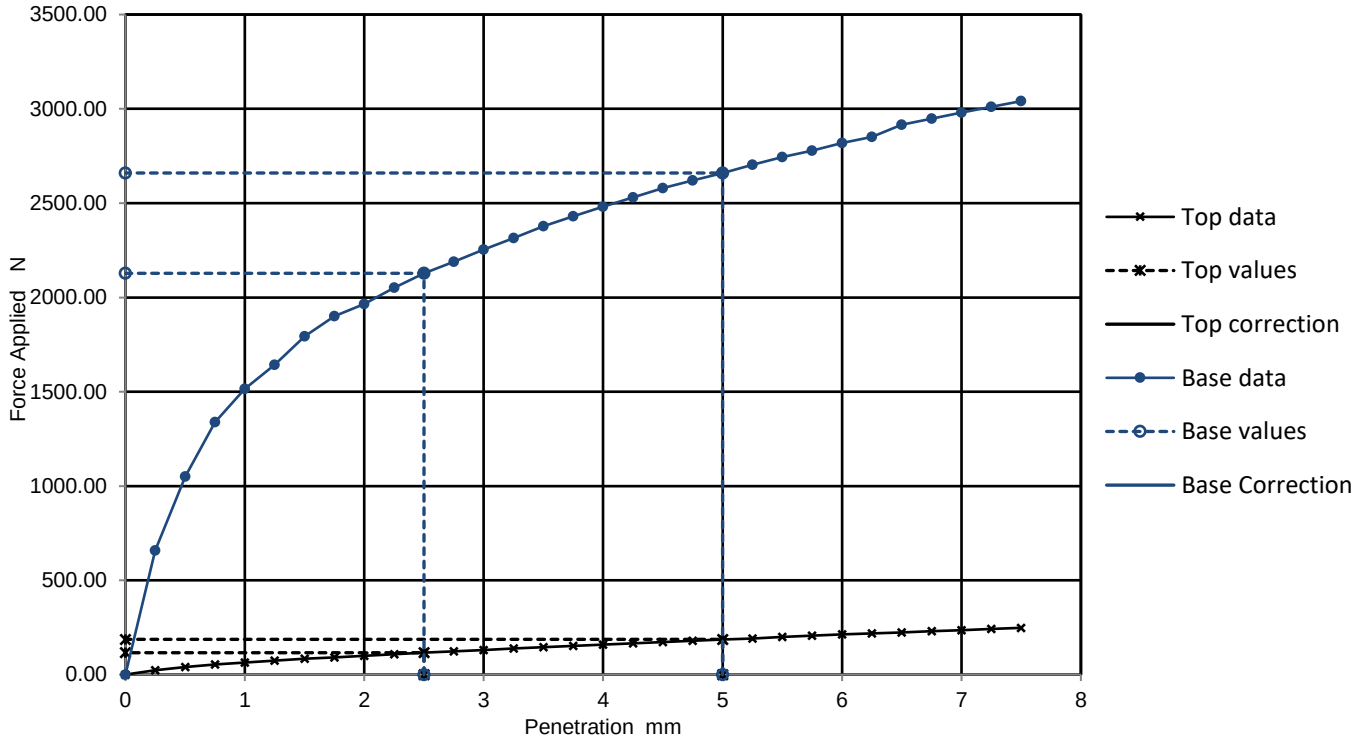
UKAS TESTING 1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC14
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.40 - 0.70
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	7	days
			Time to surface	4	days
			Amount of swell recorded	12.23	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.91	Mg/m3
Initial Specimen details	Bulk density	2.21 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.97 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	12.4 %			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	0.9	0.9	0.9		13.7
BASE	No	16.0	13.0	16.0		18.2

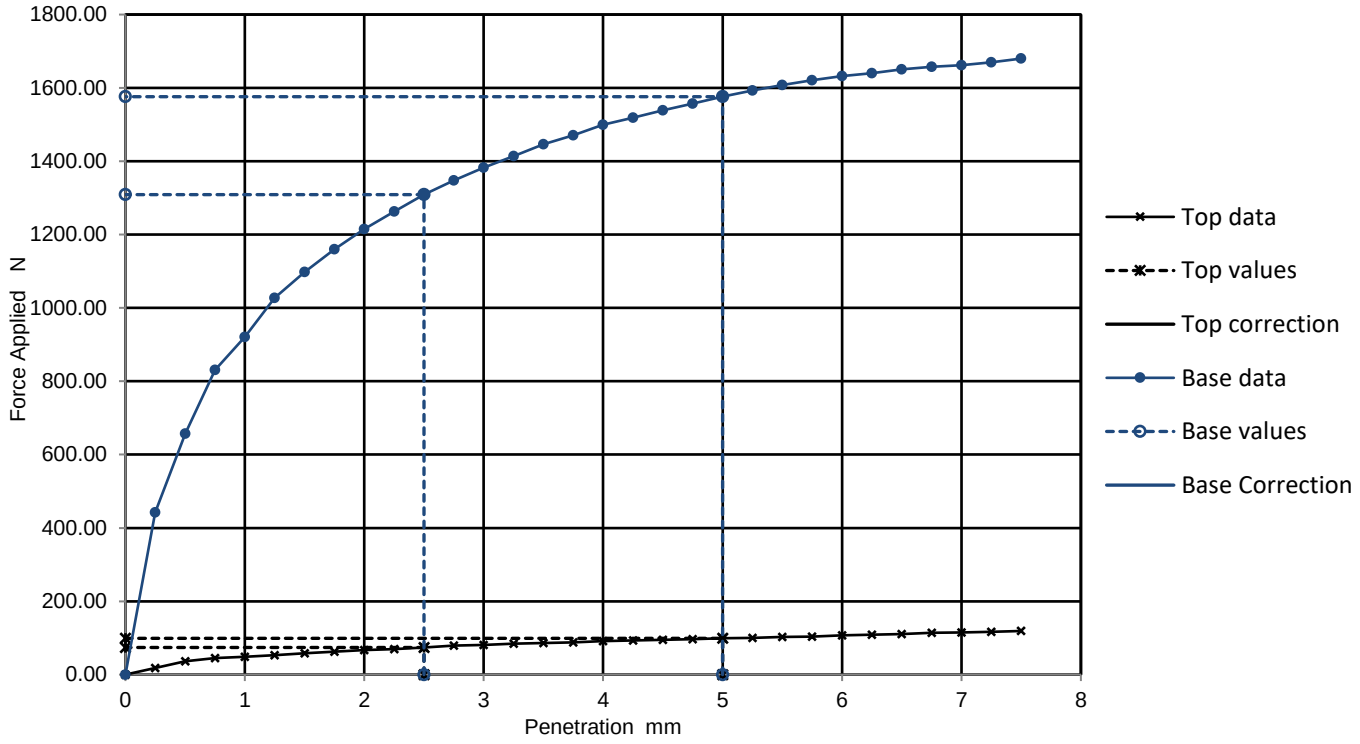
Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC16
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.70 - 1.40
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	18	days
			Time to surface	4	days
			Amount of swell recorded	18.45	mm
Material retained on 20mm sieve removed	2	%	Dry density after soaking	1.75	Mg/m3
Initial Specimen details	Bulk density	2.16	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.89	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	14.5	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.6	0.5	0.6		28.3
BASE	No	9.9	7.9	9.9		19.2

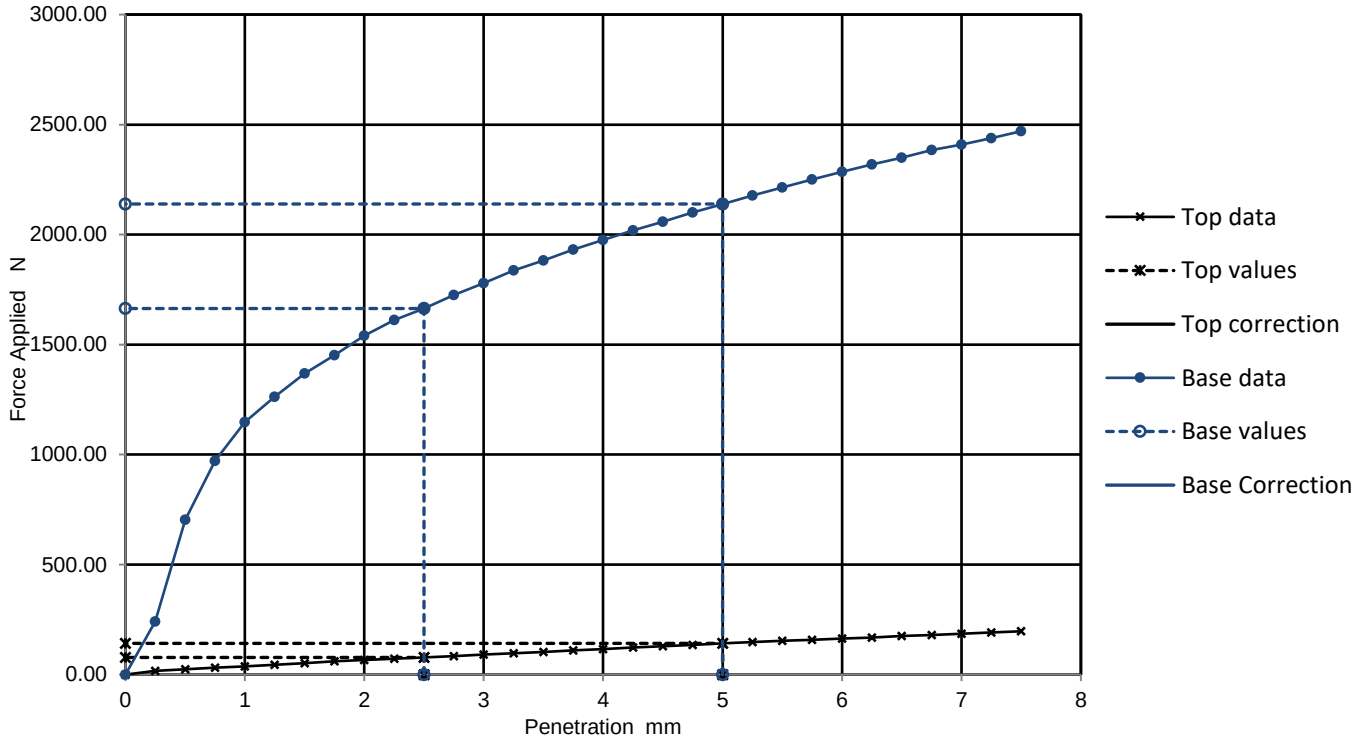
Remarks	Test Specific Remarks	Printed	
		22/01/2025	UKAS TESTING 1365
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%			

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC248770
					Hole Number	TPC20
Project Name	LionLink - Cable Route				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.50 - 1.50
Specimen Description	Brown slightly sandy slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details		
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking	14	days
			Time to surface	4	days
			Amount of swell recorded	6.92	mm
Material retained on 20mm sieve removed	1	%	Dry density after soaking	1.86	Mg/m3
Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.89	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	15.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.6	0.7	0.7		18.5
BASE	No	13.0	11.0	13.0		15.1

Remarks	Test Specific Remarks	Printed
		22/01/2025
*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%		1365

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB08
		Sample Depth	1.00-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	08/10/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.2	-	%
Bulk Density	1.91	-	Mg/m³
Dry Density	1.64	-	Mg/m³
Sample Mass	3000.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.35**	**-**	W/(m.k)
Thermal Resistivity	**0.74**	**-**	(m.k)/W
Initial Temperature	20.0	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB09
		Sample Depth	0.30-1.15m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/10/2024

Specimen Description	Brown CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	12.7	-	%
Bulk Density	1.95	-	Mg/m³
Dry Density	1.73	-	Mg/m³
Sample Mass	3068.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.40**	**-**	W/(m.k)
Thermal Resistivity	**0.72**	**-**	(m.k)/W
Initial Temperature	17.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB01
		Sample Depth	0.85-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/10/2024

Specimen Description	Light grey slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.4	-	%
Bulk Density	1.91	-	Mg/m³
Dry Density	1.64	-	Mg/m³
Sample Mass	3013.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.56**	**-**	W/(m.k)
Thermal Resistivity	**0.64**	**-**	(m.k)/W
Initial Temperature	19.6	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB02
		Sample Depth	0.90-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	08/10/2024

Specimen Description	Light grey slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	15.0	-	%
Bulk Density	1.83	-	Mg/m³
Dry Density	1.59	-	Mg/m³
Sample Mass	2875.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.31**	**-**	W/(m.k)
Thermal Resistivity	**0.76**	**-**	(m.k)/W
Initial Temperature	18.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB03
		Sample Depth	0.30-1.30m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/10/2024

Specimen Description	Grey CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	13.9	-	%
Bulk Density	1.85	-	Mg/m³
Dry Density	1.63	-	Mg/m³
Sample Mass	2920.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.41**	**-**	W/(m.k)
Thermal Resistivity	**0.71**	**-**	(m.k)/W
Initial Temperature	16.8	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB04
		Sample Depth	1.70-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	08/10/2024

Specimen Description	Light brown slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	15.9	-	%
Bulk Density	2.02	-	Mg/m³
Dry Density	1.74	-	Mg/m³
Sample Mass	3180.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.66**	**-**	W/(m.k)
Thermal Resistivity	**0.60**	**-**	(m.k)/W
Initial Temperature	19.8	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB05
		Sample Depth	1.20-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/10/2024

Specimen Description	Light grey slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	14.2	-	%
Bulk Density	1.92	-	Mg/m³
Dry Density	1.68	-	Mg/m³
Sample Mass	3026.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.29**	**-**	W/(m.k)
Thermal Resistivity	**0.78**	**-**	(m.k)/W
Initial Temperature	19.6	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB06
		Sample Depth	0.75-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	08/10/2024

Specimen Description	Light grey slightly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	10.5	-	%
Bulk Density	1.77	-	Mg/m³
Dry Density	1.60	-	Mg/m³
Sample Mass	2785.7	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.11**	**-**	W/(m.k)
Thermal Resistivity	**0.90**	**-**	(m.k)/W
Initial Temperature	18.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB07
		Sample Depth	0.45-1.60m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	07/10/2024

Specimen Description	Light grey slightly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	10.7	-	%
Bulk Density	1.85	-	Mg/m³
Dry Density	1.67	-	Mg/m³
Sample Mass	2910.7	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.12**	**-**	W/(m.k)
Thermal Resistivity	**0.89**	**-**	(m.k)/W
Initial Temperature	19.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB10
		Sample Depth	0.70-1.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	08/10/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.6	-	%
Bulk Density	1.94	-	Mg/m³
Dry Density	1.66	-	Mg/m³
Sample Mass	3050.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.56**	**-**	W/(m.k)
Thermal Resistivity	**0.64**	**-**	(m.k)/W
Initial Temperature	19.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB11
		Sample Depth	1.50-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	18.7	-	%
Bulk Density	1.94	-	Mg/m³
Dry Density	1.63	-	Mg/m³
Sample Mass	3055.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.52**	**-**	W/(m.k)
Thermal Resistivity	**0.66**	**-**	(m.k)/W
Initial Temperature	19.0	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB12
		Sample Depth	0.75-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	16.1	-	%
Bulk Density	1.97	-	Mg/m³
Dry Density	1.70	-	Mg/m³
Sample Mass	3105.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.64**	**-**	W/(m.k)
Thermal Resistivity	**0.61**	**-**	(m.k)/W
Initial Temperature	19.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB13
		Sample Depth	0.75-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	14.5	-	%
Bulk Density	1.66	-	Mg/m³
Dry Density	1.45	-	Mg/m³
Sample Mass	2624.6	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.20**	**-**	W/(m.k)
Thermal Resistivity	**0.83**	**-**	(m.k)/W
Initial Temperature	19.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB14
		Sample Depth	0.80-1.90m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	13.7	-	%
Bulk Density	2.08	-	Mg/m³
Dry Density	1.83	-	Mg/m³
Sample Mass	3275.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.07**	**-**	W/(m.k)
Thermal Resistivity	**0.48**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB16
		Sample Depth	0.30-0.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	22.7	-	%
Bulk Density	1.81	-	Mg/m³
Dry Density	1.48	-	Mg/m³
Sample Mass	2853.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.45**	**-**	W/(m.k)
Thermal Resistivity	**0.69**	**-**	(m.k)/W
Initial Temperature	19.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB18
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	20.3	-	%
Bulk Density	1.94	-	Mg/m³
Dry Density	1.61	-	Mg/m³
Sample Mass	3058.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.49**	**-**	W/(m.k)
Thermal Resistivity	**0.67**	**-**	(m.k)/W
Initial Temperature	19.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB20
		Sample Depth	0.40-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Dark brown gravelly very clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	6.2	-	%
Bulk Density	1.71	-	Mg/m³
Dry Density	1.61	-	Mg/m³
Sample Mass	2692.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.42**	**-**	W/(m.k)
Thermal Resistivity	**0.71**	**-**	(m.k)/W
Initial Temperature	17.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB21
		Sample Depth	1.00-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	27/11/2024

Specimen Description	Light brown SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	6.8	-	%
Bulk Density	1.81	-	Mg/m³
Dry Density	1.70	-	Mg/m³
Sample Mass	2856.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.10**	**-**	W/(m.k)
Thermal Resistivity	**0.48**	**-**	(m.k)/W
Initial Temperature	18.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB22
		Sample Depth	0.40-1.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Dark brown gravelly very clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	7.3	-	%
Bulk Density	1.73	-	Mg/m³
Dry Density	1.61	-	Mg/m³
Sample Mass	2731.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.54**	**-**	W/(m.k)
Thermal Resistivity	**0.65**	**-**	(m.k)/W
Initial Temperature	17.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB23
		Sample Depth	1.60-2.30m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Brown clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	3.0	-	%
Bulk Density	1.68	-	Mg/m³
Dry Density	1.64	-	Mg/m³
Sample Mass	2651.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.31**	**-**	W/(m.k)
Thermal Resistivity	**0.77**	**-**	(m.k)/W
Initial Temperature	18.8	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB24
		Sample Depth	1.50-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Brown clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	5.9	-	%
Bulk Density	1.73	-	Mg/m³
Dry Density	1.63	-	Mg/m³
Sample Mass	2725.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.89**	**-**	W/(m.k)
Thermal Resistivity	**0.53**	**-**	(m.k)/W
Initial Temperature	17.8	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB25
		Sample Depth	1.70-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	27/11/2024

Specimen Description	Light brown SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	9.2	-	%
Bulk Density	1.74	-	Mg/m³
Dry Density	1.59	-	Mg/m³
Sample Mass	2737.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.40**	**-**	W/(m.k)
Thermal Resistivity	**0.71**	**-**	(m.k)/W
Initial Temperature	18.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB26
		Sample Depth	0.30-0.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Brown gravelly clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	4.7	-	%
Bulk Density	1.89	-	Mg/m³
Dry Density	1.80	-	Mg/m³
Sample Mass	2971.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.00**	**-**	W/(m.k)
Thermal Resistivity	**1.00**	**-**	(m.k)/W
Initial Temperature	18.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB27
		Sample Depth	0.25-0.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	31/10/2024

Specimen Description	Brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	21.7	-	%
Bulk Density	1.90	-	Mg/m³
Dry Density	1.56	-	Mg/m³
Sample Mass	2994.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.49**	**-**	W/(m.k)
Thermal Resistivity	**0.67**	**-**	(m.k)/W
Initial Temperature	18.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB29
		Sample Depth	0.60-1.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	01/11/2024

Specimen Description	Brown slightly clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	5.3	-	%
Bulk Density	1.76	-	Mg/m³
Dry Density	1.67	-	Mg/m³
Sample Mass	2775.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.80**	**-**	W/(m.k)
Thermal Resistivity	**0.55**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB30
		Sample Depth	1.40-1.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Brown sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	14.1	-	%
Bulk Density	2.14	-	Mg/m³
Dry Density	1.87	-	Mg/m³
Sample Mass	3364.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.49**	**-**	W/(m.k)
Thermal Resistivity	**0.40**	**-**	(m.k)/W
Initial Temperature	18.8	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB31
		Sample Depth	1.30-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	27/11/2024

Specimen Description	Light brown very clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.3	-	%
Bulk Density	1.85	-	Mg/m³
Dry Density	1.59	-	Mg/m³
Sample Mass	2905.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.36**	**-**	W/(m.k)
Thermal Resistivity	**0.42**	**-**	(m.k)/W
Initial Temperature	17.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB32
		Sample Depth	0.80-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Grey slightly sandy gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	12.4	-	%
Bulk Density	2.03	-	Mg/m³
Dry Density	1.80	-	Mg/m³
Sample Mass	3193.2	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.27**	**-**	W/(m.k)
Thermal Resistivity	**0.79**	**-**	(m.k)/W
Initial Temperature	18.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPB33
		Sample Depth	1.00-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	28/11/2024

Specimen Description	Grey slightly sandy gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	17.1	-	%
Bulk Density	2.06	-	Mg/m³
Dry Density	1.76	-	Mg/m³
Sample Mass	3237.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.40**	**-**	W/(m.k)
Thermal Resistivity	**0.72**	**-**	(m.k)/W
Initial Temperature	17.7	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC01
		Sample Depth	1.00-1.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Brown sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	10.9	-	%
Bulk Density	2.17	-	Mg/m³
Dry Density	1.96	-	Mg/m³
Sample Mass	3419.8	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**3.27**	**-**	W/(m.k)
Thermal Resistivity	**0.31**	**-**	(m.k)/W
Initial Temperature	18.0	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC02
		Sample Depth	0.40-1.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Brown slightly sandy gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	13.8	-	%
Bulk Density	1.90	-	Mg/m³
Dry Density	1.67	-	Mg/m³
Sample Mass	2995.1	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.83**	**-**	W/(m.k)
Thermal Resistivity	**0.55**	**-**	(m.k)/W
Initial Temperature	19.4	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC03
		Sample Depth	0.40-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Dark brown slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.9	-	%
Bulk Density	1.72	-	Mg/m³
Dry Density	1.47	-	Mg/m³
Sample Mass	2711.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.33**	**-**	W/(m.k)
Thermal Resistivity	**0.75**	**-**	(m.k)/W
Initial Temperature	18.6	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC04
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Brown SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	6.3	-	%
Bulk Density	1.87	-	Mg/m³
Dry Density	1.75	-	Mg/m³
Sample Mass	2937.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.13**	**-**	W/(m.k)
Thermal Resistivity	**0.47**	**-**	(m.k)/W
Initial Temperature	18.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC05
		Sample Depth	0.30-0.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Brown slightly sandy gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	20.9	-	%
Bulk Density	1.83	-	Mg/m³
Dry Density	1.51	-	Mg/m³
Sample Mass	2887.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.15**	**-**	W/(m.k)
Thermal Resistivity	**0.87**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC06
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Brown slightly sandy gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	16.7	-	%
Bulk Density	1.98	-	Mg/m³
Dry Density	1.70	-	Mg/m³
Sample Mass	3121.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.60**	**-**	W/(m.k)
Thermal Resistivity	**0.62**	**-**	(m.k)/W
Initial Temperature	18.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC07
		Sample Depth	0.10-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Grey slightly sandy CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	16.3	-	%
Bulk Density	2.13	-	Mg/m³
Dry Density	1.84	-	Mg/m³
Sample Mass	3360.7	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.86**	**-**	W/(m.k)
Thermal Resistivity	**0.54**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC08
		Sample Depth	1.00-1.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	22/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	24.8	-	%
Bulk Density	1.82	-	Mg/m³
Dry Density	1.46	-	Mg/m³
Sample Mass	2862.2	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.14**	**-**	W/(m.k)
Thermal Resistivity	**0.88**	**-**	(m.k)/W
Initial Temperature	17.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC09
		Sample Depth	0.50-1.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	22/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	17.6	-	%
Bulk Density	1.93	-	Mg/m³
Dry Density	1.64	-	Mg/m³
Sample Mass	3035.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.57**	**-**	W/(m.k)
Thermal Resistivity	**0.64**	**-**	(m.k)/W
Initial Temperature	17.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC10
		Sample Depth	0.80-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	16.5	-	%
Bulk Density	2.00	-	Mg/m³
Dry Density	1.72	-	Mg/m³
Sample Mass	3149.1	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.60**	**-**	W/(m.k)
Thermal Resistivity	**0.63**	**-**	(m.k)/W
Initial Temperature	17.9	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC11
		Sample Depth	1.50-2.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	03/12/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	18.6	-	%
Bulk Density	1.86	-	Mg/m³
Dry Density	1.56	-	Mg/m³
Sample Mass	2921.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.41**	**-**	W/(m.k)
Thermal Resistivity	**0.71**	**-**	(m.k)/W
Initial Temperature	18.2	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC12
		Sample Depth	0.30-1.30m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	25/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	12.8	-	%
Bulk Density	1.75	-	Mg/m³
Dry Density	1.55	-	Mg/m³
Sample Mass	2760.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.17**	**-**	W/(m.k)
Thermal Resistivity	**0.85**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC13
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	29/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	14.5	-	%
Bulk Density	2.02	-	Mg/m^3
Dry Density	1.76	-	Mg/m^3
Sample Mass	3184.9	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.42**	**-**	W/(m.k)
Thermal Resistivity	**0.70**	**-**	(m.k)/W
Initial Temperature	19.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC14
		Sample Depth	0.70-1.50m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	03/12/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	13.8	-	%
Bulk Density	1.74	-	Mg/m³
Dry Density	1.53	-	Mg/m³
Sample Mass	2740.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.27**	**-**	W/(m.k)
Thermal Resistivity	**0.79**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC15
		Sample Depth	0.40-1.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	11.5	-	%
Bulk Density	1.74	-	Mg/m³
Dry Density	1.56	-	Mg/m³
Sample Mass	2740.4	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.11**	**-**	W/(m.k)
Thermal Resistivity	**0.90**	**-**	(m.k)/W
Initial Temperature	19.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC16
		Sample Depth	1.40-2.00m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	18.6	-	%
Bulk Density	1.87	-	Mg/m³
Dry Density	1.58	-	Mg/m³
Sample Mass	2945.6	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.33**	**-**	W/(m.k)
Thermal Resistivity	**0.75**	**-**	(m.k)/W
Initial Temperature	18.3	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC17
		Sample Depth	0.30-1.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Brown clayey SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	4.1	-	%
Bulk Density	1.89	-	Mg/m³
Dry Density	1.81	-	Mg/m³
Sample Mass	2970.7	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.68**	**-**	W/(m.k)
Thermal Resistivity	**0.60**	**-**	(m.k)/W
Initial Temperature	18.1	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC19
		Sample Depth	0.50-1.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	26/11/2024

Specimen Description	Brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	6.1	-	%
Bulk Density	1.94	-	Mg/m³
Dry Density	1.83	-	Mg/m³
Sample Mass	3053.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.20**	**-**	W/(m.k)
Thermal Resistivity	**0.46**	**-**	(m.k)/W
Initial Temperature	18.5	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Cable Route	Hole	TPC20
		Sample Depth	1.50-2.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC248770	Test Date	22/11/2024

Specimen Description	Brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	7.3	-	%
Bulk Density	1.72	-	Mg/m³
Dry Density	1.60	-	Mg/m³
Sample Mass	2704.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.37**	**-**	W/(m.k)
Thermal Resistivity	**0.42**	**-**	(m.k)/W
Initial Temperature	17.0	-	°C

Test Method

Specimen 1 tested at received water content and bulk density.
Recompacted in 5 layers using a 2.5kg rammer.

Needle inserted by pushing directly into sample (after cooling for oven dried specimen) and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

Certificate of Analysis

Certificate Number 24-22131 *Issued:* 23-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-22131

Client Reference ~ PC248770

Order No ~ OC41809

Contract Title ~ Lionlink Cable Route

Description 27 Soil samples.

Date Received 16-Oct-24

Date Started 16-Oct-24

Date Completed 23-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22131
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2409575	2409576	2409577	2409578	2409579	2409580	2409581	2409582	2409583	2409586	2409587	2409589
	Sample ID ~	BHB10	BHB15	BHB18	BHB19	TPB20	TPB20	TPB21	TPB21	TPB22	TPB23	TPB23	TPB24
	Depth ~	1.00	1.00	1.00	0.30-0.60	0.40-1.40	2.40-3.00	1.00-2.00	1.20	0.40-1.00	1.60-2.30	2.00	1.50-2.50
	Other ID ~												
	Sample Type ~	D	D	D	B	B	B	B	D	B	B	D	B
	Sampling Date ~	17/09/2024	16/09/2024	19/09/2024	19/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	17/09/2024	17/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**										
Inorganics													
pH	DETSC 2008#		pH	8.3	8.0	8.2		7.9		8.5	8.4	7.7	8.5	8.2	9.3
Organic matter	DETSC 2002#	0.1	%				1.2		< 0.1						
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	29	290	50					< 10			< 10	
Sulphur as S, Total	DETSC 2320	0.01	%	0.09	0.05	0.03					< 0.01			< 0.01	
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.06	0.11	0.05					0.01			0.01	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22131
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2409591	2409592	2409593	2409594	2409595	2409596	2409597	2409598	2409599	2409600	2409601
			Sample ID ~	TPB25	TPB25	TPB26	TPB27	TPB27	TPB30	TPB31	TPB31	TPB32	TPB33	TPB33
			Depth ~	1.70-2.50	2.20	0.30-0.80	0.90-1.50	1.20	1.40-1.80	1.30-2.00	1.50	0.80-1.40	1.00-2.00	2.00
			Other ID ~											
			Sample Type ~	B	D	B	B	D	B	B	D	B	B	D
			Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	10/09/2024	18/09/2024	18/09/2024	18/09/2024	18/09/2024	19/09/2024	19/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	7.8	7.7	8.1	8.4	8.4	8.1	8.2	8.4	8.3	8.5	8.4
Organic matter	DETSC 2002#	0.1	%											
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		16			43			13			21
Sulphur as S, Total	DETSC 2320	0.01	%		0.01			0.02			0.02			0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%		0.03			0.04			0.02			0.03

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-22131
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2409584	TPB23 0.40-0.60	SOIL	NAD	none	Andrew Graham
2409585	TPB23 0.60	SOIL	NAD	none	Andrew Graham
2409588	TPB24 0.60	SOIL	NAD	none	Andrew Graham
2409590	TPB25 0.70-1.70	SOIL	NAD	none	Andrew Graham

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-22131
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2409575	BHB10 1.00 SOIL	17/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409576	BHB15 1.00 SOIL	16/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409577	BHB18 1.00 SOIL	19/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409578	BHB19 0.30-0.60 SOIL	19/09/24	PT 1L		
2409579	TPB20 0.40-1.40 SOIL	16/09/24	PT 1L	pH + Conductivity (7 days)	
2409580	TPB20 2.40-3.00 SOIL	16/09/24	PT 1L	Organic Matter (Manual) (28 days)	
2409581	TPB21 1.00-2.00 SOIL	16/09/24	PT 1L	pH + Conductivity (7 days)	
2409582	TPB21 1.20 SOIL	16/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409583	TPB22 0.40-1.00 SOIL	16/09/24	PT 1L	pH + Conductivity (7 days)	
2409584	TPB23 0.40-0.60 SOIL	17/09/24	PT 1L		
2409585	TPB23 0.60 SOIL	17/09/24	PT 1L		
2409586	TPB23 1.60-2.30 SOIL	17/09/24	PT 1L	pH + Conductivity (7 days)	
2409587	TPB23 2.00 SOIL	17/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409588	TPB24 0.60 SOIL	17/09/24	PT 1L		
2409589	TPB24 1.50-2.50 SOIL	17/09/24	PT 1L	pH + Conductivity (7 days)	
2409590	TPB25 0.70-1.70 SOIL	17/09/24	PT 1L		
2409591	TPB25 1.70-2.50 SOIL	17/09/24	PT 1L	pH + Conductivity (7 days)	
2409592	TPB25 2.20 SOIL	17/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409593	TPB26 0.30-0.80 SOIL	17/09/24	PT 1L	pH + Conductivity (7 days)	
2409594	TPB27 0.90-1.50 SOIL	17/09/24	PT 1L	pH + Conductivity (7 days)	
2409595	TPB27 1.20 SOIL	10/09/24	PT 1L	Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), pH + Conductivity (7 days)	
2409596	TPB30 1.40-1.80 SOIL	18/09/24	PT 1L	pH + Conductivity (7 days)	
2409597	TPB31 1.30-2.00 SOIL	18/09/24	PT 1L	pH + Conductivity (7 days)	
2409598	TPB31 1.50 SOIL	18/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2409599	TPB32 0.80-1.40 SOIL	18/09/24	PT 1L	pH + Conductivity (7 days)	
2409600	TPB33 1.00-2.00 SOIL	19/09/24	PT 1L	pH + Conductivity (7 days)	
2409601	TPB33 2.00 SOIL	19/09/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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Information in Support of the Analytical Results

Our Ref 24-22131
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

Our Ref 24-22131
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20706	*Issued:*	02-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20706
Client Reference ~	PC248770
Order No ~	OC41652
Contract Title ~	Lionlink Cable Route
Description	15 Soil samples.
Date Received	27-Sep-24
Date Started	27-Sep-24
Date Completed	02-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20706
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2401014	2401015	2401016	2401017	2401018	2401019	2401020	2401021	2401022	2401023	2401024
			Sample ID ~	BHB06A	BHB08	BHB12	TPB11	TPB11	TPB12	TPB13	TPB13	TPB14	TPB16	TPB18
			Depth ~	0.90-1.20	1.20-1.65	2.55-3.00	1.20	1.50-2.50	0.75-1.20	0.75-1.50	1.20	0.80-1.90	0.30-0.70	0.70-1.50
			Other ID ~											
			Sample Type ~	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date ~	06/09/2024	11/09/2024	11/09/2024	10/09/2024	10/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024	10/09/2024	11/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	8.3	8.3	7.7	8.2	8.0	8.1	8.1	8.2	8.2	8.1	8.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	37	69	16	18				32			

Symbol key at end of report

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20706
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2401025	2401026	2401027	2401028
			Sample ID ~	TPB27	TPB27	TPB29	TPB29
			Depth ~	0.25-0.70	0.50	0.60-1.00	1.50
			Other ID ~				
			Sample Type ~	SOIL	SOIL	SOIL	SOIL
			Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	11/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Inorganics							
pH	DETSC 2008#		pH	8.2	8.2	8.5	8.6
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		18		10

Symbol key at end of report

Information in Support of the Analytical Results

Our Ref 24-20706
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2401014	BHB06A 0.90-1.20 SOIL	06/09/24	PT 1L	pH + Conductivity (7 days)	
2401015	BHB08 1.20-1.65 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2401016	BHB12 2.55-3.00 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2401017	TPB11 1.20 SOIL	10/09/24	PT 1L	pH + Conductivity (7 days)	
2401018	TPB11 1.50-2.50 SOIL	10/09/24	PT 1L	pH + Conductivity (7 days)	
2401019	TPB12 0.75-1.20 SOIL	09/09/24	PT 1L	pH + Conductivity (7 days)	
2401020	TPB13 0.75-1.50 SOIL	09/09/24	PT 1L	pH + Conductivity (7 days)	
2401021	TPB13 1.20 SOIL	09/09/24	PT 1L	pH + Conductivity (7 days)	
2401022	TPB14 0.80-1.90 SOIL	09/09/24	PT 1L	pH + Conductivity (7 days)	
2401023	TPB16 0.30-0.70 SOIL	10/09/24	PT 1L	pH + Conductivity (7 days)	
2401024	TPB18 0.70-1.50 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2401025	TPB27 0.25-0.70 SOIL	10/09/24	PT 1L	pH + Conductivity (7 days)	
2401026	TPB27 0.50 SOIL	10/09/24	PT 1L	pH + Conductivity (7 days)	
2401027	TPB29 0.60-1.00 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	
2401028	TPB29 1.50 SOIL	11/09/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20564	*Issued:*	01-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20564
Client Reference ~	PC248770
Order No ~	OC41631
Contract Title ~	Lionlink Cable Route
Description	21 Soil samples.
Date Received	26-Sep-24
Date Started	26-Sep-24
Date Completed	01-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20564
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2400067	2400068	2400069	2400070	2400071	2400072	2400073	2400074	2400075	2400076	2400077
			Sample ID ~	BHB01	BHB03A	BHB05	BHB06	TPB01	TPB01	TPB02	TPB03	TPB03	TPB04	TPB05
			Depth ~	1.80-2.30	3.00-3.45	1.55-2.00	1.20-1.65	0.85-1.20	1.20	0.90-1.20	0.30-1.30	0.70	1.70-2.50	0.85-1.20
			Other ID ~											
			Sample Type ~	B	B	D	D	B	D	B	B	D	B	B
			Sampling Date ~	30/08/2024	03/09/2024	05/09/2024	05/09/2024	02/09/2024	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	8.9	8.4	8.3		8.3	8.0	8.3	8.4	8.0	8.1	8.0
Organic matter	DETSC 2002#	0.1	%		1.6		1.9							
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	32	46	61			430			13		30

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20564
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2400078	2400079	2400080	2400081	2400082	2400083	2400084	2400085	2400086	2400087
	Sample ID ~	TPB05	TPB06	TPB06	TPB07	TPB07	TPB08	TPB08	TPB09	TPB10	TPB10
	Depth ~	1.20-2.00	0.75-1.20	1.20	0.45-1.00	1.00-2.00	1.00-2.00	1.00	0.30-1.15	0.70-1.50	2.00
	Other ID ~										
	Sample Type ~	B	B	D	B	B	B	D	B	B	D
	Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024	06/09/2024	06/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**								
Inorganics											
pH	DETSC 2008#		pH	8.3	8.2	8.2	8.2	8.2	8.3	8.3	7.8	8.2	8.2
Organic matter	DETSC 2002#	0.1	%										
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			45		17		35			52

Information in Support of the Analytical Results

Our Ref 24-20564
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2400067	BHB01 1.80-2.30 SOIL	30/08/24	PT 1L	pH + Conductivity (7 days)	
2400068	BHB03A 3.00-3.45 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400069	BHB05 1.55-2.00 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400070	BHB06 1.20-1.65 SOIL	05/09/24	PT 1L		
2400071	TPB01 0.85-1.20 SOIL	02/09/24	PT 1L	pH + Conductivity (7 days)	
2400072	TPB01 1.20 SOIL	02/09/24	PT 1L	pH + Conductivity (7 days)	
2400073	TPB02 0.90-1.20 SOIL	02/09/24	PT 1L	pH + Conductivity (7 days)	
2400074	TPB03 0.30-1.30 SOIL	02/09/24	PT 1L	pH + Conductivity (7 days)	
2400075	TPB03 0.70 SOIL	02/09/24	PT 1L	pH + Conductivity (7 days)	
2400076	TPB04 1.70-2.50 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400077	TPB05 0.85-1.20 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400078	TPB05 1.20-2.00 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400079	TPB06 0.75-1.20 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400080	TPB06 1.20 SOIL	03/09/24	PT 1L	pH + Conductivity (7 days)	
2400081	TPB07 0.45-1.00 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400082	TPB07 1.00-2.00 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400083	TPB08 1.00-2.00 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400084	TPB08 1.00 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400085	TPB09 0.30-1.15 SOIL	05/09/24	PT 1L	pH + Conductivity (7 days)	
2400086	TPB10 0.70-1.50 SOIL	06/09/24	PT 1L	pH + Conductivity (7 days)	
2400087	TPB10 2.00 SOIL	06/09/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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Soil Analysis Notes

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Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.

Information in Support of the Analytical Results

Our Ref 24-20564
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-23950	*Issued:*	08-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23950
Client Reference ~	PC248770
Order No ~	OC42031
Contract Title ~	Lionlink Cable Route
Description	20 Soil samples.
Date Received	06-Nov-24
Date Started	06-Nov-24
Date Completed	08-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-23950
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2419783	2419784	2419785	2419786	2419787	2419788	2419789	2419790	2419791	2419792	2419793
			Sample ID ~	BHC01	BHC07	TPC01	TPC01	TPC02	TPC03	TPC03	TPC04	TPC05	TPC05	TPC06
			Depth ~	0.40-0.80	0.40-0.60	0.60	1.00-1.80	0.40-1.00	0.40-1.40	1.00	0.70-1.50	0.30-0.70	1.50	0.70-1.50
			Other ID ~											
			Sample Type ~	B	D	D	B	B	B	D	B	B	D	B
			Sampling Date ~	25/09/2024	01/10/2024	19/09/2024	19/09/2024	19/09/2024	19/09/2024	19/09/2024	20/09/2024	23/09/2024	23/09/2024	24/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	7.0	7.2	7.7	7.5	8.5	8.2	8.0	7.6	8.3	8.3	8.5
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10	13	< 10				12			< 10	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23950
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2419794	2419795	2419796	2419797	2419798	2419799	2419800	2419801	2419802
				Sample ID ~	TPC06	TPC07	TPC07	TPC08	TPC09	TPC09	TPC10	TPC11	TPC11
				Depth ~	3.00	0.10-1.20	1.10	1.00-1.80	0.50-1.00	0.60	0.80-1.50	0.50	1.50-2.50
				Other ID ~									
				Sample Type ~	D	B	D	B	B	D	B	D	B
				Sampling Date ~	24/09/2024	25/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024	25/09/2024	25/09/2024	25/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**										
Inorganics													
pH	DETSC 2008#		pH		8.6	8.6	8.6	8.6	8.6	8.5	8.5	8.6	8.5
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		10		34			13		15	

Information in Support of the Analytical Results

Our Ref 24-23950
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2419783	BHC01 0.40-0.80 SOIL	25/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419784	BHC07 0.40-0.60 SOIL	01/10/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419785	TPC01 0.60 SOIL	19/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419786	TPC01 1.00-1.80 SOIL	19/09/24	PT 1L	pH + Conductivity (7 days)	
2419787	TPC02 0.40-1.00 SOIL	19/09/24	PT 1L	pH + Conductivity (7 days)	
2419788	TPC03 0.40-1.40 SOIL	19/09/24	PT 1L	pH + Conductivity (7 days)	
2419789	TPC03 1.00 SOIL	19/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419790	TPC04 0.70-1.50 SOIL	20/09/24	PT 1L	pH + Conductivity (7 days)	
2419791	TPC05 0.30-0.70 SOIL	23/09/24	PT 1L	pH + Conductivity (7 days)	
2419792	TPC05 1.50 SOIL	23/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419793	TPC06 0.70-1.50 SOIL	24/09/24	PT 1L	pH + Conductivity (7 days)	
2419794	TPC06 3.00 SOIL	24/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419795	TPC07 0.10-1.20 SOIL	25/09/24	PT 1L	pH + Conductivity (7 days)	
2419796	TPC07 1.10 SOIL	25/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419797	TPC08 1.00-1.80 SOIL	24/09/24	PT 1L	pH + Conductivity (7 days)	
2419798	TPC09 0.50-1.00 SOIL	24/09/24	PT 1L	pH + Conductivity (7 days)	
2419799	TPC09 0.60 SOIL	24/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419800	TPC10 0.80-1.50 SOIL	25/09/24	PT 1L	pH + Conductivity (7 days)	
2419801	TPC11 0.50 SOIL	25/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2419802	TPC11 1.50-2.50 SOIL	25/09/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

Our Ref 24-23950
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-24034 *Issued:* 12-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-24034

Client Reference ~ PC248770

Order No ~ OC42031

Contract Title ~ Lionlink Cable Route

Description 12 Soil samples.

Date Received 06-Nov-24

Date Started 07-Nov-24

Date Completed 12-Nov-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24034
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2420298	2420299	2420300	2420301	2420302	2420303	2420304	2420305	2420306	2420307	2420308	2420309
			Sample ID ~	TPC12	TPC13	TPC13	TPC14	TPC15	TPC15	TPC16	TPC17	TPC17	TPC19	TPC19	TPC20
			Depth ~	0.30-1.30	0.70-1.50	1.20	0.70-1.50	0.60	0.40-1.20	1.40-2.00	0.30-1.10	0.60	0.50-1.10	1.00	1.50-2.10
			Other ID ~												
			Sample Type ~	B	B	D	B	B	D	B	B	D	B	D	B
			Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024	27/09/2024	27/09/2024	30/09/2024	01/10/2024	18/10/2024	08/10/2024	08/10/2024	08/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**												
Inorganics															
pH	DETSC 2008#		pH	7.6	8.1	8.2	8.4	8.2	8.3	7.8	8.2	8.0	8.2	7.8	8.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			100			41			94		15	

Information in Support of the Analytical Results

Our Ref 24-24034
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2420298	TPC12 0.30-1.30 SOIL	26/09/24	PT 1L	pH + Conductivity (7 days)	
2420299	TPC13 0.70-1.50 SOIL	26/09/24	PT 1L	pH + Conductivity (7 days)	
2420300	TPC13 1.20 SOIL	26/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2420301	TPC14 0.70-1.50 SOIL	26/09/24	PT 1L	pH + Conductivity (7 days)	
2420302	TPC15 0.60 SOIL	27/09/24	PT 1L	pH + Conductivity (7 days)	
2420303	TPC15 0.40-1.20 SOIL	27/09/24	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2420304	TPC16 1.40-2.00 SOIL	30/09/24	PT 1L	pH + Conductivity (7 days)	
2420305	TPC17 0.30-1.10 SOIL	01/10/24	PT 1L	pH + Conductivity (7 days)	
2420306	TPC17 0.60 SOIL	18/10/24	PT 1L	pH + Conductivity (7 days)	
2420307	TPC19 0.50-1.10 SOIL	08/10/24	PT 1L	pH + Conductivity (7 days)	
2420308	TPC19 1.00 SOIL	08/10/24	PT 1L	pH + Conductivity (7 days)	
2420309	TPC20 1.50-2.10 SOIL	08/10/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 12

Laboratory Test Results - Contamination Soil

APPENDIX 12

Certificate of Analysis

Certificate Number	24-19017	*Issued:*	16-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19017
Client Reference ~	PC248770
Order No ~	OC41493
Contract Title ~	LIONLINK - CABLE ROUTE
Description	3 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	09-Sep-24
Date Started	09-Sep-24
Date Completed	16-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390220	2390221	2390222
			Sample ID ~	BHB01	BHB02	BHB02
			Depth ~	0.20	0.10	0.50
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/08/2024	30/08/2024	30/08/2024
			Sampling Time ~	0900	0900	0900
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	11	11	6.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.7	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.0	0.8	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	18	24	14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	17	21	14
Lead	DETSC 2301#	0.3	mg/kg	41	30	8.6
Mercury	DETSC 2325#	0.05	mg/kg	0.11	0.07	< 0.05
Nickel	DETSC 2301#	1	mg/kg	15	25	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	34	41	23
Zinc	DETSC 2301#	1	mg/kg	67	70	39
Inorganics						
pH	DETSC 2008#		pH	7.9	7.8	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.6	1.5	2.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	32	24	20
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390220	2390221	2390222
			Sample ID ~	BHB01	BHB02	BHB02
			Depth ~	0.20	0.10	0.50
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/08/2024	30/08/2024	30/08/2024
			Sampling Time ~	0900	0900	0900
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390220	2390221	2390222
			Sample ID ~	BHB01	BHB02	BHB02
			Depth ~	0.20	0.10	0.50
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/08/2024	30/08/2024	30/08/2024
			Sampling Time ~	0900	0900	0900
Test	**Method**	**LOD**	**Units**			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390220	2390221	2390222
			Sample ID ~	BHB01	BHB02	BHB02
			Depth ~	0.20	0.10	0.50
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/08/2024	30/08/2024	30/08/2024
			Sampling Time ~	0900	0900	0900
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390220	2390221	2390222
			Sample ID ~	BHB01	BHB02	BHB02
			Depth ~	0.20	0.10	0.50
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	30/08/2024	30/08/2024	30/08/2024
			Sampling Time ~	0900	0900	0900
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390223
Sample ID ~	BHB02
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/08/2024
Sampling Time ~	0900

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.21
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	11
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	8.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.2
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	0.2
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.18
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.8
Nitrate as N	DETSC 2055	0.0226	mg/l	0.41
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.60
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.5
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390223
Sample ID ~	BHB02
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/08/2024
Sampling Time ~	0900

Test	Method	LOD	Units	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390223
Sample ID ~	BHB02
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/08/2024
Sampling Time ~	0900

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390223
Sample ID ~	BHB02
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/08/2024
Sampling Time ~	0900

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390223
Sample ID ~	BHB02
Depth ~	0.50
Other ID ~	
Sample Type ~	ES
Sampling Date ~	30/08/2024
Sampling Time ~	0900

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19017
Client Ref PC248770
Contract Title LIONLINK - CABLE ROUTE
Sample Id BHB02 0.50

Sample Numbers 2390222 2390224
Date Analysed 16/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.7	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.52	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	6.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.9	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.091	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	10000	100	800	15,000	25,000
DETSC 2055* Fluoride as F	1500	15	10	150	500
DETSC 2055 Sulphate as SO4	5200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	69000	690	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2500	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.2
DETSC 2009 Conductivity uS/cm	98.9
* Temperature*	18.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.097
Stage 1	
Volume of Leachant L2*	0.953
Volume of Eluate VE1*	0.906

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19017
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2390220	BHB01 0.20	SOIL	NAD	none	Michael Kay
2390221	BHB02 0.10	SOIL	NAD	none	Michael Kay
2390222	BHB02 0.50	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19017
Client Ref ~ PC248770
Contract ~ LIONLINK - CABLE ROUTE

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2390220	BHB01 0.20 SOIL	30/08/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2390221	BHB02 0.10 SOIL	30/08/24	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
2390222	BHB02 0.50 SOIL	30/08/24	GJ 250ml, GJ 60ml, PT 1L x2	pH + Conductivity (7 days), VOC (7 days)	
2390223	BHB02 0.50 LEACHATE	30/08/24	GJ 250ml, GJ 60ml, PT 1L x2	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days), SVOC (7 days)	VOC
2390224	BHB02 0.50 LEACHATE	30/08/24	GJ 250ml, GJ 60ml, PT 1L x2	pH/Cond (1 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19023	*Issued:*	17-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19023
Client Reference ~	PC248770
Order No ~	OC41493
Contract Title ~	LIONLINK - CABLE ROUTE
Description	3 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	09-Sep-24
Date Started	09-Sep-24
Date Completed	17-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

	Lab No	2390257	2390258	2390259
	Sample ID ~	BHB03A	BHB04	BHB04
	Depth ~	0.10	0.10	1.00
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	03/09/2024	02/09/2024	02/09/2024
	Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	11	10	8.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.8	0.8	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	0.5	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	26	24	15
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	17	16
Lead	DETSC 2301#	0.3	mg/kg	18	17	7.8
Mercury	DETSC 2325#	0.05	mg/kg	0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	22	24	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	44	42	25
Zinc	DETSC 2301#	1	mg/kg	62	68	41
Inorganics				
pH	DETSC 2008#		pH	8.1	8.2	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.3	1.9	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	24	14	26
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	6.4	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	2.8	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	11	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	8.8	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	29	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	29	< 10
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

	Lab No	2390257	2390258	2390259
	Sample ID ~	BHB03A	BHB04	BHB04
	Depth ~	0.10	0.10	1.00
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	03/09/2024	02/09/2024	02/09/2024
	Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390257	2390258	2390259
			Sample ID ~	BHB03A	BHB04	BHB04
			Depth ~	0.10	0.10	1.00
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	03/09/2024	02/09/2024	02/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390257	2390258	2390259
			Sample ID ~	BHB03A	BHB04	BHB04
			Depth ~	0.10	0.10	1.00
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	03/09/2024	02/09/2024	02/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	0.08
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390257	2390258	2390259
			Sample ID ~	BHB03A	BHB04	BHB04
			Depth ~	0.10	0.10	1.00
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	03/09/2024	02/09/2024	02/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390260
Sample ID ~	BHB03A
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	03/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.25
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	7.4
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.11
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.8
Inorganics				
pH	DETSC 2008		pH	7.0
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.21
Nitrate as NO3	DETSC 2055	0.1	mg/l	6.6
Nitrate as N	DETSC 2055	0.0226	mg/l	1.5
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.69
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.8
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390260
Sample ID ~	BHB03A
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	03/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390260
Sample ID ~	BHB03A
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	03/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390260
Sample ID ~	BHB03A
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	03/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	2390260
Sample ID ~	BHB03A
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	03/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19023
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2390257	BHB03A 0.10	SOIL	NAD	none	Michael Kay
2390258	BHB04 0.10	SOIL	NAD	none	Michael Kay
2390259	BHB04 1.00	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19023
Client Ref ~ PC248770
Contract ~ LIONLINK - CABLE ROUTE

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2390257	BHB03A 0.10 SOIL	03/09/24	GJ 250ml x2, GJ 60ml x2, PT 1L		
2390258	BHB04 0.10 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390259	BHB04 1.00 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390260	BHB03A 0.10 LEACHATE	03/09/24	GJ 250ml x2, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-19539 *Issued:* 20-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-19539

Client Reference ~ PC248770

Order No ~ OC41496

Contract Title ~ Lionlink Cable Route

Description 2 Soil samples, 1 Leachate prepared by DETS sample.

Date Received 13-Sep-24

Date Started 13-Sep-24

Date Completed 20-Sep-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393734	2393735
			Sample ID ~	BHB05	BHB06
			Depth ~	0.30	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	14	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.9
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.9	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	23	26
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	18	17
Lead	DETSC 2301#	0.3	mg/kg	19	15
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	19	27
Selenium	DETSC 2301#	0.5	mg/kg	0.5	0.5
Vanadium	DETSC 2301#	0.8	mg/kg	41	46
Zinc	DETSC 2301#	1	mg/kg	68	67
Inorganics					
pH	DETSC 2008#		pH	8.0	8.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.8	1.3
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	28	13
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393734	2393735
			Sample ID ~	BHB05	BHB06
			Depth ~	0.30	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg	< 35	< 35
2,4-D	DETSC 3447	35	ug/kg	< 35	< 35
Bentazone	DETSC 3447	35	ug/kg	< 35	< 35
Picloram	DETSC 3447	35	ug/kg	< 35	< 35
MCPA	DETSC 3447	35	ug/kg	< 35	< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35	< 35
Dicamba	DETSC 3447	35	ug/kg	< 35	< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35	< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35	< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35	< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35	< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35	< 35
MCPB	DETSC 3447*	35	ug/kg	< 35	< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35	< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35	< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35	< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35	< 35
Benazolin	DETSC 3447	35	ug/kg	< 35	< 35
PCP	DETSC 3447*	35	ug/kg	< 35	< 35
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393734	2393735
			Sample ID ~	BHB05	BHB06
			Depth ~	0.30	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393734	2393735
			Sample ID ~	BHB05	BHB06
			Depth ~	0.30	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393734	2393735
			Sample ID ~	BHB05	BHB06
			Depth ~	0.30	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19539
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHB05 0.30

Sample Numbers 2393734 2393736
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	4.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.4	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	22	0.2	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.1	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.31	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.7	0.02	4	50	200
DETSC 2055 Chloride as Cl	1600	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	760	7.6	10	150	500
DETSC 2055 Sulphate as SO4	9700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	51000	510	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.5
DETSC 2009 Conductivity uS/cm	72.2
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.101

Stage 1

Volume of Leachant L2*	0.999
Volume of Eluate VE1*	0.95

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19539
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2393734	BHB05 0.30	SOIL	NAD	none	Keith Wilson
2393735	BHB06 0.10	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19539
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2393734	BHB05 0.30 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2393735	BHB06 0.10 SOIL	05/09/24	GJ 250ml x2, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2393736	BHB05 0.30 LEACHATE	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-19541 *Issued:* 23-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-19541

Client Reference ~ PC248770

Order No ~ OC41496

Contract Title ~ Lionlink Cable Route

Description 4 Soil samples, 3 Leachate prepared by DETS samples.

Date Received 13-Sep-24

Date Started 13-Sep-24

Date Completed 23-Sep-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393746	2393747	2393749
			Sample ID ~	BHB07	BHB13	BHB13
			Depth ~	0.10	0.20	0.80
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	9.8	8.5
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.7	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.0	0.8	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	24	24	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	34	14	20
Lead	DETSC 2301#	0.3	mg/kg	24	18	9.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	18	18	24
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	44	40	35
Zinc	DETSC 2301#	1	mg/kg	75	56	49
Inorganics						
pH	DETSC 2008#		pH	8.1	7.8	8.4
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.1	3.5	1.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	28	28	19
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393746	2393747	2393749
			Sample ID ~	BHB07	BHB13	BHB13
			Depth ~	0.10	0.20	0.80
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.04	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	0.23	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	0.3	< 0.3

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393746	2393747	2393749
			Sample ID ~	BHB07	BHB13	BHB13
			Depth ~	0.10	0.20	0.80
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393746	2393747	2393749
			Sample ID ~	BHB07	BHB13	BHB13
			Depth ~	0.10	0.20	0.80
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19541
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHB07 0.10

Sample Numbers 2393746 2393751
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.9	3	5	6
DETSC 2003# Loss On Ignition	%	6.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.35	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	5.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.3	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.13	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1800	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	240	2.4	10	150	500
DETSC 2055 Sulphate as SO4	3000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	43000	430	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2500	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.6
DETSC 2009 Conductivity uS/cm	61.5
* Temperature*	19.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.967
Volume of Eluate VE1*	0.914

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19541
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHB13 0.40

Sample Numbers 2393748 2393752
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETSC 2003# Loss On Ignition	%	4.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.59	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.27	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.34	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.4	0.02	4	50	200
DETSC 2055 Chloride as Cl	1900	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	330	3.3	10	150	500
DETSC 2055 Sulphate as SO4	2400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	25000	250	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2600	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.5
DETSC 2009 Conductivity uS/cm	35.7
* Temperature*	19.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.933
Volume of Eluate VE1*	0.885

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2393750
Sample ID ~	BHB13
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	09/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.45
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	8.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	3.0
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	4.1
Inorganics				
pH	DETSC 2008		pH	6.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	0.2
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	4.9
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.18
Nitrate as NO3	DETSC 2055	0.1	mg/l	5.0
Nitrate as N	DETSC 2055	0.0226	mg/l	1.1
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.59
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.6
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2393750
Sample ID ~	BHB13
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	09/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.03
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.02
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2393750
Sample ID ~	BHB13
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	09/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2393750
Sample ID ~	BHB13
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	09/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2393750
Sample ID ~	BHB13
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	09/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19541
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2393746	BHB07 0.10	SOIL	NAD	none	D Wilkinson
2393747	BHB13 0.20	SOIL	NAD	none	D Wilkinson
2393749	BHB13 0.80	SOIL	NAD	none	D Wilkinson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19541
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2393746	BHB07 0.10 SOIL	09/09/24	GJ 250ml x2, GJ 60ml, PT 1L		
2393747	BHB13 0.20 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393748	BHB13 0.40 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393749	BHB13 0.80 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393750	BHB13 0.20 LEACHATE	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393751	BHB07 0.10 LEACHATE	09/09/24	GJ 250ml x2, GJ 60ml, PT 1L		
2393752	BHB13 0.40 LEACHATE	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-19936 *Issued:* 30-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-19936

Client Reference ~ PC248770

Order No ~ OC41598

Contract Title ~ Lionlink Cable Route

Description 4 Soil samples, 3 Leachate prepared by DETS samples.

Date Received 18-Sep-24

Date Started 18-Sep-24

Date Completed 30-Sep-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395979	2395980	2395981	2395982
	Sample ID ~	BHB08	BHB08	BHB11	BHB12
	Depth ~	0.10	0.50	0.30	0.20
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	11/09/2024	11/09/2024	12/09/2024	11/09/2024
	Sampling Time ~	1000	1000	1215	1000
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	12	16	13	8.9
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	1.3	0.6	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.5	0.6	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	23	39	21	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	17	30	14	14
Lead	DETSC 2301#	0.3	mg/kg	22	17	19	19
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	18	52	17	18
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	39	62	38	40
Zinc	DETSC 2301#	1	mg/kg	49	66	57	49
Inorganics							
pH	DETSC 2008#		pH	7.9	8.1	7.9	7.5
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.2
Organic matter	DETSC 2002#	0.1	%	1.8	2.0	3.2	3.4
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	14	18	22	13
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	4.3	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	0.9	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	1.5	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395979	2395980	2395981	2395982
			Sample ID ~	BHB08	BHB08	BHB11	BHB12
			Depth ~	0.10	0.50	0.30	0.20
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	11/09/2024	11/09/2024	12/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1215	1000
Test	**Method**	**LOD**	**Units**				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	0.4	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg			< 35	
2,4-D	DETSC 3447	35	ug/kg			< 35	
Bentazone	DETSC 3447	35	ug/kg			< 35	
Picloram	DETSC 3447	35	ug/kg			< 35	
MCPA	DETSC 3447	35	ug/kg			< 35	
Clopyralid	DETSC 3447	35	ug/kg			< 35	
Dicamba	DETSC 3447	35	ug/kg			< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg			< 35	
Dichlorprop	DETSC 3447	35	ug/kg			< 35	
Bromoxynil	DETSC 3447	35	ug/kg			< 35	
Triclopyr	DETSC 3447	35	ug/kg			< 35	
Fenoprop	DETSC 3447	35	ug/kg			< 35	
MCPB	DETSC 3447*	35	ug/kg			< 35	
2,4,5-T	DETSC 3447	35	ug/kg			< 35	
Fluroxypyr	DETSC 3447	35	ug/kg			< 35	
2,4-DB	DETSC 3447	35	ug/kg			< 35	
Ioxynil	DETSC 3447	35	ug/kg			< 35	
Benazolin	DETSC 3447	35	ug/kg			< 35	
PCP	DETSC 3447*	35	ug/kg			< 35	
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395979	2395980	2395981	2395982
			Sample ID ~	BHB08	BHB08	BHB11	BHB12
			Depth ~	0.10	0.50	0.30	0.20
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	11/09/2024	11/09/2024	12/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1215	1000
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg			< 0.1	
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg			< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2395979	2395980	2395981	2395982
				Sample ID ~	BHB08	BHB08	BHB11	BHB12
				Depth ~	0.10	0.50	0.30	0.20
				Other ID ~				
				Sample Type ~	ES	ES	ES	ES
				Sampling Date ~	11/09/2024	11/09/2024	12/09/2024	11/09/2024
				Sampling Time ~	1000	1000	1215	1000
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2395979	2395980	2395981	2395982
	Sample ID ~	BHB08	BHB08	BHB11	BHB12
	Depth ~	0.10	0.50	0.30	0.20
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	11/09/2024	11/09/2024	12/09/2024	11/09/2024
	Sampling Time ~	1000	1000	1215	1000
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395983	2395984
			Sample ID ~	BHB08	BHB11
			Depth ~	0.10	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	11/09/2024	12/09/2024
			Sampling Time ~	1000	1215
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.38	0.59
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	2.6	5.7
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9	1.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.16	0.11
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.6	1.5
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	2.0
Inorganics					
pH	DETSC 2008		pH	6.5	6.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	2.2
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.06	0.08
Nitrate as NO3	DETSC 2055	0.1	mg/l	3.4	7.5
Nitrate as N	DETSC 2055	0.0226	mg/l	0.76	1.7
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.20	0.27
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.9	3.0
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	4.0	4.6
Aliphatic C16-C21	DETSC 3072*	1	ug/l	12	8.2
Aliphatic C21-C35	DETSC 3072*	1	ug/l	8.5	1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	26	15
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Key: * -not accredited.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395983	2395984
			Sample ID ~	BHB08	BHB11
			Depth ~	0.10	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	11/09/2024	12/09/2024
			Sampling Time ~	1000	1215
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	26	15
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.03
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	0.02
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.03
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.03
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2395983	2395984
Sample ID ~	BHB08	BHB11
Depth ~	0.10	0.30
Other ID ~		
Sample Type ~	ES	ES
Sampling Date ~	11/09/2024	12/09/2024
Sampling Time ~	1000	1215

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395983	2395984
			Sample ID ~	BHB08	BHB11
			Depth ~	0.10	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	11/09/2024	12/09/2024
			Sampling Time ~	1000	1215
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2395983	2395984
			Sample ID ~	BHB08	BHB11
			Depth ~	0.10	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	11/09/2024	12/09/2024
			Sampling Time ~	1000	1215
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19936
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHB12 0.20

Sample Numbers 2395982 2395985
Date Analysed 30/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC 2003# Loss On Ignition	%	4.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.43	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	6.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.73	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.25	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	900	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	380	3.8	10	150	500
DETSC 2055 Sulphate as SO4	2100	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	22000	220	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.3
DETSC 2009 Conductivity uS/cm	31.9
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.097

Stage 1

Volume of Leachant L2*	0.956
Volume of Eluate VE1*	0.9

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19936
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2395979	BHB08 0.10	SOIL	NAD	none	Ben Barsby
2395980	BHB08 0.50	SOIL	NAD	none	Ben Barsby
2395981	BHB11 0.30	SOIL	NAD	none	Ben Barsby
2395982	BHB12 0.20	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19936
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2395979	BHB08 0.10 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395980	BHB08 0.50 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395981	BHB11 0.30 SOIL	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395982	BHB12 0.20 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2395983	BHB08 0.10 LEACHATE	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2395984	BHB11 0.30 LEACHATE	12/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2395985	BHB12 0.20 LEACHATE	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19952	*Issued:*	30-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19952
Client Reference ~	PC248770
Order No ~	OC4159
Contract Title ~	Lionlink Cable Route
Description	2 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	18-Sep-24
Date Started	18-Sep-24
Date Completed	30-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2396039	2396040
			Sample ID ~	BHB09	BHB15
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.3	9.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	21	21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	25
Lead	DETSC 2301#	0.3	mg/kg	11	29
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.07
Nickel	DETSC 2301#	1	mg/kg	24	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	37	36
Zinc	DETSC 2301#	1	mg/kg	150	120
Inorganics					
pH	DETSC 2008#		pH	8.0	7.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	0.1
Organic matter	DETSC 2002#	0.1	%	1.9	3.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	29	26
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2396039	2396040
			Sample ID ~	BHB09	BHB15
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	0.8
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2396039	2396040
	Sample ID ~	BHB09	BHB15
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	16/09/2024	16/09/2024
	Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2396041	2396042
			Sample ID ~	BHB08	BHB15
			Depth ~	1.00	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	
BS EN 12457 10:1	DETSC 1009*				Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.39	
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.10	
Calcium, Dissolved	DETSC 2306	0.09	mg/l	8.3	
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9	
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	
Zinc, Dissolved	DETSC 2306	1.3	ug/l	9.3	
Inorganics					
pH	DETSC 2008		pH	8.6	
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.03	
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.029	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.024	
Nitrite as N	DETSC 2055	0.03	mg/l	0.11	
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.8	
Nitrate as N	DETSC 2055	0.0226	mg/l	0.41	
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.37	
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.9	
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	
Aliphatic C12-C16	DETSC 3072*	1	ug/l	2.3	
Aliphatic C16-C21	DETSC 3072*	1	ug/l	9.1	
Aliphatic C21-C35	DETSC 3072*	1	ug/l	8.5	
Aliphatic C5-C35	DETSC 3072*	10	ug/l	20	

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2396041	2396042
	Sample ID ~	BHB08	BHB15
	Depth ~	1.00	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	16/09/2024	16/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	
Aromatic C16-C21	DETSC 3072*	1	ug/l	8.1	
Aromatic C21-C35	DETSC 3072*	1	ug/l	11	
Aromatic C5-C35	DETSC 3072*	10	ug/l	20	
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	40	
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2396041
Sample ID ~	BHB08
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	16/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2396041
Sample ID ~	BHB08
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	16/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2396041
Sample ID ~	BHB08
Depth ~	1.00
Other ID ~	
Sample Type ~	ES
Sampling Date ~	16/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19952
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHB15 0.10

Sample Numbers 2396040 2396042
Date Analysed 28/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.0	3	5	6
DETSC 2003# Loss On Ignition	%	5.8	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.34	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	9.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	2.4	0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.58	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.3	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.4	0.03	4	50	200
DETSC 2055 Chloride as Cl	2400	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	150	1.5	10	150	500
DETSC 2055 Sulphate as SO4	2900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	37000	370	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	5500	55	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.0
DETSC 2009 Conductivity uS/cm	52.2
* Temperature*	17.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.971
Volume of Eluate VE1*	0.923

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19952
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2396039	BHB09 0.10	SOIL	NAD	none	Ben Barsby
2396040	BHB15 0.10	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19952
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2396039	BHB09 0.10 SOIL	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2396040	BHB15 0.10 SOIL	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2396041	BHB08 1.00 LEACHATE	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH/Cond (1 days)	VOC
2396042	BHB15 0.10 LEACHATE	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20529	*Issued:*	10-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20529
Client Reference ~	PC248770
Order No ~	OC41665
Contract Title ~	LionLink - Cable Route
Description	4 Soil samples, 3 Leachate prepared by DETS samples.
Date Received	25-Sep-24
Date Started	25-Sep-24
Date Completed	10-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399925	2399926	2399927	2399928
	Sample ID ~	BHB10	BHB18	BHB19	BHB21
	Depth ~	0.10	0.10	0.30	0.80
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	20/09/2024	20/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	12	15	9.7	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.8	0.7	1.0
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	0.6	0.6	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	21	22	22	29
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	18	16	15	20
Lead	DETSC 2301#	0.3	mg/kg	16	25	13	20
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	19	21	19	30
Selenium	DETSC 2301#	0.5	mg/kg	1.0	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	39	39	39	48
Zinc	DETSC 2301#	1	mg/kg	75	86	64	57
Inorganics							
pH	DETSC 2008#		pH	8.2	7.8	8.3	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.7	2.7	1.5	1.8
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	23	27	16	17
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399925	2399926	2399927	2399928
			Sample ID ~	BHB10	BHB18	BHB19	BHB21
			Depth ~	0.10	0.10	0.30	0.80
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	20/09/2024	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	0.9	0.3	0.9
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg	< 35		< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35		< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35		< 35	
Picloram	DETSC 3447	35	ug/kg	< 35		< 35	
MCPA	DETSC 3447	35	ug/kg	< 35		< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35		< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35		< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35		< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35		< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35		< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35		< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35		< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35		< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35		< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35		< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35		< 35	
PCP	DETSC 3447*	35	ug/kg	< 35		< 35	
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399925	2399926	2399927	2399928
	Sample ID ~	BHB10	BHB18	BHB19	BHB21
	Depth ~	0.10	0.10	0.30	0.80
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	20/09/2024	20/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399925	2399926	2399927	2399928
			Sample ID ~	BHB10	BHB18	BHB19	BHB21
			Depth ~	0.10	0.10	0.30	0.80
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	20/09/2024	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399925	2399926	2399927	2399928
			Sample ID ~	BHB10	BHB18	BHB19	BHB21
			Depth ~	0.10	0.10	0.30	0.80
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	20/09/2024	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399930	2399931
	Sample ID ~	BHB19	BHB21
	Depth ~	0.30	0.80
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	20/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.29	0.37
Boron, Dissolved	DETSC 2306*	12	ug/l	13	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	4.6	4.7
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.17	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.68	0.32
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	4.7	< 1.3
Inorganics					
pH	DETSC 2008		pH	6.5	6.4
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	0.2	0.2
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.72	0.74
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.10	0.13
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.0	1.7
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399930	2399931
			Sample ID ~	BHB19	BHB21
			Depth ~	0.30	0.80
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399930	2399931
	Sample ID ~	BHB19	BHB21
	Depth ~	0.30	0.80
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	20/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399930	2399931
			Sample ID ~	BHB19	BHB21
			Depth ~	0.30	0.80
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399930	2399931
			Sample ID ~	BHB19	BHB21
			Depth ~	0.30	0.80
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	20/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20529
Client Ref PC248770
Contract Title LionLink - Cable Route
Sample Id BHB18 0.10

Sample Numbers 2399926 2399929
Date Analysed 09/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	5.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.8	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.8	0.02	0.5	2	25
DETSC 2306 Barium as Ba	28	0.3	20	100	300
DETSC 2306 Cadmium as Cd	0.56	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	8.2	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	8	0.08	2	50	100
DETSC 2306 Mercury as Hg	0.056	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	14	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	6.6	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	5.7	0.06	0.5	10	50
DETSC 2306 Antimony as Sb	1.2	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	2.8	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	7.7	0.08	4	50	200
DETSC 2055 Chloride as Cl	1700	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	2900	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	31000	310	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.7
DETSC 2009 Conductivity uS/cm	43.7
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.924
Volume of Eluate VE1*	0.875

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20529
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2399925	BHB10 0.10	SOIL	NAD	none	Ben Barsby
2399926	BHB18 0.10	SOIL	NAD	none	Ben Barsby
2399927	BHB19 0.30	SOIL	NAD	none	Ben Barsby
2399928	BHB21 0.80	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20529
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2399925	BHB10 0.10 SOIL	17/09/24	GJ 250ml x2, GJ 60ml, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2399926	BHB18 0.10 SOIL	20/09/24	GJ 250ml x2, GJ 60ml, PT 1L		
2399927	BHB19 0.30 SOIL	20/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399928	BHB21 0.80 SOIL	17/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2399929	BHB18 0.10 LEACHATE	20/09/24	GJ 250ml x2, GJ 60ml, PT 1L		
2399930	BHB19 0.30 LEACHATE	20/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2399931	BHB21 0.80 LEACHATE	17/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days), SVOC (7 days)	VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20846	*Issued:*	07-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20846
Client Reference ~	PC248770
Order No ~	OC41665
Contract Title ~	LionLink - Cable Route
Description	3 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	30-Sep-24
Date Started	30-Sep-24
Date Completed	07-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

				Lab No	2401735	2401736	2401737
				Sample ID ~	BHB20	BHB22	BHB22
				Depth ~	0.00-0.40	0.10	0.50
				Other ID ~			
				Sample Type ~	ES	ES	ES
				Sampling Date ~	23/09/2024	23/09/2024	23/09/2024
				Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	10	7.3	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.5	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	2.5	0.5	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.2	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	16	18	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15	21	15
Lead	DETSC 2301#	0.3	mg/kg	20	11	20
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	16	24	18
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	27	28	38
Zinc	DETSC 2301#	1	mg/kg	51	54	56
Inorganics							
pH	DETSC 2008#		pH	7.3	8.5	8.8
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.0	1.8	3.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	35	110	50
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

				Lab No	2401735	2401736	2401737
				Sample ID ~	BHB20	BHB22	BHB22
				Depth ~	0.00-0.40	0.10	0.50
				Other ID ~			
				Sample Type ~	ES	ES	ES
				Sampling Date ~	23/09/2024	23/09/2024	23/09/2024
				Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	1.0	< 0.3	0.4
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401735	2401736	2401737
	Sample ID ~	BHB20	BHB22	BHB22
	Depth ~	0.00-0.40	0.10	0.50
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	23/09/2024	23/09/2024	23/09/2024
	Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**	
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2401738
Sample ID ~	BHB22
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.22
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	8.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	2.7
Chromium III, Dissolved	DETSC 2306*	1	ug/l	2.7
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.28
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	5.6
Inorganics				
pH	DETSC 2008		pH	7.7
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	3.9
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.1
Nitrate as N	*	0.1	mg/l	< 0.10
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.35
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	8.7
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2401738
Sample ID ~	BHB22
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2401738
Sample ID ~	BHB22
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2401738
Sample ID ~	BHB22
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2401738
Sample ID ~	BHB22
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	23/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20846
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2401735	BHB20 0.00-0.40	SOIL	NAD	none	Vicky Convery
2401736	BHB22 0.10	SOIL	NAD	none	Vicky Convery
2401737	BHB22 0.50	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20846
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2401735	BHB20 0.00-0.40 SOIL	23/09/24	GJ 250ml x2, GJ 60ml, PT 1L		
2401736	BHB22 0.10 SOIL	23/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401737	BHB22 0.50 SOIL	23/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401738	BHB22 0.10 LEACHATE	23/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20844	*Issued:*	04-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20844
Client Reference ~	PC248770
Order No ~	OC41665
Contract Title ~	LionLink - Cable Route
Description	2 Soil samples.
Date Received	30-Sep-24
Date Started	30-Sep-24
Date Completed	04-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20844
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401717	2401718
	Sample ID ~	BHB23	BHB24
	Depth ~	0.10	0.00-0.35
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	25/09/2024	25/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	8.3	21
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	11	12
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	11	12
Lead	DETSC 2301#	0.3	mg/kg	15	17
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	11	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	20	23
Zinc	DETSC 2301#	1	mg/kg	40	49
Inorganics					
pH	DETSC 2008#		pH	7.5	7.5
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.7	2.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	23	51
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	5.4
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	5.3
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	11
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	11
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20844
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401717	2401718
			Sample ID ~	BHB23	BHB24
			Depth ~	0.10	0.00-0.35
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.3	< 0.3
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20844
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401717	2401718
			Sample ID ~	BHB23	BHB24
			Depth ~	0.10	0.00-0.35
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20844
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2401717	BHB23 0.10	SOIL	NAD	none	Vicky Convery
2401718	BHB24 0.00-0.35	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20844
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2401717	BHB23 0.10 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401718	BHB24 0.00-0.35 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19020	*Issued:*	17-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19020
Client Reference ~	PC248770
Order No ~	OC41493
Contract Title ~	LIONLINK - CABLE ROUTE
Description	10 Soil samples, 4 Leachate prepared by DETS samples.
Date Received	09-Sep-24
Date Started	09-Sep-24
Date Completed	17-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390237	2390238	2390239	2390240	2390241	2390242
				Sample ID ~	TPB01	TPB02	TPB02	TPB03	TPB04	TPB04
				Depth ~	0.20	0.15	0.75	0.15	0.10	0.60
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	10	9.1	8.6	10	9.7	13
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.6	0.6	0.7	0.7	0.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.0	0.7	0.5	0.8	0.8	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.2	0.3	0.3	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	22	20	23	25	24	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	16	16	13	15	20
Lead	DETSC 2301#	0.3	mg/kg	22	18	13	22	21	14
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05	0.05	0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	21	15	15	19	17	30
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	37	33	37	44	42	42
Zinc	DETSC 2301#	1	mg/kg	66	55	62	58	64	57
Inorganics										
pH	DETSC 2008#		pH	7.8	8.0	8.0	7.9	8.0	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.9	1.5	0.5	2.1	1.7	1.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	17	17	13	45	22	16
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390237	2390238	2390239	2390240	2390241	2390242
				Sample ID ~	TPB01	TPB02	TPB02	TPB03	TPB04	TPB04
				Depth ~	0.20	0.15	0.75	0.15	0.10	0.60
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Acid Herbicides										
Mecoprop	DETSC 3447	35	ug/kg	< 35					< 35
2,4-D	DETSC 3447	35	ug/kg	< 35					< 35
Bentazone	DETSC 3447	35	ug/kg	< 35					< 35
Picloram	DETSC 3447	35	ug/kg	< 35					< 35
MCPA	DETSC 3447	35	ug/kg	< 35					< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35					< 35
Dicamba	DETSC 3447	35	ug/kg	< 35					< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35					< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35					< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35					< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35					< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35					< 35
MCPB	DETSC 3447*	35	ug/kg	< 35					< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35					< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35					< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35					< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35					< 35
Benazolin	DETSC 3447	35	ug/kg	< 35					< 35
PCP	DETSC 3447*	35	ug/kg	< 35					< 35
OCPs										
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390237	2390238	2390239	2390240	2390241	2390242
			Sample ID ~	TPB01	TPB02	TPB02	TPB03	TPB04	TPB04
			Depth ~	0.20	0.15	0.75	0.15	0.10	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1					< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390237	2390238	2390239	2390240	2390241	2390242
				Sample ID ~	TPB01	TPB02	TPB02	TPB03	TPB04	TPB04
				Depth ~	0.20	0.15	0.75	0.15	0.10	0.60
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
VOCs										
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	0.08	0.08	0.08	0.08	0.09	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390237	2390238	2390239	2390240	2390241	2390242
				Sample ID ~	TPB01	TPB02	TPB02	TPB03	TPB04	TPB04
				Depth ~	0.20	0.15	0.75	0.15	0.10	0.60
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	02/09/2024	02/09/2024	02/09/2024	02/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390243	2390244	2390245	2390246
			Sample ID ~	TPB05	TPB05	TPB06	TPB06
			Depth ~	0.15	0.75	0.10	0.50
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	11	11	11	9.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.8	0.9	0.7	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.9	0.7	0.8	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.3	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	25	26	24	18
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	20	15	17
Lead	DETSC 2301#	0.3	mg/kg	17	15	18	9.5
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	22	26	19	22
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	44	39	42	32
Zinc	DETSC 2301#	1	mg/kg	68	56	61	44
Inorganics							
pH	DETSC 2008#		pH	7.9	8.1	8.1	7.5
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.4	1.2	2.6	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	23	12	12	13
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390243	2390244	2390245	2390246
			Sample ID ~	TPB05	TPB05	TPB06	TPB06
			Depth ~	0.15	0.75	0.10	0.50
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg				
2,4-D	DETSC 3447	35	ug/kg				
Bentazone	DETSC 3447	35	ug/kg				
Picloram	DETSC 3447	35	ug/kg				
MCPA	DETSC 3447	35	ug/kg				
Clopyralid	DETSC 3447	35	ug/kg				
Dicamba	DETSC 3447	35	ug/kg				
2,3,6-TBA	DETSC 3447	35	ug/kg				
Dichlorprop	DETSC 3447	35	ug/kg				
Bromoxynil	DETSC 3447	35	ug/kg				
Triclopyr	DETSC 3447	35	ug/kg				
Fenoprop	DETSC 3447	35	ug/kg				
MCPB	DETSC 3447*	35	ug/kg				
2,4,5-T	DETSC 3447	35	ug/kg				
Fluroxypyr	DETSC 3447	35	ug/kg				
2,4-DB	DETSC 3447	35	ug/kg				
Ioxynil	DETSC 3447	35	ug/kg				
Benazolin	DETSC 3447	35	ug/kg				
PCP	DETSC 3447*	35	ug/kg				
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg				
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg				
beta-BHC	DETSC 3433*	0.1	mg/kg				
delta-BHC	DETSC 3433*	0.1	mg/kg				

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390243	2390244	2390245	2390246
			Sample ID ~	TPB05	TPB05	TPB06	TPB06
			Depth ~	0.15	0.75	0.10	0.50
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor	DETSC 3433*	0.1	mg/kg				
Aldrin	DETSC 3433*	0.1	mg/kg				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg				
gamma-Chlordane	DETSC 3433*	0.1	mg/kg				
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg				
4,4-DDE	DETSC 3433*	0.1	mg/kg				
Dieldrin	DETSC 3433*	0.1	mg/kg				
Endrin	DETSC 3433*	0.1	mg/kg				
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg				
Endrin aldehyde	DETSC 3433*	0.1	mg/kg				
4,4-DDT	DETSC 3433*	0.1	mg/kg				
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg				
Methoxychlor	DETSC 3433*	0.1	mg/kg				
Endrin ketone	DETSC 3433*	0.1	mg/kg				
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg				
Mevinphos	DETSC 3433*	0.1	mg/kg				
Demeton-O	DETSC 3433*	0.1	mg/kg				
Ethoprop	DETSC 3433*	0.1	mg/kg				
Naled	DETSC 3433*	0.1	mg/kg				
Phorate	DETSC 3433*	0.1	mg/kg				
Demeton-S	DETSC 3433*	0.1	mg/kg				
Diazinon	DETSC 3433*	0.1	mg/kg				
Disulfoton	DETSC 3433*	0.1	mg/kg				
Methylparathion	DETSC 3433*	0.1	mg/kg				
Ronnel	DETSC 3433*	0.1	mg/kg				
Fenthion	DETSC 3433*	0.1	mg/kg				
Chlopyrifos	DETSC 3433*	0.1	mg/kg				
Trichlorinate	DETSC 3433*	0.1	mg/kg				
Merphos	DETSC 3433*	0.1	mg/kg				
Stirofos	DETSC 3433*	0.1	mg/kg				
Tokuthion	DETSC 3433*	0.1	mg/kg				
Fensulfothion	DETSC 3433*	0.1	mg/kg				
Bolstar	DETSC 3433*	0.1	mg/kg				
Azinphos methyl	DETSC 3433*	0.1	mg/kg				
Coumaphos	DETSC 3433*	0.1	mg/kg				

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390243	2390244	2390245	2390246
				Sample ID ~	TPB05	TPB05	TPB06	TPB06
				Depth ~	0.15	0.75	0.10	0.50
				Other ID ~				
				Sample Type ~	ES	ES	ES	ES
				Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	0.01	0.01	0.01	0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	0.09	0.08	0.08	0.08
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390243	2390244	2390245	2390246
			Sample ID ~	TPB05	TPB05	TPB06	TPB06
			Depth ~	0.15	0.75	0.10	0.50
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	03/09/2024	03/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

				Lab No	2390247	2390248	2390249	2390250
				Sample ID ~	TPB02	TPB04	TPB06	TPB05
				Depth ~	0.15	0.10	0.10	0.75
				Other ID ~				
				Sample Type ~	ES	ES	ES	ES
				Sampling Date ~	02/09/2024	03/09/2024	03/09/2024	03/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Preparation								
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y	
BS EN 12457 10:1	DETSC 1009*						Y
Metals								
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.50	0.33	0.18	
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12	< 12	
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	
Calcium, Dissolved	DETSC 2306	0.09	mg/l	6.7	5.4	5.5	
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001	< 0.001	
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3	0.9	0.9	
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.14	0.10	0.12	
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.5	< 0.5	0.6	
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.3	0.9	0.7	
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	< 1.3	< 1.3	
Inorganics							
pH	DETSC 2008		pH	7.7	6.4	6.3	
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.2	0.1	0.1	
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	0.2	0.2	< 0.1	
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	0.1	
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0	< 2.0	
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.06	0.04	0.02	
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.057	0.034	0.022	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.047	0.028	0.018	
Nitrite as N	DETSC 2055	0.03	mg/l	0.15	0.08	0.12	
Nitrate as NO3	DETSC 2055	0.1	mg/l	2.2	1.6	1.4	
Nitrate as N	DETSC 2055	0.0226	mg/l	0.49	0.36	0.32	
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.48	0.28	0.41	
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.5	2.2	1.3	
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390247	2390248	2390249	2390250
			Sample ID ~	TPB02	TPB04	TPB06	TPB05
			Depth ~	0.15	0.10	0.10	0.75
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	02/09/2024	03/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05	
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Phenanthrene	DETSC 3304	0.01	ug/l	0.02	0.01	0.02	
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Fluoranthene	DETSC 3304	0.01	ug/l	0.06	0.03	0.04	
Pyrene	DETSC 3304	0.01	ug/l	0.07	0.03	0.04	
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.03	0.01	0.02	
Chrysene	DETSC 3304	0.01	ug/l	0.04	0.02	0.02	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.06	0.02	0.04	
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.03	< 0.01	0.02	
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.04	0.01	0.02	
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.05	< 0.01	0.02	
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.05	0.02	0.04	
PAH Total	DETSC 3304	0.2	ug/l	0.45	< 0.20	0.27	

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390247	2390248	2390249
			Sample ID ~	TPB02	TPB04	TPB06
			Depth ~	0.15	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	02/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390247	2390248	2390249
			Sample ID ~	TPB02	TPB04	TPB06
			Depth ~	0.15	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	02/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1
SVOCs						
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

			Lab No	2390247	2390248	2390249
			Sample ID ~	TPB02	TPB04	TPB06
			Depth ~	0.15	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	02/09/2024	03/09/2024	03/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19020
Client Ref PC248770
Contract Title LIONLINK - CABLE ROUTE
Sample Id TPB05 0.75

Sample Numbers 2390244 2390250
Date Analysed 17/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.6	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	5.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.31	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.83	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.29	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	410	4.1	10	150	500
DETSC 2055 Sulphate as SO4	1600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	21000	210	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.3
DETSC 2009 Conductivity uS/cm	29.9
* Temperature*	17.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.943
Volume of Eluate VE1*	0.894

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19020
Client Ref ~ PC248770
Contract Title ~ LIONLINK - CABLE ROUTE

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2390237	TPB01 0.20	SOIL	NAD	none	Darryl Fletcher
2390238	TPB02 0.15	SOIL	NAD	none	Darryl Fletcher
2390239	TPB02 0.75	SOIL	NAD	none	Darryl Fletcher
2390240	TPB03 0.15	SOIL	NAD	none	Darryl Fletcher
2390241	TPB04 0.10	SOIL	NAD	none	Darryl Fletcher
2390242	TPB04 0.60	SOIL	NAD	none	Darryl Fletcher
2390243	TPB05 0.15	SOIL	NAD	none	Darryl Fletcher
2390244	TPB05 0.75	SOIL	NAD	none	Darryl Fletcher
2390245	TPB06 0.10	SOIL	NAD	none	Darryl Fletcher
2390246	TPB06 0.50	SOIL	NAD	none	Darryl Fletcher

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19020
Client Ref ~ PC248770
Contract ~ LIONLINK - CABLE ROUTE

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2390237	TPB01 0.20 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390238	TPB02 0.15 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390239	TPB02 0.75 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390240	TPB03 0.15 SOIL	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390241	TPB04 0.10 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390242	TPB04 0.60 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390243	TPB05 0.15 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390244	TPB05 0.75 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390245	TPB06 0.10 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390246	TPB06 0.50 SOIL	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390247	TPB02 0.15 LEACHATE	02/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2390248	TPB04 0.10 LEACHATE	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2390249	TPB06 0.10 LEACHATE	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2390250	TPB05 0.75 LEACHATE	03/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19119	*Issued:*	18-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19119
Client Reference ~	PC248770
Order No ~	OC41496
Contract Title ~	Lionlink Cable Route
Description	5 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	10-Sep-24
Date Started	10-Sep-24
Date Completed	18-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2390727	2390728	2390729	2390730	2390731
			Sample ID ~	TPB07	TPB07	TPB08	TPB09	TPB09
			Depth ~	0.10	0.45	0.15	0.10	0.50
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	8.3	12	9.9	9.3	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	1.0	0.6	0.4	0.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.8	0.5	0.6	0.6	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3	0.2	0.2	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	23	28	19	13	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13	20	13	23	14
Lead	DETSC 2301#	0.3	mg/kg	19	13	20	15	8.7
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	16	45	15	12	26
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	45	48	33	26	41
Zinc	DETSC 2301#	1	mg/kg	51	59	59	47	46
Inorganics								
pH	DETSC 2008#		pH	8.1	8.4	8.1	7.5	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	< 0.1	0.2	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.7	0.5	0.9	1.4	0.3
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	14	13	18	26	13
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2390727	2390728	2390729	2390730	2390731
			Sample ID ~	TPB07	TPB07	TPB08	TPB09	TPB09
			Depth ~	0.10	0.45	0.15	0.10	0.50
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	< 0.3	0.5	0.6	< 0.3
Acid Herbicides								
Mecoprop	DETSC 3447	35	ug/kg	< 35		< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		< 35		
OCPs								
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2390727	2390728	2390729	2390730	2390731
				Sample ID ~	TPB07	TPB07	TPB08	TPB09	TPB09
				Depth ~	0.10	0.45	0.15	0.10	0.50
				Other ID ~					
				Sample Type ~	ES	ES	ES	ES	ES
				Sampling Date ~	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024
				Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**						
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2390727	2390728	2390729	2390730	2390731
	Sample ID ~	TPB07	TPB07	TPB08	TPB09	TPB09
	Depth ~	0.10	0.45	0.15	0.10	0.50
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024
	Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2390727	2390728	2390729	2390730	2390731
			Sample ID ~	TPB07	TPB07	TPB08	TPB09	TPB09
			Depth ~	0.10	0.45	0.15	0.10	0.50
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	05/09/2024	05/09/2024	05/09/2024	05/09/2024	05/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2390833
Sample ID ~	TPB09
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	05/09/2024
Sampling Time ~	1000

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	62
Boron, Dissolved	DETSC 2306*	12	ug/l	77
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.31
Calcium, Dissolved	DETSC 2306	0.09	mg/l	9.0
Chromium, Dissolved	DETSC 2306	0.25	ug/l	790
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.79
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	630
Lead, Dissolved	DETSC 2306	0.09	ug/l	3400
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.12
Nickel, Dissolved	DETSC 2306	0.5	ug/l	42
Selenium, Dissolved	DETSC 2306	0.25	ug/l	4.5
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	4.3
Zinc, Dissolved	DETSC 2306	1.3	ug/l	190
Inorganics				
pH	DETSC 2008		pH	6.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	4.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.12
Nitrate as NO3	DETSC 2055	0.1	mg/l	7.5
Nitrate as N	DETSC 2055	0.0226	mg/l	1.7
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.40
Sulphate as SO4	DETSC 2055	0.1	mg/l	18
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Key: * -not accredited.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2390833
Sample ID ~	TPB09
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	05/09/2024
Sampling Time ~	1000

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	0.07
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2390833
Sample ID ~	TPB09
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	05/09/2024
Sampling Time ~	1000

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2390833
Sample ID ~	TPB09
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	05/09/2024
Sampling Time ~	1000

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2390833
Sample ID ~	TPB09
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	05/09/2024
Sampling Time ~	1000

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19119
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPB09 0.50

Sample Numbers 2390731 2390732
Date Analysed 17/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.6	3	5	6
DETSC 2003# Loss On Ignition	%	3.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.7	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.43	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.6	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1300	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	490	4.9	10	150	500
DETSC 2055 Sulphate as SO4	2000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	22000	220	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	3000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	31.8
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.947
Volume of Eluate VE1*	0.899

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19119
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2390727	TPB07 0.10	SOIL	NAD	none	Michael Kay
2390728	TPB07 0.45	SOIL	NAD	none	Michael Kay
2390729	TPB08 0.15	SOIL	NAD	none	Michael Kay
2390730	TPB09 0.10	SOIL	NAD	none	Michael Kay
2390731	TPB09 0.50	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19119
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2390727	TPB07 0.10 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390728	TPB07 0.45 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390729	TPB08 0.15 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390730	TPB09 0.10 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390731	TPB09 0.50 SOIL	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390732	TPB09 0.50 LEACHATE	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2390833	TPB09 0.10 LEACHATE	05/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19540	*Issued:*	24-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19540
Client Reference ~	PC248770
Order No ~	OC41496
Contract Title ~	Lionlink Cable Route
Description	5 Soil samples, 4 Leachate prepared by DETS samples.
Date Received	13-Sep-24
Date Started	13-Sep-24
Date Completed	24-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2393737	2393738	2393739	2393740	2393741
	Sample ID ~	TPB10	TPB12	TPB12	TPB13	TPB14
	Depth ~	0.10	0.20	0.50	0.15	0.10
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	06/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
	Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	12	7.8	8.6	8.7	8.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.5	1.0	0.6	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.6	0.4	0.5	1.0	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.1	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	18	19	26	21	21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	9.8	17	13	12
Lead	DETSC 2301#	0.3	mg/kg	15	16	11	20	19
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.06	0.06	0.06	0.06
Nickel	DETSC 2301#	1	mg/kg	16	14	26	14	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.6	0.5	0.9	0.5
Vanadium	DETSC 2301#	0.8	mg/kg	33	33	43	35	36
Zinc	DETSC 2301#	1	mg/kg	56	37	41	54	49
Inorganics								
pH	DETSC 2008#		pH	7.9	8.0	8.1	7.9	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.1	1.4	0.4	1.8	2.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	21	13	< 10	22	25
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393737	2393738	2393739	2393740	2393741
			Sample ID ~	TPB10	TPB12	TPB12	TPB13	TPB14
			Depth ~	0.10	0.20	0.50	0.15	0.10
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.07	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.20	0.05
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.16	0.04
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.09	0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.11	0.04
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.13	0.05
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.12	0.04
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	1.0	0.25
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5	0.6	< 0.3	0.5	0.5
Acid Herbicides								
Mecoprop	DETSC 3447	35	ug/kg		< 35			
2,4-D	DETSC 3447	35	ug/kg		< 35			
Bentazone	DETSC 3447	35	ug/kg		< 35			
Picloram	DETSC 3447	35	ug/kg		< 35			
MCPA	DETSC 3447	35	ug/kg		< 35			
Clopyralid	DETSC 3447	35	ug/kg		< 35			
Dicamba	DETSC 3447	35	ug/kg		< 35			
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35			
Dichlorprop	DETSC 3447	35	ug/kg		< 35			
Bromoxynil	DETSC 3447	35	ug/kg		< 35			
Triclopyr	DETSC 3447	35	ug/kg		< 35			
Fenoprop	DETSC 3447	35	ug/kg		< 35			
MCPB	DETSC 3447*	35	ug/kg		< 35			
2,4,5-T	DETSC 3447	35	ug/kg		< 35			
Fluroxypyr	DETSC 3447	35	ug/kg		< 35			
2,4-DB	DETSC 3447	35	ug/kg		< 35			
Ioxynil	DETSC 3447	35	ug/kg		< 35			
Benazolin	DETSC 3447	35	ug/kg		< 35			
PCP	DETSC 3447*	35	ug/kg		< 35			
OCPs								
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1			
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1			
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1			

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2393737	2393738	2393739	2393740	2393741
	Sample ID ~	TPB10	TPB12	TPB12	TPB13	TPB14
	Depth ~	0.10	0.20	0.50	0.15	0.10
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	06/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
	Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1			
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1			
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1			
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1			
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1			
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1			
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1			
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1			
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1			
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1			
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1			
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1			
OPPs								
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1			
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1			
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1			
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1			
Naled	DETSC 3433*	0.1	mg/kg		< 0.1			
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1			
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1			
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1			
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1			
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1			
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1			
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1			
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1			
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1			
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1			
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1			
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1			
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1			
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1			
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1			
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1			

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393737	2393738	2393739	2393740	2393741
			Sample ID ~	TPB10	TPB12	TPB12	TPB13	TPB14
			Depth ~	0.10	0.20	0.50	0.15	0.10
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393737	2393738	2393739	2393740	2393741
			Sample ID ~	TPB10	TPB12	TPB12	TPB13	TPB14
			Depth ~	0.10	0.20	0.50	0.15	0.10
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024	09/09/2024	09/09/2024	09/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393742	2393743
			Sample ID ~	TPB10	TPB13
			Depth ~	0.10	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024
			Sampling Time ~	1000	1000
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.70	0.66
Boron, Dissolved	DETSC 2306*	12	ug/l	18	17
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	5.3	10
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.28	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.8	2.8
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.29	0.14
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.7	0.6
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.0	0.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.7	< 1.3
Inorganics					
pH	DETSC 2008		pH	7.0	6.9
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.7	0.4
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	1.8	1.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.8	3.2
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	0.04
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	0.040
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	0.033
Nitrite as N	DETSC 2055	0.03	mg/l	0.11	0.23
Nitrate as NO3	DETSC 2055	0.1	mg/l	4.3	8.3
Nitrate as N	DETSC 2055	0.0226	mg/l	0.96	1.9
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.36	0.76
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.5	5.3
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Key: * -not accredited.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393742	2393743
			Sample ID ~	TPB10	TPB13
			Depth ~	0.10	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024
			Sampling Time ~	1000	1000
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.01
Pyrene	DETSC 3304	0.01	ug/l	0.01	0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393742	2393743
			Sample ID ~	TPB10	TPB13
			Depth ~	0.10	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024
			Sampling Time ~	1000	1000
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393742	2393743
			Sample ID ~	TPB10	TPB13
			Depth ~	0.10	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024
			Sampling Time ~	1000	1000
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393742	2393743
			Sample ID ~	TPB10	TPB13
			Depth ~	0.10	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	06/09/2024	09/09/2024
			Sampling Time ~	1000	1000
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19540
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPB10 0.10

Sample Numbers 2393737 2393744
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC 2003# Loss On Ignition	%	5.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.3	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.93	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	360	3.6	10	150	500
DETSC 2055 Sulphate as SO4	2300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.5
DETSC 2009 Conductivity uS/cm	21.1
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.968
Volume of Eluate VE1*	0.911

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19540
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPB13 0.15

Sample Numbers 2393740 2393745
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.4	3	5	6
DETSC 2003# Loss On Ignition	%	6.0	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.9	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.32	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.3	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	2700	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	520	5.2	10	150	500
DETSC 2055 Sulphate as SO4	3400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2800	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.5
DETSC 2009 Conductivity uS/cm	38.5
* Temperature*	18.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.099
Stage 1	
Volume of Leachant L2*	0.976
Volume of Eluate VE1*	0.915

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19540
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2393737	TPB10 0.10	SOIL	NAD	none	Darryl Fletcher
2393738	TPB12 0.20	SOIL	NAD	none	Darryl Fletcher
2393739	TPB12 0.50	SOIL	NAD	none	Darryl Fletcher
2393740	TPB13 0.15	SOIL	NAD	none	Darryl Fletcher
2393741	TPB14 0.10	SOIL	NAD	none	Darryl Fletcher

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19540
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2393737	TPB10 0.10 SOIL	06/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393738	TPB12 0.20 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393739	TPB12 0.50 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393740	TPB13 0.15 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393741	TPB14 0.10 SOIL	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393742	TPB10 0.10 LEACHATE	06/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393743	TPB13 0.15 LEACHATE	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393744	TPB10 0.10 LEACHATE	06/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393745	TPB13 0.15 LEACHATE	09/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-19563	*Issued:*	23-Sep-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-19563
Client Reference ~	PC248770
Order No ~	OC41496
Contract Title ~	Lionlink Cable Route
Description	5 Soil samples, 4 Leachate prepared by DETS samples.
Date Received	13-Sep-24
Date Started	13-Sep-24
Date Completed	23-Sep-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2393837	2393838	2393839	2393840	2393841
				Sample ID ~	TPB11	TPB16	TPB18	TPB27	TPB29
				Depth ~	0.15	0.15	0.15	0.10	0.20
				Other ID ~					
				Sample Type ~	ES	ES	ES	ES	ES
				Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	10/09/2024	11/09/2024
				Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	8.5	11	12	13	9.3
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.8	0.8	0.9	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5	0.9	0.7	1.1	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3	0.3	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	19	26	25	26	14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	11	16	23	18	14
Lead	DETSC 2301#	0.3	mg/kg	16	18	21	19	16
Mercury	DETSC 2325#	0.05	mg/kg	0.05	16	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	13	23	24	27	14
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	34	45	42	45	25
Zinc	DETSC 2301#	1	mg/kg	41	57	60	60	72
Inorganics									
pH	DETSC 2008#		pH	7.7	8.1	7.9	7.9	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.8	3.1	2.8	2.3	2.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	37	320	42	26	20
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393837	2393838	2393839	2393840	2393841
			Sample ID ~	TPB11	TPB16	TPB18	TPB27	TPB29
			Depth ~	0.15	0.15	0.15	0.10	0.20
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	10/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.6	0.4	0.4	< 0.3
Acid Herbicides								
Mecoprop	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Picloram	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
MCPA	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35	< 35	< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35	< 35	< 35	
PCP	DETSC 3447*	35	ug/kg		< 35	< 35	< 35	
OCPs								
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393837	2393838	2393839	2393840	2393841
			Sample ID ~	TPB11	TPB16	TPB18	TPB27	TPB29
			Depth ~	0.15	0.15	0.15	0.10	0.20
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	10/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
OPPs								
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393837	2393838	2393839	2393840	2393841
			Sample ID ~	TPB11	TPB16	TPB18	TPB27	TPB29
			Depth ~	0.15	0.15	0.15	0.10	0.20
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	10/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393837	2393838	2393839	2393840	2393841
			Sample ID ~	TPB11	TPB16	TPB18	TPB27	TPB29
			Depth ~	0.15	0.15	0.15	0.10	0.20
			Other ID ~					
			Sample Type ~	ES	ES	ES	ES	ES
			Sampling Date ~	10/09/2024	10/09/2024	11/09/2024	10/09/2024	11/09/2024
			Sampling Time ~	1000	1000	1000	1000	1000
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-19563
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPB29 0.20

Sample Numbers 2393841 2393845
Date Analysed 20/09/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC 2003# Loss On Ignition	%	3.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.78	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.71	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.28	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.29	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.8	0.018	4	50	200
DETSC 2055 Chloride as Cl	1200	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	230	2.3	10	150	500
DETSC 2055 Sulphate as SO4	2700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	19000	190	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.5
DETSC 2009 Conductivity uS/cm	26.6
* Temperature*	19.0

Mass of Sample Kg*	0.140
Mass of dry Sample Kg*	0.103

Stage 1

Volume of Leachant L2*	0.99
Volume of Eluate VE1*	0.77

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393842	2393843	2393844
			Sample ID ~	TPB11	TPB18	TPB27
			Depth ~	0.15	0.15	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	10/09/2024	11/09/2024	10/09/2024
			Sampling Time ~	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
Preparation						
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y
Metals						
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.3	0.88	0.36
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	17	13
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.17	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	2.6	4.9	5.9
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	1.8	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	0.002	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	2.8	1.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.35	1.8	0.23
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.03	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	1.8	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	1.9	0.63
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.2	2.4	0.8
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.8	3.1	2.1
Inorganics						
pH	DETSC 2008		pH	6.9	6.7	6.6
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.9	0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	0.1	0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	0.8	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.10	0.10	0.12
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.3	0.85	7.6
Nitrate as N	DETSC 2055	0.0226	mg/l	0.29	0.19	1.7
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.32	0.34	0.39
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.5	1.9	4.6
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	5.3	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	42	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	61	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	45	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	150	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393842	2393843	2393844
			Sample ID ~	TPB11	TPB18	TPB27
			Depth ~	0.15	0.15	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	10/09/2024	11/09/2024	10/09/2024
			Sampling Time ~	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	150	< 10	< 10
PAHs						
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.01	0.01	0.02
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.03	0.03
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.03	0.03
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	0.01	0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.01	0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01	0.02
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.02
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20	< 0.20

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393842	2393843	2393844
			Sample ID ~	TPB11	TPB18	TPB27
			Depth ~	0.15	0.15	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	10/09/2024	11/09/2024	10/09/2024
			Sampling Time ~	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
VOCs						
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393842	2393843	2393844
			Sample ID ~	TPB11	TPB18	TPB27
			Depth ~	0.15	0.15	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	10/09/2024	11/09/2024	10/09/2024
			Sampling Time ~	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1
SVOCs						
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2393842	2393843	2393844
			Sample ID ~	TPB11	TPB18	TPB27
			Depth ~	0.15	0.15	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	10/09/2024	11/09/2024	10/09/2024
			Sampling Time ~	1000	1000	1000
Test	**Method**	**LOD**	**Units**			
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-19563
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2393837	TPB11 0.15	SOIL	NAD	none	Keith Wilson
2393838	TPB16 0.15	SOIL	NAD	none	Keith Wilson
2393839	TPB18 0.15	SOIL	NAD	none	Keith Wilson
2393840	TPB27 0.10	SOIL	NAD	none	Keith Wilson
2393841	TPB29 0.20	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-19563
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2393837	TPB11 0.15 SOIL	10/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393838	TPB16 0.15 SOIL	10/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393839	TPB18 0.15 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393840	TPB27 0.10 SOIL	10/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393841	TPB29 0.20 SOIL	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2393842	TPB11 0.15 LEACHATE	10/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393843	TPB18 0.15 LEACHATE	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393844	TPB27 0.10 LEACHATE	10/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2393845	TPB29 0.20 LEACHATE	11/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20287	*Issued:*	09-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20287
Client Reference ~	PC248770
Order No ~	OC4160
Contract Title ~	Lionlink Cable Route
Description	4 Soil samples, 3 Leachate prepared by DETS samples.
Date Received	23-Sep-24
Date Started	23-Sep-24
Date Completed	09-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2398437	2398438	2398439	2398440
	Sample ID ~	TPB20	TPB20	TPB21	TPB22
	Depth ~	0.20	0.60	0.20	0.20
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	16/09/2024	16/09/2024	16/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	8.2	7.8	12	8.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.4	0.4	0.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.3	0.3	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.1	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	12	14	12	12
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	12	9.3	13	11
Lead	DETSC 2301#	0.3	mg/kg	21	8.4	15	13
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.06	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12	12	12	11
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	21	25	23	21
Zinc	DETSC 2301#	1	mg/kg	46	46	45	41
Inorganics							
pH	DETSC 2008#		pH	7.8	8.0	8.2	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.0	1.0	1.0	1.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	28	10	14	26
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	3.1	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398437	2398438	2398439	2398440
			Sample ID ~	TPB20	TPB20	TPB21	TPB22
			Depth ~	0.20	0.60	0.20	0.20
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	0.4	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg	< 35			< 35
2,4-D	DETSC 3447	35	ug/kg	< 35			< 35
Bentazone	DETSC 3447	35	ug/kg	< 35			< 35
Picloram	DETSC 3447	35	ug/kg	< 35			< 35
MCPA	DETSC 3447	35	ug/kg	< 35			< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35			< 35
Dicamba	DETSC 3447	35	ug/kg	< 35			< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35			< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35			< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35			< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35			< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35			< 35
MCPB	DETSC 3447*	35	ug/kg	< 35			< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35			< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35			< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35			< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35			< 35
Benazolin	DETSC 3447	35	ug/kg	< 35			< 35
PCP	DETSC 3447*	35	ug/kg	< 35			< 35
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398437	2398438	2398439	2398440
			Sample ID ~	TPB20	TPB20	TPB21	TPB22
			Depth ~	0.20	0.60	0.20	0.20
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398437	2398438	2398439	2398440
			Sample ID ~	TPB20	TPB20	TPB21	TPB22
			Depth ~	0.20	0.60	0.20	0.20
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	16/09/2024	16/09/2024	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2398437	2398438	2398439	2398440
	Sample ID ~	TPB20	TPB20	TPB21	TPB22
	Depth ~	0.20	0.60	0.20	0.20
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	16/09/2024	16/09/2024	16/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398441	2398442
			Sample ID ~	TPB20	TPB22
			Depth ~	0.20	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.41	0.95
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.3	2.3
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	1.3
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.4	2.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.21	1.2
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.5	0.9
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	1.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	5.3	7.6
Inorganics					
pH	DETSC 2008		pH	6.4	6.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.08	0.03
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.8	0.99
Nitrate as N	DETSC 2055	0.0226	mg/l	0.41	0.22
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.28	0.11
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.5	2.0
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398441	2398442
			Sample ID ~	TPB20	TPB22
			Depth ~	0.20	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398441	2398442
			Sample ID ~	TPB20	TPB22
			Depth ~	0.20	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398441	2398442
			Sample ID ~	TPB20	TPB22
			Depth ~	0.20	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2398441	2398442
			Sample ID ~	TPB20	TPB22
			Depth ~	0.20	0.20
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	16/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20287
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPB21 0.20

Sample Numbers 2398439 2398443
Date Analysed 04/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.4	3	5	6
DETSC 2003# Loss On Ignition	%	4.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.2	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.72	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.4	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.38	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2	0.02	4	50	200
DETSC 2055 Chloride as Cl	690	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	280	2.8	10	150	500
DETSC 2055 Sulphate as SO4	2600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	14000	140	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.2
DETSC 2009 Conductivity uS/cm	19.3
* Temperature*	18.0
Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094
Stage 1	
Volume of Leachant L2*	0.932
Volume of Eluate VE1*	0.879

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20287
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2398437	TPB20 0.20	SOIL	NAD	none	Michael Kay
2398438	TPB20 0.60	SOIL	NAD	none	Michael Kay
2398439	TPB21 0.20	SOIL	NAD	none	Michael Kay
2398440	TPB22 0.20	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20287
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2398437	TPB20 0.20 SOIL	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2398438	TPB20 0.60 SOIL	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2398439	TPB21 0.20 SOIL	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2398440	TPB22 0.20 SOIL	17/09/24	GJ 250ml, GJ 60ml		
2398441	TPB20 0.20 LEACHATE	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2398442	TPB22 0.20 LEACHATE	17/09/24	GJ 250ml, GJ 60ml		VOC
2398443	TPB21 0.20 LEACHATE	16/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20411	*Issued:*	09-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20411
Client Reference ~	PC248770
Order No ~	OC41666
Contract Title ~	LionLink - Cable Route
Description	11 Soil samples, 7 Leachate prepared by DETS samples.
Date Received	24-Sep-24
Date Started	24-Sep-24
Date Completed	09-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399275	2399276	2399277	2399278	2399279	2399280	2399281
	Sample ID ~	TPB23	TPB23	TPB24	TPB24	TPB25	TPB25	TPB26
	Depth ~	0.60	1.50	0.20	0.60	0.30	1.20	0.10
	Other ID ~							
	Sample Type ~	ES	ES	ES	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	8.6	19	6.3	21	11	11	10
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.6	0.3	0.3	0.8	0.7	0.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.2	0.3	< 0.2	0.7	0.7	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.3	0.2	< 0.1	0.3	0.2	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	9.6	9.5	9.1	8.3	20	18	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	17	14	10	8.3	18	15	13
Lead	DETSC 2301#	0.3	mg/kg	9.2	6.2	11	5.9	16	12	17
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08
Nickel	DETSC 2301#	1	mg/kg	9.6	12	8.8	8.4	21	20	17
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	20	22	17	18	38	34	43
Zinc	DETSC 2301#	1	mg/kg	70	75	38	40	53	47	50
Inorganics								
pH	DETSC 2008#		pH	7.7	8.0	8.1	7.6	7.9	8.0	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.3	2.9	1.8	2.1	1.4	2.3	1.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	10	10	11	15	21	< 10	41
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399275	2399276	2399277	2399278	2399279	2399280	2399281
	Sample ID ~	TPB23	TPB23	TPB24	TPB24	TPB25	TPB25	TPB26
	Depth ~	0.60	1.50	0.20	0.60	0.30	1.20	0.10
	Other ID ~							
	Sample Type ~	ES	ES	ES	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	0.4	0.3	< 0.3	0.3
Acid Herbicides										
Mecoprop	DETSC 3447	35	ug/kg					< 35		< 35
2,4-D	DETSC 3447	35	ug/kg					< 35		< 35
Bentazone	DETSC 3447	35	ug/kg					< 35		< 35
Picloram	DETSC 3447	35	ug/kg					< 35		< 35
MCPA	DETSC 3447	35	ug/kg					< 35		< 35
Clopyralid	DETSC 3447	35	ug/kg					< 35		< 35
Dicamba	DETSC 3447	35	ug/kg					< 35		< 35
2,3,6-TBA	DETSC 3447	35	ug/kg					< 35		< 35
Dichlorprop	DETSC 3447	35	ug/kg					< 35		< 35
Bromoxynil	DETSC 3447	35	ug/kg					< 35		< 35
Triclopyr	DETSC 3447	35	ug/kg					< 35		< 35
Fenoprop	DETSC 3447	35	ug/kg					< 35		< 35
MCPB	DETSC 3447*	35	ug/kg					< 35		< 35
2,4,5-T	DETSC 3447	35	ug/kg					< 35		< 35
Fluroxypyr	DETSC 3447	35	ug/kg					< 35		< 35
2,4-DB	DETSC 3447	35	ug/kg					< 35		< 35
Ioxynil	DETSC 3447	35	ug/kg					< 35		< 35
Benazolin	DETSC 3447	35	ug/kg					< 35		< 35
PCP	DETSC 3447*	35	ug/kg					< 35		< 35
OCPs										
alpha-BHC	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399275	2399276	2399277	2399278	2399279	2399280	2399281
	Sample ID ~	TPB23	TPB23	TPB24	TPB24	TPB25	TPB25	TPB26
	Depth ~	0.60	1.50	0.20	0.60	0.30	1.20	0.10
	Other ID ~							
	Sample Type ~	ES	ES	ES	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
OPPs										
Dichlorvos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Naled	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg					< 0.1		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399275	2399276	2399277	2399278	2399279	2399280	2399281
			Sample ID ~	TPB23	TPB23	TPB24	TPB24	TPB25	TPB25	TPB26
			Depth ~	0.60	1.50	0.20	0.60	0.30	1.20	0.10
			Other ID ~							
			Sample Type ~	ES	ES	ES	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
VOCs										
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399275	2399276	2399277	2399278	2399279	2399280	2399281
			Sample ID ~	TPB23	TPB23	TPB24	TPB24	TPB25	TPB25	TPB26
			Depth ~	0.60	1.50	0.20	0.60	0.30	1.20	0.10
			Other ID ~							
			Sample Type ~	ES	ES	ES	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024	17/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399282	2399283	2399284	2399285
	Sample ID ~	TPB30	TPB31	TPB32	TPB33
	Depth ~	0.10	0.10	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	18/09/2024	18/09/2024	18/09/2024	20/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.2	8.5	13	9.5
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.4	0.6	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.4	0.5	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	11	12	17	14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	10	14	12
Lead	DETSC 2301#	0.3	mg/kg	54	16	22	18
Mercury	DETSC 2325#	0.05	mg/kg	0.15	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	8.9	11	16	13
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	22	23	32	26
Zinc	DETSC 2301#	1	mg/kg	62	36	49	39
Inorganics							
pH	DETSC 2008#		pH	7.3	7.2	7.4	6.6
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.3	1.3	2.0	1.4
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	16	17	15	28
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399282	2399283	2399284	2399285
	Sample ID ~	TPB30	TPB31	TPB32	TPB33
	Depth ~	0.10	0.10	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	18/09/2024	18/09/2024	18/09/2024	20/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.22	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	0.04	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.66	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.58	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.25	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.30	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.38	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.15	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.27	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.15	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.18	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	3.2	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	0.9	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg			< 35	
2,4-D	DETSC 3447	35	ug/kg			< 35	
Bentazone	DETSC 3447	35	ug/kg			< 35	
Picloram	DETSC 3447	35	ug/kg			< 35	
MCPA	DETSC 3447	35	ug/kg			< 35	
Clopyralid	DETSC 3447	35	ug/kg			< 35	
Dicamba	DETSC 3447	35	ug/kg			< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg			< 35	
Dichlorprop	DETSC 3447	35	ug/kg			< 35	
Bromoxynil	DETSC 3447	35	ug/kg			< 35	
Triclopyr	DETSC 3447	35	ug/kg			< 35	
Fenoprop	DETSC 3447	35	ug/kg			< 35	
MCPB	DETSC 3447*	35	ug/kg			< 35	
2,4,5-T	DETSC 3447	35	ug/kg			< 35	
Fluroxypyr	DETSC 3447	35	ug/kg			< 35	
2,4-DB	DETSC 3447	35	ug/kg			< 35	
Ioxynil	DETSC 3447	35	ug/kg			< 35	
Benazolin	DETSC 3447	35	ug/kg			< 35	
PCP	DETSC 3447*	35	ug/kg			< 35	
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399282	2399283	2399284	2399285
	Sample ID ~	TPB30	TPB31	TPB32	TPB33
	Depth ~	0.10	0.10	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	18/09/2024	18/09/2024	18/09/2024	20/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg			< 0.1	
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg			< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399282	2399283	2399284	2399285
			Sample ID ~	TPB30	TPB31	TPB32	TPB33
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	18/09/2024	18/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399282	2399283	2399284	2399285
			Sample ID ~	TPB30	TPB31	TPB32	TPB33
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	18/09/2024	18/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2399289	2399290	2399291	2399292
	Sample ID ~	TPB23	TPB25	TPB31	TPB33
	Depth ~	0.60	0.30	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	17/09/2024	17/09/2024	18/09/2024	20/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.4	0.61	0.74	0.42
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.05	< 0.03	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.9	5.3	1.4	1.5
Chromium, Dissolved	DETSC 2306	0.25	ug/l	2.4	0.76	1.2	0.89
Chromium III, Dissolved	DETSC 2306*	1	ug/l	2.4	< 1.0	1.2	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.5	2.4	1.0	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	2.3	< 0.09	0.42	0.17
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.2	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.9	< 0.6	1.3	0.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	7.8	2.6	3.5	3.5
Inorganics					
pH	DETSC 2008		pH	7.2	7.6	6.8	6.4
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	2.3	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02	< 0.02	0.03
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018	< 0.018	0.029
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	< 0.015	0.024
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.65	1.4	2.1	2.4
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10	< 0.10
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035	< 0.035	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.1	1.7	3.4	3.5
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399289	2399290	2399291	2399292
			Sample ID ~	TPB23	TPB25	TPB31	TPB33
			Depth ~	0.60	0.30	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399289	2399290	2399291	2399292
			Sample ID ~	TPB23	TPB25	TPB31	TPB33
			Depth ~	0.60	0.30	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399289	2399290	2399291	2399292
			Sample ID ~	TPB23	TPB25	TPB31	TPB33
			Depth ~	0.60	0.30	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
SVOCs							
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2399289	2399290	2399291	2399292
			Sample ID ~	TPB23	TPB25	TPB31	TPB33
			Depth ~	0.60	0.30	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	17/09/2024	17/09/2024	18/09/2024	20/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20411
Client Ref PC248770
Contract Title LionLink - Cable Route
Sample Id TPB23 0.60

Sample Numbers 2399275 2399286
Date Analysed 08/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.7	3	5	6
DETSC 2003# Loss On Ignition	%	1.9	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.7	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.4	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	2.5	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.76	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	1.4	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.18	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.59	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.5	0.02	4	50	200
DETSC 2055 Chloride as Cl	470	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	970	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	9600	96	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	6.7
DETSC 2009 Conductivity uS/cm	13.8
* Temperature*	17.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.095

Stage 1

Volume of Leachant L2*	0.941
Volume of Eluate VE1*	0.89

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20411
Client Ref PC248770
Contract Title LionLink - Cable Route
Sample Id TPB25 1.20

Sample Numbers 2399280 2399287
Date Analysed 08/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.8	3	5	6
DETSC 2003# Loss On Ignition	%	3.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.0	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.53	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.88	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.84	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.29	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	490	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	22000	220	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	8.8
DETSC 2009 Conductivity uS/cm	31.9
* Temperature*	17.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.099

Stage 1

Volume of Leachant L2*	0.981
Volume of Eluate VE1*	0.93

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20411
Client Ref PC248770
Contract Title LionLink - Cable Route
Sample Id TPB30 0.10

Sample Numbers 2399282 2399288
Date Analysed 08/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.6	3	5	6
DETSC 2003# Loss On Ignition	%	3.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	3.2	100	n/a	n/a
DETSC 2008# pH	pH Units	7.3	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.5	0.02	0.5	2	25
DETSC 2306 Barium as Ba	1.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	1.2	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.72	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.7	0.04	4	50	200
DETSC 2055 Chloride as Cl	1300	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	21.6
* Temperature*	17.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.093

Stage 1

Volume of Leachant L2*	0.919
Volume of Eluate VE1*	0.87

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20411
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2399275	TPB23 0.60	SOIL	NAD	none	Michael Kay
2399276	TPB23 1.50	SOIL	NAD	none	Michael Kay
2399277	TPB24 0.20	SOIL	NAD	none	Michael Kay
2399278	TPB24 0.60	SOIL	NAD	none	Michael Kay
2399279	TPB25 0.30	SOIL	NAD	none	Michael Kay
2399280	TPB25 1.20	SOIL	NAD	none	Michael Kay
2399281	TPB26 0.10	SOIL	NAD	none	Michael Kay
2399282	TPB30 0.10	SOIL	NAD	none	Michael Kay
2399283	TPB31 0.10	SOIL	NAD	none	Michael Kay
2399284	TPB32 0.10	SOIL	NAD	none	Michael Kay
2399285	TPB33 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20411
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2399275	TPB23 0.60 SOIL	17/09/24	GJ 250ml, GJ 60ml x2		
2399276	TPB23 1.50 SOIL	17/09/24	GJ 250ml, GJ 60ml x2		
2399277	TPB24 0.20 SOIL	17/09/24	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, VOC
2399278	TPB24 0.60 SOIL	17/09/24	GJ 250ml, PT 1L		BTEX / C5-C10, VOC
2399279	TPB25 0.30 SOIL	17/09/24	GJ 250ml		BTEX / C5-C10, VOC
2399280	TPB25 1.20 SOIL	17/09/24	GJ 250ml		BTEX / C5-C10, VOC
2399281	TPB26 0.10 SOIL	17/09/24	GJ 250ml, GJ 60ml		
2399282	TPB30 0.10 SOIL	18/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399283	TPB31 0.10 SOIL	18/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399284	TPB32 0.10 SOIL	18/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399285	TPB33 0.10 SOIL	20/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399286	TPB23 0.60 LEACHATE	17/09/24	GJ 250ml, GJ 60ml x2		
2399287	TPB25 1.20 LEACHATE	17/09/24	GJ 250ml		
2399288	TPB30 0.10 LEACHATE	18/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399289	TPB23 0.60 LEACHATE	17/09/24	GJ 250ml, GJ 60ml x2		VOC
2399290	TPB25 0.30 LEACHATE	17/09/24	GJ 250ml		VOC
2399291	TPB31 0.10 LEACHATE	18/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2399292	TPB33 0.10 LEACHATE	20/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass J-Jar P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.

Information in Support of the Analytical Results

Our Ref 24-20411
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20953	*Issued:*	17-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20953
Client Reference ~	PC248770
Order No ~	OC41715
Contract Title ~	LionLink - Cable Route
Description	4 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	01-Oct-24
Date Started	01-Oct-24
Date Completed	17-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2402383	2402384	2402385	2402386
	Sample ID ~	BHC01	BHC02	BHC03	BHC03
	Depth ~	0.20	0.20	0.20-0.30	0.50-0.60
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	25/09/2024	26/09/2024	26/09/2024	26/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.3	10	12	13
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.3	0.5	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.8	0.5	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.3	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	13	12	20	12
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	9.8	22	8.9
Lead	DETSC 2301#	0.3	mg/kg	16	19	18	9.6
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12	9.7	19	24
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	22	17	30	23
Zinc	DETSC 2301#	1	mg/kg	61	74	75	65
Inorganics							
pH	DETSC 2008#		pH	7.4	5.1	7.5	6.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	3.5	1.7	2.2	0.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	40	1700	49	1100
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2402383	2402384	2402385	2402386
	Sample ID ~	BHC01	BHC02	BHC03	BHC03
	Depth ~	0.20	0.20	0.20-0.30	0.50-0.60
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	25/09/2024	26/09/2024	26/09/2024	26/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	35	1.0	11	< 0.3
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg		< 35		
2,4-D	DETSC 3447	35	ug/kg		< 35		
Bentazone	DETSC 3447	35	ug/kg		< 35		
Picloram	DETSC 3447	35	ug/kg		< 35		
MCPA	DETSC 3447	35	ug/kg		< 35		
Clopyralid	DETSC 3447	35	ug/kg		< 35		
Dicamba	DETSC 3447	35	ug/kg		< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35		
Dichlorprop	DETSC 3447	35	ug/kg		< 35		
Bromoxynil	DETSC 3447	35	ug/kg		< 35		
Triclopyr	DETSC 3447	35	ug/kg		< 35		
Fenoprop	DETSC 3447	35	ug/kg		< 35		
MCPB	DETSC 3447*	35	ug/kg		< 35		
2,4,5-T	DETSC 3447	35	ug/kg		< 35		
Fluroxypyr	DETSC 3447	35	ug/kg		< 35		
2,4-DB	DETSC 3447	35	ug/kg		< 35		
Ioxynil	DETSC 3447	35	ug/kg		< 35		
Benazolin	DETSC 3447	35	ug/kg		< 35		
PCP	DETSC 3447*	35	ug/kg		< 35		
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2402383	2402384	2402385	2402386
			Sample ID ~	BHC01	BHC02	BHC03	BHC03
			Depth ~	0.20	0.20	0.20-0.30	0.50-0.60
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	25/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1		
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1		
Naled	DETSC 3433*	0.1	mg/kg		< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2402383	2402384	2402385	2402386
			Sample ID ~	BHC01	BHC02	BHC03	BHC03
			Depth ~	0.20	0.20	0.20-0.30	0.50-0.60
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	25/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

				Lab No	2402383	2402384	2402385	2402386
				Sample ID ~	BHC01	BHC02	BHC03	BHC03
				Depth ~	0.20	0.20	0.20-0.30	0.50-0.60
				Other ID ~				
				Sample Type ~	ES	ES	ES	ES
				Sampling Date ~	25/09/2024	26/09/2024	26/09/2024	26/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2402387
Sample ID ~	BHC01
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	25/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.22
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	0.71
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.47
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.6
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.3
Inorganics				
pH	DETSC 2008		pH	7.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.96
Nitrate as N	*	0.1	mg/l	0.39
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.13
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.8
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	0.15
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	0.02
Phenanthrene	DETSC 3304	0.01	ug/l	0.03
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2402387
Sample ID ~	BHC01
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	25/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2402387
Sample ID ~	BHC01
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	25/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2402387
Sample ID ~	BHC01
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	25/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2402387
Sample ID ~	BHC01
Depth ~	0.20
Other ID ~	
Sample Type ~	ES
Sampling Date ~	25/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20953
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2402383	BHC01 0.20	SOIL	NAD	none	Keith Wilson
2402384	BHC02 0.20	SOIL	NAD	none	Keith Wilson
2402385	BHC03 0.20-0.30	SOIL	NAD	none	Keith Wilson
2402386	BHC03 0.50-0.60	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20953
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2402383	BHC01 0.20 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2402384	BHC02 0.20 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2402385	BHC03 0.20-0.30 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2402386	BHC03 0.50-0.60 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2402387	BHC01 0.20 LEACHATE	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-21332 *Issued:* 11-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-21332

Client Reference ~ PC248770

Order No ~ OC41773

Contract Title ~ LionLink - Cable Route

Description 3 Soil samples.

Date Received 04-Oct-24

Date Started 04-Oct-24

Date Completed 11-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21332
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404227	2404228	2404229
			Sample ID ~	BHC04	BHC04	BHC07
			Depth ~	0.10-0.20	0.40-0.50	0.00-0.40
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	01/10/2024	01/10/2024	01/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.3	10	11
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.4	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	0.5	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	14	15	23
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	18	15	12
Lead	DETSC 2301#	0.3	mg/kg	18	15	16
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	13	13	14
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	25	26	43
Zinc	DETSC 2301#	1	mg/kg	68	57	44
Inorganics						
pH	DETSC 2008#		pH	6.2	7.0	7.8
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	4.7	1.3	1.9
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	28	17	17
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	6.0	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	2.1	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	1.6	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	15	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	23	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	23	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21332
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404227	2404228	2404229
			Sample ID ~	BHC04	BHC04	BHC07
			Depth ~	0.10-0.20	0.40-0.50	0.00-0.40
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	01/10/2024	01/10/2024	01/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	1.5	0.4	0.5
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21332
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404227	2404228	2404229
			Sample ID ~	BHC04	BHC04	BHC07
			Depth ~	0.10-0.20	0.40-0.50	0.00-0.40
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	01/10/2024	01/10/2024	01/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-21332
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2404227	BHC04 0.10-0.20	SOIL	NAD	none	Michael Kay
2404228	BHC04 0.40-0.50	SOIL	NAD	none	Michael Kay
2404229	BHC07 0.00-0.40	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-21332
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2404227	BHC04 0.10-0.20 SOIL	01/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2404228	BHC04 0.40-0.50 SOIL	01/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2404229	BHC07 0.00-0.40 SOIL	01/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-21971 *Issued:* 21-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-21971

Client Reference ~ PC248770

Order No ~ OC41830

Contract Title ~ Lionlink Cable Route

Description 1 Soil sample, 1 Leachate prepared by DETS sample.

Date Received 14-Oct-24

Date Started 14-Oct-24

Date Completed 21-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-21971
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408073
Sample ID ~	BHC08
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	07/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	4.0
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.7
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	7.2
Lead	DETSC 2301#	0.3	mg/kg	9.6
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	5.5
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	11
Zinc	DETSC 2301#	1	mg/kg	25
Inorganics				
pH	DETSC 2008#		pH	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	11
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21971
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408073
Sample ID ~	BHC08
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	07/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21971
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408073
Sample ID ~	BHC08
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	07/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-21971
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id BHC08 0.20-0.30

Sample Numbers 2408073 2408074
Date Analysed 21/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.6	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.82	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.73	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.3	0.01	4	50	200
DETSC 2055 Chloride as Cl	740	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	190	1.9	10	150	500
DETSC 2055 Sulphate as SO4	1200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2800	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	21.8
* Temperature*	18.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094

Stage 1

Volume of Leachant L2*	0.932
Volume of Eluate VE1*	0.885

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-21971
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2408073	BHC08 0.20-0.30	SOIL	NAD	none	Darryl Fletcher

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-21971
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2408073	BHC08 0.20-0.30 SOIL	07/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2408074	BHC08 0.20-0.30 LEACHATE	07/10/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20409	*Issued:*	11-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20409
Client Reference ~	PC248770
Order No ~	OC41666
Contract Title ~	Lionlink Cable Route
Description	3 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	24-Sep-24
Date Started	24-Sep-24
Date Completed	11-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2399258	2399259	2399260
	Sample ID ~	TPC01	TPC02	TPC03
	Depth ~	0.10	0.10	0.10
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	19/09/2024	19/09/2024	19/09/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.9	14	9.9
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	1.2	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.8	0.7	0.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	13	27	12
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13	23	11
Lead	DETSC 2301#	0.3	mg/kg	17	19	19
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12	31	11
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.6	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	25	45	24
Zinc	DETSC 2301#	1	mg/kg	46	69	39
Inorganics						
pH	DETSC 2008#		pH	7.1	7.1	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	0.7	2.5	1.6
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	14	14	15
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2399258	2399259	2399260
			Sample ID ~	TPC01	TPC02	TPC03
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	19/09/2024	19/09/2024	19/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.05	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	0.03	0.04	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.7	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2399258	2399259	2399260
			Sample ID ~	TPC01	TPC02	TPC03
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	19/09/2024	19/09/2024	19/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2399258	2399259	2399260
	Sample ID ~	TPC01	TPC02	TPC03
	Depth ~	0.10	0.10	0.10
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	19/09/2024	19/09/2024	19/09/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2399258	2399259	2399260
			Sample ID ~	TPC01	TPC02	TPC03
			Depth ~	0.10	0.10	0.10
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	19/09/2024	19/09/2024	19/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20409
Client Ref PC248770
Contract Title Lionlink Cable Route
Sample Id TPC02 0.10

Sample Numbers 2399259 2399261
Date Analysed 08/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	0.9	3	5	6
DETSC 2003# Loss On Ignition	%	4.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.8	0.02	0.5	2	25
DETSC 2306 Barium as Ba	27	0.3	20	100	300
DETSC 2306 Cadmium as Cd	0.55	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	9.3	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	7.3	0.07	2	50	100
DETSC 2306 Mercury as Hg	0.056	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	14	0.1	0.5	10	30
DETSC 2306 Nickel as Ni	7.1	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	5.8	0.06	0.5	10	50
DETSC 2306 Antimony as Sb	1.2	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	2.9	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	10	0.1	4	50	200
DETSC 2055 Chloride as Cl	740	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	150	1.5	10	150	500
DETSC 2055 Sulphate as SO4	2200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	14000	140	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.0
DETSC 2009 Conductivity uS/cm	19.4
* Temperature*	17.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098

Stage 1

Volume of Leachant L2*	0.965
Volume of Eluate VE1*	0.911

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20409
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2399258	TPC01 0.10	SOIL	NAD	none	Michael Kay
2399259	TPC02 0.10	SOIL	NAD	none	Michael Kay
2399260	TPC03 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20409
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2399258	TPC01 0.10 SOIL	19/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399259	TPC02 0.10 SOIL	19/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399260	TPC03 0.10 SOIL	19/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2399261	TPC02 0.10 LEACHATE	19/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20842	*Issued:*	14-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20842
Client Reference ~	PC248770
Order No ~	OC41665
Contract Title ~	LionLink - Cable Route
Description	3 Soil samples.
Date Received	30-Sep-24
Date Started	30-Sep-24
Date Completed	14-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401713	2401714	2401715
	Sample ID ~	TPC04	TPC05	TPC05
	Depth ~	0.10	0.10	0.60
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	20/09/2024	23/09/2024	23/09/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	9.1	12	9.9
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.6	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.4	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.2	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	11	20	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	9.4	19	19
Lead	DETSC 2301#	0.3	mg/kg	17	28	9.6
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	9.8	20	28
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	21	33	39
Zinc	DETSC 2301#	1	mg/kg	38	66	52
Inorganics						
pH	DETSC 2008#		pH	6.9	7.8	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.5	1.9	0.4
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	16	10	< 10
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401713	2401714	2401715
			Sample ID ~	TPC04	TPC05	TPC05
			Depth ~	0.10	0.10	0.60
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	20/09/2024	23/09/2024	23/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	0.5	< 0.3
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35	< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35	< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35	< 35	
Picloram	DETSC 3447	35	ug/kg	< 35	< 35	
MCPA	DETSC 3447	35	ug/kg	< 35	< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35	< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35	< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35	< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35	< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35	< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35	< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35	< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35	< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35	< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35	< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35	< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35	< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35	< 35	
PCP	DETSC 3447*	35	ug/kg	< 35	< 35	
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401713	2401714	2401715
	Sample ID ~	TPC04	TPC05	TPC05
	Depth ~	0.10	0.10	0.60
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	20/09/2024	23/09/2024	23/09/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401713	2401714	2401715
	Sample ID ~	TPC04	TPC05	TPC05
	Depth ~	0.10	0.10	0.60
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	20/09/2024	23/09/2024	23/09/2024
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401713	2401714	2401715
			Sample ID ~	TPC04	TPC05	TPC05
			Depth ~	0.10	0.10	0.60
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	20/09/2024	23/09/2024	23/09/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20842
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2401713	TPC04 0.10	SOIL	NAD	none	Michael Kay
2401714	TPC05 0.10	SOIL	NAD	none	Michael Kay
2401715	TPC05 0.60	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20842
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2401713	TPC04 0.10 SOIL	20/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2401714	TPC05 0.10 SOIL	23/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401715	TPC05 0.60 SOIL	23/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-20847	*Issued:*	14-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-20847
Client Reference ~	PC248770
Order No ~	OC41665
Contract Title ~	LionLink - Cable Route
Description	8 Soil samples, 3 Leachate prepared by DETS samples.
Date Received	30-Sep-24
Date Started	30-Sep-24
Date Completed	14-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401739	2401740	2401741	2401742	2401743	2401744
	Sample ID ~	TPC06	TPC06	TPC07	TPC08	TPC09	TPC09
	Depth ~	0.10	0.60	0.10	0.10	0.10	0.60
	Other ID ~						
	Sample Type ~	ES	ES	ES	ES	ES	ES
	Sampling Date ~	24/09/2024	24/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	8.8	9.1	9.2	9.3	8.9	10
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.5	0.7	0.7	0.7	0.9
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	1.4	1.1	1.2	1.1	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.1	0.2	0.2	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	16	17	22	22	23	26
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	12	11	15	13	14	19
Lead	DETSC 2301#	0.3	mg/kg	32	17	36	17	19	12
Mercury	DETSC 2325#	0.05	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12	13	18	18	17	26
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	27	30	38	37	39	44
Zinc	DETSC 2301#	1	mg/kg	57	59	55	49	50	66
Inorganics									
pH	DETSC 2008#		pH	8.2	8.1	8.2	8.3	8.1	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	0.8	1.9	1.5	1.8	1.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	32	27	34	24	20	13
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	0.08	0.08	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401739	2401740	2401741	2401742	2401743	2401744
			Sample ID ~	TPC06	TPC06	TPC07	TPC08	TPC09	TPC09
			Depth ~	0.10	0.60	0.10	0.10	0.10	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	24/09/2024	24/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.4	0.4	0.4	0.5	< 0.3
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg	< 35					
2,4-D	DETSC 3447	35	ug/kg	< 35					
Bentazone	DETSC 3447	35	ug/kg	< 35					
Picloram	DETSC 3447	35	ug/kg	< 35					
MCPA	DETSC 3447	35	ug/kg	< 35					
Clopyralid	DETSC 3447	35	ug/kg	< 35					
Dicamba	DETSC 3447	35	ug/kg	< 35					
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35					
Dichlorprop	DETSC 3447	35	ug/kg	< 35					
Bromoxynil	DETSC 3447	35	ug/kg	< 35					
Triclopyr	DETSC 3447	35	ug/kg	< 35					
Fenoprop	DETSC 3447	35	ug/kg	< 35					
MCPB	DETSC 3447*	35	ug/kg	< 35					
2,4,5-T	DETSC 3447	35	ug/kg	< 35					
Fluroxypyr	DETSC 3447	35	ug/kg	< 35					
2,4-DB	DETSC 3447	35	ug/kg	< 35					
Ioxynil	DETSC 3447	35	ug/kg	< 35					
Benazolin	DETSC 3447	35	ug/kg	< 35					
PCP	DETSC 3447*	35	ug/kg	< 35					
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1					
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1					
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1					
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1					

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401739	2401740	2401741	2401742	2401743	2401744
			Sample ID ~	TPC06	TPC06	TPC07	TPC08	TPC09	TPC09
			Depth ~	0.10	0.60	0.10	0.10	0.10	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	24/09/2024	24/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1					
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1					
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1					
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1					
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1					
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1					
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1					
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1					
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1					
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1					
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1					
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1					
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1					
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1					
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1					
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1					
Naled	DETSC 3433*	0.1	mg/kg	< 0.1					
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1					
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1					
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1					
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1					
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1					
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1					
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1					
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1					
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1					
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1					
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1					
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1					
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1					
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1					
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1					
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1					

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401739	2401740	2401741	2401742	2401743	2401744
			Sample ID ~	TPC06	TPC06	TPC07	TPC08	TPC09	TPC09
			Depth ~	0.10	0.60	0.10	0.10	0.10	0.60
			Other ID ~						
			Sample Type ~	ES	ES	ES	ES	ES	ES
			Sampling Date ~	24/09/2024	24/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

				Lab No	2401739	2401740	2401741	2401742	2401743	2401744
				Sample ID ~	TPC06	TPC06	TPC07	TPC08	TPC09	TPC09
				Depth ~	0.10	0.60	0.10	0.10	0.10	0.60
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	24/09/2024	24/09/2024	25/09/2024	24/09/2024	24/09/2024	24/09/2024
				Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401745	2401746
	Sample ID ~	TPC10	TPC11
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	25/09/2024	25/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	7.9	10
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.6	0.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	18	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	11	15
Lead	DETSC 2301#	0.3	mg/kg	18	20
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	32	46
Zinc	DETSC 2301#	1	mg/kg	48	55
Inorganics					
pH	DETSC 2008#		pH	7.8	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.0	2.4
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	16	16
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	7.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	6.2	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	3.4	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	2.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	20	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	20	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401745	2401746
			Sample ID ~	TPC10	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	0.6
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg	< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35	
Picloram	DETSC 3447	35	ug/kg	< 35	
MCPA	DETSC 3447	35	ug/kg	< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35	
PCP	DETSC 3447*	35	ug/kg	< 35	
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401745	2401746
	Sample ID ~	TPC10	TPC11
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	25/09/2024	25/09/2024
	Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1	
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401745	2401746
			Sample ID ~	TPC10	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401745	2401746
			Sample ID ~	TPC10	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401747	2401748
	Sample ID ~	TPC06	TPC11
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	24/09/2024	25/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.80	0.65
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	7.2	6.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.6	1.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.63	0.15
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.2	0.7
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	1.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.7	3.5
Inorganics					
pH	DETSC 2008		pH	7.2	6.9
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.9	2.0
Nitrate as N	*	0.1	mg/l	< 0.10	< 0.10
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.47	0.30
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.6	2.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401747	2401748
			Sample ID ~	TPC06	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2401747	2401748
	Sample ID ~	TPC06	TPC11
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	24/09/2024	25/09/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401747	2401748
			Sample ID ~	TPC06	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2401747	2401748
			Sample ID ~	TPC06	TPC11
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/09/2024	25/09/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-20847
Client Ref PC248770
Contract Title LionLink - Cable Route
Sample Id TPC09 0.10

Sample Numbers 2401743 2401749
Date Analysed 14/10/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values: Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.2	3	5	6
DETSC 2003# Loss On Ignition	%	4.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	8.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate): Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.32	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	7.4	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	5.4	0.05	4	50	200
DETSC 2055 Chloride as Cl	2100	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	220	2.2	10	150	500
DETSC 2055 Sulphate as SO4	2300	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.1
DETSC 2009 Conductivity uS/cm	39.0
* Temperature*	18.0

Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.100

Stage 1

Volume of Leachant L2*	0.987
Volume of Eluate VE1*	0.941

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-20847
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2401739	TPC06 0.10	SOIL	NAD	none	Ben Barsby
2401740	TPC06 0.60	SOIL	NAD	none	Ben Barsby
2401741	TPC07 0.10	SOIL	NAD	none	Ben Barsby
2401742	TPC08 0.10	SOIL	NAD	none	Ben Barsby
2401743	TPC09 0.10	SOIL	NAD	none	Ben Barsby
2401744	TPC09 0.60	SOIL	NAD	none	Ben Barsby
2401745	TPC10 0.10	SOIL	NAD	none	Ben Barsby
2401746	TPC11 0.10	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-20847
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2401739	TPC06 0.10 SOIL	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401740	TPC06 0.60 SOIL	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401741	TPC07 0.10 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401742	TPC08 0.10 SOIL	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401743	TPC09 0.10 SOIL	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401744	TPC09 0.60 SOIL	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401745	TPC10 0.10 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401746	TPC11 0.10 SOIL	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2401747	TPC06 0.10 LEACHATE	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2401748	TPC11 0.10 LEACHATE	25/09/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2401749	TPC09 0.10 LEACHATE	24/09/24	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-21334 *Issued:* 24-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-21334

Client Reference ~ PC248770

Order No ~ OC41772

Contract Title ~ LionLink - Cable Route

Description 4 Soil samples, 1 Leachate prepared by DETS sample.

Date Received 04-Oct-24

Date Started 04-Oct-24

Date Completed 24-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2404233	2404234	2404235	2404236
	Sample ID ~	TPC12	TPC13	TPC14	TPC15
	Depth ~	0.10	0.10	0.10	0.10
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	4.8	5.5	4.7	5.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.4	0.3	0.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	1.1	1.1	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	5.9	9.2	7.0	6.4
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	2.7	3.0	2.5	2.1
Lead	DETSC 2301#	0.3	mg/kg	8.9	7.2	6.0	4.4
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.7	7.5	7.6	6.7
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	13	19	15	14
Zinc	DETSC 2301#	1	mg/kg	17	22	17	18
Inorganics							
pH	DETSC 2008#		pH	7.8	7.7	7.5	6.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.1	3.0	2.1	2.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	19	16	23	14
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404233	2404234	2404235	2404236
			Sample ID ~	TPC12	TPC13	TPC14	TPC15
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	0.6	0.5	0.4
Acid Herbicides							
Mecoprop	DETSC 3447	35	ug/kg	< 35			< 35
2,4-D	DETSC 3447	35	ug/kg	< 35			< 35
Bentazone	DETSC 3447	35	ug/kg	< 35			< 35
Picloram	DETSC 3447	35	ug/kg	< 35			< 35
MCPA	DETSC 3447	35	ug/kg	< 35			< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35			< 35
Dicamba	DETSC 3447	35	ug/kg	< 35			< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35			< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35			< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35			< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35			< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35			< 35
MCPB	DETSC 3447*	35	ug/kg	< 35			< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35			< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35			< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35			< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35			< 35
Benazolin	DETSC 3447	35	ug/kg	< 35			< 35
PCP	DETSC 3447*	35	ug/kg	< 35			< 35
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404233	2404234	2404235	2404236
			Sample ID ~	TPC12	TPC13	TPC14	TPC15
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404233	2404234	2404235	2404236
			Sample ID ~	TPC12	TPC13	TPC14	TPC15
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404233	2404234	2404235	2404236
			Sample ID ~	TPC12	TPC13	TPC14	TPC15
			Depth ~	0.10	0.10	0.10	0.10
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	26/09/2024	26/09/2024	26/09/2024	26/09/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404237
Sample ID ~	TPC14
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	26/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.57
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.8
Chromium, Dissolved	DETSC 2306	0.25	ug/l	1.8
Chromium III, Dissolved	DETSC 2306*	1	ug/l	1.8
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.71
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	3.3
Zinc, Dissolved	DETSC 2306	1.3	ug/l	8.7
Inorganics				
pH	DETSC 2008		pH	7.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.8
Nitrate as N	*	0.1	mg/l	0.13
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.6
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404237
Sample ID ~	TPC14
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	26/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404237
Sample ID ~	TPC14
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	26/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404237
Sample ID ~	TPC14
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	26/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404237
Sample ID ~	TPC14
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	26/09/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-21334
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2404233	TPC12 0.10	SOIL	NAD	none	D Wilkinson
2404234	TPC13 0.10	SOIL	NAD	none	D Wilkinson
2404235	TPC14 0.10	SOIL	NAD	none	D Wilkinson
2404236	TPC15 0.10	SOIL	NAD	none	D Wilkinson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-21334
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2404233	TPC12 0.10 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2404234	TPC13 0.10 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2404235	TPC14 0.10 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2404236	TPC15 0.10 SOIL	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2404237	TPC14 0.10 LEACHATE	26/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days), SVOC (7 days)	VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-21333	*Issued:*	24-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-21333
Client Reference ~	PC248770
Order No ~	OC41774
Contract Title ~	LionLink - Cable Route
Description	2 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	04-Oct-24
Date Started	04-Oct-24
Date Completed	24-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21333
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

	Lab No	2404230	2404231
	Sample ID ~	TPC16	TPC17
	Depth ~	0.10	0.10
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	30/09/2024	01/10/2024
	Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	4.9	3.5
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.9	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	5.8	1.0
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	2.3	1.1
Lead	DETSC 2301#	0.3	mg/kg	6.1	< 0.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	7.2	3.1
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	14	3.5
Zinc	DETSC 2301#	1	mg/kg	22	6.8
Inorganics					
pH	DETSC 2008#		pH	7.5	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.4	0.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	19	17
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

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			Sample Type ~	ES	ES
			Sampling Date ~	30/09/2024	01/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg	< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35	
Picloram	DETSC 3447	35	ug/kg	< 35	
MCPA	DETSC 3447	35	ug/kg	< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35	
PCP	DETSC 3447*	35	ug/kg	< 35	
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1	

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			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1	
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1	

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			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	30/09/2024	01/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

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Soil Samples

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Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

			Lab No	2404230	2404231
			Sample ID ~	TPC16	TPC17
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	30/09/2024	01/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21333
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404232
Sample ID ~	TPC17
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	01/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.9
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.9
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.93
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.1
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.1
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	4.5
Inorganics				
pH	DETSC 2008		pH	8.1
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.58
Nitrate as N	*	0.1	mg/l	< 0.10
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Nitrite as N	DETSC 2201	0.035	mg/l	< 0.035
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21333
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404232
Sample ID ~	TPC17
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	01/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

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Lab No	2404232
Sample ID ~	TPC17
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	01/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

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Lab No	2404232
Sample ID ~	TPC17
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	01/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21333
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	2404232
Sample ID ~	TPC17
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	01/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-21333
Client Ref ~ PC248770
Contract Title ~ LionLink - Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2404230	TPC16 0.10	SOIL	NAD	none	Michael Kay
2404231	TPC17 0.10	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-21333
Client Ref ~ PC248770
Contract ~ LionLink - Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2404230	TPC16 0.10 SOIL	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L		
2404231	TPC17 0.10 SOIL	01/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2404232	TPC17 0.10 LEACHATE	01/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-21973 *Issued:* 29-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 24-21973

Client Reference ~ PC248770

Order No ~ OC41831

Contract Title ~ Lionlink Cable Route

Description 2 Soil samples, 1 Leachate prepared by DETS sample.

Date Received 14-Oct-24

Date Started 14-Oct-24

Date Completed 29-Oct-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2408077	2408078
			Sample ID ~	TPC19	TPC20
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	08/10/2024	08/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	7.6	7.2
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	9.4	9.2
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	11	11
Lead	DETSC 2301#	0.3	mg/kg	17	14
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	7.3	8.6
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	20	18
Zinc	DETSC 2301#	1	mg/kg	41	36
Inorganics					
pH	DETSC 2008#		pH	7.1	7.6
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.6	1.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	25	11
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2408077	2408078
			Sample ID ~	TPC19	TPC20
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	08/10/2024	08/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg		< 35
2,4-D	DETSC 3447	35	ug/kg		< 35
Bentazone	DETSC 3447	35	ug/kg		< 35
Picloram	DETSC 3447	35	ug/kg		< 35
MCPA	DETSC 3447	35	ug/kg		< 35
Clopyralid	DETSC 3447	35	ug/kg		< 35
Dicamba	DETSC 3447	35	ug/kg		< 35
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35
Dichlorprop	DETSC 3447	35	ug/kg		< 35
Bromoxynil	DETSC 3447	35	ug/kg		< 35
Triclopyr	DETSC 3447	35	ug/kg		< 35
Fenoprop	DETSC 3447	35	ug/kg		< 35
MCPB	DETSC 3447*	35	ug/kg		< 35
2,4,5-T	DETSC 3447	35	ug/kg		< 35
Fluroxypyr	DETSC 3447	35	ug/kg		< 35
2,4-DB	DETSC 3447	35	ug/kg		< 35
Ioxynil	DETSC 3447	35	ug/kg		< 35
Benazolin	DETSC 3447	35	ug/kg		< 35
PCP	DETSC 3447*	35	ug/kg		< 35
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2408077	2408078
			Sample ID ~	TPC19	TPC20
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	08/10/2024	08/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1
Naled	DETSC 3433*	0.1	mg/kg		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2408077	2408078
			Sample ID ~	TPC19	TPC20
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	08/10/2024	08/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2408077	2408078
			Sample ID ~	TPC19	TPC20
			Depth ~	0.10	0.10
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	08/10/2024	08/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408079
Sample ID ~	TPC19
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	08/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.2
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	0.010
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.41
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.1
Zinc, Dissolved	DETSC 2306	1.3	ug/l	3.0
Inorganics				
pH	DETSC 2008		pH	7.5
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	1.0
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.97
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.80
Nitrite as N	DETSC 2055	0.03	mg/l	0.11
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.6
Nitrate as N	DETSC 2055	0.0226	mg/l	0.36
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.37
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.7
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408079
Sample ID ~	TPC19
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	08/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408079
Sample ID ~	TPC19
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	08/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408079
Sample ID ~	TPC19
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	08/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2408079
Sample ID ~	TPC19
Depth ~	0.10
Other ID ~	
Sample Type ~	ES
Sampling Date ~	08/10/2024
Sampling Time ~	1600

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-21973
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2408077	TPC19 0.10	SOIL	NAD	none	Keith Wilson
2408078	TPC20 0.10	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-21973
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2408077	TPC19 0.10 SOIL	08/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2408078	TPC20 0.10 SOIL	08/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2408079	TPC19 0.10 LEACHATE	08/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 13

Laboratory Test Results - Contamination Groundwater

APPENDIX 13

Certificate of Analysis

Certificate Number	25-01747	*Issued:*	03-Feb-25
Client	Geotechnics LTD 203 Torrington Avenue Tile Hill Coventry CV4 9AP		

Our Reference	25-01747
Client Reference ~	PC248770
Order No ~	OC42774
Contract Title ~	Lionlink Cable Route
Description	4 Groundwater samples.
Date Received	28-Jan-25
Date Started	28-Jan-25
Date Completed	03-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Reyhan Irfan
Operations Manager

2139

Normec Dets Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info-dets@normecgroup.com • normecdets.com/

Summary of Chemical Analysis
Water Samples

Our Ref 25-01747
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2454729	2454730	2454731	2454732
	Sample ID ~	BHB03A	BHB04	BHB11	BHB13
	Depth ~	9.30	8.00	8.00	6.00
	Other ID ~				
	Sample Type ~	EW	EW	EW	EW
	Sampling Date ~	23/01/2025	23/01/2025	23/01/2025	23/01/2025
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.51	0.62	0.56	0.37
Boron, Dissolved	DETSC 2306*	12	ug/l	42.2	33.1	35.7	48.0
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.10	< 0.03	< 0.03	0.04
Calcium, Dissolved	DETSC 2306	0.09	mg/l	320	160	260	300
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.0010	< 0.0010	< 0.0010	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.1	< 0.4	1.8	2.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09	< 0.09	0.10
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	22	2.3	8.2	5.2
Zinc, Dissolved	DETSC 2306	1.3	ug/l	130	60	78	160
Inorganics							
pH	DETSC 2008		pH	7.0	7.2	7.3	7.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.2	0.2	0.2	0.4
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5	< 1.5	< 1.5	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	927	435	800	882
Sulphate as SO4	DETSC 2055	0.1	mg/l	500	150	880	260
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	5.8	< 1.0	8.3	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	19	< 1.0	5.6	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	25	< 10	14	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	26	< 10	15	< 10
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	0.05	< 0.05	< 0.25	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.03	0.01	0.13	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref 25-01747
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2454729	2454730	2454731	2454732
			Sample ID ~	BHB03A	BHB04	BHB11	BHB13
			Depth ~	9.30	8.00	8.00	6.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	23/01/2025	23/01/2025	23/01/2025	23/01/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.04	< 0.01	0.25	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.02	< 0.01	0.13	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	0.02	< 0.01	0.11	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.03	< 0.01	0.31	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.12	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.02	< 0.01	0.24	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.17	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.05	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	0.22	< 0.20	1.5	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-01747
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2454729	2454730	2454731	2454732
			Sample ID ~	BHB03A	BHB04	BHB11	BHB13
			Depth ~	9.30	8.00	8.00	6.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	23/01/2025	23/01/2025	23/01/2025	23/01/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-01747
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2454729	2454730	2454731	2454732
	Sample ID ~	BHB03A	BHB04	BHB11	BHB13
	Depth ~	9.30	8.00	8.00	6.00
	Other ID ~				
	Sample Type ~	EW	EW	EW	EW
	Sampling Date ~	23/01/2025	23/01/2025	23/01/2025	23/01/2025
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
SVOCs							
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-01747
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2454729	2454730	2454731	2454732
			Sample ID ~	BHB03A	BHB04	BHB11	BHB13
			Depth ~	9.30	8.00	8.00	6.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	23/01/2025	23/01/2025	23/01/2025	23/01/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	1.1	< 1.0	< 10.0	< 3.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 10.0	< 3.0

Information in Support of the Analytical Results

Our Ref 25-01747
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2454729	BHB03A 9.30 GROUND WATER	23/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	
2454730	BHB04 8.00 GROUND WATER	23/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	
2454731	BHB11 8.00 GROUND WATER	23/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	
2454732	BHB13 6.00 GROUND WATER	23/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	25-03249	*Issued:*	20-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-03249
Client Reference ~	PC248770
Order No ~	OC42937
Contract Title ~	Lionlink Cable Route
Description	4 Groundwater samples.
Date Received	13-Feb-25
Date Started	13-Feb-25
Date Completed	20-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Louise Cook
Contracts Manager

2139

Summary of Chemical Analysis
Water Samples

Our Ref 25-03249
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2464312	2464313	2464314	2464315
				Sample ID ~	BHB19	BHB20	BHB23	BHB24
				Depth ~	7.00	11.80	7.70	9.00
				Other ID ~				
				Sample Type ~	EW	EW	EW	EW
				Sampling Date ~	11/02/2025	11/02/2025	11/02/2025	11/02/2025
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	2.3	0.93	0.47	3.0
Boron, Dissolved	DETSC 2306*	12	ug/l	34.3	32.3	42.7	35.9
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	330	160	130	89
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	< 0.4	1.5	0.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09	< 0.09	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	7.5	1.8	1.9	2.1
Zinc, Dissolved	DETSC 2306	1.3	ug/l	11	4.4	6.6	3.5
Inorganics								
pH	DETSC 2008		pH	7.3	7.4	7.3	7.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.3	0.5	0.4	0.4
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5	< 1.5	< 1.5	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	1090	418	336	248
Sulphate as SO4	DETSC 2055	0.1	mg/l	1000	72	42	29
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	3.7	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	1.4	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	6.3	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3304	0.05	ug/l	0.06	< 0.05	0.06	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	0.01	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	0.04	< 0.01	0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.08	0.01	0.02	0.02

Summary of Chemical Analysis
Water Samples

Our Ref 25-03249
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464312	2464313	2464314	2464315
			Sample ID ~	BHB19	BHB20	BHB23	BHB24
			Depth ~	7.00	11.80	7.70	9.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	11/02/2025	11/02/2025	11/02/2025	11/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3304	0.01	ug/l	0.03	< 0.01	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.09	< 0.01	< 0.01	0.04
Pyrene	DETSC 3304	0.01	ug/l	0.10	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.07	< 0.01	< 0.01	0.02
Chrysene	DETSC 3304	0.01	ug/l	0.06	< 0.01	< 0.01	0.02
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.08	< 0.01	< 0.01	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	0.04	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.06	< 0.01	< 0.01	0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	0.10	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	0.06	< 0.01	< 0.01	0.02
PAH Total	DETSC 3304	0.2	ug/l	0.90	< 0.20	< 0.20	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-03249
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464312	2464313	2464314	2464315
			Sample ID ~	BHB19	BHB20	BHB23	BHB24
			Depth ~	7.00	11.80	7.70	9.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	11/02/2025	11/02/2025	11/02/2025	11/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-03249
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

				Lab No	2464312	2464313	2464314	2464315
				Sample ID ~	BHB19	BHB20	BHB23	BHB24
				Depth ~	7.00	11.80	7.70	9.00
				Other ID ~				
				Sample Type ~	EW	EW	EW	EW
				Sampling Date ~	11/02/2025	11/02/2025	11/02/2025	11/02/2025
				Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
SVOCs							
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-03249
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464312	2464313	2464314	2464315
			Sample ID ~	BHB19	BHB20	BHB23	BHB24
			Depth ~	7.00	11.80	7.70	9.00
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	11/02/2025	11/02/2025	11/02/2025	11/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Information in Support of the Analytical Results

Our Ref 25-03249
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2464312	BHB19 7.00 GROUND WATER	11/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2464313	BHB20 11.80 GROUND WATER	11/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2464314	BHB23 7.70 GROUND WATER	11/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2464315	BHB24 9.00 GROUND WATER	11/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial
DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	25-03296	*Issued:*	24-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-03296
Client Reference ~	PC248770
Order No ~	OC42938
Contract Title ~	Lionlink Cable Route
Description	4 Groundwater samples.
Date Received	14-Feb-25
Date Started	14-Feb-25
Date Completed	24-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Louise Cook
Contracts Manager

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Summary of Chemical Analysis
Water Samples

Our Ref 25-03296
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464638	2464639	2464640	2464641
			Sample ID ~	BHB01	BHB02	BHC01	BHC03
			Depth ~	11.00	6.70	8.00	12.97
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	12/02/2025	12/02/2025	12/02/2025	12/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.51	4.9	1.2	1.6
Boron, Dissolved	DETSC 2306*	12	ug/l	53.1	70.3	67.3	75.3
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.10	0.04	< 0.03	0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	210	120	140	220
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.0069	0.0014	0.0018	0.014
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	4.8	2.2	9.8	4.8
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.47	1.7	0.88	0.68
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	3.2	13	1.9	18
Zinc, Dissolved	DETSC 2306	1.3	ug/l	41	49	180	82
Inorganics							
pH	DETSC 2008		pH	7.3	7.3	7.3	7.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.5	0.5	0.5	0.3
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5	34	9.9	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	538	357	369	564
Sulphate as SO4	DETSC 2055	0.1	mg/l	26	5.9	96	16
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	11	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	7.6	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	19	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	19	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	< 0.50	0.10	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	0.03	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.12	< 0.05	0.11	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref 25-03296
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464638	2464639	2464640	2464641
			Sample ID ~	BHB01	BHB02	BHC01	BHC03
			Depth ~	11.00	6.70	8.00	12.97
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	12/02/2025	12/02/2025	12/02/2025	12/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	0.16	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.10	< 0.05	0.04	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	0.08	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.10	< 0.05	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 2.00	< 1.00	0.42	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-03296
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464638	2464639	2464640	2464641
			Sample ID ~	BHB01	BHB02	BHC01	BHC03
			Depth ~	11.00	6.70	8.00	12.97
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	12/02/2025	12/02/2025	12/02/2025	12/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-03296
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

	Lab No	2464638	2464639	2464640	2464641
	Sample ID ~	BHB01	BHB02	BHC01	BHC03
	Depth ~	11.00	6.70	8.00	12.97
	Other ID ~				
	Sample Type ~	EW	EW	EW	EW
	Sampling Date ~	12/02/2025	12/02/2025	12/02/2025	12/02/2025
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
SVOCs							
Phenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Aniline	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-03296
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

			Lab No	2464638	2464639	2464640	2464641
			Sample ID ~	BHB01	BHB02	BHC01	BHC03
			Depth ~	11.00	6.70	8.00	12.97
			Other ID ~				
			Sample Type ~	EW	EW	EW	EW
			Sampling Date ~	12/02/2025	12/02/2025	12/02/2025	12/02/2025
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Diphenylamine	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Azobenzene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
Carbazole	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 5.0	< 5.0	< 1.0	< 5.0

Information in Support of the Analytical Results

Our Ref 25-03296
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2464638	BHB01 11.00 GROUND WATER	12/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2464639	BHB02 6.70 GROUND WATER	12/02/25	GB 1L, GV x2	pH/Cond (1 days)	
2464640	BHC01 8.00 GROUND WATER	12/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2464641	BHC03 12.97 GROUND WATER	12/02/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial
DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	25-02345	*Issued:*	07-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-02345
Client Reference ~	PC248770
Order No ~	OC42831
Contract Title ~	Lionlink Cable Route
Description	1 Groundwater sample.
Date Received	03-Feb-25
Date Started	03-Feb-25
Date Completed	07-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Louise Cook
Contracts Manager

2139

Normec Dets Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info-dets@normecgroup.com • normecdets.com/

Summary of Chemical Analysis
Water Samples

Our Ref 25-02345
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458614
Sample ID ~	BHC02
Depth ~	5.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	31/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.3
Boron, Dissolved	DETSC 2306*	12	ug/l	60.2
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	110
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.0
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.10
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	120
Inorganics				
pH	DETSC 2008		pH	6.9
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.2
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	319
Sulphate as SO4	DETSC 2055	0.1	mg/l	62
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Water Samples

Our Ref 25-02345
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458614
Sample ID ~	BHC02
Depth ~	5.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	31/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-02345
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458614
Sample ID ~	BHC02
Depth ~	5.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	31/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-02345
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458614
Sample ID ~	BHC02
Depth ~	5.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	31/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 5.0
Aniline	DETSC 3434*	1	ug/l	< 5.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 5.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 5.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 5.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 5.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 5.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 5.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 5.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 5.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 5.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 5.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 5.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 5.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 5.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 5.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 5.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 5.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 5.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 5.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 5.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-02345
Client Ref ~ PC248770
Contract Title ~ Lionlink Cable Route

Lab No	2458614
Sample ID ~	BHC02
Depth ~	5.00
Other ID ~	
Sample Type ~	EW
Sampling Date ~	31/01/2025
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 5.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 5.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 5.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 5.0
Diphenylamine	DETSC 3434*	1	ug/l	< 5.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 5.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 5.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 5.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 5.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 5.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 5.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 5.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 5.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 5.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 5.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 5.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 5.0
Azobenzene	DETSC 3434*	1	ug/l	< 5.0
Carbazole	DETSC 3434*	1	ug/l	< 5.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 5.0

Information in Support of the Analytical Results

Our Ref 25-02345
Client Ref ~ PC248770
Contract ~ Lionlink Cable Route

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2458614	BHC02 5.00 GROUND WATER	31/01/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 14

Archaeological Report

APPENDIX 14

Cotswold Archaeology

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling



for:
Steven Chapman
(Geotechnics Ltd)

on behalf of:
National Grid Ventures

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

April 2025

Andover Cirencester Milton Keynes Suffolk

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

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SUMMARY

Project name:	Lion Link Cable Route,
Location:	Sections A-F (Knodishall to Southwold and Walberswick)
NGR:	Centred on 642832 269245
Type:	Archaeological Monitoring
Date:	September to November 2024
OASIS ID:	Cotswold2-527147
Location of Archive:	To be deposited with SCCAS and the Archaeology Data Service (ADS)
Site Codes:	UGG043, WNF082, HAM048, REY152, REY206, WLB148, WLB149, BLB 177, WLN147, MDD052, THB061, SXM086, SNF031, KND047, FRS092, WMH091, TNG052, BLY025, STH032, BRP044

Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from their bore-hole logs.

Archaeological features were encountered in five of the test-pits, a post-hole in Westleton parish (TPC08), five ditches in Walberswick (TP04, TP05 and TP08) and a ditch in Middleton (TPB23). Artefactual evidence suggested a Roman date for the features in TP04 and TPB23 while the ditch in TP05 appeared to join with an extant field boundary. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting prehistoric, Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although another interpretation of this evidence is the process of nightsoiling. The geoarchaeological assessment identified a number of deposits which can be considered to have archaeological potential during future, more invasive works.

1. INTRODUCTION

1.1. Between September and November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geological deposit modelling on land designated as Sections A – F and the proposed Walberswick and Reydon Landfall Sites for the Lion Link Cable Route (NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West) (Fig. 1). The proposed route will pass through, or at least encroach upon seventeen Suffolk parishes (Sternfield, Knodishall, Friston, Saxmundham, Theberton, Middleton, Westleton, Blythburgh, Walberswick, Reydon, Wangford with Henham, Uggeshall, Wenhaston with Mels Hamlet, Thorington, Blyford, Sotherton and Brampton with Stoven).

1.2. This interim report collates and reports on the works completed in 2024 with, the remainder of the outstanding fieldwork projected to be completed in May 2025. The results will be integrated into this report.

1.3. While no formal Archaeological Brief has been prepared by Suffolk County Council Archaeological Service (SCCAS), in their role as Archaeological Advisors (AA) to the Local Planning Authority (LPA), they have provided archaeological advice for the project team and the geotechnical contractor (Geotechnics Ltd) were asked to include Archaeological Monitoring and Geological Deposit Modelling within their tender. Subsequently, CA were commissioned by Geotechnics Ltd to undertake these elements of the work.

1.4. This project has been treated with the same due process as those with a formal SCCAS archaeological Brief. The methodology for the Archaeological Monitoring and the Geological Deposit Modelling is detailed in a Written Scheme of Investigation (WSI) prepared by CA (Boulter and Rogers; CA 2024b) and submitted to SCCAS for scrutiny. Initially, Section E was excluded from this phase of works, but subsequently added with and updated WSI agreed with SCCAS. A third version of the WSI has since been prepared and agreed with SCCAS which accommodates various programme changes associated with the second phase of fieldwork in 2025.

1.5. Invasive works associated with this initial phase of work involved the excavation of 108 x *c*.0.6m wide by *c*.2.5m long trial-pits of the proposed 183 trial-pits that were excavated to depths of between 2.5m and 3.5m along with the monitoring of twelve of the fourteen bore-holes deemed by SCCAS to be located in archaeologically sensitive

areas. A total of forty-one of the proposed bore-holes were completed by the contractor and the bore-hole logs were provided to CA for use in the geological deposit modelling (paras. 5.79 – 5.89 and Appendix B).

1.6. The detailed methodology for the fieldwork was defined in the various versions of the WSI based on advice from SCCAS archaeologist Hannah Cutler acting as the AA for the project.

1.7. The works were also carried out in line with *Standard for archaeological monitoring and recording* (CIfA 2023a); *Universal guidance for archaeological monitoring and recording* (CIfA 2023b); the *EAA Standards for Field Archaeology in the East of England* (Gurney 2003); *Management of Research Projects in the Historic Environment (MoRPHE) PPN 3: Archaeological Excavation* (Historic England 2015a); *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015b); *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England, 2015c) and the *SCCAS Requirements for Archaeological Monitoring* (SCCAS 2024).

The site

1.8. The overall redline area of the cable route and its associated works covered *c*.53.6 square kilometres (Fig. 1).

1.9. Essentially, the bulk of the site is orientated north to south, running from the Saxmundham Convertor Station at the southern end, *c*.23km northwards to where two east to west orientated spurs (*c*.6.77km and *c*.8.15km long) project eastwards to the two proposed landfall sites at Walberswick and Reydon respectively.

1.10. The route traverses gently undulating agricultural land, crossing the Minsmere River, Dunwich River and Blythe River along with a number of other minor watercourses and varying from *c*.30m AOD down to sea level at the landfall sites, both located on low lying water meadows/marshy areas.

1.11. While there is some variation along the route regarding the superficial geology, The British Geological Survey defines the bedrock geology of the site as Crag Group – Sand, a sedimentary rock formed between 5.333 million and 11.8 thousand years ago during the Neogene and Quaternary periods (BGS 2025).

1.12. Superficial deposits are largely mapped as Lowestoft Formation – Diamicton, formed between 480 and 423 thousand years ago during the Quaternary period. Localised deposits of Head (consisting of clay, silt, sand and gravel formed between 2.588 million years ago and the present during the Quaternary period) and Alluvium (consisting of clay, silt, sand and gravel formed between 11.8 thousand years ago and the present during the Quaternary period) are also mapped across the Site. In addition, at the Reydon landfall site, there is potential for Tidal Flat Deposits - Clay and silt formed between 11.8 thousand years ago and the present during the Quaternary period and localised peat (BGS 2025). https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/

2. ARCHAEOLOGICAL BACKGROUND

2.1. Following discussions with SCCAS it was agreed that a formal HER search would not be required as part of this element of the project. Desk Based Assessment works have already been undertaken and interrogation of the county Historic Environment Record (HER) may be specified as part of any subsequent archaeological mitigation works (evaluation and excavation).

2.2. However, it should be noted that the cable route crosses a rich and diverse landscape where archaeological deposits of all periods are recorded on the HER and recent geophysical surveys of the route (Wessex Archaeology 2024 and 2025) indicate that significant deposits are present in some areas.

3. AIMS AND OBJECTIVES

3.1. The aims and objectives of the archaeological and geoarchaeological monitoring were:

- to maintain a continuous archaeological presence during the geotechnical investigations and identify any archaeological deposits or features thus revealed; **NB it was possible to avoid excavation of archaeological features in some trial-pits. These were re-located once archaeology was revealed after the initial removal of topsoil;**
- to undertake geoarchaeological monitoring of the geotechnical trial-pit and bore-hole locations in accordance with current best practice and guidelines with the aim of refining understanding of the presence, nature and distribution of Quaternary superficial deposits across the site

- to assess the archaeological and geoarchaeological potential of the deposits recorded across the site;
- to record any archaeological deposits, features, structures, or remains encountered within the bore-hole and trial-pit locations;
- to identify the presence of Quaternary sediment sequences across the Site;
- to establish the potential of the superficial deposits to preserve archaeological and/or palaeoenvironmental remains;
- to correlate available Ground Investigation data to develop a deposit model for the Site, including (where appropriate) representative transects, thickness plots and digital elevation models (DEMs);
- to establish the potential impact of the proposed works on deposits of archaeological and geoarchaeological potential;
- Following the completion of the fieldwork, to produce a report setting out the monitoring results and the geoarchaeological and archaeological conclusions that can be drawn from the recorded data. This will be used to Inform the scope of subsequent phases of geoarchaeological and archaeological work that may be required to mitigate the impact of the works on the archaeological resource;
- at the conclusion of the project, to compile a stable, ordered, accessible project archive (see Section 6).

4. METHODOLOGY

4.1. The 2024 phase of fieldwork involved the monitoring of 103 of the proposed 182 trial-pits and twelve of the proposed fourteen archaeologically sensitive bore-holes. A total of forty-one of the originally proposed ninety-two bore-holes were completed and the bore-hole logs have been provided to CA for use in the geological deposit model:

- 103 x 1m x 3m trial-pits
- 12 x 1m x 1m bore-holes
- 41 x bore-hole logs

4.2. The initial scope of invasive works prior to the various revisions comprised the following interventions;

- **Section A:** 3 bore-holes (not monitored) and 8 trial-pits
- **Section B:** 24 bore-holes (1 monitored) and 33 trial-pits

- **Section C:** 11 bore-holes (3 monitored) and 39 trial-pits
- **Section D:** 6 bore-holes (2 monitored) and 18 trial-pits
- **Section E:** 24 bore-holes (1 monitored) and 33 trial-pits
- **Section F:** 12 bore-holes (2 monitored) and 27 trial-pits
- **Reydon Landfall Site:** 7 bore-holes (not monitored) and 14 trial-pits
- **Walberswick Landfall Site:** 5 bore-holes (all monitored) and 13 trial-pits (2 re-located)

4.3. Prior to the more recent revisions, the proposed interventions at that juncture were as follows, located within the bounds of seventeen parishes;

- **Sternfield (SNF 031):** one bore-hole, BHA01; five trial-pits, TPA01 – TPA05
- **Knodishall (KND 047):** one bore-hole, BHA02; three trial-pits, TPA06 – TPA08
- **Friston (FRS 092):** one bore-hole, BHA03; no trial-pits
- **Saxmundham (SXM 086):** two bore-holes, BHB01 and BHB02; four trial-pits, TPB01 – TPB04
- **Theberton (THB 061):** fifteen bore-holes, BHB03 – BHB015; fifteen trial-pits, TPB05 – TPB19
- **Middleton (MDD 052):** eight bore-holes, BHB18 – BHB24 and BHC01; eighteen trial-pits, TPB20 – TPB33 and TPC01 – TPC04
- **Westleton (WLN 147):** six bore-holes, BHC02 – BHC07, thirteen trial-pits, TPC05 – TPC17
- **Blythburgh (BLB 177):** eight bore-holes, BHC08 – BHC11, BHD01 and BHD 02 and BHE01 and BHE02; thirty-two trial-pits, TPC 18 – TPC39, TPD01 – TPD09 and TPE01
- **Walberswick (WLB 148 and WLB 149):** nine bore-holes, BHD03 – BHD06 (WLB 148) and BH01 – BH05 (WLB 149); twenty two trial-pits, TPD10 – TPD18 (WLB 148) and TP01 – TP11 (WLB 149)
- **Reydon (REY 152 and REY 206):** seventeen bore-holes, BHF03 – BHF12 (REY 152) and BH101 – BH107 (REY 206); twenty-nine trial-pits, TPF13 – TPF27 (REY 152) and TP101 – TP114 (REY 206)
- **Wenhaston with Mels Hamlet (WMH 091):** three bore-holes BHE06 – BHE08; four trial-holes, TPE02 – TPE05
- **Thorington (TNG 052):** three bore-holes, BHE03 – BHE05

- **Blyford (BLY 025):** two bore-holes, BHE10 and BHE11, two trial-holes, TPE06 and TPE07
- **Sotherton (STH 032):** four bore-holes, BHE14 – BHE17, seven trial-holes, TPE17 – TPE23
- **Brampton with Stoven (BRP 044):** four bore-holes, BHE18 – BHE21, two trial-holes, TPE 24 and TPE25
- **Wangford with Henham (WNF 082):** ***WNF 082***: two bore-holes, BHF01 and BHF02, eight trial-pits, TPF5 – TPF12: ***HAM 048***: two bore-holes BHE12 and BHE13, eight trial-pits, TPE08 – TPE16
- **Uggeshall (UGG 043):** four bore-holes, BHE22 – BHE25; twelve trial-pits, TPF1 – TPF4 and TPE26 – TPE33

4.4. The trial-pits and bore-holes were located to test the geological substrate, install ground water pipes and to test soak away properties of the underlying geology. The locations were set out by the geotechnical contractor (Geotechnics Ltd), as per the WSI and SCCAS agreed plan. In the field, where a trial-pit or bore-hole was found to encroach on dense archaeological features or remains, it was moved and excavated in a new location as close as possible to the original position; these movements were agreed following discussion between Geotechnics Ltd and SCCAS.

4.5. The archaeological monitoring involved the continuous presence of a competent archaeologist during the geotechnical works with an emphasis on the trial-pits. The less archaeologically damaging bore-hole investigations, which were undertaken broadly at the same time, were generally subjected to less intensive scrutiny on site. The bore-hole logs were subsequently provided to the CA Geoarchaeological Manager (Holly Rogers) for the purpose of using the data, in conjunction with that recorded on site from the trial-pits, to construct a geological deposit model across the site.

4.6. However, fourteen of the bore-hole locations (BHB19, BHC02 – BHC04, BHD03, BHD04, BHE08, BHF05, BHF011 and BH01 – BH05) were highlighted by SCCAS as having significant archaeological potential and were to be subject to a more enhanced methodology and higher scrutiny (see section 4.8 below).

4.7. Initially, the trial-pits were subject to the removal of 0.3 - 0.5m of topsoil over a *c.*3m x *c.*3m square. Where this did not reveal the archaeological horizon, a small 1m x 3m trench was excavated within original square to the top of the archaeological horizon.

Once fully recorded the trial-pits were then excavated to their full depth of 2.5m for soakaways and 3m or 3.5m for the standard trial-pits.

4.8. The archaeologically sensitive bore-holes were hand or machine excavated to remove the superficial overburden layers (topsoil and subsoil) to either the natural substrate or archaeological horizon. After recording, these were backfilled with the bore-holes inserted to various depths, normally exceeding 10m.

4.9. Upcast spoil was examined visually for the presence of artefactual evidence and was also subject to metal-detector survey.

4.10. Where no archaeological features were found to be present, the geotechnical contractors were able to proceed with the full depth excavation of the test-pit into the naturally occurring superficial geology.

4.11. Archaeological features/deposits were investigated, planned and recorded in accordance with *CA Technical Manual 1: Fieldwork Recording Manual*.

4.12. Deposits were assessed for their palaeoenvironmental potential and samples were taken in accordance with *CA Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites*.

4.13. Artefacts were processed in accordance with *CA Technical Manual 3: Treatment of Finds Immediately after Excavation*.

Treasure

4.14. An Item (RA 12) was identified that is considered to be 'Treasure' as detailed in the Treasure Act 1996 and the Code of Practice referred to therein, the following guidelines were followed.

- Upon discovery of treasure, CA notified their client (and landowner if different) and SCCAS immediately once identification was confirmed. CA will comply fully with the provisions of the Treasure Act 1996 and the Code of Practice referred to therein. Findings were reported to the Coroner within fourteen days.

- Treasure objects were immediately moved to secure storage at CA and appropriate security measures were taken on site.

Geoarchaeological recording of deposits

4.15. Deposits revealed during the geotechnical works were recorded on a graphic log with a written description by the attending archaeologist and geotechnical contractor, to include information in accordance with Hodgson (1997) such as:

- Location (XY coordinates)
- Level of the top of the sample (m OD)
- Depth for top and bottom of each lithological unit
- Texture
- Composition
- Colour
- Inclusions (clast size-range, degree of angularity/roundness etc.)
- Structure (bedding, ped characteristics etc.)
- Contacts between deposits (sharp, gradual etc.)
- Sampling locations

4.16. Interpretations were made regarding the likely depositional environments and formation processes of the encountered deposits. The data was tabulated by bore-hole / trial-pit and depth.

4.17. CA will make arrangements with SCCAS for the deposition of the project archive and, subject to agreement with the legal landowner(s), the artefact collection. A digital archive will also be prepared and deposited with the Archaeology Data Service (ADS). The archives (physical and digital) will be prepared and deposited in accordance with *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (CIfA 2020) and Archaeological Archives in Suffolk, guidelines for preparation and deposition. (SCCAS 2023).

4.18. A summary of information from this project, as set out in Appendix E, will be entered onto the OASIS online database of archaeological projects in Britain.

5. RESULTS

5.1. This section provides an overview of the monitoring results of the works conducted in 2024. Detailed summaries of the recorded contexts are given in Appendix A, tabulated geoarchaeological data is presented in Appendix B, details of the artefact assemblage is given in Section 6 and Appendix C and the biological evidence provided in Section 7 and Appendix D.

5.2. The results are presented by parish site code from south to north encompassing trial-pits and bore-holes within each section of the linear project. Only bore-holes which were perceived by SCCAS to have a high archaeological potential were monitored and are described in detail below. For the remainder of the boreholes, the geological logs were provided to CA for the information to be included in the geological deposit modelling.

5.3. The works completed during this phase of works and the revised outstanding works are as follows;

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Knodishall (KND 047)	BHA02 ***(1)***	TPA06, TPA07, TPA08, TPA10, TPA13, TPA14, TPA15, TPA16 ***(8)***
Friston (FRS 092)	*BHA03* ***(1)***	TPA09 ***(1)***
Sternfield (SNF 031)	***(0)***	WSA01, WSA02, *TPA01, TPA02,* TPA03, TPA04, TPA05 ***(5)***
Saxmundham (SXM 086)	BHA01, BHB01, BHB02 ***(3)***	TPA11, TPA12, TPB01, TPB02, TPB03, TPB04 ***(4)***
Theberton (THB 061)	BHB03, BHB04, BHB05, BHB06, BHB07, BHB08, BHB09, BHB10, BHB11, BHB12, BHB13, *BHB14,* BHB15, BHB16, BHB17 ***(15)***	TPB05, TPB06, TPB07, TPB08, TPB09, TPB10, TPB11, TPB12, TPB13, TPB14, *TPB15,* TPB16, TPB17, TPB18, TPB19 ***(15)***
Middleton (MDD 052)	BHB18, *BHB19,* BHB20, BHB21, BHB22, BH B23, BHB24, BHC01 ***(8)***	TPB20, TPB21, TPB22, TPB23, TPB24, TPB25, TPB26, TPB27, *TPB28,* TPB29, TPB30, TPB31, TPB 32, TPB33, TPC01, TPC02, TPC03, TPC04 ***(18)***
Westleton (WLN 147)	*BHC02, BHC03, BHC04,* BHC05, BHC06, BHC07 ***(6)***	TPC05, TPC06, TPC07, TPC08, TPC09, TPC10, TPC11, TPC12, TPC13, TPC14, TPC15, TPC16, TPC17 ***(13)***
Blythburgh (BLB 177)	BHC08, BHC09, BHC10, BHC11, BHD01, BHD02, BHE01, BHE02 ***(8)***	TPC18, TPC19, TPC20, TPC21, TPC22, TPC23, TPC24, TPC25, TPC26, TPC27, TPC28, TPC29, TPC30, TPC31, TPC32, TPC33, TPC34, TPC35, TPC36, TPC37, TPC38, TPC39, TPD01, TPD02, TPD03, TPD04, TPD05, TPD06, TPD07, TPD08, TPD09, TPE01 ***(32)***
Thorington (TNG 052)	BHE03, BHE04, BHE05 ***(3)***	***(0)***
Walberswick (WLB 148)	*BHD03, BHD04,* BHD05, BHD06 ***(4)***	TPD10, TPD11, TPD12, TPD13, TPD14, TPD15, TPD16, TPD17, TPD18 ***(9)***

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Walberswick (WLB 149)	*BH01, BH02, BH03, BH04, BH05* ***(5)***	TP01, TP02, TP03, TP04, TP05, TP06, TP07, TP08, TP09, TP10, TP11 ***(11)***
Wenhaston with mels hamlet (WMH 091)	*BHE06, BHE07, BHE08* ***(3)***	TPE02, TPE03, TPE04, TPE05 ***(4)***
Blyford (BLY 025)	BHE10, BHE11 ***(2)***	TPE06, TPE07 ***(2)***
Wangford with Henham (HAM 048)	*BHE12, BHE13* ***(2)***	TPE08, TPE09, TPE10, *TPE11, TPE12, TPE13, TPE14, TPE15, TPE16* ***(9)***
Wangford with Henham (WNF 082)	*BHF01, BHF02* ***(2)***	TPF5, TPF6, *TPF7, TPF8, TPF9,* TPF10, *TPF11, TPF12* ***(8)***
Sotherton STH 032	*BHE14, BHE15, BHE16, BHE17* ***(4)***	*TPE17, TPE18, TPE19, TPE20, TPE21, TPE22, TPE23* ***(7)***
Brampton with Stoven (BRP 044)	BHE18, BHE19, BHE20, BHE21 ***(4)***	TPE24, TPE25 ***(2)***
Uggeshall (UGG 043)	BHE22, *BHE23, BHE24, BHE25* ***(4)***	TPF01, TPF02, TPF03, TPF04, *TPE26, TPE27, TPE28, TPE29, TPE30, TPE31,* TPE32, TPE33 ***(12)***
Reydon (REY 152)	*BHF03, BHF04, BHF05, BHF06, BHF07, BHF08, BHF09, BHF10, BHF11, BHF12* ***(10)***	*TPF13, TPF14, TPF15, TPF16,* TPF17, *TPF18,* TPF19, *TPF20,* TPF21, TPF22, TPF23, TPF24, TPF25, TPF26, TPF27 ***(15)***
Reydon (REY 206)	*BH101, BH102, BH103, BH104, BH105,* BH106, BH107 ***(7)***	TP101, *TP102, TP103, TP104, TP105, TP106, TP107,* TP108, *TP109, TP110, TP111, TP112, TP113,* TP114 ***(14)***

KND 047 (Knodishall), FRS 092 (Friston), SNF 031 (Sternfield)

5.4. No works undertaken in this phase.

SXM 086 Saxmundham (Figs. 2, 5 and 6)

5.5. Four trial-pits of the six proposed for this parish, TPB01 - TPB04, located in two separate but adjacent fields, were excavated. Three bore-holes, BHA01 - BHA 03, were also excavated, but did not require archaeological monitoring.

5.6. The topsoil and subsoil deposits within the two fields were similar in character with topsoil comprising mid-dark red grey compact silty clay with frequent small to mid-sized flint inclusions and frequent chalk flecks varying between 0.15m - 0.3m in

thickness. Subsoil deposits were 0.1m - 0.3m in thickness, consisting of mid-brown firm clay with frequent chalk flecks.

5.7. No archaeological finds or features were recorded in any of the trial-pits excavated within this parish.

THB 061 Theberton (Figs. 2, 7 and 8)

5.8. Twelve of the fifteen proposed trial-pits for this parish were excavated, TPB05 - TPB14, TPB16 and TPB18 along with twelve bore-holes; none of the latter required archaeological monitoring. The interventions were distributed between eleven separate fields.

5.9. The topsoil varied in depth between 0.2m - 0.5m; the topsoil in TPB05 - TPB14 was similar in character, comprising firm mid-brown silty clay with occasional small flint inclusions and chalk flecks. In TPB16 and TPB18 the topsoil consisted of dark brown grey silty clay with occasional small to mid-sized flint inclusions. No finds were recovered from any of the topsoil deposits.

5.10. Subsoil was present in TPB07 (0023), TPB12 - TPB14 (0053, 0048, 0043), TPB16 (0061) and TPB18 (0074). In TPB07 - TPB14 the subsoil layer measured between 0.1m - 0.4m in thickness, comprising mid to dark olive brown firm sandy to silty clay with occasional small stones. The subsoil in TPB16 and TPB18 measured 0.15m - 0.2m in thickness and consisted of dark brown to grey firm clay with occasional chalk flecks and small flint inclusions. No finds were recovered from any of the subsoil deposits.

5.11. The geological subsoil comprised firm orange/brown clay or sandy clay apart from TPB09 which encountered a cover sand deposit.

MDD 052 Middleton (Figs. 2, 3, 9 and 10)

5.12. Seventeen trial-pits TPB20 - TPB27, TPB29 - TPB33 and TPC01 - TPC04 of the eighteen proposed for this parish and one bore-hole (BHB19) of the eight excavated, BHB03 – BHB17, were monitored. The trial-pits and bore holes were excavated across nine different fields with varying surface deposits; a ditch previously recorded on the geophysical survey was encountered in TPB23 which produced finds suggesting a Roman date for the feature (see below).

5.13. Bore-hole BHB19 was the most southerly excavated within this parish. The hand dug pit revealed 0.5m thickness of topsoil directly above the natural clay substrate. No features or finds were recorded.

5.14. TPB20 - TPB26 were excavated within two fields either side of Wash Lane on a moderate slope increasing in elevation in a north-westerly direction from TPB20 - TPB26. The topsoil deposits within these pits measured 0.2m - 0.4m in thickness, comprising dark grey-brown firm sandy silt and sandy clay with occasional small stones and chalk flecks. Below the topsoil a colluvial/subsoil deposit was present which varied in thickness between 0.6m -1.1m within pits TPB20 - TPB24, contexts 0109, 0113, 0117, 0148 and 0126 and consisted of mid-yellow brown firm sand with occasional small stones and chalk flecks.

5.15. TPB23 was excavated on the location of a linear feature previously recorded in the geophysical survey (Fig. 9). Removal of colluvial layer 140 revealed this feature, here numbered 150 and recorded as a ditch, although its actual dimensions could not be ascertained at this juncture due to the central location of the trial-pit, although it was seen to be 0.7m in depth. The single fill, 149, comprised dark brown firm sandy silt fill with occasional small stones and chalk flecks. Finds recovered from the fill included thirty-two sherds (173g) of Roman, late 2nd century or later pottery, eight pieces of Ceramic Building Material (CBM) (319g) an a residual worked flint flake.

5.16. The sequence encountered in TPB25 and TPB26 were markedly different from TPB20 - TPB24. TPB25 was excavated within a visible natural hollow where 1.7m of mixed topsoil had accumulated above the underlying geological substrate comprising yellow sand. TPB26 was excavated at the top of the slope where the subsoil/colluvial layer was not present.

5.17. Trial-pits TPB27 - TPB33 and TPC01 - TPC03 were excavated across five separate fields, all exhibiting a similar 0.3m – 0.45m thick topsoil comprising dark to mid-grey/brown sandy silt or clayey silt with occasional to frequent small stones. For the majority of these trial-pits, the natural geological substrate was revealed immediately below topsoil. However, in TPB27 a 0.2m thick layer of mid-brown firm silty clay subsoil, 0066, was recorded and in TPB30 a 0.7m of dark yellow/brown soft sandy silt colluvium, 0135, was found to be present overlying the geological substrate. No finds were recovered from the topsoil or subsoil/colluvial deposits.

5.18. TPC04 was the only trial-pit excavated in one of the fields where a 0.1m thick layer of topsoil, 165, comprising mid-brown loose sandy silt which measured 0.1m in thickness was recorded overlying a 0.3m thick layer of mid-yellow brown soft sandy silt subsoil, 166. A single sherd of Roman pottery (2g) and two worked flint flakes were recovered from the subsoil.

WLN 147 Westleton (Figs. 3 and 11-13)

5.19. All thirteen of the trial-pits proposed for this parish, TPC05 - TPC17, were excavated over ten separate fields. Four of the proposed six bore-holes were excavated, three of which, BHC02 – BHC04 required archaeological monitoring. These were located south of TPC05 within three additional fields. A possible post-hole was recorded in TPC08 with a stake-hole tentatively identified in BHC02.

5.20. Topsoil deposits differed in character within the various trial-pits and bore-holes. In TPC05 - TPC08 a 0.1m – 0.4m thick layer of firm mid-brown clayey silt with moderate stones and occasional chalk lumps. In TPC09-TPC17, the 0.2m - 0.5m thick topsoil comprised dark brown to dark grey/brown firm clayey silt topsoil with occasional small stones and chalk lumps. For BHC02 - BHC04, the topsoil was recorded as 0.3m - 0.35m of mid-brown soft sandy silt with no inclusions. No finds were recovered from the topsoil deposits.

5.21. Subsoil was present within TPC05, TPC06, TPC13, BHC02 and BHC04; 0170, 0176, 0206, 0218 and 0215 respectively, and differed in character between the excavated areas. In TPC05 and TPC06 the subsoil layer was 0.25m - 0.4m thick, comprising dark yellow/brown firm silty clay with occasional small stones measuring while in TPC13, a 0.3m thick layer of light olive brown firm clay subsoil with occasional chalk flecks was encountered. BHC02 and BHC04 revealed a 0.25m - 0.3m of soft mid brown sandy silt subsoil with no inclusions. No finds were recovered from these deposits.

5.22. TPC05-TPC16 revealed a firm olive brown clay natural substrate while TPC17 and BHC02-BHC04 contained a soft to moderately compact yellow sand; gravel was present within the sand in TPC17 only.

5.23. In TPC08, a possible post-hole, 181, was recorded immediately below topsoil 179 cutting into the underlying geological substrate (Fig. 12). It was sub-circular in plan, measuring 0.25m long, 0.19m wide and 0.1m in depth with steep concave sides and

a concave base and a single fill, 180, comprising dark grey to black firm clay with no inclusions. No finds were recovered.

5.24. In the hand excavated area around bore-hole BHC02, a possible stake-hole, 230, was recorded below subsoil 215 (Fig. 13). It was circular, measuring 0.13m in diameter, 0.07m in depth with steep sides and a V-shaped profile and a single fill, 231, comprising mid to light brown soft silty sand with no inclusions. No finds were recovered.

BLB 177 Blythburgh (Figs. 3, 4 and 15-17)

5.25. Eleven out of the thirty-two trial-pits proposed for this parish were excavated, TPC19 - TPC20, TPD02 - TPD09 and TPE01 over seven separate fields with a considerable distance between TPC19 and TPE01. Four of the proposed eight bore-holes were excavated, BHC08, BHD02, BHE01 and BHE02, none of which required archaeological monitoring.

5.26. Topsoil deposits differed in character within the various trial-pits. In TPC19 and TPC20, a 0.5m – 0.55m thick layer of soft dark grey/brown sandy silt with occasional stones was recorded while in TPD02 - TPE01 a 0.35m - 0.7m thick layer of dark olive brown soft clayey sandy silt with stones becoming more frequent from TPD07 - TPE01. No finds were recovered from these deposits.

5.27. The topsoil in TPC19 was recorded directly above a possible 0.8m thick colluvial layer comprising dark yellow/brown loose sand with occasional stones. No finds were recovered from this deposit.

5.28. In trial-pits TPD03, TPD05 and TPD06 a 0.2m thick layer of subsoil was recorded comprising dark yellow/brown soft silty sand with occasional small stones and clay pockets. No finds were recovered from these deposits.

5.29. The geological substrate in TPC19 and TPE01 consisted of light yellow sand and gravel in the remaining trial-pits it comprised light yellow/brown firm clay with a mix of sand and clay also present in TPD08 and TPD09.

TNG 052 Thorington (Figs. 3 and 4)

5.30. Only three bore-holes BHE03 - BHE05 were proposed for this parish, none of which required archaeological monitoring and were not excavated during this tranche of works.

WLB 148 Walberswick (Figs. 3, 4, 18 and 19)

5.31. All nine of the proposed trial-pits form this parish, TPD10 - TPD18, were excavated along with all four proposed boreholes, two of which, BHD03 and BHD04, required archaeological monitoring. The trial-pits and bore-holes were excavated over five separate fields.

5.32. Within TPD10 - TPD13 and BHD03 and BHD04, the two most westerly fields, both topsoil and subsoil deposits were found to be similar in character. The topsoil measured 0.4m – 0.6m in thickness comprising dark brown loose silty sand with occasional small stones while the subsoil deposits in TPD10 - TPD12, contexts 0442, 0426 and 0430, were 0.1m - 0.2m in thick, consisting of dark yellow-brown loose fine sand with occasional stones. Subsoil was absent in TPD13, BHD03 and BHD04 with the 0.4-0.6m of topsoil directly overlying the geological substrate.

5.33. TPD14 was excavated in one of the more easterly fields where the surface deposits were seen to be different. Here, the topsoil, 0082, comprised a 0.5m thickness of very dark brown/grey loose silty sand with an underlying 0.2m thick subsoil deposit of very fine orange/brown silty sand.

5.34. TPD15 - TPD18 were excavated within the two easternmost fields and revealed similar topsoil and subsoil deposits. Topsoil varied in thickness between 0.3m - 0.45m, comprising mid-brown loose sandy silt with moderate small to medium-sized stones while the subsoil layer varied in thickness between 0.1m - 0.4m and consisted of either mid to dark red brown, TPD15 context 0079, or mid to light yellow brown, TPD16 - TPD18, contexts 0088, 0093 and 0098 respectively, mixed sandy silt with frequent to occasional small stones.

5.35. With the exception of a highly worn, broken fragment of a James I Royal Farthing (RA 1), recovered from topsoil 097 in TPD18, no archaeological finds or features were recorded the trial-pits or bore-holes within this parish.

WLB 149 Walberswick landfall area (Figs. 3, 4 and 20-24)

5.36. The potential landfall site was confined to a single field and all eleven of the proposed trial-pits, TP01 - TP04/TP04A, TP05/TP05A, TP06 - TP11 and five proposed bore-holes, BH01 - BH05, were excavated. Trial-pits TP04 and TP05 were moved due to archaeological features being present in the initial excavation and renumbered as TP04A and TP05A. Possible features/ layers were also seen in TP08 and BH03 which were not subsequently re-located.

5.37. The topsoil varied in thickness from between 0.35m to 0.5m, comprising mid-brown soft silty sand with occasional small stones. Moderate amounts of CBM and modern material were recorded, but not retained along with a significant number of Registered Artefact (RA's) which are detailed in Section 6. In summary, these included seventeen separate items (RA's 1 – 9 and 11 – 19), eight coins, five jettons, a ring, a spoon, a cloth seal and a watch winder, with dates ranging from the medieval to modern period (see Section 6 for detail).

5.38. The subsoil varied in thickness from between 0.1m to 0.4m, comprising mid-orange brown soft silty sand with occasional small stones. BH03 and TP11 did not contain any subsoil. Finds recovered from the subsoil included two sherds (25g) of 14th – 15th century pottery from TP03, context 378 along with a sherd (1g) of Roman pottery from, three sherds (6g) of medieval pottery and two pieces of CBM (68g) from TP09, context 394.

5.39. When TP04 was initially excavated to a depth of 0.5m where the archaeological horizon was exposed, three ditches, 385, 387 and 389, were seen crossing the trench, all sealed by the subsoil deposits with unclear stratigraphic relationships between the individual features. These features were recorded with the surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP04A.

5.40. Ditch 0383 was located at the east end of TP04 and was only partially exposed. It was north to south orientated and measured in excess of 1m wide with a fill, 0384, comprising mid-orange/brown loose sandy silt with no visible inclusions. One sherd (4g) of Roman pottery was recovered from the surface.

5.41. Ditch 0385 was located at the southern edge of the trial-pit and was only partially exposed. It was orientated east to west and measured in excess of 0.8m wide with a fill, 0386, comprising mid-orange/brown loose sandy silt with no visible inclusions. No finds were recovered.

5.42. Ditch 0387 was located at the northern edge of the trial-pit and was only partially exposed. It was orientated east to west and in excess of 0.5m wide with a fill, 0388, comprising mid-orange/brown loose sandy silt with no visible inclusions. One piece of CBM (423g) was recovered that is likely be of medieval or post-medieval date.

5.43. When TP05 was initially excavated to a depth of 0.65m where the archaeological horizon was encountered, a large ditch, 0322, was seen to be present where it was sealed by the subsoil (Fig. 21). The ditch was recorded, surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP05A. This feature possibly equates to a ditch seen on the geophysical survey that joins with an extant field boundary at the north-western edge of the field.

5.44. Ditch 0322 was located at the northern edge of the trial-pit and was only partially exposed. It was east to west orientated and measured in excess of 2m wide with a fill, 0323, comprising mid-brown loose sandy silt with occasional stones. The finds collected from the ditch surface included twenty sherds (340g) of Roman pottery along with three fragments (58g) of Roman CBM. In addition,

5.45. TP08 was excavated to a depth of 0.8m where the archaeological horizon was encountered. A possible ditch or deepening of subsoil, 0373, was visible and was manually excavated as part of the current works.

5.46. Ditch 0373 was located on the eastern edge of the trial-pit and was only partially exposed. Within the trial-pit it was orientated north to south, measured 3m long, 1.5m wide, 0.3m in depth with a single fill, 0374, comprising mid-orange/brown loose sandy silt with occasional stones. No finds were recovered.

5.47. During the manual excavation of a 1m x 1m square box around BH03, a possible feature, 0312, or deeper subsoil deposit was encountered. The box was excavated to a depth of 0.8m where the geological substrate was encountered.

5.48. Possible feature 0312 was recorded throughout the excavated box with no edges visible. The feature/deposit was 0.45m in thickness with a single fill, 0313, comprising mid-orange/brown loose sandy silt similar in character to subsoil seen elsewhere in the vicinity. No finds were recovered.

WMH 091 Wenhaston with Mels Hamlet (Figs. 3, 4, 25, 26)

5.49. All four of the proposed trial-pits for this parish, TPE02 - TPE05, were excavated along with one of the three bore-holes, BHE08, which required archaeological monitoring *(NB CA were not informed when this was being done and it was not monitored)*. The trial-pits were located across three separate fields.

5.50. Topsoil deposits were consistent within the four trial-pits, varying in thickness between 0.4m - 0.7m, comprising dark olive to dark grey/brown soft fine sandy silt with frequent gravel-sized stones. No finds were recovered from the topsoil.

5.51. Subsoil was present in TPE04 (0481) and TPE05 (0443), measuring between 0.2m - 0.25m in thickness, comprising dark yellow/brown fine sand with occasional small stones. No finds were recovered.

BLY 025 Blyford (Figs. 4, 27 and 28)

5.52. The two proposed trial-pits for this parish, TPE06 and TPE07, were excavated, both in the same field. In addition, the two proposed bore-holes, BHE10 and BHE11, were excavated, neither of which required archaeological monitoring.

5.53. The overburden recorded within the trial-pits differed due to the varying topographical aspect. Trial-pit TPE06 was located at the base of the slope where a 0.5m thick layer of topsoil, 0463, was recorded comprising mid-olive brown soft sandy silt with occasional small stones overlying a 0.2m thick subsoil layer, 0464, consisting of light olive brown soft sandy silt with occasional small stones which, in turn, overlay the geological substrate of light yellow medium course sand with small stones.

5.54. TPE07 was located at the top of the slope with only a 0.4m thickness of similar topsoil (0467), although slightly more clayey, recorded directly above the geological substrate, here a soft light olive brown sandy clay, 0468.

5.55. No archaeological finds or features were recorded.

HAM 048 Wangford with Henham (Figs. 4 and 29)

5.56. Only three, TPE08 – TPE10, of the nine trial-pits proposed for this parish were excavated over three separate fields. The two proposed bore-holes were not excavated at this juncture.

5.57. Topsoil deposits were consistent within the three trial-pits, measuring 0.4m in thickness, comprising soft mid-brown silty clay with occasional stones. No Subsoil was recorded and no finds were recovered from the topsoil.

5.58. Removal of the topsoil revealed a yellow firm chalk flecked clay geological substrate in all three trial-pits.

WNF 082 Wangford with Henham (Figs. 4, 33 and 34)

5.59. Only three, TPF05, TPF06 and TPF10, of the proposed eight trial-pits for this parish were excavated across two separate fields. The two proposed bore-holes were not excavated at this juncture.

5.60. Topsoil deposits were consistent within the trial-pits, measuring between 0.35m - 0.45m in thickness, comprising soft mid-brown clayey silt with frequent stones and occasional chalk flecks and lumps. No finds were recovered.

5.61. Subsoil 0417 was present in TPF10 only, measuring 0.4m in thickness and consisting of light red brown firm clay with occasional small stones. No finds were recovered.

STH 032 Sotherton

5.62. No works undertaken in this phase.

BRP 044 Brampton with Stoven (Figs. 4, 30 and 31)

5.63. Both of the two proposed trial-pits for this parish, TPE24 and TPE25, were excavated within two fields flanking the A145 road with the topographical elevation increasing to the west. Four bore-holes were excavated, BHE18 – BHE21, none of which required archaeological monitoring.

5.64. The topsoil deposits TPE24 and TPE25, 0490 and 0494, respectively, were similar in character despite being within two different fields. The layer varied in depth between 0.3m - 0.4m in thickness, comprising mid-olive brown silty clay with frequent small stones.

5.65. Subsoil was only present in TPE024, 0495, comprising a 0.5m thickness of dark yellow/brown firm sandy clay with occasional stones.

5.66. No archaeological finds or features were recorded.

UGG 043 Uggeshall (Figs. 4 and 32)

5.67. Six out of the proposed twelve trial-pits for this parish were excavated, TPF01 - TPF04, TPE32 and TPE33 over four separate fields. Only one, BHE22, of the four proposed bore-holes was excavated, but did not require archaeological monitoring.

5.68. The landscape in this area was generally undulating and the deposits reflected this with variations in topsoil depths and thicknesses of subsoil/colluvial layers.

5.69. Topsoil deposits were consistent within TPF01 - TPF04, measuring 0.2m - 0.3m in thickness, comprising loose mid-brown sandy silt, becoming more clayey within TPF03 and TPF04, with frequent stones. The topsoil in TPE32 and TPE33 varied in thickness with 0.7m in TPE32, 0.4m in TPE33, both comprising dark grey/brown loose sandy silt with occasional stones. No finds were recovered.

5.70. Possible subsoil/colluvium was recorded in TPF02 - TPF04, 0238, 0248 and 0253 respectively, varying between 0.2m - 0.9m in thickness, comprising loose olive brown sand or clayey silt with occasional small stones. These deposits were recorded directly overlying the fine sand or clay geological substrate. No finds were recovered.

5.71. In trial-pit TPE32, a layer of colluvium, 0477, 0.9m in thickness, comprising dark yellow brown soft sandy clay with occasional small stones and chalk flecks was recorded while in TPE33, colluvial layers 0472 and 0473, with a combined thickness of 0.7m, were seen to consist of dark to mid yellow brown soft sandy clay with occasional stones. It is possible that these deposits represent silting within a localised dry valley. No finds were recovered.

REY 152 Reydon (Figs. 4, 35 and 36)

5.72. Seven out of the fifteen trial-pits proposed for this parish were excavated, TPF17, TPF19 and TPF21 - TPF25 over seven separate fields. Of the ten bore-holes proposed for this parish, only two, BHF05 and BHF11 were excavated during this tranche of works, both requiring archaeological monitoring *(NB CA were not informed when this was being done and they were not monitored).*

5.73. The geological substrate varied across this area and differences in the topsoil and subsoil appeared to reflect these variations. In TPF17, TPF19 and TPF21 a sandy clay geological substrate was recorded while in TPF22 - TPF25 mixed sand and gravel was encountered.

5.74. Topsoil deposits were consistent within TPF17, TPF19 and TPF20 - TPF23, measuring 0.4m - 0.7m in thickness, comprising soft dark grey/brown sandy silt with moderate to frequent stones. In TPF24 and TPF25, the topsoil varied between 0.4m -0.45m in thickness, consisting of dark grey/black loose sandy silt with occasional small stones. A worked flint flake was recovered from topsoil 0335 in TPF17.

5.75. Subsoil was recorded within TPF17, TPF19, TPF21, TPF23 and TPF25, 0336, 0339, 0290, 0298 and 0306 respectively, all measuring between 0.2m - 0.3m in thickness.

In trial-pits TPF17, TPF19 and TPF21 it comprised mid-yellow brown soft to moderately compact silty clay or sandy clay with frequent small stones while in TPF23 a very mixed mid-brown to mid-yellow/brown and grey/brown silty sand and sandy clay with frequent gravel inclusions was recorded. In TPF25, the subsoil comprised dark brown loose sand with occasional stones. No finds were recovered from any of the subsoil deposits.

REY 206 Reydon landfall site (Figs. 4, 37 and 38)

5.76. Three out of the fourteen trial-pits proposed for this parish were excavated, TP101, TPF108 and TP114 along with two of the proposed bore-holes, BH106 and BH107, neither of which required archaeological monitoring. The trial-pits were all located within one field which had a number of extant segmented drainage ditches.

5.77. The juxtaposition of the landfall site to the coastline has resulted in the presence of varying superficial geological deposits including sand wash, sand dunes and fluvial sediments. Only the topsoil is described below as the underlying deposits are presented in more detail in the geological deposit model.

5.78. Topsoil deposits were consistent in TP101, TP108 and TP114, measuring between 0.1m - 0.2m in thickness, comprising soft light yellow/brown sand with frequent small stones. No finds were recovered.

Geological deposit modelling

Introduction

5.79. An interim geoarchaeological assessment has been carried out for the trial-pits and bore-holes that formed the first tranche of geotechnical investigation of the site.

5.80. In total, 109 of the 183 originally proposed trial-pits along the route have been monitored to a maximum depth of 3m below ground level (bgl). Each test-pit was excavated and monitored to the following dimensions: 3m long x 0.5m wide x 3m deep.

5.81. A total of 53 of the 92 originally proposed boreholes along the route have also been monitored to a maximum depth of 35m bgl (WLB 049, BH03). Inspection pits for each bore-hole were monitored to a maximum depth of 0.8m bgl (WLB 049, BH03) prior to drilling.

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5.82. Within the boreholes, bedrock was encountered at an average depth of 3.77m bgl, ranging between 0.90m bgl (WMH 091, BHE08) and 9.6m bgl (THB 061, BHB12).

Methodology

5.83. Following an interim review of the Ground Investigation (GI) data logs against the localised bedrock geology and superficial geology mapped by the British Geological Survey, the sediments encountered within each intervention have been assigned a geoarchaeological potential rating as outlined in the table below.

Geoarchaeological potential rating

Deposit type	Geoarchaeological potential
Topsoil	Low
Subsoil	Low
Alluvium	Moderate
Organic alluvium	High
Peat	High
Archaeological deposits	High
Colluvium	Low
Head	Low
Lowestoft Formation	Low
Bedrock	Low

5.84. The stratigraphical units present across the Site which have potential to contain and/or seal archaeological remains and deposits of geoarchaeological significance (i.e. sediments containing paleoenvironmental indicators such as pollen, plant macrofossils etc) are alluvial deposits, organic rich alluvial deposits and sediments containing archaeological remains.

5.85. Alluvial deposits represent low-energy fluvial sediments (i.e. mostly clays and silts with some coarser-grained sands and gravels) associated with local river systems and in-filling former palaeochannels or topographic lows incised into the underlying bedrock topography.

5.86. Although alluvium has the potential to contain and seal waterlogged archaeology, the deposits themselves typically have a low geoarchaeological potential. Archaeological and palaeoenvironmental remains – if present - are likely to be preserved within the alluvium, but these will invariably have been fluvially transported from within the catchment and therefore representative of a potentially large and uncertain source area. Alluvium, therefore, can be considered to have a ‘moderate’ geoarchaeological potential.

5.87. Organic alluvium and/or peat deposits have the potential to contain a wide range of palaeoenvironmental remains (e.g. pollen and plant macrofossils) and waterlogged archaeological remains informing on past physical vegetation and environmental change and the impact of humans on the landscape. Organic alluvium and/or peat deposits can therefore be considered to have a 'high' geoarchaeological potential.

5.88. Deposits containing archaeological remains can also be considered to have a 'high' geoarchaeological potential; containing archaeological evidence for human settlement and interaction within the landscape.

Results of the interim geoarchaeological assessment

5.89. Having reviewed the initial GI logs, a geoarchaeological interim assessment has been carried out for the initial tranche of interventions. The interventions with potential are tabulated in Appendix B and have been summarised by parish code below:

Theberton (THB 061)

BHB03a – **High potential** - Organic material encountered at 3.00m – 3.45m bgl.

BHB06 – **High potential** - Organic material encountered between 0.80m - 2.00m bgl.

TPB07 – **Moderate potential** - Alluvium encountered between 0.40m – 0.65m bgl.

Middleton (MDD 052)

BHC01 – **Moderate potential** – Alluvium encountered between 0.80m - 2.00m bgl.

TPB23 – **High potential** - Archaeological ditch feature encountered between 1.00m - 1.70m bgl.

TPB30 – **Moderate potential** - Alluvium encountered between1.50m-3.00m bgl.

Westleton (WLN 147)

TPC08 – **High potential** - Archaeological feature encountered between 0.35m - 0.45m bgl.

TPC15 – **Moderate potential** – Alluvium encountered between 0.35m – 1.70m bgl.

Blythburgh (BLB 177)

BHE01 – **Moderate potential** - Alluvium encountered between 3.00m – 6.50m bgl.

BHE02 – **Moderate Potential** - Alluvium encountered between 0.40m – 5.90m bgl.

TPC19 – **Moderate Potential -** Alluvium encountered between 1.35m – 1.60m bgl.

TPD08 – **Moderate Potential -** Alluvium encountered between 0.35m – 1.10m bgl.

Walberswick (WLB 148)

TPD14 – **Moderate Potential -** Alluvium encountered between 1.80m – 2.90m bgl.

TPD16 – **High potential** – Alluvium encountered between 1.70m – 3.00m bgl containing fossilised wood and iron panning within alluvium substrate.

TPD17 – **Moderate potential** - Alluvium encountered between 1.50m – 2.20m bgl.

TPC18 – **Moderate potential** – Alluvium encountered between 1.40m – 2.30m bgl.

Walberswick (WLB 149)

TP08 – **High potential** – Archaeological feature encountered between 0.80m – 1.10m bgl.

TP10 – **High potential** - Alluvium substrate encountered between 0.90m – 1.30m bgl overlaying an organic alluvium deposit with possible humic laminae between 1.30m – 1.40m bgl.

TP11 – **Moderate potential** - Alluvium encountered between 2.20m – 2.60m bgl.

Brampton with Stoven (BRP 044)

BHE20 – **High potential** - Organic alluvium encountered between 1.20m to 3.20m bgl.

BHE21 – **Moderate potential** - Alluvium substrate encountered between 0.80m – 3.00m bgl.

Wangford with Henham (WNF 082)

TPF10 – **Moderate potential** – Alluvium encountered between 1.50m – 3.00m bgl.

Reydon (REY 206)

BH106 – **High potential** - Peat encountered between 3.00m – 6.00m bgl, overlaying organic alluvium substrate.

BH107 – **High potential** - Alluvium encountered between 2.50m - 3.60m bgl overlying partially decomposed fibrous peat at 3.60m – 5.90m bgl.

TP108 – **High potential** - Organic alluvium encountered between 1.20m – 1.40m bgl.

TP114 – **High potential** - Organic deposits encountered between 1.15m - 1.25m bgl.

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6. THE FINDS

6.1. A small quantity of pottery, ceramic building material (CBM), lithics, metalwork and possible briquetage was recovered from three of the parishes, Walberswick, Middleton and Reydon; sites WLB 149, MDD 052 and REY 152 respectively. A summary quantification is provided in the table below. The finds from these sites are variously indicative of activity during the prehistoric, Roman, medieval and post-medieval periods. While most of the assemblage is residual, stratified artefactual evidence supports a Roman date for two features in the Middleton (site MDD 052, TPB23) and Walberswick (site WLB 149, TP05) parishes.

6.2. Finds have been washed (with the exception of the metal objects), quantified and recorded in line with the CIfA Toolkit for Specialist Recording (2021, Level 2). Details have been recorded directly to a Microsoft Access database which will form part of the project archive; a summary of the finds catalogue is provided in Appendix C (Table C1). Pottery has been recorded in line with national guidance (Barclay *et al.* 2016, section 2.4.5), and fabrics follow period-specific regional pottery series (Lyons and Tester 2014; Anderson 2020). Pottery fabrics are tabulated and described in Appendix C, Table C2). The worked flint was macroscopically scanned and assigned to a category within a worked flint classification system (after Brown *et al.* 2024; Butler 2005; Mithen 2000; Wickham-Jones 1990).

Summary of finds by material type

Site	Material type	Category	Count	Weight (g)
MDD 052	Pottery	Roman	33	175
	CBM	Roman	8	319
	Lithics	Worked flint	3	33
WLB 148	Metalwork	Copper alloy	1	<1
WLB 149	Pottery	Roman	22	345
		Post-Roman	5	31
		Sub total	***27***	***376***
	CBM	Roman	3	58
		Med/PM	3	491
		Sub total	***6***	***549***
	Briquetage	Roman	1	257
	Metalwork	Copper alloy	7	11
		Silver	9	10
		Lead	1	2
		Sub total	***17***	***23***
REY 152	Lithics	Worked flint	1	10
	Metalwork	Silver	1	1

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Middleton Parish, MDD 052

6.3. A small assemblage of pottery, CBM and worked flint was recovered from two trial-pits, TPC04 and TPB23, a subsoil layer, 166 in TPC04, and a ditch, 150 in TPB23. The finds are most clearly indicative of Roman activity in the vicinity of trial-pit TPB23, with residual elements suggestive of prehistoric and Roman activity more generally in the wider area.

Pottery

Roman

6.4. Roman pottery amounting to thirty-three sherds (175g) was recovered from trial-pits TPB23 (fill 149 of ditch 150) and TPC04 (subsoil layer 166). The condition of the pottery is mostly fair, with some light to moderate abrasion.

6.5. Ditch 150 (trial-pit TPB23) produced almost all of the Roman pottery (32 sherds, 173g), with only a single, presumably residual, sherd (2g) coming from layer 166 (trial-pit TPC04).

6.6. The only fineware fabric present is an unprovenanced whiteware (WF; 1 sherd, 8g), present only in the pedestal base of a small, exceptionally thin-walled (1-2mm) platter form reminiscent of Eggshell Terra Nigra wares; the vessel may represent a Gaulish import, although further research would be required to parallel this sherd.

6.7. Miscellaneous local reduced coarsewares (GX) comprise the majority of the assemblage (22 sherds, 140g); these include a single beaded rim from a beaker type vessel (EVE 0.04, estimated diameter 140mm). Micaceous reduced coarsewares, likely produced by the Wattisfield industry of northern Suffolk (GM; 5 sherds, 7g), and buff coarsewares (BUF; 4 sherds, 8g) are also present. Black surfaced wares are represented by a single base sherd (BSW; 12g), probably from a Cam 404 small, ovoid beaker (Hawkes and Hull 1947; Symonds and Wade 1999).

6.8. The only closely dateable Roman pottery recovered is the Cam 404 beaker base, which is dated to the late 2nd century. Along with the wider group from ditch 150 (TPB23), this is sufficient to support a date for the deposition of fill 149 to during or after the late 2nd century.

CBM

6.9. A small assemblage of eight fragments (319g) of Roman CBM was recovered during excavation of trial-pit TPB23, from fill 149 of ditch 150. All fragments are moderately or severely abraded.

6.10. Fabrics include fine and medium sand, and the majority utilize grog temper; a minority of fragments have small subrounded and elongate voids suggesting the inclusion of a non-surviving organic or calcareous temper.

6.11. Most fragments are too poorly preserved to confidently indicate original forms, but one extremely abraded fragment (128g) must be from a *tegula* roof tile, given its faintly visible semicircle signature, formed of two (possibly three) parallel finger-grooves. At least four further fragments (176g) appear most likely to be from tiles, though few surfaces survive.

Lithics

6.12. Three worked flints (33g) were recovered. One from subsoil layer 166 in trial-pit TPC04, the other two from fill 149 of ditch 150 in trial-pit TBP23.

6.13. One worked flint from the subsoil layer has a grey abraded cortex while the other two are noncortical. All three worked flints are in poor condition with moderate to heavy edge damage.

6.14. The assemblage comprises flakes that are thick and hard hammer struck indicating broadly prehistoric activity, dating probably from later Neolithic to Bronze Age. All were residual as the two flakes from ditch 149 were found in conjunction with sherds of Roman pottery, whilst the other flake was recovered from subsoil.

6.15. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Discussion

6.16. The finds assemblage from the trial-pits in Middleton parish (MDD 052) provides evidence of activity in the Roman and prehistoric period.

6.17. The most indicative element is the group of Roman pottery from ditch 150 (fill 149, TPB23), which is sufficient to suggest a Roman date after the mid to late 2nd century for the infilling of this feature, and includes two particularly notable forms: a Cam 404 small ovoid beaker, and the fine, extremely thin-walled unprovenanced – but possibly

imported - whiteware platter. This small group, in conjunction with Roman CBM from the same deposit, likely represents domestic waste from nearby settlement. Roman activity is also more ephemerally suggested in the area of TPC04 by a single residual sherd.

6.18. A low level of prehistoric, late Neolithic or Bronze Age, activity is suggested in the wider vicinity of trial-pits TPB23 and TPC04 by the presence of a small quantity of residual worked flint. The worked flints are from secondary gravel deposits which are common in this part of East Anglia. The site is situated within a wider area of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

Walberswick Parish, WLB 148

6.19. One trial-pit (TPD18) produced a single coin from the topsoil, suggestive of ephemeral post-medieval activity in the local area.

Metalwork

6.20. A singular copper alloy coin (RA 1, topsoil 097, TPD18). The object dates to the earlier post-medieval period and is identifiable as a highly worn, broken fragment of a James I Royal Farthing. Though poor preservation does not allow for a more precise identification (see North 1991, nos. 2130-2136 for general type), these coins were issued from 1613–1625. However, due to the chronic shortage of small change during the 17th century this example could well have continued to circulate up till the period of the English Civil War.

Discussion

6.21. The singular, unstratified find indicates little else other than attesting to the presence of earlier post-medieval activity within the vicinity. Given its status as a singular coin find, this object probably represents a casual loss.

Walberswick Parish, WLB 149

6.22. A moderate assemblage of metalwork and pottery was recovered from ten trial-pits and five bore holes within the area of this parish covered by the WLB 149. Finds were recovered from layers and two archaeological features (ditches 322 in trial-pit TP05, and 383 in trial-pit TP04). Medieval and early post-medieval activity is attested by the metalwork, and the distribution of numismatic evidence from this period could suggest a commercial site in the area; Roman activity is also represented by stratified and residual pottery, especially focused in trial-pit TP05.

Pottery

Roman

6.23. A small assemblage of twenty-two sherds (345g; EVE 0.3) of Roman pottery was recovered from three deposits in trial-pits TP05 (fill 323 of ditch 322), TP04 (fill 384 of ditch 383), and TP09 (layer 394). Condition of the pottery ranges from fair to poor, though a few sherds show more than light to moderate abrasion.

6.24. Ditch 322 (TP05) produced by far the largest group of pottery, with twenty sherds (340g), with the other two sherds occurring singly.

6.25. All fabrics present are coarsewares, with the most frequent being micaceous reduced wares (GMG; 14 sherds, 271g), likely products of the Wattisfield industry (Lyons and Tester 2014). A further six sherds are in unprovenanced local reduced fabrics (GX; 6 sherds, 69g). Single sherds of black surfaced ware (BSW; 4g) and buff ware (BUF; 1g) were also recovered.

6.26. Refitting sherds from the rim and body of a wide mouthed jar with a groove below the rim (fabric GM; EVE 0.26, rim diameter 280mm) came from ditch 322 (fill 323) in trial-pit TP05. Body sherds from a second jar form, with a band of stabs at the shoulder, were also found in the same context.

6.27. None of the sherds present are closely datable. The group from ditch 322 (trial-pit TP05) is sufficient nonetheless to indicate a date for the deposition of fill 323 during the Roman period. The single sherd from deposit 394 is residual in a layer with medieval pottery; while no later finds accompanied the single sherd from ditch 383 (TP04), it is also likely to be residual.

Post-Roman

6.28. Post-Roman pottery amounting to five sherds (31g) was recovered from trial-pits TP03 and TP09, within subsoil layers 378 and 394. Condition ranges from fair to poor, with most sherds showing light or severe abrasion.

6.29. Fabrics present are mostly unprovenanced medieval coarsewares (fabric MCW; 4 sherds, 18g); however, of these, the largest sherd (12g, from layer 378 in TP03) may be of the Suffolk Coastal type (MCWSC; Anderson 2020). One rim sherd is in an oxidized, partially glazed Late Medieval Transitional fabric (LMT; 13g, EVE 0.05), though these fabrics can be similar to the earliest Glazed Red Earthenwares (GRE;

Jennings 1981; Anderson 2020), and it is possible that this sherd could alternatively belong in the latter categorisation.

6.30. The only rim present (fabric LMT, EVE 0.05) is everted and flanged, likely from a jar, with a clear glaze applied to the rim interior only.

6.31. None of the post-Roman pottery was recovered within stratified features, and can only attest broadly to activity in the area in the high and late medieval (or possibly post-medieval) periods. Medieval coarseware fabrics (MCW) are generally current in the period of the 12th – 14th century; however, if the sherd from TP03 is of the Suffolk Coastal type (MCWSC), these fabrics have a slightly later, 13th – 15th century currency (Anderson 2020). Despite some slight uncertainty in the fabric categorisation, the Late Medieval Transitional (or possible Glazed Red Earthenware) sherd is dated to the period of the 15th or 16th century.

CBM

6.32. Six fragments (549g) of CBM were recovered from trial-pits TP04. TP05, and TP09. They are likely to include Roman and medieval/post-medieval types.

Roman

6.33. Three fragments (58g) of heavily abraded CBM were recovered from ditch 322 (fill 323, TP05), which also contained a small group of Roman pottery, and are probably of Roman date.

6.34. Fabrics include an orange, medium sandy fabric with flint, and a paler orange, fine sandy fabric with grog. Poor preservation of surface morphology makes identification of forms difficult, but at least two fragments (51g) are likely to be from tiles.

Medieval or post-medieval

6.35. Three fragments (491g) of CBM, certainly or tentatively identified as brick, are likely dated to the medieval or post-medieval periods. All appear abraded, and no fragments survive with sufficient measurable dimensions to suggest a specific type.

6.36. Fabrics all include medium, or fine and medium, sand with flint. One fragment (423g) from ditch 387 (fill 388) also includes two visible, possibly incidental pieces of chalk <14mm.

6.37. Though no formal types are identified, the preserved surfaces and edges appear relatively evenly shaped and regular. This trait is more commonly associated with post-medieval manufacture. However, given the low proportion of each brick surviving, it cannot be considered as conclusive in this case.

6.38. One fragment from layer 394 (TP09) is heavily sooted on one surface, which could result from use in a hearth, oven or chimney, though burning could alternatively have occurred after disposal or re-use. The same may be true of the large fragment from ditch 387 (fill 388, TP04) which is heat-affected, although this could also be the result of overfiring.

6.39. The fragments from layer 394 (TP09) were found with both medieval and Roman pottery fragments, all off which may be residual. The fragment from ditch 387 (TP04) was the sole find from the deposit, but given the long use-life of bricks, may have been deposited decades or centuries after its manufacture and therefore provides only *terminus post quem* (TPQ) for this feature.

Briquetage

6.40. A single fragment (257g) of possible briquetage (salt-making ceramic material) was recovered from ditch 322 (fill 323, TP05). The fragment is in fair condition, with light abrasion.

6.41. The fabric contains medium and coarse sand with rare angular flint 4mm - 12mm. The fragment is flat, roughly formed and smoothed, with a thin white coating on one surface; a straight concave edge preserved suggests either a large coil-join, or possibly a means of tightly fitting with another, convex-edged piece.

6.42. The presence of possible briquetage near to the coastline here is not surprising. The fabric and form of this fragment suggests a Roman date, supported by the presence of a small group of Roman pottery found in the same deposit.

Metalwork

6.43. The overwhelming majority of metalwork from the initial phase geotechnical works was recovered from WLB 149, which produced a scatter of seventeen metal objects (Fig. 21). They include thirteen items of numismatic relevance (e.g., coins or jettons) with the remaining four belonging to other functional categories.

Medieval

6.44. Two silver coins are of medieval date. The first (RA 11, topsoil 320, TP05) is a somewhat worn and clipped sterling issue penny of Edward I, struck *c*.1305 – 1306 (class 10cf1, mint of Canterbury, see North 1991 no. 1040 for type). Its condition suggests it may well have circulated for quite some time before being lost, perhaps even beyond Edward III's weight-reduction reforms of 1351. The second coin of medieval date (RA 2, topsoil 278, BH01) is slightly later, identifiable as a halfpenny of Edward III's second 'star-marked' coinage. This piece was struck at London between 1335–1343 (see Withers and Withers 2007, type 5ii/iii, North 1991 no. 1102).

Post-medieval to modern

6.45. The remaining fifteen objects are of post-medieval to modern date, though most of these (13 finds, 11 of which are coins or jettons) date from the 16th to 17th centuries.

6.46. The post-medieval coins (6) correspond to the reigns of Henry VIII (2), Elizabeth I (2) and Charles I (2). A silver halfpenny of Henry VIII's second coinage (RA 13, topsoil 329, TP07) dates *c*.1526–1544 (see North 1991, no. 1815), while a base silver groat (RA 3, topsoil 281, BH04) is a posthumous issue of Canterbury struck early in the reign of Edward VI (see North 1991, no. 1875). Both coins of Elizabeth are worn silver halfgroats, which potentially circulated well into the 17th century. Registered Artefact 7 (topsoil 282, BH105) is incomplete and of the third coinage, its initial mark ('A') indicating a date of 1582 – 1584, while the second example (RA 19, topsoil 367, TP02) is much more worn and cannot be dated any closer than 1558 – 1603. The coins attributable to Charles I were both recovered from topsoil 356 of TP010. These comprise RA 14, a very worn and bent silver halfgroat of group D or E (see North 1991, nos. 2271 - 2272) and RA 15, a worn copper alloy Richmond farthing struck 1625 - 1644 (type 1, initial mark probably lion, see North 1991, no. 2277).

6.47. In addition to the coins, five copper alloy jettons were recovered. These objects are relatively common British site finds, designated officially as accounting tokens but probably also utilised as gaming counters or for local small change when need arose. All are products of Nuremberg and date from the period *c*.1500 – 1640. One jetton (RA 6, topsoil 280, BH103) is a large, piedfort-style piece with repeating nonsense legends corresponding to the Lion of St. Mark type (see Mitchiner 1988, nos. 1102 - 1109). It dates *c*.1500 – 1570. All the other jettons are of the rose-orb type. One example (RA 4, topsoil 279 of BH02) is complete but broken into two conjoining

fragments, attributable as an anonymous-issue type with nonsense legends of *c*.1500 – 1550/1585 (see Mitchiner 1988, nos. 1227 - 1286). Two further jettons bear fully literate inscriptions indicating their issue by mintmasters Hans Krauwinckel II (RA 5, topsoil 280, BH103) and Hans Schultes III (RA 17, topsoil 326, TP05A) between 1585 – 1635 and 1608 – 1612 respectively. Registered Artefact 17, interestingly, shows evidence of secondary modification, a triangular off-centre perforation indicating its piercing with the tip of a knife blade. However, the reason this was undertaken is uncertain. Lastly, the remaining rose-orb jetton (RA 8 topsoil, 282, BH105) cannot be dated any more closely than 1500 – 1640, given its highly worn state of preservation.

6.48. A small number of other objects dating to the earlier post-medieval period (i.e., 16th – 17th centuries) were additionally recovered. The sole lead/lead alloy object (RA 16, topsoil 362, TP011) is very worn and fragmentary but can be identified as part of a two-disc type cloth seal used to indicate the type, origin and quality of textile bolts. Raised decoration on one face appears to depict the Royal Arms of England, though this is tentative. More closely identifiable is a well-worn, silver-gilt finger ring with an internal posy or inscription (RA 12, topsoil 315, TP01), likely dating to the second half of the 16th century. Its circular hoop is 'D' shaped in cross section and plain on its external face excepting for an incised groove at each edge, its interior retaining copious gilding alongside the block-capital inscription 'GOD BE PRASED' (God be praised). Rings of this type with either religious or love-themed inscriptions (posies) were popular from the 16th – 18th centuries, being known in both precious and base metals. Those with inscriptions using block-capital letterforms became most common after *c.*1530 (Glanville 1990, 149) and remained fashionable till the early 17th century, when lower-case italic script became increasingly common. Because of its age and precious metal content, this find qualifies as potential Treasure under the 1996 Treasure Act and has accordingly been reported to both the Suffolk Coroner and British Museum, being assigned the Treasure case tracking number 2024 T1211.

6.49. Lastly, two finds are of modern date (i.e., post 1800). A small, oval silver spoon bowl (RA 9, topsoil 282, BH105) probably originates from a mustard spoon, while an openwork copper alloy object with a suspension loop (RA 18, topsoil 367, TP02) is probably best identified as a watch-winder. Both of these finds likely date from the later 19th to early 20th centuries, representing the most recent metal objects from WLB 149.

Discussion

6.50. The assemblage of pottery, CBM and metalwork from WLB 149 is indicative of activity at and around the site in the Roman, medieval and early post-medieval periods.

6.51. Activity in the Roman period is attested most clearly by pottery, and supported by CBM and a single fragment of possible briquetage; the finds are sufficient to suggest a stratified Roman deposit within ditch 322 (TP05), likely refuse from nearby settlement. The presence of possible briquetage in this feature is suggestive of local salt-production in the Roman period; the site is suitably close to the coast for such activity to occur nearby. The pottery assemblage is typical for northern Suffolk, with a high proportion of micaceous reduced wares likely originating from the Wattisfield industry, though sherds present are not particularly indicative of a close date within the Roman period.

6.52. The medieval and early post medieval assemblage includes pottery, CBM and metalwork, with the most significant elements being numismatic objects. The fairly substantial assemblage of metalwork alone, from twelve trial-pits across the site, indicates activity within the landscape from the medieval period onwards, certainly beginning in at least the 14th century. No stratified archaeological features are definitively dated to this period, though the medieval or post-medieval brick fragment suggests that ditch 387 was backfilled no earlier than the later medieval period, and given the decades- or centuries-long use of bricks before deposition, possibly much later.

6.53. However, It is also possible that the medieval and later metalwork, pottery and CBM finds could have been deposited through centuries of nightsoiling/manuring from the local settlement at Walberswick, or in the case of the metalwork, singular casual losses relating to foot traffic. However, the predominance of coins and coin-related objects, as well as their spatial concentration, may well indicate that the metal finds scatter relates to commercial activity in the medieval to earlier post-medieval periods (i.e., the location of a small fair or undocumented market). Certainly the location of this site would have been well suited for activity of this character, being located directly south of the main east/west thoroughfare through the village. However, the specific find-types recovered additionally hint at such an interpretation, with jettons and cloth-seals both having distinctly commercial associations. These have been observed to cluster strongly in both urban settings as well as around market sites (Oksanen and Lewis 2020, 16), often occurring alongside numerous coin finds. Such a trend,

particularly for jettons, indicates their important role in more monetarily developed environments (*ibid.*) where use of token currency alongside 'proper' money was probably quite common. Residual pottery from trial-pit TP03 (layer 378) and TP09 (layer 394) is also suggestive of activity in the vicinity during the high medieval, and late medieval or early post-medieval, periods.

REY 152

6.54. Finds recovered from trial-pitting within this parish include a worked flint flake (trial-pit TPF17) and a silver coin (trial-pit TPF23), each recovered from topsoil, 355 and 297 respectively. The finds represent residual evidence of ephemeral activity in the local area during the late Neolithic or Bronze Age and post-medieval periods.

Lithics

6.55. A single worked flint (10g) was recovered from topsoil layer 355 in TPF17.

6.56. The flake has a cream abraded cortex and is slightly rolled, has heavy edge damage and is uncorticated. The flake is hard hammer struck and provides minimal evidence for broadly prehistoric activity dating probably from later Neolithic to Bronze Age.

6.57. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Metalwork

6.58. A singular coin was recovered from REY 152 (RA 10, topsoil 297 of TPF23). It can be identified as a broken fragment of a third coinage Elizabeth I sixpence, dated 1591 (see North 1991, no. 2015). Only around 20% of the original flan is preserved due to old breaks.

Discussion

6.59. The worked flint and metalwork finds from site REY 152 are both residual, having been recovered from topsoil.

6.60. The singular coin from REY 152 indicates little more than the presence of earlier post-medieval activity within the vicinity; this object was probably deposited as a result of casual loss.

6.61. The worked flint flake is minimal evidence of broadly prehistoric activity dating probably from later Neolithic to Bronze Age. The site is situated within a wider area

of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

7. THE BIOLOGICAL EVIDENCE

The Animal bone

7.1. A very small assemblage of animal bone was recovered from ditch 0322 in TP05 excavated in Walberswick parish, site WLB 149.

Methods

7.2. Each bone fragment was identified where possible to element (including cranial and post-cranial elements) and species, All data are recorded in Appendix D, Table D1. Identification was carried out using comparative collections and with reference to Hillson (1992) and Schmid (1972) for domestic mammals.

7.3. The percentage of the element present was estimated and recorded to the nearest 10% for all identified fragments. Each fragment was also examined for butchery, breakage patterns, gnawing and weathering indicators. Burnt bone was recorded by colour (buff, brown, grey, black and calcined). The condition of all fragments was assessed on a five-point scale through poor, poor-average, average, average-good and good. Pathological changes were noted where present. Measurements were taken as per von den Driesch (1976). No teeth were available for assessment of aging.

Results

7.4. A single fragment was recorded from context 0323 in ditch 0322. The condition of the bone was average, with some indications of minor etching of the surface by roots. No gnawing or burning was noted.

7.5. The single element recovered was a horse radius. This provides some aging information as it was distally fused, suggesting an animal of more than forty-two months of age at death. This fragment was measurable is recorded in Table C1; withers height was not calculable.

Comment and Selection

7.6. This single bone is unable to provide much information, and could be consistent with various periods, including the post-medieval.

7.7. Individually this horse element offers little insight into the economy or consumption/disposal practice at the site. However, it does indicate reasonable bone preservation on the site and further material is likely to provide information on the animal economy and consumption practice, should the area be further excavated.

7.8. The assemblage has been fully recorded to archive standards. The material should be retained and in the event that further work is undertaken at the site, this material should be available for inclusion alongside a wider archive. The data recorded to date can be incorporated into any subsequent report.

8. DISCUSSION

8.1. The results of the geophysics survey (Wessex 2024 and 2025) clearly provide evidence for a landscape which has been heavily utilised with concentrations of archaeological features visible over wide areas of the overall site.

8.2. However, given the keyhole nature of the geotechnical excavations, the chances of hitting archaeological features within the trial-pits and bore-holes remained low, even within the more concentrated areas of archaeology as demonstrated by the geophysics results (*ibid*.). In addition, where the geophysics results were available prior to the geotechnical fieldwork, SCCAS requested a number of movements to the location of specific interventions which were subsequently implemented on site.

8.3. Archaeological features were only recorded in five of trial-pits; a possible post-hole in trial-pit TPC08 located in Westleton parish, while three ditches were seen in TP04, one in TP05 and a possible ditch in TP08, all in the Walberswick landfall area (WLB 149), and one ditch in TPB23 in Middleton parish.

8.4. While remaining unexcavated, with the trial-pits moved (TP04A and TP05A), surface finds suggested that the features in TP04 were Roman in date, while the ditch in TP05 appeared in the geophysics survey to join with an extant field boundary. The feature in TP08 remained undated. The ditch in TPB23 coincided with a feature previously recorded in the geophysical survey and produced ceramic evidence suggestive of a Roman, late 2nd century or later date.

8.5. Also of possible archaeological significance relating to the Walberswick landfall site was the presence of a metalwork scatter including coins, jettons and cloth seal that were that could relate to commercial activity on the site, possibly a small fair or

undocumented market, although another interpretation of this evidence is the process of nightsoiling.

8.6. Other artefactual evidence was limited to a small quantity of finds recovered from subsoil in TPC04 (Middleton), topsoil in TPF17 and TPF23 (Reydon).

8.7. However, the low level of finds recovery from almost all of the interventions and limited to topsoil and subsoil, cannot be taken as evidence for the absence of archaeology in the wider vicinity, the presence and character of which will become more apparent during the subsequent trial-trenching exercise.

8.8. The geological deposit modelling designated a rating of archaeological potential to the various sediment types encountered which included alluvium (moderate), organic alluvium, peat and archaeological deposits (high). On that basis, deposits of moderate and high archaeological potential were identified locally in the parishes of Theberton, Middleton, Westleton, Blythburgh, Walberswick, Brampton with Stoven, Wangford with Henham and Reydon.

9. CA PROJECT TEAM

9.1. Fieldwork was undertaken by Edward Aylott and Michael Green. This report was written by Michael Green. The finds and biological evidence reports were written by Ciar Boyle Gifford (pottery, CBM and briquetage), Alexander Bliss (metalwork), Robert Leedham (lithics) and Clare Randall (animal bone). The geoarchaeological deposit modelling was undertaken by Holly Rodgers. The report illustrations were prepared by Alice Woodard. The project archive has been compiled by Clare Wootton, and prepared for deposition by Zoe Emery. The project was managed for CA by Stuart Boulter who also edited the report.

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APPENDIX A: CONTEXT DESCRIPTIONS

Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0001				TPB01	Layer	5YR 4/2 dark reddish grey, hard clay topsoil with frequent flints of all sizes, poorly sorted and occasional to frequent chalk flecking. SHARP TO: 2				0.15	0002			
0002				TPB01	Layer	7.5YR 5/3 brown firm clay with chalk flecking. SHARP TO: 3				0.15	0003	0001		
0003				TPB01	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub-angular flint nodules, 2-3 cm, relatively well sorted. SHARP TO: 4				0.55	0004	0002		
0004				TPB01	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				2.15		0003		
0005				TPB02	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 6				0.30	0006			
0006				TPB02	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 7				0.20	0007	0005		
0007				TPB02	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, and patches of 5YR 4/4 reddish brown loose sand DIFFUSE TO: 8				0.50	0008	0006		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0008				TPB02	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecks and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules.				2.00		0007		
0009				TPB03	Layer	5YR 4/2 dark reddish grey hard clay topsoil, frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 10				0.30	0010			
0010				TPB03	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 11				0.30	0011	0009		
0011				TPB03	Layer	7.5YR 5/4 brown firm very coarse sandy clay with frequent chalk flecking and patches of 5YR 4/4 reddish brown loose sand SHARP TO: 12				0.70	0012	0010		
0012				TPB03	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking occasional medium chalk nodules, roughly 5cm, and occasional pockets of 5YR 4/4 reddish sand,				1.70		0011		
0013				TPB04	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 14				0.25	0014			
0014				TPB04	Layer	7.5YR 5/3 brown firm clay with rare chalk flecking. SHARP TO:15				0.10	0015	0013		
0015				TPB04	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub angular flint nodules, roughly 2-3cm, relatively well sorted. SHARP TO: 16				0.45	0016	0014		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0016				TPB04	Layer	7.5YR 5/4 brown friable very sandy (mid coarse) clay moderate chalk flecking, rare to medium small flint nodules of roughly 2-3cm. Relatively well sorted. SHARP TO: 17				0.80	0017	0015		
0017				TPB04	Layer	10 YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules of roughly 5cm, and frequent small rounded chalk nodules.				1.40		0016		
0018				TPB06	Layer	10YR 4/4 dark yellowish brown firm silty clay with frequent chalk flecking, occasional flints of all sizes and shapes, Rare CBM. SHARP TO: 19				0.40	0019			
0019				TPB06	Layer	2.5Y 5/4 light olive brown very firm clay with frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm and occasional rounded flint nodules of roughly 3-5cm. Well sorted. SHARP TO: 20				0.20	0020	0018		
0020				TPB06	Layer	2.5Y 6/2 light brownish grey very firm clay, frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm, rare angular flint and very rare nodules of iron stone of roughly 10cm. DIFFUSE TO: 21				1.00	0021	0019		
0021				TPB06	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				1.40		0020		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0022				TPB07	Layer	10YR 4/3 brown firm silty clay topsoil, occasional chalk flecks and nodules of roughly 3-4cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 23				0.30	0023			
0023				TPB07	Layer	2.5Y 4/4 olive brown firm silty clay with rare small stones. SHARP TO: 24				0.10	0024	0022		
0024				TPB07	Layer	2.5YR 4/4 olive brown firm silty clay with frequent chalk flecking, occasional manganese streaking, and rare small angular stones. Patches of 2.5Y 8/1 white very chalky firm clay, occasional chalk nodules smaller than 10cm DIFFUSE TO: 25				0.15	0025	0023		
0025				TPB07	Layer	The very chalky clay described in 24 becomes predominant over the olive brown clay to the point that it is almost entirely absent, SHARP TO: 26				1.45	0026	0024		
0026				TPB07	Layer	GLEY1 3/N Very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules <1cm				0.90		0025		
0027				TPB08	Layer	10YR 4/3 brown firm silty clay topsoil with occasional chalk flecks and nodules of roughly 3-4 cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 28				0.40	0028			
0028				TPB08	Layer	2.5Y 3/3 dark olive brown friable silty slightly sandy clay with very rare angular flints. SHARP TO: 29				0.10	0029	0027		
0029				TPB08	Layer	2.5Y 5/3 light olive brown friable silty clay with frequent chalk flecking and very small nodules, occasional chalk nodules of larger				0.60	0030	0028		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sizes. Rare stones of all sizes and shapes, poorly sorted. SHARP TO: 30								
0030				TPB08	Layer	GLEY1 6/10Y greenish grey firm clay with very frequent chalk flecking and frequent small chalk nodules of roughly 0.3cm. VERY DIFFUSE TO: 31				0.50	0031	0029		
0031				TPB08	Layer	GLEY1 3/N very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules smaller than 1cm				1.4		0030		
0032				TPB05	Layer	5Y 4/3 olive firm clay topsoil, frequent small and medium - roughly 4cm - angular and sub angular flint nodules, poorly sorted. SHARP TO: 33				0.30	0033			
0033				TPB05	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking and with patches of 5YR 4/4 reddish brown loose sand. SHARP TO 34				0.50	0034	0032		
0034				TPB05	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and frequent small to medium chalk nodules. Rare flints of roughly 3-4cm. The layer becomes slightly darker right at the base of the trial-pit around 3m				2.20		0033		
0035				TPB09	Layer	10YR 4/2 dark greyish brown friable sandy topsoil flint nodules of all sizes and shapes, poorly sorted. DIFFUSE TO: 36				0.50	0036			
0036				TPB09	Layer	7.5YR 4/6 strong brown friable to firm medium coarse sand, occasional to rare small to medium large flints of 2-8cm, poorly sorted. SHARP TO 37				0.65	0037	0035		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0037				TPB09	Layer	2.5Y 5/4 light olive brown firm clay with rare angular small flints, occasional chalk nodules of roughly 10 to 3cm, occasional to rare large patches of chalk. Poorly sorted.				1.85		0036		
0038				TPB10	Layer	2.5Y 3/3 dark olive brown friable mid coarse sandy clayey topsoil. SHARP TO: 39				0.40	0039			
0039				TPB10	Layer	2.5Y 4/4 olive brown friable very sandy (mid coarse) clay with occasional very small angular flints of roughly 0.5cm, rare sub rounded flints of roughly 1cm, and frequent medium sub rounded flints of roughly 5-7cm. Poorly sorted. SHARP TO: 40				0.40	0040	0038		
0040				TPB10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and rare very small chalk nodules of less than 1cm. Occasional medium to large flints of all shapes. Poorly sorted. SHARP TO: 41				0.70	0041	0039		
0041				TPB10	Layer	GLEY 1 4/5GY dark greenish grey firm clay with frequent chalk flecking, frequent rounded chalk nodules of roughly 4cm and smaller, and rare to occasional small angular flints.				1.50		0040		
0042				TPB14	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 43	Topsoil			0.20	0043			
0043				TPB14	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flints, quite poorly sorted. SHARPE TO: 44				0.40	0044	0042		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0044				TPB14	Layer	2.5Y 4/3 olive brown soft clay with rare chalk fecking and even rarer manganese streaking. Small patches of 10YR 5/6 yellowish brown clay with frequent mid coarse to fine sand throughout, and with rare manganese streaks and chalk flecks. SHARP TO: 45				0.3	0045	0043		
0045				TPB14	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules, 1-4cm across. Pockets of 10YR 5/8 yellowish brown soft/loose medium to fine sand from 0.9-1.5m BGL. SHARP TO: 46				1.0	0046	0044		
0046				TPB14	Layer	GLEY1 4/5GY dark greenish grey firm clay, frequent chalk flecking and very small nodules				1.10		0045		
0047				TPB13	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil. Frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 48	Topsoil			0.25	0048			
0048				TPB13	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flint nodules. Poorly sorted. SHARP TO: 49	Subsoil			0.25	0049	0047		
0049				TPB13	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules				0.50	0050	0048		
0050				TPB13	Layer	GLEY1 4/5GY dark greenish grey firm clay with frequent chalk flecking and very small chalk nodules				0.60	0051	0049		
0051				TPB13	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk flecking and rare ironstone nodules				1.40		0050		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0052				TPB12	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil, frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 53				0.30	0053			
0053				TPB12	Layer	2.5Y 4/2 dark greyish brown medium to soft clay. Occasional rounded to sub angular small to medium flints, poorly sorted. SHARP TO: 54				0.30	0054	0052		
0054				TPB12	Layer	2.5Y 4/4 olive brown medium firm clay, very frequent chalk flecking and rare rounded chalk nodules				0.60	0055	0053		
0055				TPB12	Layer	GLEY1 6/5GY greenish grey firm clay with frequent chalk flecking and small nodules				0.50	0056	0054		
0056				TPB12	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk nodules				1.30		0055		
0057				TPB11	Layer	2.5Y 4/4 olive brown clayey silty topsoil, occasional flints of all shapes and sizes, poorly sorted. SHARP TO: 58	Topsoil			0.30	0058			
0058				TPB11	Layer	2.5Y 6/2 light brownish grey friable silty clay with streaks of 10YR 5/8 yellowish brown sand throughout. Frequent chalk flecking and very small nodules, 1cm across, occasional nodules of 5-8cm, across, and rare larger nodules of roughly 15cm across. Occasional angular flints 0.5-7cm across. Large pockets of 10YR 5/8 yellow red sand from 0.3-0.7m BGL. SHARP TO: 59				1.30	0059	0057		
0059				TPB11	Layer	GLEY1 4/N dark grey friable/hard silty clay with frequent chalk flecks and small nodules <7cm.				1.40		0058		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0060				TPB16	Layer	2.5Y 3/2 very dark greyish brown clayey silty topsoil occasional to frequent small angular to sub angular flints				0.30	0061			
0061				TPB16	Layer	2.5Y 4/3 olive brown friable silty clay. Occasional small sub-angular flints				0.15	0062	0060		
0062				TPB16	Layer	2.5Y 4/4 olive brown friable/firm clay, frequent chalk flecking and small nodules				0.25	0063	0061		
0063				TPB16	Layer	5Y 5/1 grey friable/firm clay with frequent chalk flecking, small nodules				1.10	0064	0062		
0064				TPB16	Layer	GLEY1 4/N Dark grey friable/firm clay, frequent chalk flecking and small nodules				1.20		0063		
0065				TPB27	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent flints of all shapes and sizes, and rare small chalk nodules				0.30	0066			
0066				TPB27	Layer	2.5Y 4/3 olive brown firm clay with rare chalk flecking and small chalk nodules				0.20	0067	0065		
0067				TPB27	Layer	2.5Y 5/3 light olive brown firm clay with frequent very small chalk nodules				0.25	0068	0066		
0068				TPB27	Layer	2.5Y 5/1 grey friable/loose clay with frequent chalk flecking and very small nodules				1.05	0069	0067		
0069				TPB27	Layer	GLEY1 4/N dark grey firm clay with frequent chalk flecking and small and medium nodules				1.20		0068		
0070				TPB29	Layer	5Y 3/2 dark olive grey loose sandy topsoil with rare flints of all sizes and shapes, poorly sorted. SHARP TO: 71				0.40	0071			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0071				TPB29	Layer	2.5Y 6/6 olive yellow very fine loose stoneless sand. SHARP TO: 72				0.30	0072	0070		
0072				TPB29	Layer	2.5Y 7/4 pale brown very fine loose stoneless sand.				2.30		0071		
0073				TPB18	Layer	2.5Y 2.5/1 black friable/firm silty clayey topsoil, occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO: 74	Topsoil			0.30	0074			
0074				TPB18	Layer	2.5Y 4/2 dark greyish brown hard/friable clay with occasional chalk flecks and rare poorly sorted flints of all shapes and sizes. SHARP TO: 75	Subsoil			0.20	0075	0073		
0075				TPB18	Layer	2.5Y 5/3 light olive brown very firm clay with occasional chalk flecking and rare, angular flints of 2-4cm across SHARP TO: 76				0.60	0076	0074		
0076				TPB18	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking, frequent very small nodules				0.40	0077	0075		
0077				TPB18	Layer	GLEY1 3/N very dark grey firm clay with frequent chalk flecking, occasional chalk nodules 3-6cm across and frequent very small nodules <1cm.				1.50		0076		
0078				TPD15	Layer	10R 2.5/1 Red very fine sandy topsoil, frequent medium to small flints	Topsoil			0.30	0079			
0079				TPD15	Layer	10R 2.5/4 dark reddish grey very fine sand with frequent medium and small flints				0.40	0080	0078		
0080				TPD15	Layer	Darker than 10R 2.5/2 slightly reddish black, no direct match in the soil chart. Mid coarse sand with frequent to occasional quite well				0.80	0081	0079		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sorted flint gravel, mostly rounded, roughly 3cm across. Rare smaller angular flints								
0081				TPD15	Layer	10YR 5/8 yellowish brown soft medium fine stoneless clayey sand. Occasional patches of 10YR 6/2 light brownish grey friable sandy clay. Clay content of both becomes increasingly scarce towards 3m.				1.50		0080		
0082				TPD14	Layer	10YR 2/1 black very fine sandy topsoil, rare small sub rounded flints, roughly 5cm across.	Topsoil			0.50	0083			
0083				TPD14	Layer	10YR 6/4 orange brown fine sand and silt with occasional rounded flint.	Subsoil			0.20	0084	0082		
0084				TPD14	Layer	2.5Y 6/6 yellow fine sand with mixed yellow brown patches, and occasional small rounded flint inclusions. Patches of 10YR 7/6.				1.10	0085	0083		
0085				TPD14	Layer	5Y 8/6 pale white/yellow medium fine sand, relatively homogenous, with frequent rounded gravel.				1.0	0086	0084		
0086				TPD14	Layer	GLEY1 5G5/2 grey orange firm stoneless micaceous clay.				0.10		0085		
0087				TPD16	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.45	0088			
0088				TPD16	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0089	0087		
0089				TPD16	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.15	0090	0088		
0090				TPD16	Layer	2.5Y 6/8 mixed with 5Y 8/4 fine and medium fine soft sand				0.80	0091	0089		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0091				TPD16	Layer	2.5Y 6/8 clay laminated with 5Y 8/4 orange and white sand mixed with GLEY1 8/10GYclay. Iron panning and fossilised wood.				0.50		0090		
0092				TPD17	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.40	0093			
0093				TPD17	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0094	0092		
0094				TPD17	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.00	0095	0093		
0095				TPD17	Layer	GLEY1 5G5/2 laminated micaceous pale grey blue clay and 2.5Y 6/8 red fine sand.				0.70	0096	0094		
0096				TPD17	Layer	2.5YR 8/8 yellow medium fine sand and laminated patches of 7.5YR 6/8 orange clay. Iron panning inclusions.				0.80		0095		
0097				TPD18	Layer	10YR 3/2 mid dark grey brown sandy silty topsoil with occasional small rounded flints <5cm	Topsoil			0.40	0098			
0098				TPD18	Layer	10YR 4/6 mid brown yellow silty sand with occasional small rounded flints.	Subsoil			0.10	0099	0097		
0099				TPD18	Layer	2.5Y 6/8 fine yellow orange soft sand with occasional small rounded flints.				0.90	0100	0098		
0100				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.10	0101	0099		
0101				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.60	0102	0100		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0102				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.20	0103	0101		
0103				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.70		0102		
0104				TPD08	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes, poorly sorted. DIFFUSE TO: 105	Topsoil			0.35	0105			
0105				TPD08	Layer	10YR 5/6 yellowish brown fine clayey sand, rare angular to sub angular quite well sorted flints of 2-5cm across. SHARP TO: 106	Subsoil			0.75	0106	0104		
0106				TPD08	Layer	10YR 5/6 yellowish brown very firm fine clayey sand with occasional to frequent small to medium sub angular to sub rounded flints 1-3cm across, and occasional very small angular flints				0.60	0107	0105		
0107				TPD08	Layer	2.5Y 6/6 olive yellow fine to medium fine stoneless sand.				1.30		0106		
0108				TPB20	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Rare chalk flecking and occasional rounded to sub rounded medium flints of roughly 3cm across. SHARP TO: 109	Topsoil			0.30	0109			
0109				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand with 10YR 3/2 greyish brown striations. Rare small angular flints	Colluvium			0.60	0110	0108		
0110				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand, with rare small angular flints	Colluvium			0.50	0111	0109		
0111				TPB20	Layer	10YR 5/6 yellowish brown loose mid coarse stoneless sand.				1.60		0110		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0112				TPB21	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. Rare CBM. SHARP TO: 113	Topsoil			0.40	0113			
0113				TPB21	Layer	10YR 5/4 yellowish brown quite firm/friable somewhat concreted mid fine sand. SHARP TO: 114	Colluvium			0.70	0114	0112		
0114				TPB21	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO 115				0.60	0115	0113		
0115				TPB21	Layer	10YR 4/6 dark yellowish brown mid fine loose stoneless sand with rare pockets of 5Y 7/3 pale yellowish mid fine loose stoneless sand				1.30		0114		
0116				TPB22	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. SHARP TO: 113				0.40	0117			
0117				TPB22	Layer	10YR 4/3 brown firm concreted/friable sand, rare chalk nodules and flecking of roughly 3cm across, rare large flints of roughly 10cm across. Occasional flints				1.10	0118	0116		
0118				TPB22	Layer	7.5YR 4/6 strong brown firm/friable coarse sand with frequent gravel of all sizes and shapes, poorly sorted. SHARP TO: 119				0.80	0119	0117		
0119				TPB22	Layer	10YR 5/8 yellowish brown loose mid-course stoneless sand.				0.70		0118		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0120				TPB33	Layer	2.5Y 4/4 olive brown friable silty clayey topsoil with rare to occasional small to medium flints of all shapes, poorly sorted. SHARP TO: 121	Topsoil			0.45	0121			
0121				TPB33	Layer	10YR 5/6 yellowish brown firm clay with frequent chalk flecking, occasional to frequent chalk nodules of roughly 5cm across, occasional small to medium flints of all shapes, rare large sub angular to rounded flints of roughly 10cm across. SHARP TO: 122				1.15	0122	0120		
0122				TPB33	Layer	2.5Y 6/1 grey firm clay with frequent small to medium chalk nodules				0.40	0123	0121		
0123				TPB33	Layer	10YR 5/8 yellowish brown loose mid coarse clayey sand with frequent small sub angular flints and chalk flecks. SHARP TO: 124				0.90	0124	0122		
0124				TPB33	Layer	2.5Y 8/3 pale brown loose medium fine stoneless sand.				0.10		0123		
0125				TPB24	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded flints, roughly 3cm across, and occasional chalk flecking. SHARP TO: 126	Topsoil			0.20	0126			
0126				TPB24	Layer	10YR 4/3 brown firm/friable sand with rare chalk flecking and nodules of roughly 3cm across. Rare large flints of all shapes, 10cm across, occasional flints of all shapes,	Colluvium			0.70	0127	0125		
0127				TPB24	Layer	10YR 5/8 yellowish brown loose coarse stoneless sand				2.10		0126		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0128				TPB25	Layer	10YR 4/2 dark greyish brown very firm clayey topsoil, with frequent small to medium flints, mostly rounded or sub rounded. Frequent chalk flecking, rare CBM. SHARP TO: 129	Very deep topsoil. TPB25 was dug in a large hollow in a field, the topsoil is possibly so deep as a result of repeated ploughing into the depression building up the layer over time, or deliberate infill. There was no perceptible subsoil.			1.70	0129			
0129				TPB25	Layer	2.5Y 7/6 yellow very fine stoneless sand.				1.30		0128		
0130				TPB26	Layer	10YR 4/2 dark greyish brown very firm clay topsoil with frequent small to medium rounded and subrounded flints and frequent chalk flecking. SHARP TO: 131	Topsoil			0.30	0131			
0131				TPB26	Layer	2.5Y 4/3 olive brown very firm clay with rare pockets of 10YR 5/8 yellowish brown mid coarse loose sand, frequent chalk flecking, occasional chalk nodules of roughly 7cm across, rare angular flint of roughly 7cm across. SHARP TO: 132				0.50	0132	0130		
0132				TPB26	Layer	10YR 5/1 grey very firm clay, frequent chalk flecking, occasional small nodules of chalk				0.90	0133	0131		
0133				TPB26	Layer	2.5Y 4/1 dark grey very firm clay with frequent chalk flecking, occasional small chalk nodules				1.30		0132		
0134				TPB30	Layer	2.5Y 3/3 dark olive brown friable sandy topsoil, rare small to medium flints of all shapes, poorly sorted. SHARP TO 135				0.40	0135			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0135				TPB30	Layer	10YR 3/6 dark yellowish brown soft slightly silty sand, rare sub rounded flints. SHARP TO: 136	Subsoil or possible colluvium			0.70	0136	0134		
0136				TPB30	Layer	10YR 5/6 yellowish brown mid coarse sand, largely stoneless excepting a single pocket of medium flint gravel, poorly sorted. SHARP TO: 137				0.40	0137	0135		
0137				TPB30	Layer	10YR 6/1 grey very sandy clay with striations of 10YR 5/6 yellowish brown mid coarse sand, with occasional small sub rounded to sub angular flints. SHARP TO: 138				0.80	0138	0136		
0138				TPB30	Layer	10YR 5/6 yellowish brown soft sandy clay with some silt, frequent small flints of roughly 1cm across.				0.70		0137		
0139				TPB31	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARPT TO: 40	Topsoil			0.40	0140			
0140				TPB31	Layer	10YR 5/6 yellowish brown friable mid fine sand with rare to occasional chalk flecking, and rare patches of chalk becoming more common with depth until 1.1m. Occasional medium rounded to angular flints of roughly 7cm across, rare larger sub rounded flints of roughly 12cm across. Poorly sorted. SHARP TO: 141				1.40	0141	0139		
0141				TPB31	Layer	2.5Y 8/4 pale brown mid fine stoneless sand.				1.20		0140		
0142				TPB32	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARP TO: 143	Topsoil			0.45	0143			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0143				TPB32	Layer	2.5Y 5/4 light olive brown firm clay with frequent medium to small chalk nodules and flecking, rare angular flints of roughly 3cm across. Rare patches of 10YR 5/6 mid fine sand with large patches of chalk from 1.0m BGL. SHARP TO 144				0.75	0144	0142		
0144				TPB32	Layer	5Y 4/1 dark grey very firm clay with frequent chalk flecking and very small nodules				0.80	0145	0143		
0145				TPB32	Layer	A thin layer of 2.5Y 6/6 olive yellow friable very sandy clay with some silt, and very frequent chalk flecking. SHARP TO: 146				0.20	0146	0144		
0146				TPB32	Layer	2.5Y 8/3 pale brown medium fine stoneless sand				0.80		0145		
0147				TPB23	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Occasional rounded to sub rounded medium flints of roughly 3cm across, and occasional chalk flecking. SHARP TO: 148	Topsoil			0.4	0148			
0148				TPB23	Layer	10YR 4/3 brown firm concreted/friable sand with rare chalk flecking and nodules	Colluvium			0.60	0149	0147		
0149	0150	Ditch		TPB23	Cut	10YR 3/3 dark brown firm, concreted/friable sand, rare chalk flecking and nodules	Colluvial ditch fill			0.70	0150	0148		
0150	0150	Ditch		TPB23	Fill	A ditch cut occupying the entire trial-pit, only visible as a feature in geophysics. Due to this and the ditch being filled with a colluvial layer, while itself being underneath another layer of colluvium almost indistinguishable from each other [150] was not recorded as a feature	Probable Roman enclosure ditch			0.70	0151	0149		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						when in the field, but rather 2 layers of colluvium. While the survey was being processed the pit was found to be totally within a likely enclosure ditch, and the lower layer of colluvium from which a deal of pot was recovered has been retrospectively recorded as a ditch. The pit is situated at the SSE corner of a large probable enclosure from which the enclosure ditch continues up to the NNW and off to the WSW meeting at right angles where the pit was dug.									
0151				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO: 152	Fluvial deposit			0.60	0152	0150		
0152				TPB23	Layer	10YR 4/6 dark yellowish brown sandy soft stoneless clay. SHARP TO:153				0.40	0153	0151		
0153				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand.				0.30		0152		
0154				TPC01	Layer	10YR 3/2 very dark greyish brown sandy topsoil with rare flints of all shapes and sizes. SHARP TO: 155	Topsoil			0.30	0155			
0155				TPC01	Layer	10YR 5/8 yellowish brown mid coarse friable stoneless sand. SHARP TO: 156				1.30	0156	0154		
0156				TPC01	Layer	2.5Y 8/3 pale brown mid fine stoneless sand.				1.40		0155		
0157				TPC02	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent small to medium flints of all shapes, poorly sorted. SHARP TO: 158				0.30	0158			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0158				TPC02	Layer	2.5Y 4/4 olive brown very firm clay with frequent chalk flecking and occasional chalk nodules				1.70	0159	0157		
0159				TPC02	Layer	2.5Y 8/3 pale brown mid coarse stoneless sand. Becomes mid fine from 2.5m BGL onwards.				1.0		0158		
0160				TPC03	Layer	2.5Y 3/3 dark olive brown clayey topsoil with some mid coarse sand. Rare rounded to sub angular medium to small flints,	Topsoil			0.40	0161			
0161				TPC03	Layer	2.5Y 4/3 olive brown firm clay with mid coarse sand with rare chalk flecking and poorly sorted rare to occasional flints of all shapes				0.50	0162	0160		
0162				TPC03	Layer	10YR 4/4 dark yellowish brown firm mid coarse sandy clay, with rare chalk nodules				0.30	0163	0161		
0163				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across. SHARP TO: 164				1.40	0164	0162		
0164				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across, with large pockets of 2.5Y 5/6 light olive brown mid coarse sand.				0.40		0163		
0165				TPC04	Layer	10YR 5/3 brow mid loose mid coarse sandy topsoil, with rare small to medium angular flints	Topsoil			0.10	0166			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0166				TPC04	Layer	10YR 5/4 yellowish brown friable mid coarse sand with frequent medium to small sub angular flints, quite well sorted. Rare CBM and chalk flecking. SHARP TO: 167	Subsoil			0.30	0167	0165		
0167				TPC04	Layer	7.5YR 4/6 strong brown friable mid coarse sand with occasional sub angular flints of roughly 4cm across, rare sub angular flints				0.70	0168	0166		
0168				TPC04	Layer	2.5Y 5/6 light olive brown loose fine stoneless sand, with pockets of fine 7.5YR 4/6 sand				1.90		0167		
0169				TPC05	Layer	10YR 4/3 brown firm clayey topsoil with poorly sorted frequent flints of all sizes and shapes, and rare sub angular chalk nodules of around 5cm across. SHARP TO: 170	Topsoil			0.10	0170			
0170				TPC05	Layer	10YR 4/4 dark yellowish brown firm silty clay with rare poorly sorted flints of all shapes and sizes. SHARP TO: 171	Subsoil			0.25	0171	0169		
0171				TPC05	Layer	2.5Y 5/3 light olive brown very firm clay with frequent chalk flecking and very small nodules				0.35	0172	0170		
0172				TPC05	Layer	2.5Y 6/2 light brownish grey medium stiff clay with frequent chalk flecking. Frequent medium chalk nodules around 5cm across. SHARP TO: 173				0.80	0173	0171		
0173				TPC05	Layer	2.5Y 4/2 dark greyish brown medium stiff clay with frequent chalk flecking and medium chalk nodules of roughly 5cma cross. DIFFUSE TO: 174				0.80	0174	0172		
0174				TPC05	Layer	2.5Y 6/2 light brownish grey friable clay with frequent small flint gravel				0.70		0173		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						and rare large flints, roughly 30cm across, small angular chalk nodules - possibly some form of limestone or similar material, and rare large lumps of chalk of roughly 25cm.								
0175				TPC06	Layer	2.5Y 3/3 dark olive brown soft clayey topsoil, frequent flints of all shapes	Topsoil			0.40	0176			
0176				TPC06	Layer	10YR 4/4 dark yellowish brown friable sandy clay with rare small sub angular to angular flints. SHARP TO: 177				0.40	0177	0175		
0177				TPC06	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				1.70	0178	0176		
0178				TPC06	Layer	10YR 5/6 yellowish brown friable/loose sandy clay with occasional chalk flecking.				0.50		0177		
0179				TPC08	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes	Topsoil			0.35	0180			
0180	0181			TPC08	Fill	5Y 2.5/1 black stiff clay, no inclusions, no finds.	Post-hole fill, natural processes.	0.25	0.19	0.10	0181	0179		
0181	0181	Post-hole		TPC08	Cut	A possible post-hole cut, circular in plan, very slightly elongated NW/SE. Steep sides leading to a rounded base via moderate breaks of slope.	Possible post-hole cut	0.25	0.19	0.10	0182	0180		
0182		Post-hole		TPC08	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				0.45	0183	0181		
0183				TPC08	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0184	0182		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0184				TPC08	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and very small nodules				1.60		0183		
0185				TPC09	Layer	2.5Y 3/2 very dark greyish brown friable clayey topsoil with some sand. Frequent flints of all shapes	Topsoil			0.50	0186			
0186				TPC09	Layer	2.5Y 5/3 firm clay with occasional chalk flecking and small nodules				0.50	0187	0185		
0187				TPC09	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0188	0186		
0188				TPC09	Layer	2.5Y 3/1 very dark grey firm clay with frequent chalk flecking and very small nodules <10cm				1.20		0187		
0189				TPC07	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes and sizes, occasional to frequent rounded chalk nodules	Topsoil			0.10	0190			
0190				TPC07	Layer	Mottled 2.5Y 5/3 light olive brown, 2.5Y 4/3 olive brown and 5YR 3/3 dark reddish brown soft clay with occasional medium flints of all shapes and rounded chalk nodules both	Shallow topsoil and deep ploughing have heavily disturbed this layer.			0.20	0191	0189		
0191				TPC07	Layer	2.5Y 5/3 light olive brown soft clay with rare rounded and sub rounded medium flints				0.90	0192	0190		
0192				TPC07	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and nodules				0.70	0351	0191		
0193				TPC10	Layer	2.5Y 3/3 dark olive brown firm clayey topsoil occasional to rare flints of all shapes	Topsoil			0.30	0194			
0194				TPC10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				0.30	0195	0193		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0195				TPC10	Layer	5Y 7/1 light grey firm clay with frequent chalk flecking and small nodules				0.30	0196	0194		
0196				TPC10	Layer	5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules				1.50		0195		
0197				TPC11	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 198	Topsoil			0.30	0198			
0198				TPC11	Layer	2.5Y 5/3 light olive brown firm clay with occasional to frequent chalk flecking and nodules				0.40	0199	0197		
0199				TPC11	Layer	2.5Y 5/1 grey firm clay frequent chalk flecking and small nodules				0.80	0200	0198		
0200				TPC11	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules <5cm				1.50		0199		
0201				TPC12	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 202	Topsoil			0.30	0202			
0202				TPC12	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.40	0203	0201		
0203				TPC12	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0204	0202		
0204				TPC12	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				1.70		0203		
0205				TPC13	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with poorly sorted flints of all sizes and shapes. SHARP TO: 206				0.20	0206			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0206				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with rare chalk flecking. SHARP TO: 207	Subsoil			0.30	0207	0205		
0207				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.20	0208	0206		
0208				TPC13	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0209	0207		
0209				TPC13	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.50		0208		
0210				TPC14	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 211	Topsoil			0.40	0211			
0211				TPC14	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking and small nodules				0.50	0212	0210		
0212				TPC14	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and nodules				0.70	0213	0211		
0213				TPC14	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.40		0212		
0214				BHC02	Layer	10YR 3/3 silty sandy topsoil, no inclusions. SHARP TO: 215	Topsoil			0.30	0215			
0215				BHC02	Layer	.5YR 3/3 silty mid fine sand, no inclusions. SHARP TO: 216	Subsoil			0.25	0231	0214		
0216				BHC02	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand, likely the result of rooting pulling subsoil down into the sand.						0230		
0217				BHC04	Layer	7.5YR 3/3 dark brown silty sandy topsoil with rare sub angular and	Topsoil			0.30	0218			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						angular flints of 1-2cm. SHARP TO: 218								
0218				BHC04	Layer	7/5YR 3/4 dark brown loose silty sand with rare flints of all shapes, 5-1cm across. SHARP TO: 219	Subsoil			0.30	0219	0217		
0219				BHC04	Layer	Mottled 10YR 5/8 yellowish brown and 7.5YR 4/6 friable sand with small patches of 10YR 5/6 yellowish brown stiff clay Rare subangular flints of around 5cm and rare chalk nodules of around 10cm.						0218		
0220				TPC15	Layer	2.5Y 3/1 dark grey brown friable topsoil with frequent flints of all sizes.	Topsoil			0.35	0221			
0221				TPC15	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking.				0.55	0222	0220		
0222				TPC15	Layer	2.5Y 5/1 light grey firm clay with frequent chalk flecks and occasional flints.				0.80	0223	0221		
0223				TPC15	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules, and occasional large flints.				1.30		0222		
0224				TPC16	Layer	2.5Y 3/1 dark grey brown clayey friable topsoil with frequent flints of all sizes.				0.35	0225			
0225				TPC16	Layer	2.5Y 5/3 light olive brown and orange firm clay with occasional chalk flecking ad small flints.				0.90	0226	0224		
0226				TPC16	Layer	2.5Y 5/1 light grey compact clay with frequent chalk flecking and occasional large flints.				0.90	0227	0225		
0227				TPC16	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and large				1.30		0226		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk noodles. Occasional large and medium sized flint.								
0228				BHC03	Layer	10YR 3/3 silty candy topsoil, no inclusions. SHARP TO: 229				0.35	0229			
0229				BHC03	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand. Rare chalk nodules.						0228		
0230	0230	Stake-hole		BHC02	Cut	Circular in plan, no elongation/orientation. A steep western side and a moderate eastern side meet in a rounded V shaped base.	Though this may be a stake-hole, fill (231) in texture and colour was indistinguishable from several natural splodges also seen in the trial-pit, likely the result of rooting. This suggests some caution should be taken in interpreting this feature, however the shape in profile and particularly in plan remains convincing.			0.07	0216	0231		
0231	0230	Stake-hole		BHC02	Fill	7.5YR 3/3 silty mid fine sand, no inclusions.	Natural infill.			0.07	0230	0215		
0232				TPC17	Layer	10YR 4/2 dark greyish brown loose sandy topsoil with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 283	TOPSOIL			0.30	0233			
0233				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 234				0.80	0234	0232		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0234				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. Flints become less and less frequent with depth before becoming totally absent from 2m BGL and downwards.				1.90		0233		
0235				BHB19	Layer	2.5Y 2.5/1 black friable silty clayey topsoil with occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO 236	Topsoil			0.50	0236			
0236				BHB19	Layer	2.5Y 5/3 light olive brown firm clay with flints and chalk flecking.						0235		
0237				TPF02	Layer	2.5Y 3/2 very dark greyish brown fine silty topsoil, flints of all shapes and sizes. SHARP TO: 238	Topsoil			0.30	0238			
0238				TPF02	Layer	2.5Y 4/4 olive brown loose silty sandy subsoil with very rare small angular flints	Subsoil			0.90	0239	0237		
0239				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler. No inclusions. DIFFUSE TO 240				0.90	0240	0238		
0240				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler, with frequent flint gravel				0.80	0241	0239		
0241				TPF02	Layer	2.5Y 5/2 greyish brown very firm clay with rare chalk flecking and flints <1cm.				0.10		0240		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0242				TPF01	Layer	2.5Y 4/4 olive brown loose/soft sandy topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 243				0.30	0243			
0243				TPF01	Layer	2.5Y 5/4 light olive brown loose very sandy clay with occasional to frequent chalk flecking and rare medium chalk nodules of roughly 4cm across. Occasional medium rounded flints of roughly 6cm, with rare larger sub rounded flints, quite well sorted. SHARP TO: 244				1.50	0244	0242		
0244				TPF01	Layer	2.5Y 5/4 light olive brown soft clayey fine sand, frequent small to medium rounded flints 1-6cm across, SHARP TO: 245				0.30	0245	0243		
0245				TPF01	Layer	2.5Y 5/4 light olive brown soft somewhat sandy clay with rare chalk flecks, rare small to medium angular flints, and rare highly degraded possible iron stone. SHARP TO: 246				0.30	0246	0244		
0246				TPF01	Layer	2.5Y 6/4 light yellowish brown very fine sand, no inclusions.				0.60		0245		
0247				TPF03	Layer	10YR 3/2 sandy clayey topsoil with frequent flints of all shapes	Topsoil			0.20	0248			
0248				TPF03	Layer	2.5Y 4/4 olive brown friable silty clay with rare small flints	Subsoil			0.60	0249	0247		
0249				TPF03	Layer	2.5Y 6/4 light yellowish brown firm clay with occasional sub angular and sub rounded flints with occasional chalk flecking and small chalk nodules				1.40	0250	0248		
0250				TPF03	Layer	2.5Y 5/2 greyish brown firm clay with occasional sub angular and sub rounded flints with occasional				0.30	0251	0249		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk flecking and small chalk nodules								
0251				TPF03	Layer	2.5Y 5/6 light olive brown very fine stoneless sand.				0.50		0250		
0252				TPF04	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes. DIFFUSE TO: 253	Topsoil			0.30	0253			
0253				TPF04	Layer	2.5Y 4/3 olive brown soft clayey subsoil, occasional small angular flints. SHARP TO: 254	Subsoil			0.20	0254	0252		
0254				TPF04	Layer	2.5Y 5/4 light olive brown quite firm clay with frequent chalk flecks and small nodules				0.70	0255	0253		
0255				TPF04	Layer	2.5Y 5/6 greyish brown firm clay with frequent chalk flecks and small nodules				0.90	0256	0254		
0256				TPF04	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				0.90		0255		
0257				TPF05	Layer	2.5Y 3/3 olive brown soft clayey topsoil, frequent flecks of all shapes and sizes, and very rare small chalk nodules	Topsoil			0.35	0258			
0258				TPF05	Layer	2.5Y 5/4 light olive brown quite firm clay, frequent chalk flecking and small chalk nodules				0.75	0259	0257		
0259				TPF05	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				1.20	0260	0258		
0260				TPF05	Layer	2.5Y 4/1 greyish brown firm clay frequent chalk flecking and nodules <5cm.				0.70		0259		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0261				TPF06	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes, very rare small chalk nodules	Topsoil			0.45	0262			
0262				TPF06	Layer	2.5Y 5/4 light olive brown friable clay (sandy from 0.45-0.55 BGL) frequent small chalk flecks and nodules				1.35	0263	0261		
0263				TPF06	Layer	2.5Y 6/2 light brownish grey medium firm clay with frequent chalk flecking and nodules				0.30	0264	0262		
0264				TPF06	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules <5cm.				0.90		0263		
0265				TPC19	Layer	10YR 3/2 very dark grey brown soft sandy topsoil with occasional to rare small angular to sub rounded flints less than 3cm across. SHARP TO: 266	Topsoil			0.55	0266			
0266				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with rare small flints	Colluvium			0.80	0267	0265		
0267				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with frequent flint gravel, frequent small flints	Fluvial deposit			0.25	0268	0266		
0268				TPC19	Layer	10YR 5/6 yellowish brown mid coarse loose stoneless sand.				0.80		0267		
0269				TPC20	Layer	10YR 3/2 very dark greyish brown soft sandy topsoil with occasional to rare angular to sub rounded flints	Topsoil			0.50	0270			
0270				TPC20	Layer	A thin lens of 2.5Y 4/4 dark yellow brown stiff somewhat sandy clay from 0.5-0.6m BGL, then 2.5Y 5/8 yellow brown medium fine clayey sand, with rare medium flints	Very mixed layer			1.60	0271	0269		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0271				TPC20	Layer	2.5Y 8/4 medium fine stoneless sand				0.90		0270		
0272				TPD02	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 273	Topsoil			0.40	0273			
0273				TPD02	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				1.70	0274	0272		
0274				TPD02	Layer	10YR 5/8 yellowish brown medium fine to fine sand with occasional rounded to sub angular flints <2cm.				0.90		0273		
0275				TPD03	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes from 1-4cm. SHARP TO: 276	Topsoil			0.70	0276			
0276				TPD03	Layer	10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm. Rare to occasional pockets of 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules				0.20	0277	0275		
0277				TPD03	Layer	Predominantly 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules with pockets of 10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm.				2.10		0276		
0278				BH01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0308			
0279				BH02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0287			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0280				BH03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0313			
0281				BH04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0283			
0282				BH05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0310			
0283				BH04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.	Subsoil			0.15	0284	0281		
0284				BH04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0283		
0285				TPD04	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 286	Topsoil			0.60	0286			
0286				TPD04	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				2.40		0285		
0287				BH02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.2	0288	0279		
0288				BH02	Layer	2.5Y 7/6 yellow fine stoneless sand.						0287		
0289				TPF21	Layer	2.5Y 3/2 very dark greyish brown somewhat silty sandy topsoil with occasional to frequent rounded flints of 4-2 cm SHARP TO: 290	Topsoil			0.40	0290			
0290				TPF21	Layer	10YR 5/8 yellowish brown mottled with 10YR 4/4 dark yellowish brown soft/loose slightly clayey sand with occasional to rare sub angular to rounded flints of 2-5cm. SHARP TO: 291	Subsoil			0.30	0291	0289		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0291				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with rare small rounded flints				2.10	0292	0290		
0292				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with frequent flint gravel, rounded 5-8cm, well sorted.	Fluvial deposit?			0.20		0291		
0293				TPF22	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional to frequent flints, sub rounded to sub angular. SHARP TO: 294	Topsoil			0.55	0294			
0294				TPF22	Layer	10YR 5/8 yellowish brown firm/medium firm clayey sand with occasional to rare flints from 1-3cm. SHARP TO 295				0.75	0295	0293		
0295				TPF22	Layer	2.5Y 7/4 pale brown mid fine sand mixed with 2.5Y 6/8 olive yellow mid fine sand with occasional rounded flint gravel, 5-8cm, quite well sorted. 2.5Y 7/4 becomes predominant with only pockets of 2.5Y 6/8 from 1.8m BGL SHARP TO: 296				1.50	0296	0294		
0296				TPF22	Layer	7.5YR 4/6 strong brown mid coarse sand with frequent rounded flint gravel of 5-8cm, well sorted.						0295		
0297				TPF23	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional subrounded to subangular flints. SARP TO: 298	Topsoil			0.70	0298			
0298				TPF23	Layer	Very mixed layer of subsoil; mid fine sand with mottled patches of 5YR 3/4 dark reddish brown, 10YR 4/3 brown, 10YR 5/4 yellowish brown and 10YR 5/8 yellowish brown. Frequent rounded flint gravel throughout, 3-6cm across. SHARP TO: 299	Subsoil			0.20	0299	0297		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0299				TPF23	Layer	2.5Y 6/4 light yellowish brown mid fine sand mixed with 10YR 4/6 dark yellowish brown, with occasional to frequent subrounded to sub angular flint gravel 1-4cm across throughout, and patches of 2.5Y 7/2 fine stoneless sand. SHARP TO: 300				1.10	0300	0298		
0300				TPF23	Layer	2.5Y 7/2 light grey mixed with 10YR 6/8 brownish yellow sandy silty soft clay, with rare very small flints				0.90	0301	0299		
0301				TPF23	Layer	10YR 6/8 gravel with clay and silty sand with occasional rounded and sub rounded flints from 5-3cm across and rare small sub angular flints				0.10		0300		
0302				TPF24	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded and rounded flints from 1-4cm across. SHARP TO: 303	Topsoil			0.40	0303			
0303				TPF24	Layer	10YR 5/8 yellowish brown soft, quite fine sand with occasional sub angular to rounded flints from 1-4cm across, and rare larger flints from 6-10cm across. Occasional pockets of 10YR 5/8 yellowish brown mid firm clay, with pockets of small, well sorted, rounded flints from 1-4cm across. DIFFUSE TO: 304				0.95	0304	0302		
0304				TPF24	Layer	2.5Y 6/4 fine sand with frequent rounded flints, mostly 1-5cm across, rare flints up to 10cm, quite well sorted.				1.65		0303		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0305				TPF25	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded flints, 1-4cm across. SHARP TO: 306	Topsoil			0.45	0306			
0306				TPF25	Layer	7.5YR 3/3 dark brown sand with rare to occasional flints of all shapes	Subsoil			0.20	0307	0305		
0307				TPF25	Layer	10YR 5/6 yellowish brown loose mid to fine sand with rare to occasional flints of all shapes				2.35		0306		
0308				BH01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0309	0278		
0309				BH01	Layer	2.5Y 7/6 yellow fine stoneless sand.						0308		
0310				BH05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0311	0282		
0311				BH05	Layer	2.5Y 7/6 yellow fine stoneless sand.						0310		
0312	0312			BH03	Cut	A feature of unclear shape filling the entire trial-pit.					0314	0313		
0313	0312			BH03	Fill	Likely feature fill, very similar to subsoil in nearby pits. 10YR 4/6 dark yellowish brown soft sandy silt.				0.45	0312	0280		
0314				BH03	Layer	2.5Y 7/6 yellow fine stoneless sand.						0312		
0315				TP01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0316			
0316				TP01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0317	0315		
0317				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.90	0318	0316		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0318				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0319	0317		
0319				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.50		0318		
0320				TP05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0321			
0321				TP05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.15	0323	0320		
0322	0322	Ditch		TP05	Cut	East West running ditch, unexcavated.		Linear	2.00		0499	0323		
0323	0322	Ditch		TP05	Fill	10YR 5/4 yellowish brown loose sandy silt with occasional flints.					0322	0321		
0324				TP05A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0325			
0325				TP05A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0326	0324		
0326				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.00	0327	0325		
0327				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0328	0326		
0328				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.20		0327		
0329				TP07	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0330			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0330				TP07	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0331	0329		
0331				TP07	Layer	2.5Y 7/6 yellow fine sand with occasional flint gravel.				0.40	0332	0330		
0332				TP07	Layer	5Y 8/4 yellow medium fine soft stoneless sand.				0.70	0333	0331		
0333				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0334	0332		
0334				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				0.90		0333		
0335				TPF17	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across, and rare flints up to 10cm across. SHARP TO: 336				0.60	0336			
0336				TPF17	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints up to 10cm across. DIFFUSE TO: 337				0.20	0337	0335		
0337				TPF17	Layer	10YR 5/8 yellowish brown firm/friable sandy clay with frequent rounded and sub rounded flints from 1-5cm across, and rare flints up to 10cm across. Angular flints apparent from 1.6m BGL.				2.20		0336		
0338				TPF19	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across. SHARP TO: 339				0.60	0339			
0339				TPF19	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints				0.20	0340	0338		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						from 1-5cm, rare up to 10cm. DIFFUSE TO 340								
0340				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. DIFFUSE TO 341				0.40	0341	0339		
0341				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across. DIFFUSE TO: 342				0.90	0342	0340		
0342				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. SHARP TO: 343				0.30	0343	0341		
0343				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across.				0.60		0342		
0344				TP108	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 345	Topsoil			0.20	0345			
0345				TP108	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints less than 2cm across. SHARP TO: 346				1.00	0346	0344		
0346				TP108	Layer	GLEY2 2.5/5PB blueish black mid fine stoneless sand. Pit collapsed at 1.4m BGL.				0.20		0345		
0347				TP114	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 348	Topsoil			0.15	0348			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0348				TP114	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints				0.50	0349	0347		
0349				TP114	Layer	10YR 4/6 loose mid coarse to coarse sand and gravel with frequent rounded to angular flints, poorly sorted. SHARP TO: 350				0.50	0350	0348		
0350				TP114	Layer	10YR 3/1 very dark grey silty sand, with organic deposits. Though relatively deep in the sequence this layer of organic deposits seems quite recent, possibly as a result of fast paced natural processes due to proximity to the coast and a nearby marsh, or due to human action in the area, e.g. the sea wall/promenade/car park. Pit collapsed at 1.25m BGL.				0.10		0349		
0351				TPC07	Layer	2.5Y 4/1 dark grey fine clay with frequent chalk flecking and very small chalk nodules smaller than 1cm, and occasional larger nodules up to 10cm.				1.10		0192		
0352				TP06	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0353			
0353				TP06	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0354	0352		
0354				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.80	0355	0353		
0355				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10		0354		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0356				TP010	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0357			
0357				TP010	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0358	0356		
0358				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.30	0359	0357		
0359				TP010	Layer	2.5Y 8/8 olive yellow clay with 2.5Y 8/3 pale brown stoneless sand.				0.40	0360	0358		
0360				TP010	Layer	2.5YR 5/4 brown sand and silt organic lens, no clear preserved organics or other inclusions.	Organic lens			0.10	0361	0359		
0361				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				2.10		0360		
0362				TP011	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0363			
0363				TP011	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.70	0364	0362		
0364				TP011	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10	0365	0363		
0365				TP011	Layer	5Y 7/8 yellow clay laminated with 2.5Y 7/6 yellow sand and 5Y 4/1 dark grey iron and manganese panning.				0.40		0364		
0366				TP011	Layer	2.5Y 7/6 yellow medium fine stoneless sand.				0.90		0365		
0367				TP02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0368			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0368				TP02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.40	0369	0367		
0369				TP02	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.70	0370	0368		
0370				TP02	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.00		0369		
0371				TP08	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0372			
0372				TP08	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.30	0374	0371		
0373	0373	Ditch		TP08	Cut	A possible ditch cut, running North South with moderate, concave sides, and an unclear base, obfuscated by the trial-pit wall. No section drawing due to depth of trial-pit in unstable ground.				0.30	0375	0374		
0374	0373	Ditch		TP08	Fill	2.5Y 5/4 light olive brown soft sand with occasional small flints.				0.30	0373	0372		
0375				TP08	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0376	0373		
0376				TP08	Layer	2.5Y 8/4 pale brown medium fine sand with clay pockets.				0.90		0375		
0377				TP03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0378			
0378				TP03	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0379	0377		
0379				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.20	0380	0378		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0380				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.40		0379		
0381				TP04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0382			
0382				TP04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.1	0384, 0386, 0388	0381		
0383	0383	Ditch		TP04	Cut	North South running unexcavated ditch.		Linear	>1.00	Unexcavated	0441	0384		
0384	0383	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>1.00	Unexcavated	0383	0382		
0385	0385	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	>0.80	Unexcavated	0441	0386		
0386	0385	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>0.80	Unexcavated	0385	0382		
0387	0387	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	0.50	Unexcavated	0441	0388		
0388	0387	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	0.50	Unexcavated	0387	0382		
0389				TP04A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0390			
0390				TP04A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0391	0389		
0391				TP04A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.50	0392	0390		
0392				TP04A	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.40		0391		
0393				TP09	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0394			
0394				TP09	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0395	0393		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0395				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.10	0396	0394		
0396				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.70		0395		
0397				TP101	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints				0.10	0398			
0398				TP101	Layer	2.5Y 3/3 dark olive brown very fine sand with occasional to rare small rounded flints				0.30	0399	0397		
0399				TP101	Layer	2.5Y 5/6 light olive brown mid coarse sand with rare rounded flints				1.10	0400	0398		
0400				TP101	Layer	2.5Y 4/4 olive brown very sandy soft clay with occasional to rare sub angular and angular flints				0.70		0399		
0401				TPD05	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 402	Topsoil			0.70	0402			
0402				TPD05	Layer	10YR 5/8 yellowish brown fine soft sand, frequent very small flints				0.20	0403	0401		
0403				TPD05	Layer	10YR 5/8 mid coarse loose sand with frequent angular to sub rounded flint gravel up to 3cm across, rare up to 8cm. Frequent chalk flecking. SHARP TO: 404				0.60	0404	0402		
0404				TPD05	Layer	2.5Y 6/4 light yellowish brown firm/friable clay with frequent angular and sub angular flints				1.50		0403		
0405				TPD06	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 406	Topsoil			0.60	0406			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0406				TPD06	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0407	0405		
0407				TPD06	Layer	10YR 5/6 yellow brown friable clayey sand with frequent chalk flecking and occasional nodules up to 6cm across, occasional sub rounded to angular flints up to 3cm across. Frequent pockets of 10YR 5/6 mid firm sandy clay. SHARP TO 408				1.40	0408	0406		
0408				TPD06	Layer	2.5Y 5/6 light olive brown loose, fine sand, with rare rounded to sub angular flints up to 3cm across.				0.80		0407		
0409				TPD07	Layer	2.5Y 3/3 mid coarse sandy topsoil with frequent flints of all shapes and sizes. SHARP TO: 410	Topsoil			0.50	0410			
0410				TPD07	Layer	10YR 5/6 yellowish brown friable sandy clay with frequent chalk flecking and small rounded flints				1.90	0411	0409		
0411				TPD07	Layer	2.5Y 6/4 light yellow brown friable sandy clay with frequent chalk flecking, small nodules up to 3cm across, and rare medium nodules up to 7cm. Frequent to occasional small flints				0.60		0410		
0412				TPD09	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 413	Topsoil			0.60	0413			
0413				TPD09	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 414				0.20	0414	0412		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0414				TPD09	Layer	10YR 5/6 yellowish brown fine mid firm sandy clay with frequent very small angular and sub angular flints				0.70	0415	0413		
0415				TPD09	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0414		
0416				TPF10	Layer	10YR 6/3 pale brown firm clayey silt with occasional small flints.	Topsoil			0.40	0417			
0417				TPF10	Layer	10YR 6/6 brownish yellow firm sandy clay with occasional small flints.	Alluvial Subsoil			0.40	0418	0416		
0418				TPF10	Layer	2.5Y 7/6 yellow firm clay with sand and gravel pockets.				0.70	0419	0417		
0419				TPF10	Layer	2.5YR 6/6 olive yellow loose sandy clay and gravel.				0.70	0420	0418		
0420				TPF10	Layer	2.5Y 7/6 yellow fine soft silty clay.				0.80		0419		
0421				TPD10	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 422	Topsoil			0.40	0422			
0422				TPF10	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0423	0421		
0423				TPF10	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 424				1.00	0424	0422		
0424				TPF10	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				0.40		0423		
0425				TPD11	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 426	Topsoil			0.40	0426			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0426				TPD11	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0427	0425		
0427				TPD11	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 428				1.00	0428	0426		
0428				TPD11	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0427		
0429				TPD12	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 430	Topsoil			0.40	0430			
0430				TPD12	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0431	0429		
0431				TPD12	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 432				1.50	0432	0430		
0432				TPD12	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.00		0431		
0433				TPD13	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 435	Topsoil			0.40	0434			
0434				TPD13	Layer	10YR 5/6 yellowish brown mid coarse very loose sand, occasional to rare well sorted rounded flints up to 3cm across. SHARP TO: 435.				0.80	0435	0433		
0435				TPD13	Layer	2.5Y 6/8 olive yellow mid coarse sand with occasional to rare well sorted rounded flints				0.70	0436	0434		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0436				TPD13	Layer	2.5Y 7/4 mid fine loose sand with occasional to rare well sorted small rounded to sub rounded flints				1.10		0435		
0437				BHD03	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 438	Topsoil			0.60	0438			
0438				BHD03	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0437		
0439				BHD04	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 440	Topsoil			0.50	0440			
0440				BHD04	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0439		
0441				TP04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0387, 0385, 0383		
0442				TPE05	Layer	2.5Y 3/2 very dark greyish brown fine sandy topsoil with rare poorly sorted flints od all shapes up to 7cm across. SHARP TO: 443	Topsoil			0.5				
0443				TPE05	Layer	10YR 3/4 dark yellowish brown fine sand with rare poorly sorted flints of all shapes. SHARP TO: 044	Subsoil			0.2				
0444				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.9				
0445				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0446				TPE05	Layer	10YR 4/6 loose mid fine sand with frequent flints of all shapes up to 10cm across, with rare patches of 2.5Y 7/2 mid firm very sandy clay.				1.1				
0447				TPE01	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with frequent rounded and sub rounded flints of 2-6cm across. SHARP TO: 448	Topsoil			0.4				
0448				TPE01	Layer	10YR 3/6 dark yellowish brown loose fine stoneless sand. SHARP TO: 449				0.9				
0449				TPE01	Layer	2.5Y 5/6 light olive brown mottled with moderately frequent small splodges of 10YR 3/6 dark yellowish brown fine sand. Very rare flints and sandstone. Some clumps of 2.5Y 5/6 light olive brown very soft, very sandy clay apparent from 2.0m BGL, 40cm across. DIFFUSE TO: 450				1.0				
0450				TPE01	Layer	2.5Y 5/6 loose sand with frequent moderately well sorted rounded to sub rounded flint gravel, 0.5-6cm across.	Fluvial			0.7				
0451				TPE10	Layer	2.5Y 4/3 mid olive brown firm silty clay topsoil with occasional small mid-sized flints.	Topsoil			0.4				
0452				TPE10	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional poorly sorted flints of various sizes, and occasional firm sandy patches.				0.4				
0453				TPE10	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				0.9				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0454				TPE10	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.3				
0455				TPE08	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0456				TPE08	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.9				
0457				TPE08	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.0				
0458				TPE08	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				0.7				
0459				TPE09	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0460				TPE09	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.3				
0461				TPE09	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.0				
0462				TPE09	Layer	GLEY 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0463				TPE06	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.5				
0464				TPE06	Layer	2.5Y 5/4 light olive brown soft sandy silt subsoil with occasional small flints.	Subsoil			0.2				
0465				TPE06	Layer	2.5Y 5/6 light olive brown soft medium coarse sand with occasional rounded small flints.				1.1				
0466				TPE06	Layer	2.5Y 7/8 yellow fine stoneless sand with occasional small clay pockets.				1.2				
0467				TPE07	Layer	2.5Y 4/3 olive brown sandy clayey topsoil with occasional small flints.	Topsoil			0.4				
0468				TPE07	Layer	2.5Y 5/4 light olive brown soft sandy clay.				0.2				
0469				TPE07	Layer	GLEY1 6/5G_/1 greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.0				
0470				TPE07	Layer	GLEY1 3/5G_/1 very dark greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.4				
0471				TPE33	Layer	2.5Y 3/2 very dark greyish brown very fine loose sandy topsoil, occasional flints of all shapes	Topsoil			0.4				
0472				TPE33	Layer	10YR 4/4 dark yellowish brown medium coarse soft very sandy clay with rare rounded/sub rounded flints	Colluvium			0.3				
0473				TPE33	Layer	10YR 4/6 dark yellowish brown medium coarse soft sandy clay with occasional rounded flints 1-8cm across, rare up to 8cm. SHARP TO: 474	Colluvium			0.4				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0474				TPE33	Layer	2.5Y 5/6 light olive brown soft clay with occasional chalk flecks, occasional to rare rounded and sub rounded flints from 1-10cm across, and striations of mid fine 2.5Y 5/6 light olive brown sand. SHARP TO: 475				0.7				
0475				TPE33	Layer	Mixed 10YR 5/8 yellowish brown and 2.5Y 5/6 light olive brown fine sand with rare to occasional rounded flints from 1-3cm across.				1.2				
0476				TPE32	Layer	2.5Y 3/2 very dark greyish brown fine loose sandy topsoil with occasional poorly sorted flint of varying size.				0.7				
0477				TPE32	Layer	10YR 4/4 dark yellowish brown soft sandy clay with rare small rounded flints and chalk flecking.				0.9				
0478				TPE32	Layer	2.5Y 5/6 light olive brown soft sand with clay pockets and occasional small rounded flints.				0.3				
0479				TPE32	Layer	2.5Y 6/8 olive yellow sand with clay pockets, occasional small to medium rounded flints. Pockets of lighter sand apparent approaching 3.0m BGL.				1.1				
0480				TPE04	Layer	2.5Y 3/3 dark olive brown fine sandy topsoil with frequent rounded to sub rounded flint gravel, between 1-3cm across. SHARP TO: 481	Topsoil			0.4				
0481				TPE04	Layer	10YR 3/6 dark yellow brown loose slightly silty fine sand with rare rounded to sub rounded flints 1-3cm across. SHARP TO: 482	Subsoil			0.25				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0482				TPE04	Layer	10YR 5/6 yellowish brown loose fine sand with occasional rounded to sub angular flint gravel 1-5cm across, with pockets of 10YR 5/4 yellowish brown soft/friable clayey sand up to 40cm across. Pockets become frequent with depth. DIFFUSE TO: 483				1.35				
0483				TPE04	Layer	2.5Y 8/3 pale brown soft/friable clayey very fine sand with rare rounded flints 2-3cm across.				1.0				
0484				TPE02	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent flint gravel of all shapes and sizes, poorly sorted. DIFFUSE TO: 485	Topsoil			0.6				
0485				TPE02	Layer	2.5Y 4/4 olive brown fine loose sand mixed with 10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel <2cm.				0.9				
0486				TPE02	Layer	10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel				0.2				
0487				TPE03	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent poorly sorted flint gravel of all shapes and sizes and rare chalk flecking. SHARP TO 488	Topsoil			0.7				
0488				TPE03	Layer	Mixed 2.5Y 6/4 light yellowish brown and 10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand from 1.7m BGL DIFFUSE TO: 489				1.6				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0489				TPE03	Layer	10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Frequent large pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand.				0.7				
0490				TPE25	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 491	Topsoil			0.4				
0491				TPE25	Layer	2.5Y 5/4 light olive brown stiff/friable slightly sandy clay with poorly sorted occasional flints of all shapes and sizes including rare very large flints 20-30cm across. SHARP TO: 492				1.1				
0492				TPE25	Layer	2.5Y 5/2 greyish brown firm clay, rare averagely well sorted rounded to sub angular flint gravel				1.2				
0493				TPE25	Layer	2.5Y 7/4 pale brown mid fine sand with frequent poorly sorted rounded to angular flints, 0.5-4cm across.				0.3				
0494				TPE24	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 495	Topsoil			0.3				
0495				TPE24	Layer	10YR 4/4 dark yellow brown firm/friable sandy clay with very rare small flints	Subsoil			0.5				
0496				TPE24	Layer	2.5Y 4/4 olive brown firm clay with frequent to moderate chalk flecking with rare flints				0.4				
0497				TPE24	Layer	2.5Y 6/4 light yellowish brown mixed with 10YR 5/6 yellowish				1.7				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						brown loose sand with occasional rare rounded flints								
0498				TPE24	Layer	2.5Y 6/4 light yellowish brown firm clay with sand, rare angular flints				0.1				
0499				TP05	Layer	2.5Y 7/6 yellow fine stoneless sand.				Unexcavated		0322		

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APPENDIX B: GEOARCHAEOLOGICAL ASSESSMENT

Completed interventions only

Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Saxmundham (SXM 086)	BHB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Theberton (THB 061)	BHB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB03A	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic alluvium encountered @3.00m-3.45m bgl
	BHB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB06	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic material encountered @0.80m-2.00m bgl
	BHB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–0.65m bgl
	TPB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB17	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Middleton (MDD 052)	BHB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB20	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB21	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB22	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB23	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @ 0.80m-2.00m
	TPB20	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB21	Crag Group - Sand	None recorded	Low	
	TPB22	Crag Group - Sand	None recorded	Low	
	TPB23	Crag Group - Sand	None recorded	High	Archaeological ditch feature encountered @1.00m-1.70m bgl
	TPB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB25	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB26	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB27	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB29	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB30	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.50m-3.00m bgl
	TPB31	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB 32	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB33	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Westleton (WLN 147)	BHC02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC08	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Archaeological feature encountered @0.35m-0.45m bgl
	TPC09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC15	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.35m-1.70m bgl
	TPC16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC17	Crag Group - Sand	Head	Low	
Blythburgh (BLB 177)	BHC08	Crag Group - Sand	Head	Low	
	BHD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	BHE01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @3.00m–6.50m bgl
	BHE02	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–5.90m bgl
	TPC19	Crag Group - Sand	N/A	Moderate	Alluvium encountered @1.35m-1.60m bgl
	TPC20	Crag Group - Sand	N/A	Low	
	TPD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD07	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD08	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @0.35m-1.10m bgl
	TPD09	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Thorington (TNG 052)	BHE03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE05	Crag Group - Sand	None recorded	Low	
Walberswick (WLB 148)	BHD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD06	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD14	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.80m-2.90m bgl
	TPD15	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPD16	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	High	Alluvium encountered @1.70m-3.00m bgl containing fossilised wood and iron panning.
	TPD17	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-2.20m bgl
	TPD18	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.40m-2.30m bgl
Walberswick (WLB 149)	BH01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	BH02	Crag Group – Sand	None recorded	Low	
	BH03	Crag Group – Sand	None recorded	Low	
	BH04	Crag Group – Sand	None recorded	Low	
	BH05	Crag Group – Sand	None recorded	Low	
	TP01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TP02	Crag Group – Sand	None recorded	Low	
	TP03	Crag Group – Sand	None recorded	Low	
	TP04	Crag Group – Sand	None recorded	Low	
	TP05	Crag Group – Sand	None recorded	Low	
	TP06	Crag Group – Sand	None recorded	Low	
	TP07	Crag Group – Sand	None recorded	Low	
	TP08	Crag Group – Sand	None recorded	High	Archaeological feature encountered @0.80m-1.10m bgl
	TP09	Crag Group – Sand	None recorded	Low	
	TP10	Crag Group – Sand	None recorded	High	Alluvium encountered @0.90m-1.30m bgl overlying Organic Alluvium @1.30m-1.40m bgl
	TP11	Crag Group – Sand	None recorded	Moderate	Alluvium encountered @2.20m-2.60m bgl
Wenhaston with mels hamlet (WMH 091)	BHE08	Crag Group – Sand	Head - Clay, Silt, Sand and Gravel	Low	
	TPE02	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE03	Crag Group – Sand	None recorded	Low	
	TPE04	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE05	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Blyford (BLY 025)	BHE10	Crag Group – Sand	Head – Clay	Low	
	BHE11	Crag Group – Sand	Head – Clay	Low	
	TPE06	Crag Group – Sand	Head – Clay	Low	
	TPE07	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Wangford with Henham (HAM 048)	TPE08	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE09	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE10	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Brampton with Stoven (BRP 044)	BHE18	Crag Group - Gravel	Head – Clay	Low	
	BHE19	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	BHE20	Crag Group - Gravel	Lowestoft Formation – Diamicton	High	Organic alluvium encountered @1.20m-3.20m bgl
	BHE21	Crag Group - Gravel	Alluvium - Clay, Silt, Sand and Gravel	Moderate	Alluvium encountered @0.80m–3.00m bgl
	TPE24	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	TPE25	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
Uggeshall (UGG 043)	BHE22	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPF01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPE32	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE33	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
Wangford with Henham (WNF 082)	TPF5	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF6	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF10	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-3.00m bgl

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Reydon (REY 152)	BHF11	Crag Group – Sand	None recorded	Low	
	TPF17	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF19	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF21	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF22	Crag Group – sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF23	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF24	Crag Group – Sand	None recorded	Low	
	TPF25	Crag Group – Sand	None recorded	Low	
Reydon (REY 206)	BH106	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Peat encountered @3.00m–6.00m bgl. Overlaying organic Alluvium substrate
	BH107	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Alluvium encountered @2.50m-3.60m bgl overlying partially decomposed peat @3.60m–5.90m bgl.
	TP101	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	Low	
	TP108	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic Alluvium encountered @1.20m-1.40m bgl
	TP114	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic deposits encountered @1.15m-1.25m bgl

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APPENDIX C: THE FINDS

Table C1: Finds concordance

Site	Test Pit	Context	Feature/ Layer	Material	Fabric/Description	Ct.	Wt. (g)	Artefact date	Overall finds spotdate
MDD 052	TPB23	149	Ditch 150	Roman pottery	WF, GM, GX, BUF, BSW	32	173	LC2+	LC2+ (residual LN/BA)
				CBM	Fragments of tegula and ?tile, undiagnostic fragments	8	319	Rom	
				Lithics	Worked flint flake	1	19	LN/BA (residual)	
	TPC04	166	Subsoil	Roman pottery	GM	1	2	Rom	
				Lithics	Worked flint flakes	2	14	LN/BA (residual)	
WLB 148	TPD18	097	Layer	Copper alloy	Coin (RA 1)	1	0.22	Post-medieval	
WLB 149	BH01	278	Layer	Silver	Coin (RA 2)	1	0.61	Medieval	
	BH02	279	Layer	Copper alloy	Jetton (RA 4)	1	0.67	Post-medieval	
	BH03	280	Layer	Copper alloy	Jetton (RA 5)	2	1.01	Post-medieval	
				Copper alloy	Jetton (RA 6)	1	5.34	Post-medieval	
	BH04	281	Layer	Silver	Coin (RA 3)	1	2.47	Post-medieval	
	BH05	282	Layer	Silver	Coin (RA 7)	1	0.62	Post-medieval	
				Copper alloy	Jetton (RA 8)	1	1.36	Post-medieval	
				Silver	Spoon (RA 9)	1	1.18	Modern	
	TP01	315	Layer	Silver	Ring (RA 12)	1	2.49	Post-medieval	
	TP05	320	Layer	Silver	Coin (RA 11)	1	1.03	Medieval	
		323	Ditch 322	Roman pottery	GM, GX	20	340	Rom	Rom
				CBM	?tile fragments, amorphous fragment	3	58	?Rom	
	TP05A	326	Layer	Copper alloy	Jetton (RA 17)	1	1.35	Post-medieval	
	TP07	329	Layer	Silver	Coin (RA 13)	1	0.31	Post-medieval	
	TP10	356	Layer	Silver	Coin (RA 14)	1	0.33	Post-medieval	
				Copper alloy	Coin (RA 15)	1	0.38	Post-medieval	
	TP11	362	Layer	Lead	Cloth seal (RA 16)	1	2.29	Post-medieval	
	TP02	367	Layer	Copper alloy	Watch winder (RA 18)	1	0.7	Modern	
				Silver	Coin (RA 19)	1	0.53	Post-medieval	
	TP03	378	Layer	Post-Roman pottery	LMT, MCW	2	25	12–14/15C	
	TP04	384	Ditch 383	Roman pottery	BSW	1	4	Rom	?Residual Rom

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		388	Ditch 387	CBM	Brick fragment (heat-affected/overfired)	1	423	Med/PM	?Residual Med/PM
	TP09	394	Layer	Roman pottery	BUF	1	1	Rom	
				Post-Roman pottery	MCW	3	6	12–14C	
				CBM	Brick fragments (one heavily sooted)	2	68	Med/PM	
REY 152	TPF17	335	Topsoil	Lithics	Worked flint flake	1	10	LN/BA (residual)	
	TPF23	297		Silver	Coin RA 10	1	1.06	Post-medieval	

Table C2: Pottery fabrics

Site	Period	Fabric	Fabric description	No.	Wt/g.	Fabric date
MDD 052	Roman	WF	Unprovenanced white finewares	1	8	Rom
		GX	Reduced coarsewares	22	140	Rom
		GM	Micaceous reduced wares (Wattisfield)	5	7	Rom
		BSW	Black surfaced wares	1	12	Rom
		BUF	Buff coarsewares	4	8	Rom
	Sub-total			***33***	***175***	
WLB 149	Roman	GM	Micaceous reduced wares (Wattisfield)	14	271	Rom
		GX	Reduced coarsewares	6	69	Rom
		BSW	Black surfaced wares	1	4	Rom
		BUF	Buff coarsewares	1	1	Rom
	Post-Roman	MCW	Medieval coarsewares	4	18	C12–C14(/15th)
		LMT	Late medieval and transitional wares	1	13	C15–C16
	Sub-total			***27***	***376***	
Total				**60**	**551**	

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APPENDIX D: THE BIOLOGICAL EVIDENCE

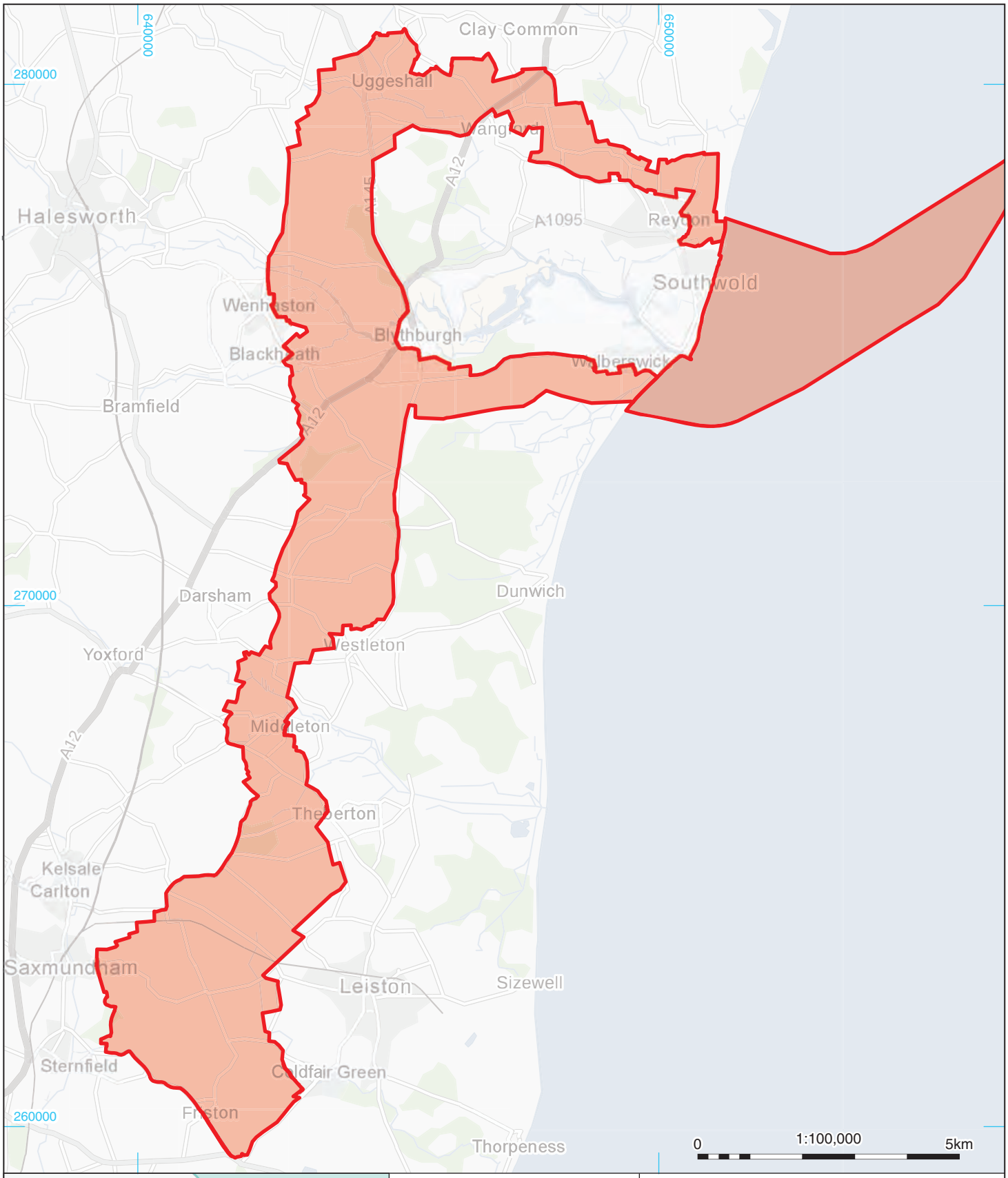
Table D1: Animal bone

Context	Taxon	Element	Details
0323	Horse	Radius (Left)	Distal half of bone present (60% WBE), including articulation. Average condition with minor surface root etching over 10% of surface. Distal fused. Measured: Bd=77.2mm Dd=40.7mm

APPENDIX E: OASIS REPORT FORM

PROJECT DETAILS (interim version)	
Project name	Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites Oasis ID: cotswold2-527147
Short description	Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from the bore-hole logs. Archaeological features were encountered in four of the test-pits, a post-hole in Westleton parish (TPC08) and four ditches in Walberswick (TP04, TP05 and TP08). Where artefactual evidence was recovered, a Roman date was suggested. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although nightsoiling could be a another interpretation of this evidence. The geoarchaeological assessment identified a limited number of deposits which can be considered to have archaeological potential during future, more invasive works.
Project dates	September – November 2024
Project type	Archaeological Monitoring of Geotechnical Interventions
Previous work	None
Future work	Completion of geotechnical interventions projected to be undertaken in May 2025
PROJECT LOCATION	
Site location	Sections A – F over seventeen parishes in Suffolk
Study area (m^2/ha)	NA
Site co-ordinates	NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West
PROJECT CREATORS	
Name of organisation	Cotswold Archaeology
Project brief originator	Suffolk County Council Archaeological Service
Project design (WSI) originator	Cotswold Archaeology
Project Manager	Stuart Boulter

Project Supervisor	Michael Green, Edward Aylott	
MONUMENT TYPE	Ditches	
SIGNIFICANT FINDS	None	
PROJECT ARCHIVES	**Intended final location of archive (museum/Accession no.)** Suffolk County Council Archaeological Service (physical archive); Archaeology Data Service (digital archive)	**Content (e.g. pottery, animal bone etc) Indicate the contents of each archive box**
Physical	To be added when project is complete	To be added when project is complete
Paper	To be added when project is complete	To be added when project is complete
Digital	To be added when project is complete	To be added when project is complete
BIBLIOGRAPHY		
Cotswold Archaeology 2025, *Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites: Interim Results of a Programme of Archaeological Monitoring and Geotechnical Modelling,* Report No. SU0680_1		





Site boundary

N

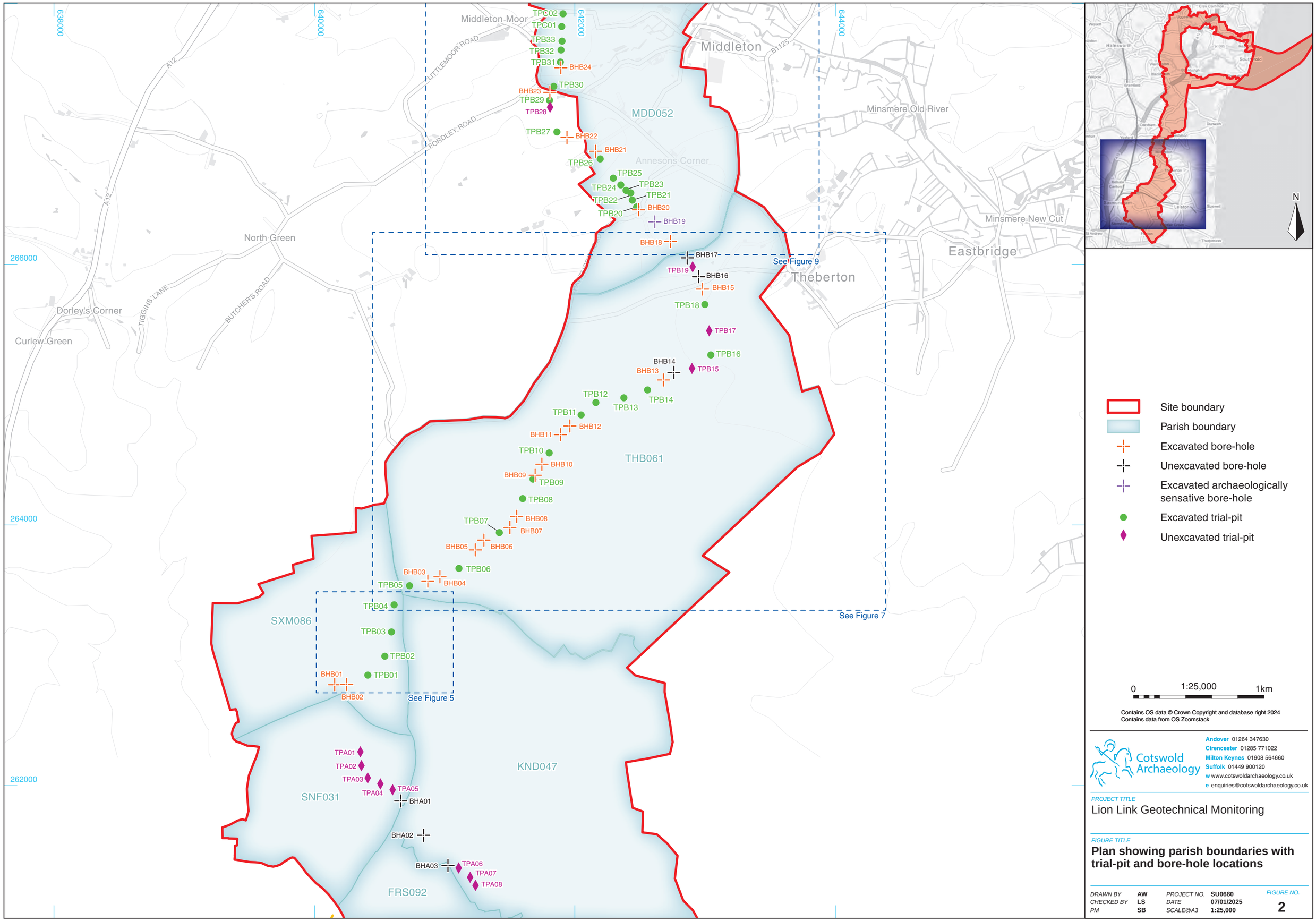
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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
Site location plan

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	06/01/2025	1
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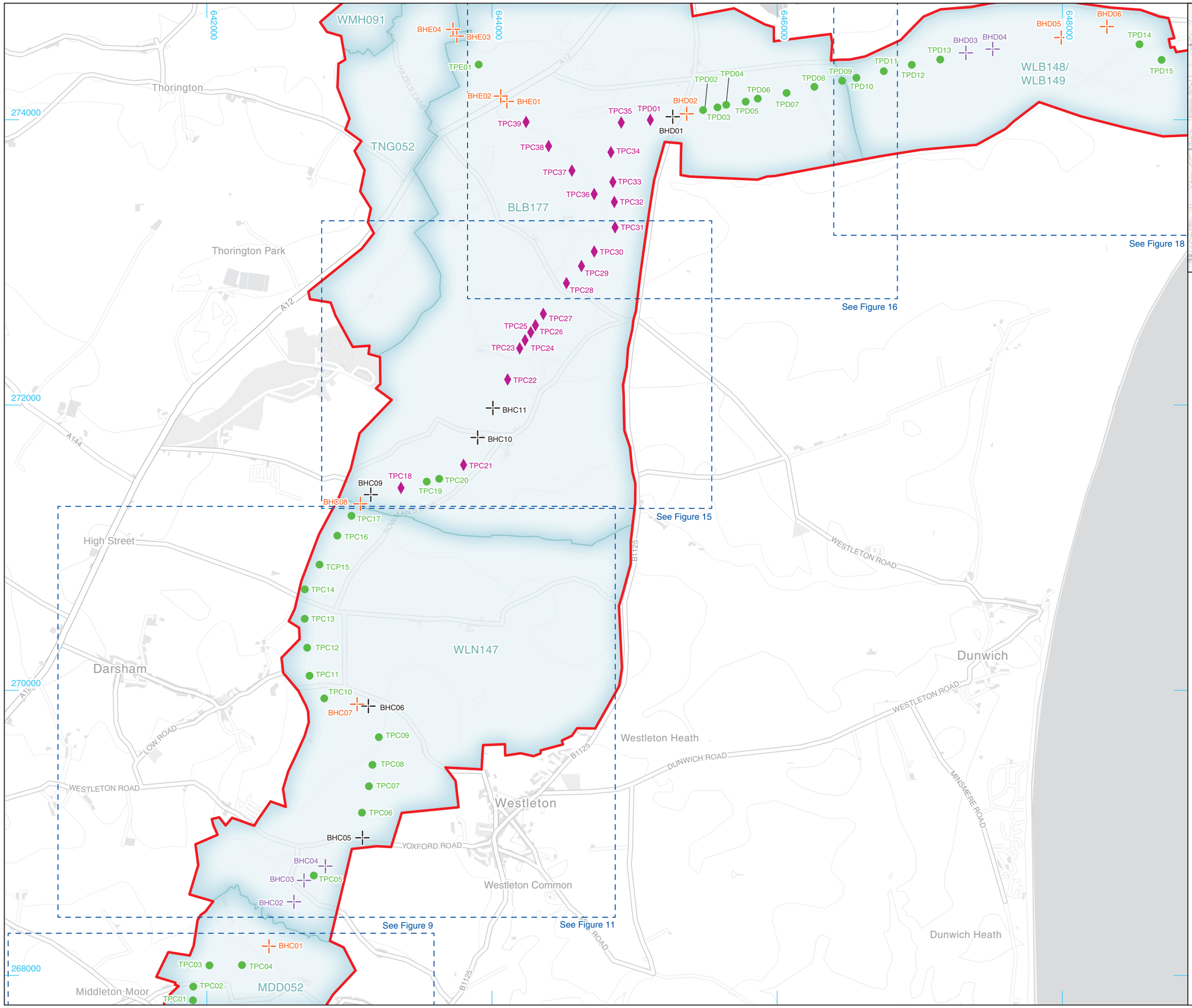
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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CHECKED BY	LS	DATE	07/01/2025		2
PM	SB	SCALE@A3	1:25,000		



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated archaeologically sensative bore-hole

Excavated trial-pit

Unexcavated trial-pit

0 1:25,000 1km

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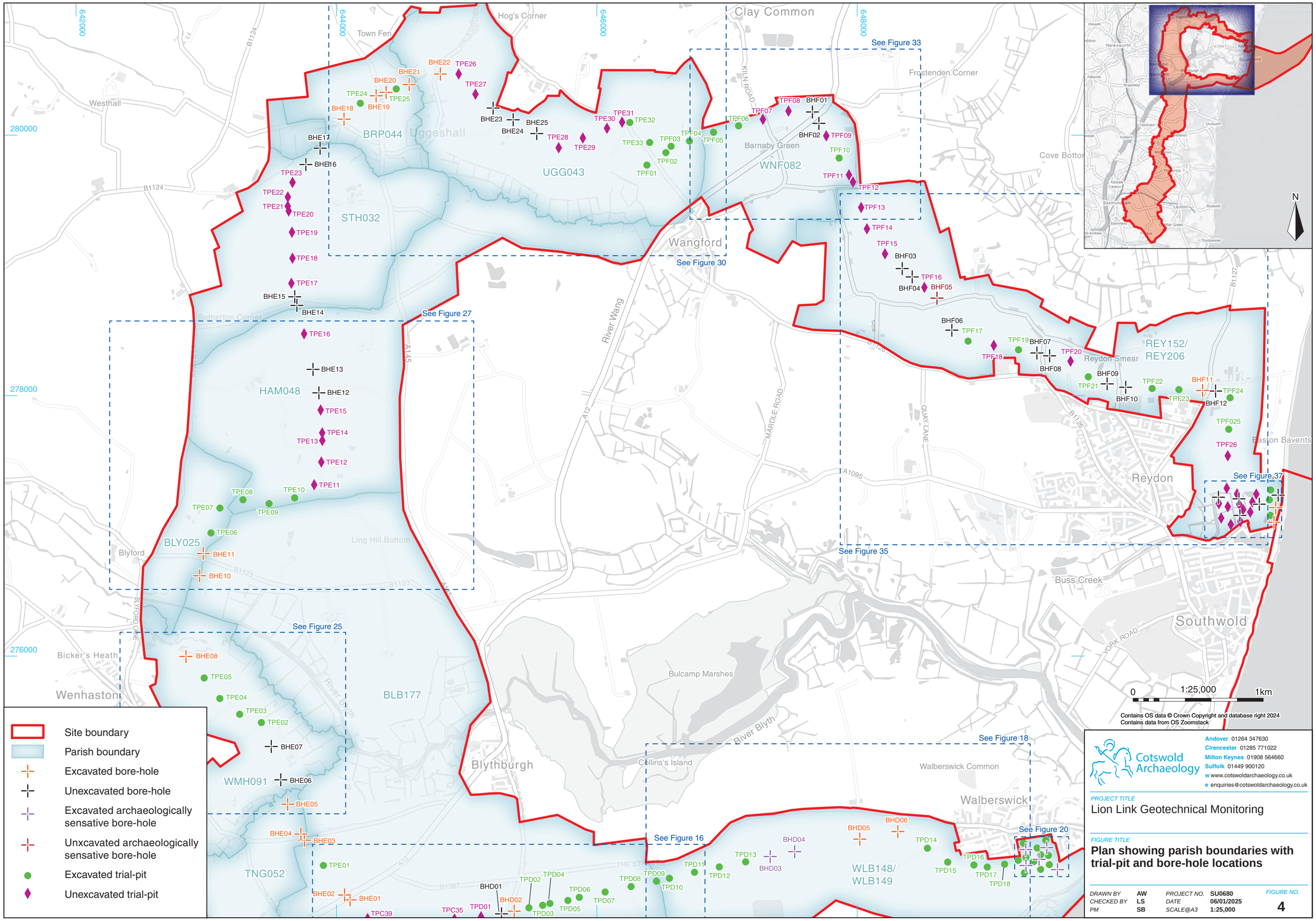
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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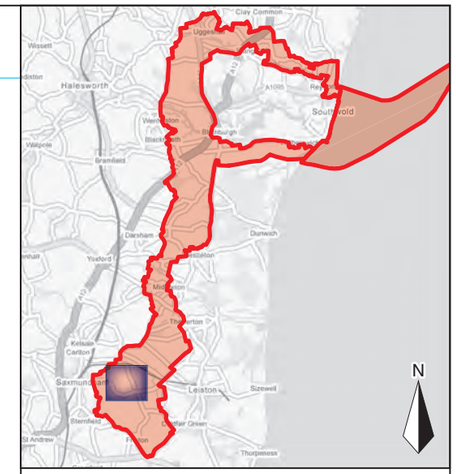
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*	
CHECKED BY	**LS**	*DATE*	**06/01/2025**		**4**
PM	**SB**	*SCALE@A3*	**1:25,000**		

640200
640400
640600
640800
263400
263200
263000
262800
Wardspring Farm
TPB04
TPB03
TPB02
TPB01
BHB01
BHB02
SXM 086
KND 047
Friston Covert


Site boundary
Parish boundary
Excavated bore-hole
Excavated trial-pit
Geophysical survey results (WA 2024)
Historic landscape feature
Service
Archaeology possible
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
0 1:2500 100m
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PROJECT TITLE
Lion Link Geotechnical Monitoring
FIGURE TITLE
SXM 086: TPB01-TPB04, BHB01, BHB02 with geophysical survey
DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**08/01/2025**	**5**
PM	**SB**	*SCALE@A3*	**1:2500**	



TPB01, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB01, looking south-west (1m scale)

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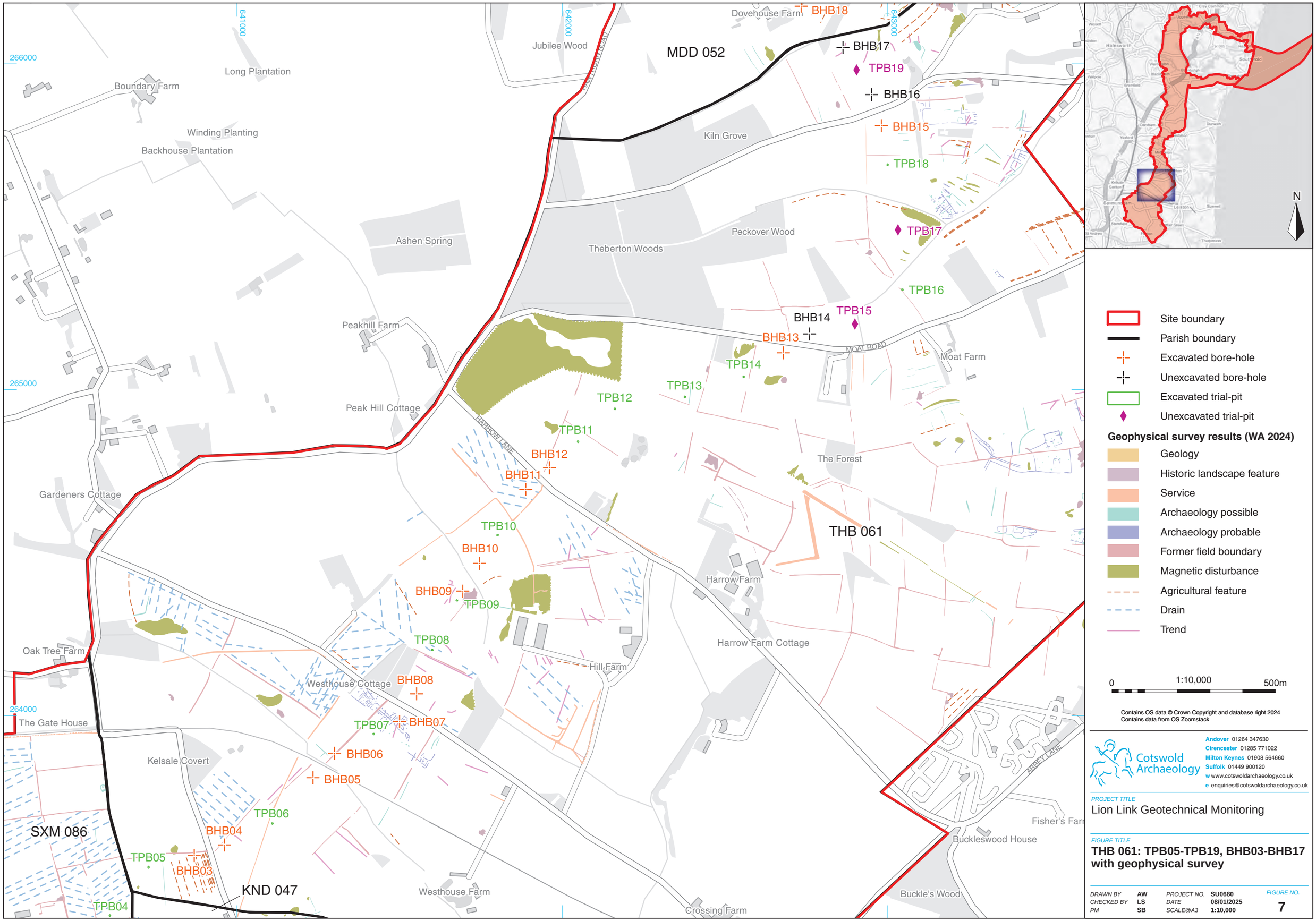
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

SXM 086: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**06/01/2025**	**6**
PM	**SB**	*SCALE@A3*	**NA**	



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PROJECT TITLE
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FIGURE TITLE
THB 061: TPB05-TPB19, BHB03-BHB17 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	08/01/2025	7
PM	SB	SCALE@A3	1:10,000	



TPB05, looking north (1m scale)



TPB10, looking south-west (1m scale)



TPB18, looking south (1m scale)



TPB18, looking south-west (1m scale)

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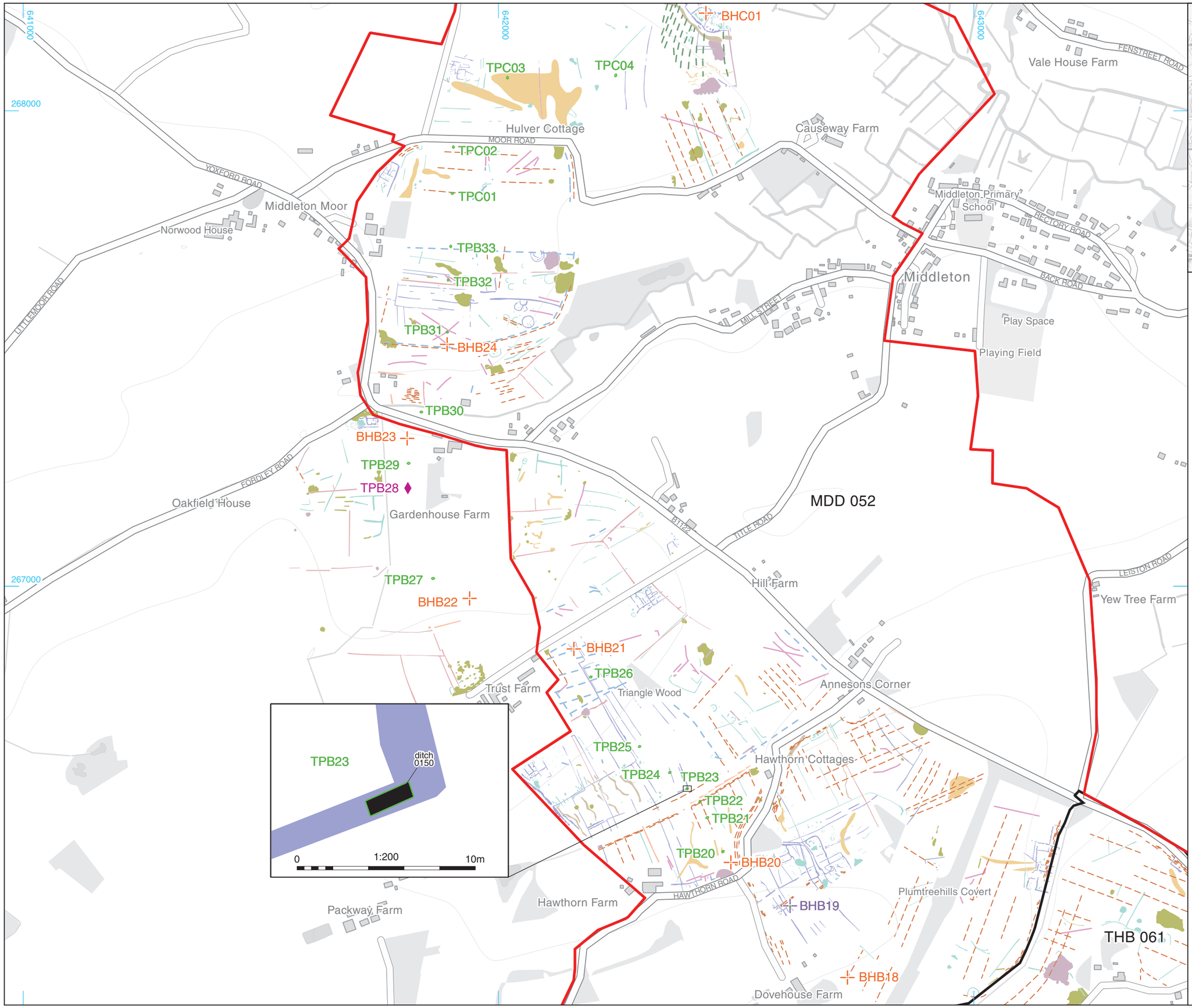
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

THB 061: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	10/01/2025	8
PM	SB	SCALE@A3	NA	



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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
MDD 052: TPB20-TPB33, TBC01-TBC04, BHB18-BHB24, BHC01 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	08/01/2025	9
PM	SB	SCALE@A3	1:7500	



TPB20, looking south-east (1m scale)



TPB23, looking west



TPC03, looking west (1m scale)



BHB19, looking south-west (0.2m scale)

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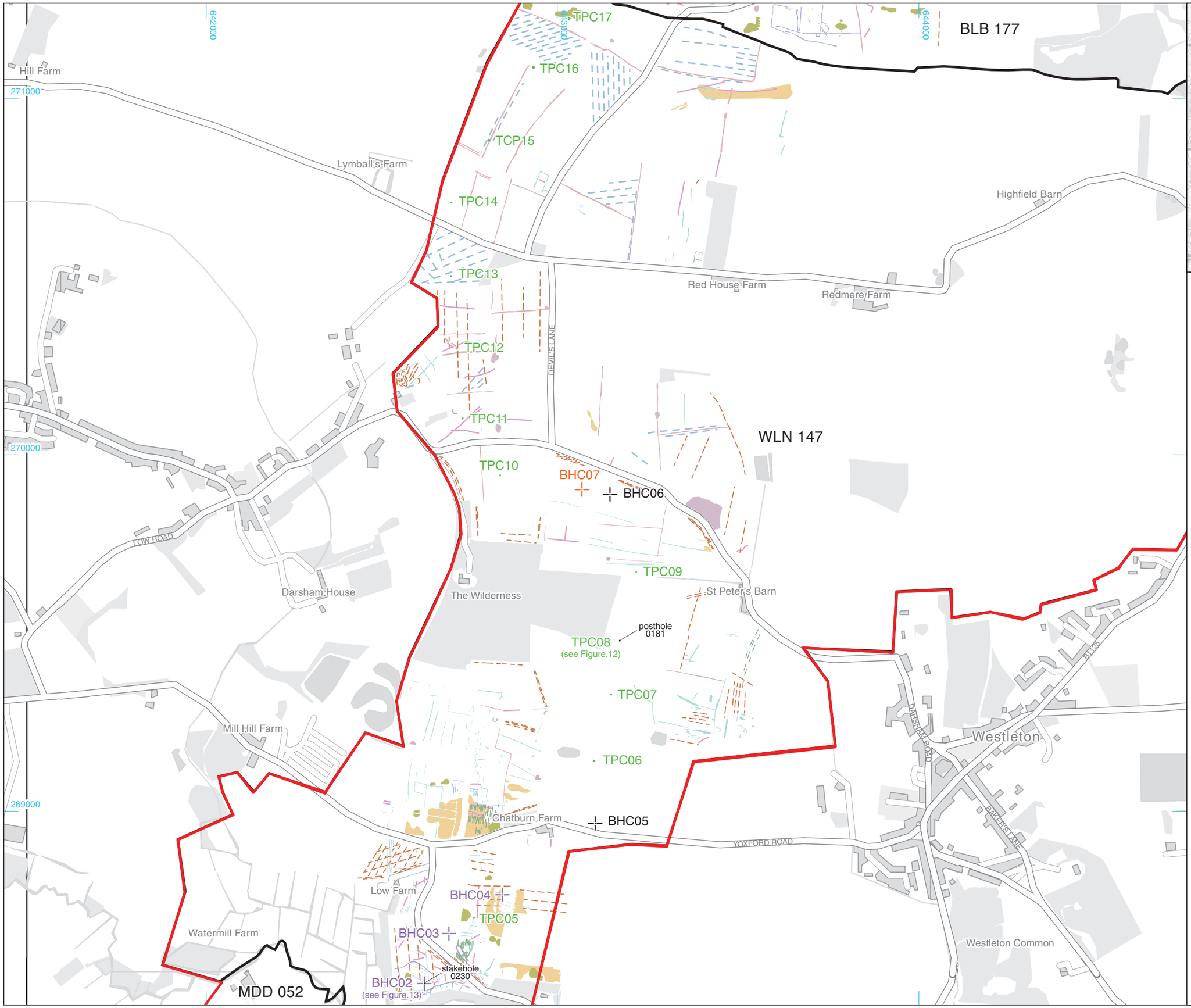
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

MDD 052: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**10/01/2025**	**10**
PM	**SB**	*SCALE@A3*	**NA**	



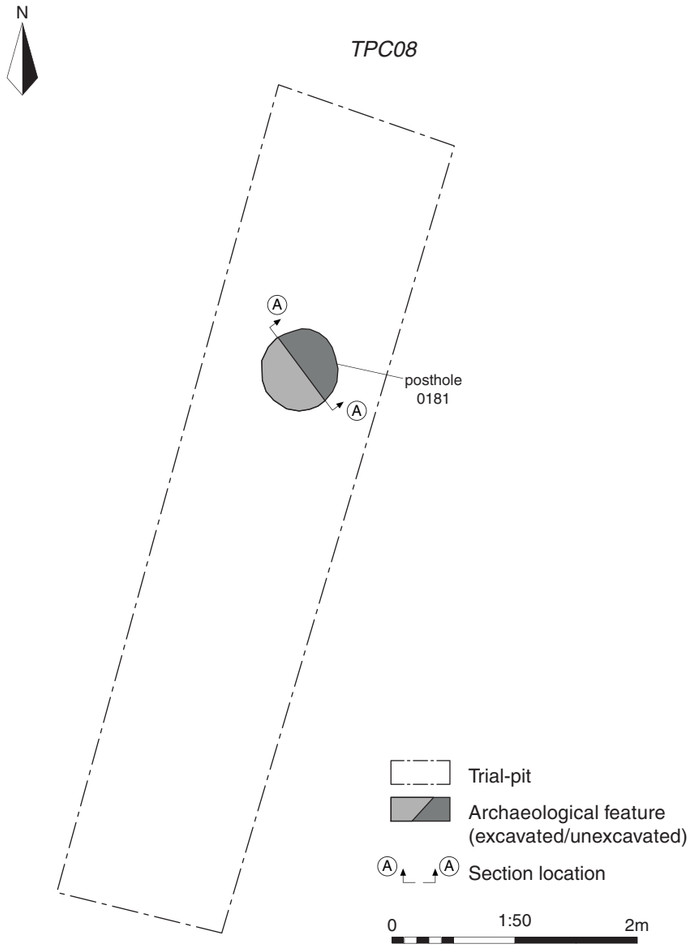
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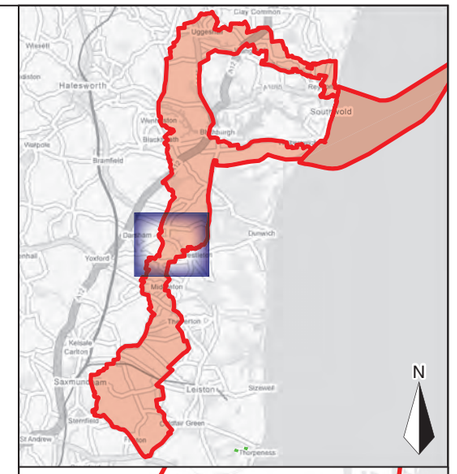
FIGURE TITLE
WLN 147: TPC05-TPC17, BHC02-BHC07 with geophysical survey

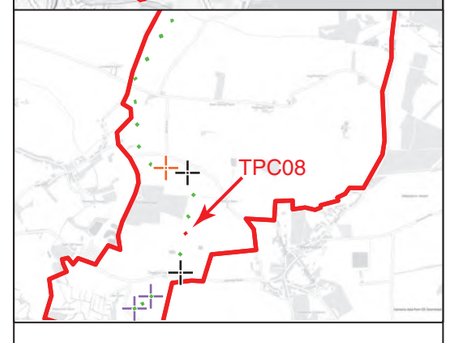
DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	11
PM	SB	SCALE@A3	1:10,000	



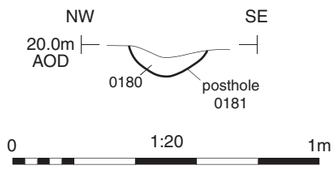


TPC08, looking north-east (1m scale)





Section AA





Posthole 0181, looking north-east (0.2m scale)



TPC08, looking north-west (1m scale)

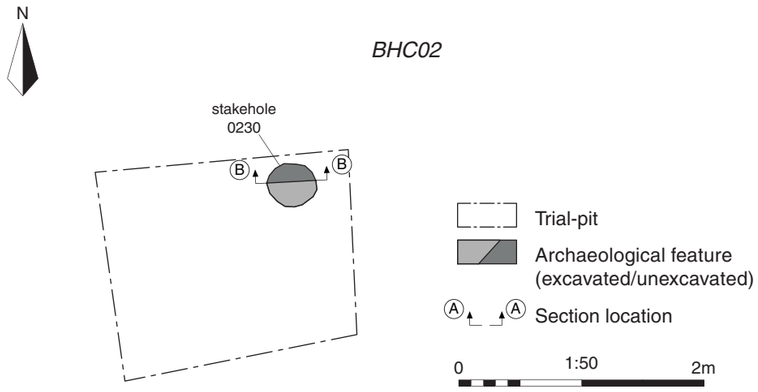
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PROJECT TITLE
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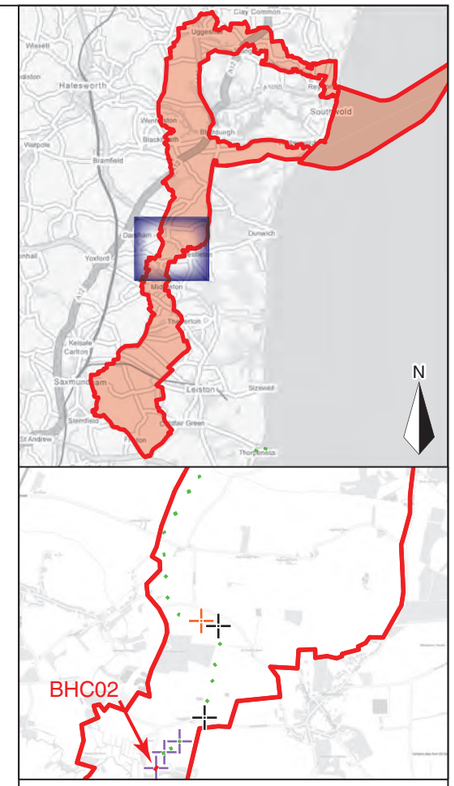
FIGURE TITLE
WLN 147: TPC08, plan, section and photographs

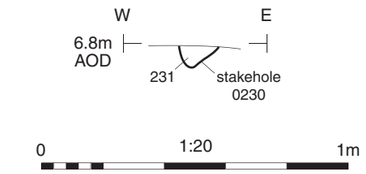
DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**12**
PM	**SB**	*SCALE@A3*	**1:50, 1:20**	





BHC02, looking north (1m scale)







Stakehole 0230, looking north (0.2m scale)



BHC02, looking north (1m scale)

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FIGURE TITLE
WLN 147: BHC02, plan, section and photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	13
PM	SB	SCALE@A3	1:50, 1:20	



TPC05, looking south-east (1m scale)



TPC11, looking north (1m scale)



BHC04, looking east (1m scale)



TPC17, looking south-east (1m scale)

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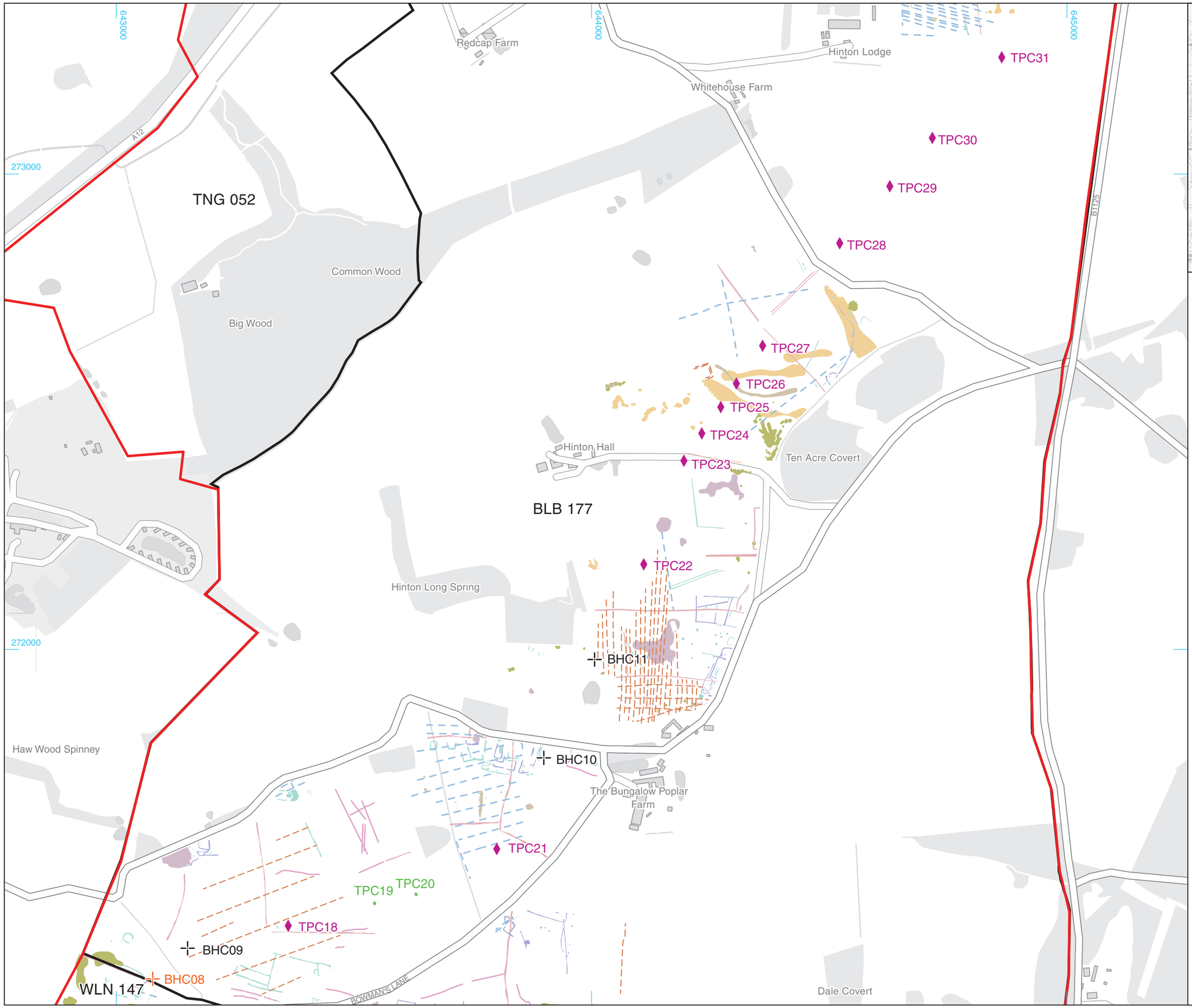
PROJECT TITLE

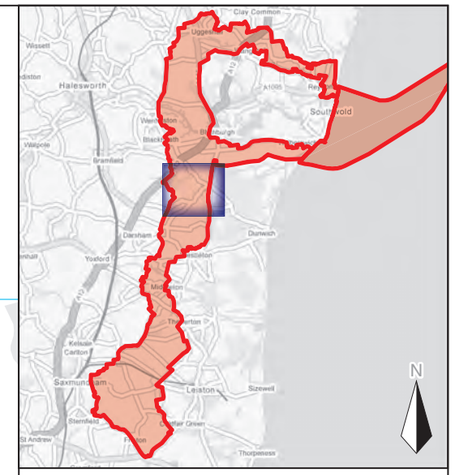
Lion Link Geotechnical Monitoring

FIGURE TITLE

WLN 147: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**14**
PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:7500 250m

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PROJECT TITLE
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FIGURE TITLE
BLB 177: TPC18-TPC31, BHC08-BHC11 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	15
PM	SB	SCALE@A3	1:7500	

TNG 052

BLB 177

WLB 148

WENHASTON LANE

A12

B1387

THE STREET

DUNWICH ROAD

B1125

644000

645000

646000

274000

Blythburgh Covert

Stone Cottages

Toby's Cottage

Hinton Lodge

Whitehouse Farm

Westwood Lodge

Shepherds Cottage

Newdelight Covert

Fen Cottages

TPE01

BHE02

BHE01

BHD01

BHD02

TPC39

TPC38

TPC37

TPC36

TPC35

TPC34

TPC33

TPC32

TPC31

TPC30

TPC29

TPC28

TPD01

TPD02

TPD03

TPD04

TPD05

TPD06

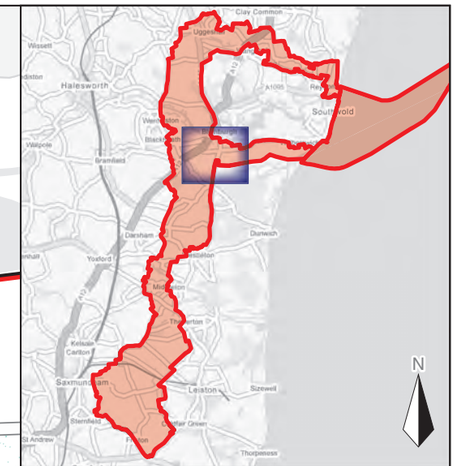
TPD07

TPD08

TPD09

TPD10

TPD11



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated trial-pit

Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology

Historic landscape feature

Archaeology possible

Archaeology probable

Former field boundary

Magnetic disturbance

Agricultural feature

Drain

Trend

0 1:7500 250m

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLB 177: TPC32-TPC39, TPD01-TPD09, TPE01, BHD01, BHD02, BHE01, BHE02 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	16
PM	SB	SCALE@A3	1:7500	



TPC19, looking north (1m scale)



TPD02, looking south (1m scale)



TPD08, looking north-east (1m scale)

TPE01, looking north-east

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FIGURE TITLE

BLB 177: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	17
PM	SB	SCALE@A3	NA	

Collins's Island
Hill Covert
Tinker's Covert
Deadman's Covert
Eastwoodlodge Farm
THE STREET
B1387
Sallow Walk Covert
LODGE ROAD
Hoist Covert
Wood Cottage
Old Covert
Dunwich River
St Andrew's Church
Walberswick
WLB 148/
WLB 149
BLB177
BHD03
BHD04
BHD05
BHD06
TPD09
TPD10
TPD11
TPD12
TPD13
TPD14
TPD15
TPD16
TPD17
TPD18
TP01
TP05/
TP05A
(see Figure 21)
BH01
ditches
0383,0385,
0387
ditch
0322
TP04/
TP04A
(see Figure 21)
BH04
TP09
647000
648000
275000
N
0 1:7500 250m

Site boundary
Parish boundary
Excavated bore-hole
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 148: TPD10-TPD18, BHD03-BHD06 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	18
PM	SB	SCALE@A3	1:7500	



TPD10, looking west (1m scales)



TPD15, looking west (1m scale)



BHD03, looking east (1m scale)



BHD04, looking north-west (1m scale)

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PROJECT TITLE

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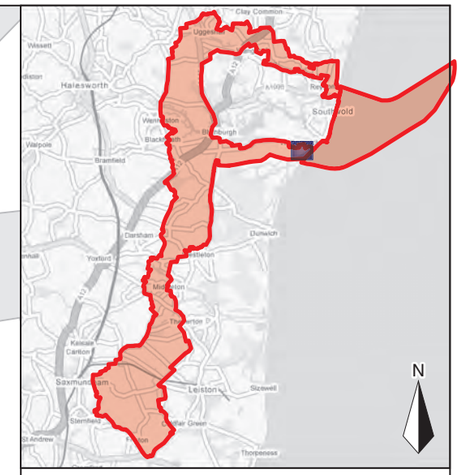
FIGURE TITLE

WLB 148: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**19**
PM	**SB**	*SCALE@A3*	**NA**	

649300
649400
649500
274500
274400

10
TP01
4
BH01
TP03
3
BH02
18
17
TP02
12
TP07
TP08
(see Figure.22)
ditch
0373
11
TP05
(see Figure.21)
ditch
0322
TP05A
WLB 149
8
BH03
feature
0312
7
ditch
0387
ditch
0383
TP04
(see Figure.21)
ditch
0385
TP04A
TP06
15
13
TP11
1
BH04
6
9
5
BH05
16
14
TP10
TP09



Site boundary
Parish boundary
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature
Registered artefact

Geophysical survey results (WA 2024)

Geomorphology
Archaeology possible
Archaeology probable
Former field boundary
Agricultural feature
Trend

0 1:1000 50m

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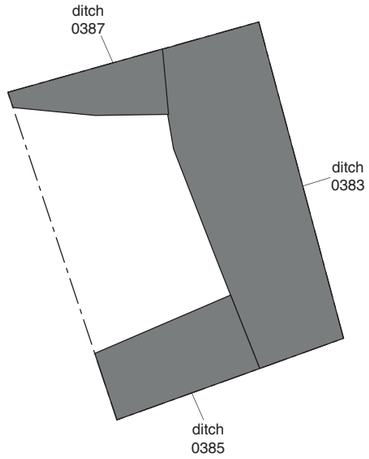
PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 149: TP01-TP11, BH01-BH05 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	20
PM	SB	SCALE@A3	1:1000	

N

TP04



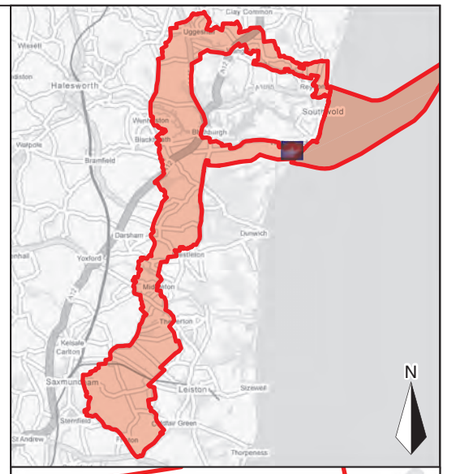
Trial-pit

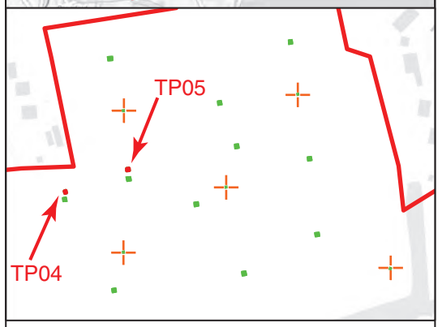
Archaeological feature
(excavated/unexcavated)

0 1:20 1m



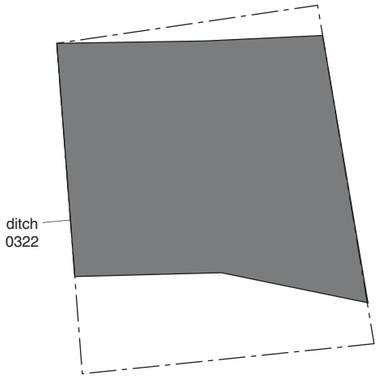
TP04, looking north-east (1m scales)





N

TP05



Trial-pit

Archaeological feature
(excavated/unexcavated)

0 1:20 1m



TP05, looking south-west (1m scales)

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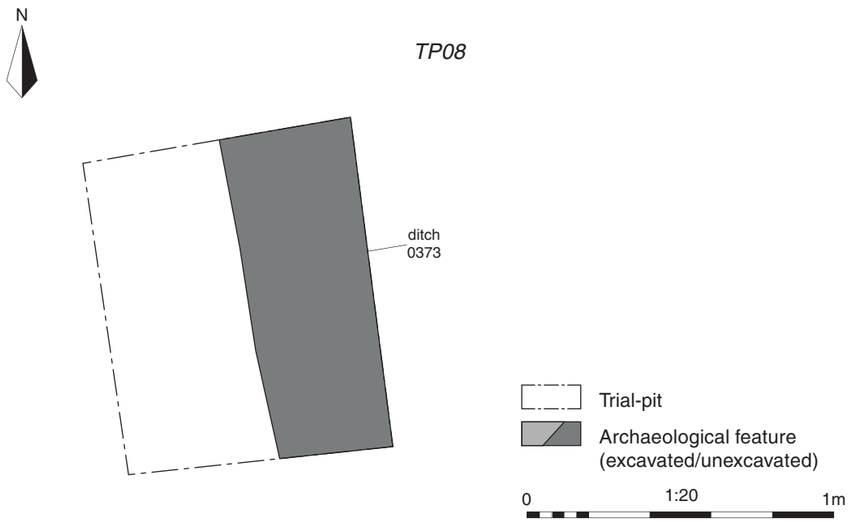
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FIGURE TITLE

WLB 149: TP04, TP05, plan and photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
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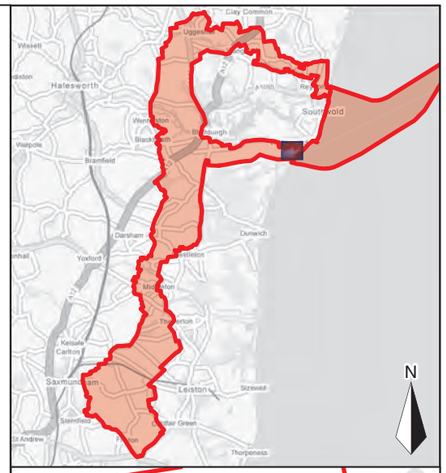


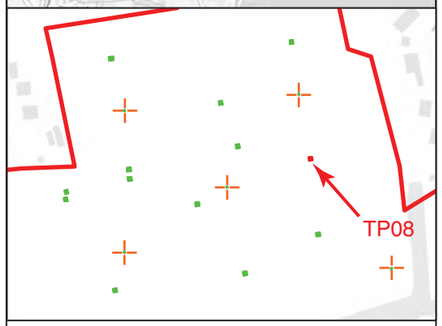


TP08, looking south-west (1m scales)



Ditch 373, looking north-west (1m scale)





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FIGURE TITLE
WLB 149: TP08, plan and photographs

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TP01, looking east (1m scales)



TP03, looking west (1m scales)



TP06, looking west (1m scales)

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FIGURE TITLE

WLB 149: photographs

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BH01, looking north (1m scales)



BH03, looking north-west (1m scales)



BH05, looking north-west (1m scales)



BH03, looking north (1m scales)

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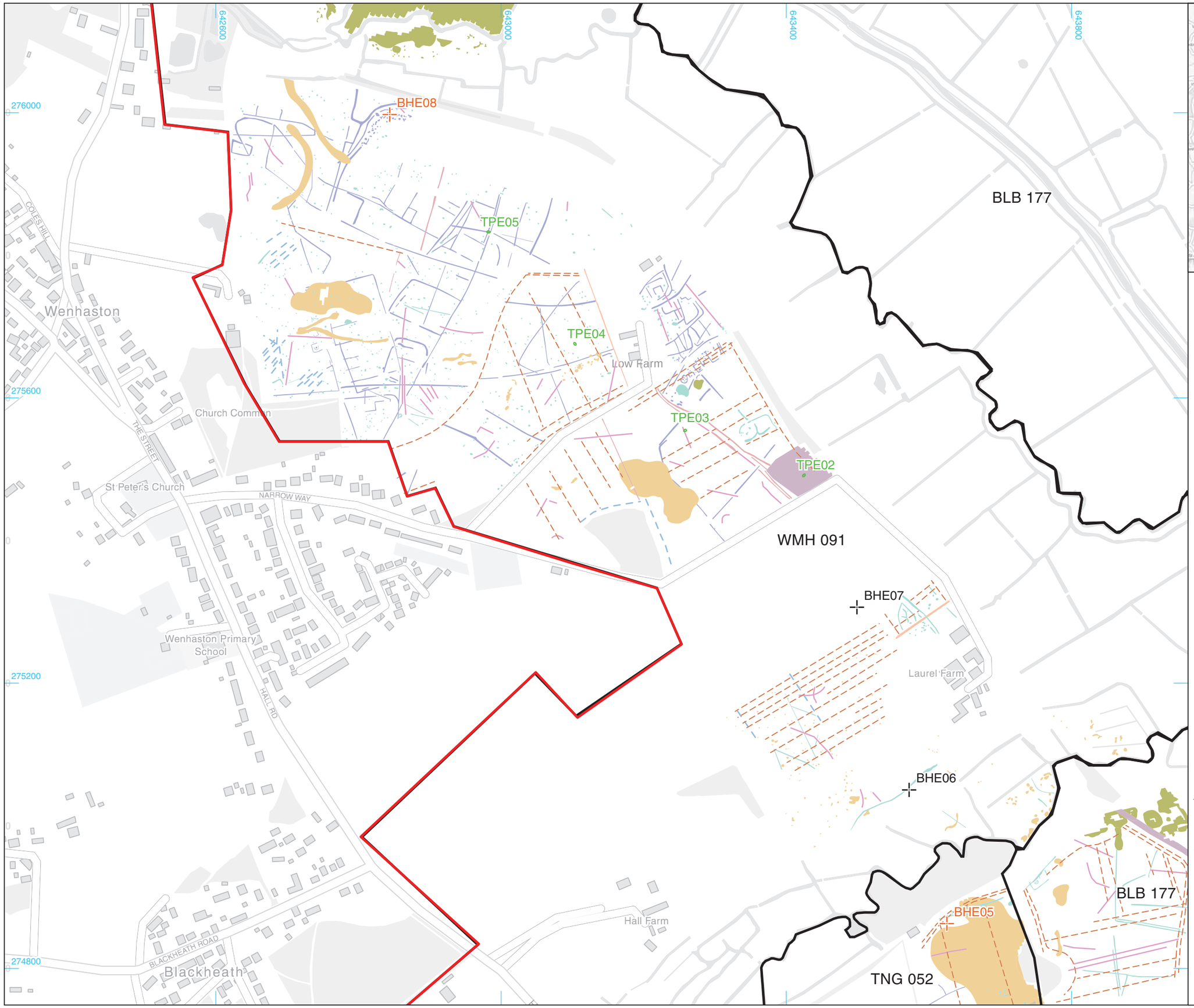
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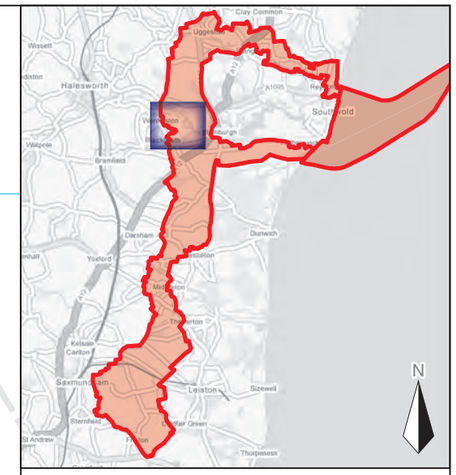
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FIGURE TITLE

WLB 149: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
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PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:5000 250m

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FIGURE TITLE
WMH 091: TPE02-TPE05, BHE06-BHE08 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	25
PM	SB	SCALE@A3	1:5000	



TPE02, looking south-west (1m scale)



TPE02, looking south-east



TPE04, looking south-east (1m scale)



TPE04, looking east (1m scale)

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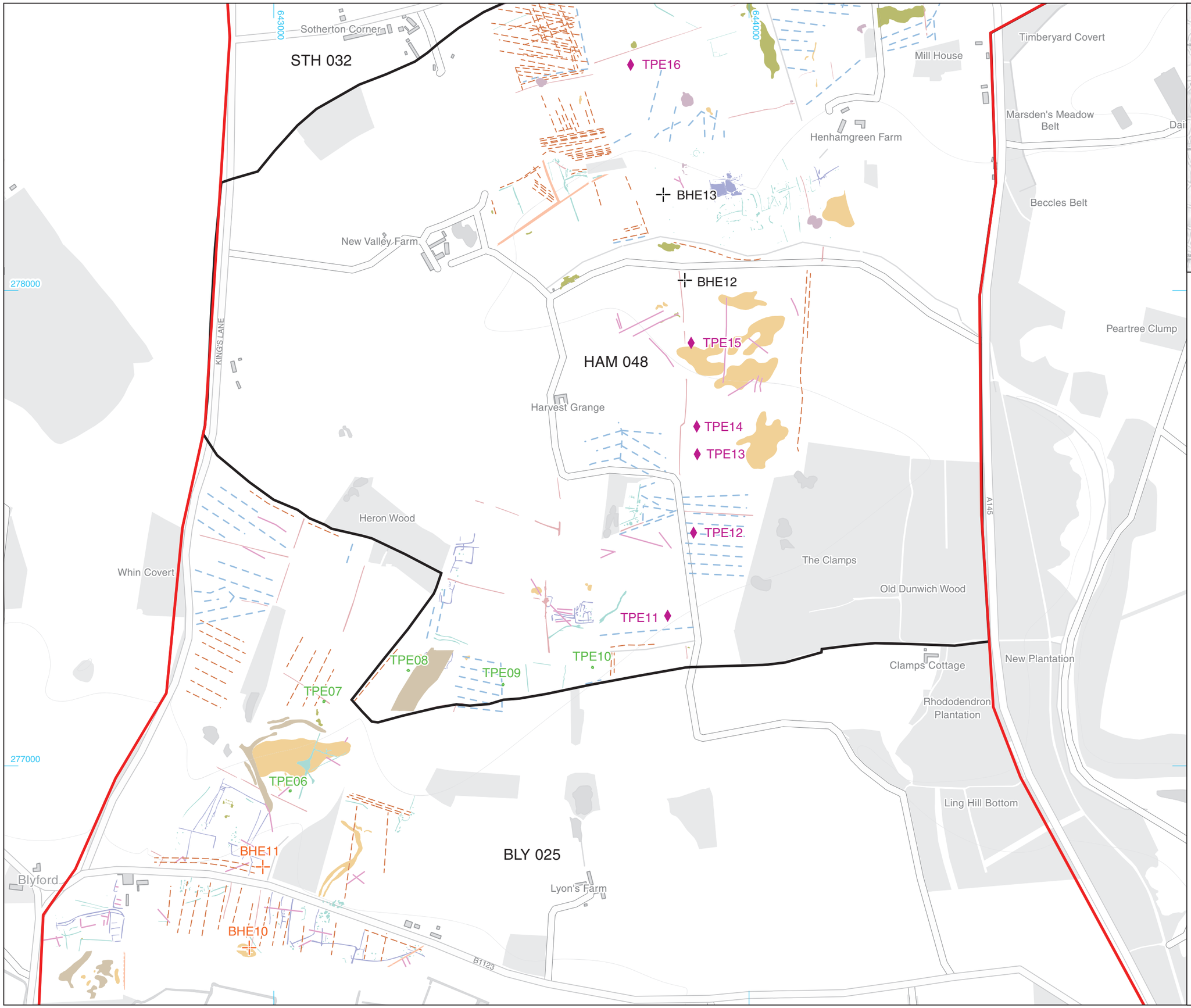
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WMH 091: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
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PROJECT TITLE

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FIGURE TITLE

BLY 025: TPE06-TPE07, BHE10, BHE11 and HAM 048: TPE08-TPE16, BHE12, BHE13 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	27
PM	SB	SCALE@A3	1:7500	



TPE06, looking south-west (1m scale)



TPE07, looking south-east (1m scale)



TPE06, looking south



TPE07, looking south-east

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FIGURE TITLE

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PM	**SB**	*SCALE@A3*	**NA**	



TPE08, looking north (1m scale)



TPE09, looking north-east



TPE09, looking east (1m scale)



TPE10, looking north-east

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PROJECT TITLE

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FIGURE TITLE

HAM 048: photographs

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PM	**SB**	*SCALE@A3*	**NA**	

644000
645000
646000
281000
280000
Town Fen
A145
WANGFORD ROAD
HALESWORTH ROAD
CHURCH ROAD
Hog's Corner
Whitehouse Farm
Manor Farm
St Mary's Church
Wash Lane Cottages
BULLION'S LANE
Bullions Cottage
Uggeshall
STOVEN ROAD
Long Belt
Moatyard Covert
BHE18
BHE19
BHE20
BHE21
BHE22
BHE23
BHE24
BHE25
TPE24
TPE25
TPE26
TPE27
TPE28
TPE29
TPE30
TPE31
TPE32
TPE33
TPF01
TPF02
TPF03
TPF04
TPF05
BRP 044
UGG 043
WNF 082
STH 032
HAM 048
N
0
1:7500
250m
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Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
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FIGURE TITLE
BRP 044: TPE24-TPE25, BHE18-BHE21 and UGG 043: TPF01-TPF04, TPE26-TPE33 with geophysical survey

DRAWN BY	AW	*PROJECT NO.*	SU0680	*FIGURE NO.*	
CHECKED BY	LS	*DATE*	09/01/2025		30
PM	SB	*SCALE@A3*	1:7500		



TPE24, looking north (1m scale)



TPE25, looking south-west (1m scale)



TPE24, looking north-west (1m scale)



TPE25, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BRP 044: photographs

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CHECKED BY	LS	DATE	13/01/2025	31
PM	SB	SCALE@A3	NA	



TPE32, looking south-east (1m scale)



TPF01, looking north-west (1m scale)



TPE32, looking south-east



TPF03, looking south-west (1m scale)

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PROJECT TITLE

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FIGURE TITLE

UGG 043: photographs

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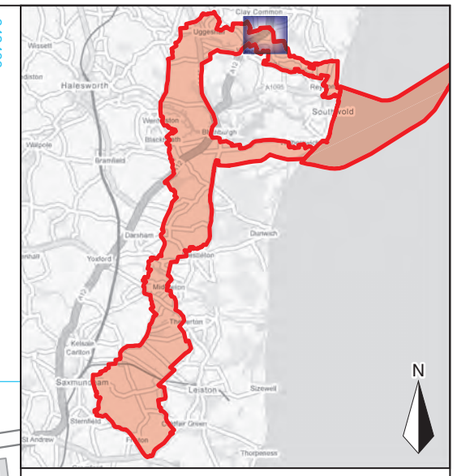
646800
647200
647600
648000
648400
280400
280000
279600

Gough's Wood
Blomfield Wood
White House Farm
Keith's Wood
Vale Farm
Wangford Farm
Barnaby Green
Elms Farm
A12
ELMS LANE
WOOD FARM LANE

UGG 043
WNF 082
REY 152/
REY 206

TPF05
TPF06
TPF07
TPF08
TPF09
TPF10
TPF11
TPF12
TPF13

BHF01
BHF02



- Site boundary
- Parish boundary
- Unexcavated bore-hole
- Excavated trial-pit
- Unexcavated trial-pit

Geophysical survey results (WA 2024)

- Geology
- Geomorphology
- Historic landscape feature
- Service
- Archaeology possible
- Archaeology probable
- Former field boundary
- Magnetic disturbance
- Agricultural feature
- Drain
- Trend
- Historic Culivation

0 1:5000 250m

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PROJECT TITLE
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FIGURE TITLE
WNF 082: TPF05-TPF12, BHF01, BHF02 with geophysical survey

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**10/01/2025**	**33**
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TPF05, looking north-west (1m scale)



TPF06, looking south-west (1m scale)



TPF05, looking north-east (1m scale)



TPF10, looking south (1m scales)

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PROJECT TITLE

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FIGURE TITLE

WNF 082: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**34**
PM	**SB**	*SCALE@A3*	**NA**	

WNF 082

TPF13
TPF14
TPF15
TPF16
TPF17
TPF18
TPF19
TPF20
TPF21
TPF22
TPF23
TPF24
TPF025
TPF26
TPF27

BHF03
BHF04
BHF05
BHF06
BHF07
BHF08
BHF09
BHF10
BHF11
BHF12

BH101
BH102
BH104
BH105
TP102
TP103
TP104
TP105
TP106
TP107
TP109
TP110
TP111
TP112
TP113

REY 152/
REY 206

See Figure 37

Wood Farm
Jay's Farm
High Wood
Reydon Grove Farm
Hall Farm
Spright's Covert
The Elms Farm
The Grove
Cuckoo Farm
Reydon Smear
Quay Lane Cottage
Quay House
Reydon
Easton Bavents
Sole Bay

WOOD FARM LANE
RISSMERE LANE
WANGFORD ROAD
QUAY LANE
GREEN LANE
COX'S LANE
COVEY ROAD
LOWESTOFT ROAD
A1095
B1126
B1127

648000
649000
650000
651000
279000

N

0 1:10,000 500m

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Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Unexcavated archaeologically sensative bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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FIGURE TITLE
REY 152: TPF13-TPF27, BHF03-BHF12 with geophysical survey

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PM	SB	SCALE@A3	1:10,000		



TPF17, looking south (1m scale)



TPF19, looking south-east (1m scale)



TPF23, looking north (1m scale)



TPF25, looking east (1m scale)

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PROJECT TITLE

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FIGURE TITLE

REY 152: photographs

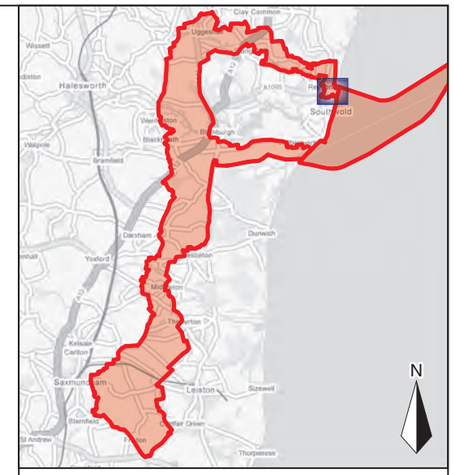
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CHECKED BY	**LS**	*DATE*	**13/01/2025**	**36**
PM	**SB**	*SCALE@A3*	**NA**	

650800
651000
651200
277200
277000

REY 152/
REY 206

TPF27
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
TP110
TP111
TP112
TP113
TP114

BH101
BH102
BH103
BH104
BH105
BH106
BH107



Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Archaeology possible
Former field boundary
Magnetic disturbance
Trend

0 1:1500 50m

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FIGURE TITLE
REY 206: TP101-114, BH101-BH107 with geophysical survey

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PM	SB	SCALE@A3	1:1500	



TP101, looking north-west (1m scale)



TP108, looking north (1m scale)



TP114, looking south-west (1m scale)

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PROJECT TITLE

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FIGURE TITLE

REY 206: photographs

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APPENDIX 15

Investigation Techniques and General Notes

INVESTIGATION TECHNIQUES

INTRODUCTION

The following brief review of Ground Investigation techniques, generally used as part of most Site Investigations in the UK, summarises their methodology, advantages and limitations. Detailed descriptions of the techniques are available and can be provided on request. This review should be read in conjunction with the accompanying General Notes.

TRIAL PITS

The trial pit is amongst the simplest yet most effective means of identifying shallow ground conditions on a site. Its advantages include simplicity, speed, potential accuracy and cost-effectiveness. The trial pit is most commonly formed using a back-acting excavator which can typically determine ground conditions to some 4 metres below ground level. Hand excavation is often used to locate, expose and detail existing foundations, features or services. In general, it is difficult to extend pits significantly below the water table in predominantly granular soils, where flows can cause instability. Unless otherwise stated, the trial pits will not have been provided with temporary side support during their construction. Under such circumstances, entrance into the pit is not permitted and hence observations will have been made from the ground surface and samples taken from the excavator bucket.

Where access for personnel is required to allow close observation of the exposed strata, the taking of samples and the carrying out of in situ tests, the sides of the trial pits (Observation Pits in BS 5930:2015) will be made safe using temporary supports or the sides battered back to a stable angle. Some limited access to such Trial Pits (Observation Pits) at depths less than 1m may be allowed in stable conditions or where the sides are benched or battered back to a safe angle.

Trends in strata type, level and thickness can be determined, shear surfaces identified and the behaviour of plant, excavation sides and excavated materials can be related to the construction process. They are particularly valuable in land slip investigations. Some types of in situ test can be undertaken in such pits and large disturbed or block samples obtained.

CABLE PERCUSSION BORING

The light Cable Percussion technique of soft ground boring, typically at a diameter of 150mm, is a well-established simple and flexible method of boring vertical holes and generally allows data to be obtained in respect of strata conditions other than rock. A tubular cutter (for cohesive soils) or shell with a flap valve (for granular soils) is repeatedly lifted and dropped using a winch and rope operating from an "A" frame. Soil which enters these tools is regularly removed and either sampled for subsequent examination or test, or laid to one side for later removal off site and licensed disposal or, if permitted by the Client, use as backfill. Steel casing will have been used to prevent collapse of the borehole sides where necessary. A degree of disturbance of soil and mixing of layers is inevitable and the presence of very thin layers of different soils within a particular stratum may not be identified. Changes in strata type can only be detected on recognition of a change in soil samples at the surface, after the interface has been passed. For the foregoing reasons, depth measurements should not be considered to be more accurate than 0.10 metre. The technique can determine ground conditions to depths in excess of 30 metres under suitable circumstances and usually causes less surface disturbance than trial pitting.

In cohesive soils cylindrical samples are retrieved by driving or pushing in 100mm nominal diameter tubes. In soft soils, piston sampling or vane testing may be undertaken. In granular soils and often in cohesive materials, in situ Standard Penetration Tests (SPT's) are performed. The SPT records the number of standard blows required to drive a 50mm diameter open or cone ended probe for 300mm after an initial 150mm penetration. A modified method of recording is used in denser strata. Small disturbed samples are obtained throughout.

ROTARY DRILLING

Rotary Drilling to produce cores by rotating an annular diamond-impregnated tube or barrel into the ground is the technique most appropriate to the forming of site investigation boreholes through rock or other hard strata. It has the advantage of being able to be used vertically or at an angle. Core diameters of less than 100mm are most common for site investigation purposes. Core is normally retrieved in plastic lining tubes. A flushing fluid such as air, water or foam is used to cool the bit and carry cuttings to the surface. Depths in excess of 60 metres can be achieved under suitable circumstances using rotary techniques, with minimal surface disturbance.

Examination of cores allows detailed rock description and generally enables angled discontinuity surfaces to be observed. However, vertical holes do not necessarily reveal the presence of vertical or near-vertical fissures or joint discontinuities. The core type and/or techniques used will depend on the ground conditions. Where open hole rotary drilling is employed, descriptions of strata result from examination at the surface of small particles ejected from the borehole in the flushing medium. In consequence, no indication of fissuring, bedding, consistency or degree of weathering can be obtained.

DYNAMIC SAMPLING

This technique involves the driving of an open-ended tube into the ground and retrieval of the soil which enters the tube. It was previously called window or windowless sampling. The term "window sample" arose from the original device which had a "window" or slot cut into the side of the tube through which samples were taken. This was superseded by the use of a thin-walled plastic liner to retrieve the soil sample from within a sampler (windowless sampling) which has a solid wall. Line diameters range from 36 to 86mm. Such samples can be used for qualitative logging, selection of samples for classification and chemical analysis and for obtaining a rudimentary assessment of strength.

Driving devices can be hand-held or machine mounted and the drive tubes are typically in 1m lengths. Depending on the type of rig used, the hole formed can be cased to prevent collapse of the borehole sides. Where the type of rig does not allow the insertion of casing, the success of this technique can be limited when soils and groundwater conditions are such that the sides of the hole collapse on withdrawal of the sampler. Obstructions within the ground, the density of the material or its strength can also limit the depth and rate of penetration of this light-weight investigation technique. Nevertheless, it is a valuable tool where access is constrained such as within buildings or on embankments. Depths of up to 10m can be achieved in suitable circumstances depending on the rig type but depths of 5m to 6m are more common.

EXPLORATORY HOLE RECORDS

The data obtained by these techniques are generally presented on Trial Pit, Borehole, Drillhole or Dynamic Sample Records. The descriptions of strata result from information gathered from a number of sources which may include published geological data, preliminary field observations and descriptions, in situ test results, laboratory test results and specimen descriptions. A key to the symbols and abbreviations used accompanies the records. The descriptions on the exploratory hole records accommodate but may not necessarily be identical to those on any preliminary records or the laboratory summaries.

The records show ground conditions at the exploratory hole locations. The degree to which they can be used to represent conditions between or beyond such holes, however, is a matter for geological interpretation rather than factual reporting and the associated uncertainties must be recognised.

DYNAMIC PROBING

This technique typically measures the number of blows of a standard weight falling over a standard height to advance a cone-ended rod over sequential standard distances (typically 100mm). Some devices measure the penetration of the probe per standard blow. It is essentially a profiling tool and is best used in conjunction with other investigation techniques where site-specific correlation can be used to delineate the distribution of soft or loose soils or the upper horizon of a dense or strong layer such as rock.

Both machine-driven and hand-driven equipment is available, the selection depending upon access restrictions and the depth of penetration required. It is particularly useful where access for larger equipment is not available, disturbance is to be minimised or where there are cost constraints. No samples are recovered and some techniques leave a sacrificial cone head in the ground. As with other lightweight techniques, progress is limited in strong or dense soils. The results are presented both numerically and graphically. Depths of up to 10m are commonly achieved in suitable circumstances.

The hand-driven DCP probing device has been calibrated by the Highways Agency to provide a profile of CBR values over a range of depths.

INSTRUMENTATION

The most common form of instrument used in site investigation is either the standpipe or else the standpipe piezometer which can be installed in investigation holes. They are used to facilitate monitoring of groundwater levels and water sampling over a period of time following site work. Normally a standpipe would be formed using rigid plastic tubing which has been perforated or slotted over much of its length whilst a standpipe piezometer would have a filter tip which would be placed at a selected level and the hole sealed above and sometimes below to isolate the zone of interest. Groundwater levels are determined using an electronic "dip meter" to measure the depth to the water surface from ground level. Piezometers can also be used to measure permeability. They are simple and inexpensive instruments for long term monitoring but response times can limit their use in tidal areas and access to the ground surface at each instrument is necessary. Remote reading requires more sophisticated hydraulic, electronic or pneumatic equipment.

Settlement can be monitored using surface or buried target plates whilst lateral movement over a range of depths is monitored using slip indicator or inclinometer equipment.

GENERAL NOTES

1. *The report is prepared for the exclusive use of the Client named in the document and copyright subsists with Geotechnics Limited. Prior written permission must be obtained to reproduce all or part of the report. It is prepared on the understanding that its contents are only disclosed to parties directly involved in the current investigation, preparation and development of the site.*

2. *Further copies may be obtained with the Client's written permission, from Geotechnics Limited with whom the master copy of the document will be retained.*

3. *The report and/or opinion is prepared for the specific purpose stated in the document and in relation to the nature and extent of proposals made available to Geotechnics Limited at that time. Re-consideration will be necessary should those details change. The recommendations should not be used for other schemes on or adjacent to the site without further reference to Geotechnics Limited.*

4. *The assessment of the significance of the factual data, where called for, is provided to assist the Client and their Engineer and/or Advisers in the preparation of their designs.*

5. *The report is based on the ground conditions encountered in the exploratory holes together with the results of field and laboratory testing in the context of the proposed development. The data from any commissioned desk study and site reconnaissance are also drawn upon. There may be special conditions appertaining to the site, however, which are not revealed by the investigation and which may not be taken into account in the report.*

6. *Methods of construction and/or design other than those proposed by the designers or referred to in the report may require consideration during the evolution of the proposals and further assessment of the geotechnical and any geoenvironmental data would be required to provide discussion and evaluations appropriate to these methods.*

7. *The accuracy of results reported depends upon the technique of measurement, investigation and test used and these values should not be regarded necessarily as characteristics of the strata as a whole (see accompanying notes on Investigation Techniques). Where such measurements are critical, the technique of investigation will need to be reviewed and supplementary investigation undertaken in accordance with the advice of the Company where necessary.*

8. *The samples selected for laboratory test are prepared and tested in accordance with the relevant Clauses and Parts of BS EN ISO 17892 and BS 1377 Parts 1 to 8, where appropriate, in Geotechnics Limited's UKAS accredited Laboratory, where possible. A list of tests is given.*

9. *Tests requiring the use of another laboratory having UKAS accreditation where possible are identified.*

10. *Any unavoidable variations from specified procedures are identified in the report.*

11. *Specimens are cut vertically, where this is relevant and can be identified, unless otherwise stated*

12. *All the data required by the test procedures are recorded on individual test sheets but the results in the report are presented in summary form to aid understanding and assimilation for design purposes. Where all details are required, these can be made available.*

13. *Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes, or on the possible presence of features based on either visual, verbal, written, cartographical, photographic or published evidence, this is for guidance only and no liability can be accepted for its accuracy.*

14. *The Code of Practice for Ground Investigations – BS 5930:2015 calls for man-made soils to be described as Anthropogenic Ground with soils placed in an un-controlled manner classified as Made Ground and soils placed in a controlled manner as Fill. In view of the difficulty in always accurately determining the origin of man-made soils in exploratory holes, Geotechnics Limited classify such materials as Made Ground. Where soils can be clearly identified as being placed in a controlled manner then further classification of the soils as Fill has been added to the Exploratory Hole Records.*

15. *Classification of man-made soils is based on the inspection of retrieved samples or exposed excavations. Where it is obvious that foreign matter such as paper, plastic or metal is present, classification is clear. Frequently, however, for man-made soils that arise from the adjacent ground or from the backfilling of excavations, their visual characteristics can closely resemble those of undisturbed ground. Other evidence such as site history, exploratory hole location or other tests may need to be drawn upon to provide clarification. For these reasons, classification of soils on the exploratory hole records as either Made Ground or naturally occurring strata, the boundary between them and any interpretation that this gives rise to should be regarded as provisional and subject to re-evaluation in the light of further data.*

16. *The classification of materials as Topsoil is generally based on visual description and should not be interpreted to mean that the material so described complies with the criteria for Topsoil used in BS 3882:2015. Specific testing would be necessary where such a definition is a requirement.*

17. *Ground conditions should be monitored during the construction of the works and the report should be re-evaluated in the light of these data by the supervising geotechnical engineers.*

18. *Any comments on groundwater conditions are based on observations made at the time of the investigation, unless specifically stated otherwise. It should be noted, however, that the observations are subject to the method and speed of boring, drilling or excavation and that groundwater levels will vary due to seasonal or other effects.*

19. *Any bearing capacities for conventional spread foundations which are given in the report and interpreted from the investigation are for bases at a minimum depth of 1m below finished ground level in naturally occurring strata and at broadly similar levels throughout individual structures, unless otherwise stated. Typically they are based on serviceability criteria taking account of an assessment of the shear strength and/or density data obtained by the investigation. The foundations should be designed in accordance with the good practice embodied in BS 8004:2015 - Foundations, supplemented for housing by NHBC Standards. Foundation design is an iterative process and bearing pressures may need adjustment or other measures may need to be taken in the context of final layouts and levels prior to finalisation of proposals.*

20. *Unless specifically stated, the investigation does not take account of the possible effects of mineral extraction or of gases from fill or natural sources within, below or outside the site.*

21. *The costs or economic viability of the proposals referred to in the report, or of the solutions put forward to any problems encountered, will depend on very many factors in addition to geotechnical or geoenvironmental considerations and hence their evaluation is outside the scope of the report.*

3 Geotechnics Ground Investigation Factual Report: Lionlink - NG Onshore HVDC Convertor Station Site 3 - V2

GEOTECHNICS

BUILD ON CONFIDENCE

Ground Investigation

at

LionLink NG Onshore HVDC Convertor Station Site 3 - V2

Project No: PC238661

Client: BAKER HICKS

Date: March 2024

Factual Report

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1.0 INTRODUCTION

A geotechnical and geoenvironmental investigation was undertaken by Geotechnics Limited at the site of a proposed Convertor Station, named Convertor Station Site 3. The investigation was carried out to the instructions and on behalf of the Client, Baker Hicks. This report describes the work undertaken and presents the data obtained.

2.0 OBJECT AND SCOPE OF THE INVESTIGATION

The object of the investigation was to obtain information on the ground and groundwater conditions relating to the design of the proposed works within the limitations posed by trial hole numbers, locations, depths, methods adopted and the scope of approved in situ and laboratory testing. The Brief for the project is included in Appendix 1. The investigation comprised cable percussive boreholes, trial pits, in situ and laboratory testing and a Factual Report was commissioned.

3.0 PRESENTATION

A description of the site and a summary of the procedures followed during the investigation process are presented in Sections 4 to 6. The factual data so obtained are presented in Appendices 2 to 14 of this report. Attention is drawn to the General Notes and Investigation Procedures presented in Appendix 15 to aid an understanding of the procedures followed and the context in which the report should be read.

The report is presented in electronic pdf format. In addition, data in electronic format in accordance with "The Electronic Transfer of Geotechnical Data from Ground Investigations" published by the AGS (the AGS Format) is also available.

4.0 THE SITE

4.1 Location

The site is located on the south-eastern edge of the town of Saxmundham, Suffolk, about 1km from the village centre and just to the south of the B1119 (Leiston Road). The approximate Ordnance Survey National Grid Reference for the centre of the site is TM 397 627. The nearest postcode to the site is IP17 1ET. An extract from the relevant 1:50,000 Scale O.S. Map (Sheet No. 156) is included as Appendix 2. Alternatively, the western site entrance can be found with the What-3-Words of: rejoins.ruled.stripped.

4.2 Description

At the time of the site investigation the site comprised four ploughed agricultural fields with lying crops. The site is of irregular shape and covers an area of about 55ha. The site is generally flat, with a gentle slope down to the east. There are several field boundaries within the site in the form of tracks and hedgerows.

The northern boundary of the site consists of the B1119 road with further agricultural fields beyond. The eastern and southern boundaries of the site are also bound by agricultural fields. A woodland/forested area is located adjacent to the south-west boundary of the Site. The western boundary is formed by the access road leading to Wood Farm that lies on the south eastern corner of the site. Beyond the track are further agricultural fields, and a small collection of residential dwellings close to the north eastern corner of the site.

At the time of the investigation, the ground conditions encountered were wet and soft underfoot and hence track matting was agreed by the Client, and placed along agreed access routes as shown on the Site Photographs, in Appendix 3.

Access to the site was via the track leading to Wood Farm. A second point of access was located about midway along the northern boundary through track matting off the B1119 enabling access to Cable Percussion Boreholes BH03, BH05 & BH06 in the eastern and south eastern parts of site. The what-3-words for this access are: boast.suitable.haunts.

There are two interconnected drainage ditches that run through the centre of hedges in two fields located in the eastern part of site which connect to the drainage ditch that runs adjacent to the B1119. One drainage ditch runs between the central and south eastern and middle fields (containing TP25 and TP27 respectively), the other between the north and south eastern fields (containing BH05 and BH06 respectively). There are also several culverted streams, which also travel under the B1119, in the northeastern part of the site (See Appendix 3). A depression was present in the north eastern field, around 50m northeast of TP21, which during the investigation contained surface water which is not identified on aerial imagery. There is also an unnamed pond located approximately 40m southeast of the site.

Photographs of the site taken during the fieldwork are presented in Appendix 3.

4.3 Site Geology

The British Geological Survey website, https://mapapps2.bgs.ac.uk/geoindex/home.html, accessed on the 13/12/2023, shows the site to be underlain by the Crag Group, comprising of sands, gravels, silts and clays deposited during the Pliocene and Pleistocene Epochs. The superficial deposits overlying the bedrock is shown to comprise of the Lowestoft Formation characterised by glacial till (Diamicton) deposits deposited during the Pleistocene age.

4.4 Hydrogeology

The DEFRA website, https://magic.defra.gov.uk, accessed on the 18/12/2023, shows the bedrock geology to be a Principal Aquifer and the superficial strata to be Secondary (undifferentiated) Aquifer.

5.0 PROCEDURE

5.1 Commissioning

The work was awarded following submission of a tender for work designed by the Client for ground investigation of the site in accordance with their requirements (see Appendix 1).

5.2 General

The procedures followed in this site investigation are based on BS 5930: 2015+A1:2020 – Code of Practice for Site Investigations and BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites. The soils and rocks encountered have been described in accordance with BS5930:2015+A1:2020, BS EN ISO 14688-1:2018 and BS EN ISO 14689:2018. The Cable Percussive Borehole and Trial Pit Records are included in Appendices 4 to 5 and their approximate positions are shown on the Exploratory Hole Location Plan in Appendix 10.

The Exploratory Hole locations were specified by the Client. The co-ordinates and levels shown on the Exploratory Hole Records were measured using a Lecia GPS survey device. The depths quoted on the exploratory hole records are in metres below ground level.

At each exploratory hole location, with the exception of the trial pits, an inspection pit was excavated using hand tools to a depth of 1.20m below ground level to check for the presence of underground services. Prior to and on completion of the excavation, the location was scanned using a cable avoidance tool (CAT).

5.3 Boreholes

Six (6 No.), 150mm diameter boreholes (BH01 to BH06) were sunk by Cable Percussion Tool techniques to 15.00m below ground level (bgl). The work was carried out between the 21st November and 1st December 2023.

Representative disturbed (D and B) and driven open-tube thin-walled (UT) samples of the soils encountered were obtained at regular intervals. Standard Penetration Tests (SPTs) were undertaken at the depths indicated on the borehole records in accordance with BS EN ISO 22476-3:2005+A1:2011 to obtain a measure of the engineering properties of the proved strata. In addition, environmental soil samples (ES) were recovered at the depths indicated on the Borehole Records.

On encountering groundwater, boring operations were suspended for 20 minutes to record any rise in water level. Full details of groundwater observations during site work are included on the Borehole Records. It should be noted that the addition of water to the borehole as part of the drilling process may have masked the presence of groundwater in the borehole. Where water was added it has been noted on the Borehole Records.

On completion, standpipes were installed in all six boreholes (see Section 5.11).

5.4 Trial Pits

Twenty nine (29 No.) Trial Pits (TP01 to TP28 and TP04A) were excavated to depths varying between 0.40m and 3.00m bgl using a JCB tracked excavator. At three (3. No) of the trial pits locations (TP06, TP17 and TP26) an in-situ soakaway test was carried out at a depth of 2.50mbgl (see Section 5.7). The works took place between the 21st November and 30th November 2023. This work was supervised on site by a geotechnical / geo-environmental engineer.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Representative samples were taken, where appropriate, for laboratory examination and analysis and in addition, Environmental samples (ES) were recovered at the depths indicated on the Trial Pit Records. Samples were taken directly from excavated materials deposited at the surface. Groundwater observations and trench stability notes are included on the Trial Pit Records. Photographs of the pits are presented in Appendix 5.

5.5 Thermal Resistivity Testing

Eighty four (84 No.) Thermal Resistivity Tests were carried out in each of the trial pits except TP04A. In each pit the tests were carried out at a depth of 0.60m (2 No per pit) and 1.50m (1 No per pit) bgl. The tests were carried out using a TR-1 Thermal Resistivity probe.

5.6 Dynamic Cone Penetration Tests

Thirteen (13 No.) Dynamic Cone Penetration (DCP) Tests were carried out in Trial Pits TP02, TP03, TP04, TP09, TP10, TP11, TP12, TP13, TP18, TP19, TP20, TP21 and TP27 at the locations marked on the Exploratory Hole Location Plan (see Appendix 7) and given the same number as the trial pit in each they were performed. The tests were commenced varying between Ground Level and a depth of 0.40m bgl and extended to depths of 1.26m to 1.66m bgl and were performed to give an indication of CBR values at shallow depths to aid pavement design.
The test comprises the measurement of increments of penetration of a 60° cone driven into the ground using an 8kg hammer falling a distance of 575mm. The CBR is obtained from the relationship between the CBR and the DCP readings.

$$Log_{10}(CBR) = 2.48 - 1.057 \times Log_{10}(mm/blow)$$

as defined in the Design Manual for Roads and Bridges Document CS229 Revision 0, March 2020, published by Highways England. The test results are presented in Appendix 7.

5.7 Soakaway Tests

Three (3No.) soakaway tests were carried out in Trial Pits TP06, TP17 and TP26 at the locations marked on the Exploratory Hole Location Plan (see Appendix 10) at a depths of 2.50m below ground level in accordance with the method given in BRE Digest 365 "Soakaway Design", 2016. The Digest requires the test to be repeated three times at each location, however, due to the slow soakage of the water from the test pit it was only possible to carry out a single test in the one day allowed for each test. The results of the tests are presented in Appendix 8.

5.8 Archaeology

As part of the investigation, the trial pits were monitored by Cotswold Archaeology during excavation in accordance with their programme of Archeaological Monitoring for the investigation which required an Archaeological watching brief by a trained Archaeologist during the trial pitting works. The results of this monitoring are presented in their report "Land at Saxundham (Converter Station Site 3), Saxmundham, Suffolk" Report number SU0689-1, dated January 2024 which is included in Appendix 9.

5.9 PID Meter Readings

Photo-ionisation detection (PID) tests were undertaken during the drilling of the boreholes and the excavation of the trial pits by testing the headspace of the environmental soil samples taken. The tests were carried out using a suitably calibrated MiniRAE 2000 PID Meter fitted with a 10.6eV UV lamp. The results of the PID tests are presented [on the Borehole and Trial Pit Records in Appendix 4 and 5 with the readings reported as Volatile Organic Compounds (VOCs) recorded in parts per million.

5.10 Hand Vane Tests

Hand vane tests were carried out to obtain a measure of the undrained shear strength of cohesive soils within the trial pits at the depths indicated on the Trial Pit Records. In the trial pits hand vane tests were taken in the sides of the pit where access could be safely made, otherwise they were carried out on intact blocks of the excavated soil deposited at the surface. Typically, each test comprised three measurements. The results are presented in Appendix 5.

5.11 Instrumentation and Monitoring

Long-term monitoring of the gas and groundwater levels was made possible by the installation of standpipes as follows:

Exploratory Hole	Standpipe Slotted Pipe & Filter Zone (m)
BH01	5.00 to 14.00
BH02	12.00 to 15.00
BH03	2.00 to 10.00
BH04	8.00 to 15.00
BH05	8.00 to 15.00
BH06	1.50 to 6.50

Monitoring of the gas and groundwater levels at the site commenced on the 19th December 2023 with further visits on the 8th and 23rd January, 6th and 20th February, 4th March, 1st July, 2nd October, 18th November and 12th December 2024.

On each of the monitoring visits a record of the groundwater level in the standpipes was obtained. On the second visit where water was recorded, samples were obtained (where possible) following purging of water in the standpipes. The following parameters were recorded using a multi-parameter flow cell during purging which continued until such time as the parameters reached a steady level.

- Temperature (°C)
- Electrical Conductivity (mS/cm)
- Dissolved Oxygen Concentration (%)
- pH
- Redox Potential (mV)

In addition to the groundwater levels, the following parameters were measured and recorded in each standpipe using a GFM 436 Gas Analyser:-

- Concentrations (% Vol) of CH4, O2, CO2 and (ppm) H2S, CO
- Flow Rate
- Differential Pressure
- Barometric Pressure
- Air Temperature

The results of the monitoring are presented in Appendix 11. After the final monitoring visit all boreholes were decommissioned on the instruction of the Client.

6.0 LABORATORY TESTING

6.1 Geotechnical

The laboratory testing schedule was specified by the Client in order to relate to the proposed development. Unless otherwise stated, the tests were carried out in Geotechnics Limited's UKAS accredited Laboratory (Testing No. 1365) and were undertaken in accordance with the appropriate Standards as indicated below and on the Laboratory Test Certificate in Appendix 12. Any descriptions, opinions and interpretations are outside the scope of UKAS accreditation.

The tests undertaken can be summarised as follows:-

Standard	Test Description	Quantity
BS EN ISO 17892-1:2014	Water Content Determination	45
BS EN ISO 17892-4:2016	Particle Size Distribution Determination – Sieving Method	25
	Particle Size Distribution Determination – Pipette Method	15
BS EN ISO 17892-5:2017	Incremental Loading Oedometer Test	4
BS EN ISO 17892-8:2018	Unconsolidated Undrained Triaxial Test – Single Stage	10
ASTM D5334-14	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	24
BS EN ISO 17892-12:2018	Determination of Liquid and Plastic Limits	44
BS 1377:1990 Part 4 - 3.3	Dry Density/Moisture Content relationship determination. Compaction Test – British Standard (2.5 kg Hammer)	9
BS EN ISO 17892-2:2014 Cl. 5.1	Bulk Density by Linear Measurement	3
BS 1377-2:1990 Cl. 8.2	Particle Density by Gas Jar Method	9
BS EN ISO 17892-5:2017	Determination of Swelling Pressure	4
BS 1377:1990 Part 4: 7	California Bearing Ratio (CBR) Measurement - recompacted	5

The following testing was carried out at the laboratories of Derwentside Environmental Testing Services Limited (UKAS Accredited Laboratory, Number 2139).

Test Description	Quantity
BRE Special Digest 1 Suite comprising:- Sulphate Aqueous Extract as SO4 (2:1) pH	29

6.2 Contamination

Selected samples of soil, groundwater were tested at the laboratories of Derwentside Environmental Testing Services Limited for a number of determinands in order to check on potential site contamination. The determinands were specified by the Client and are detailed on the results sheets in Appendix 13 and 14 together with the test result as well as the test method, accreditation and detection limit.

Signed for on behalf of Geotechnics Limited

Prepared by:

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Chief Geotechnical Engineer

APPENDIX 1

The Brief

APPENDIX 1

Name of contract LionLink – Converter Station Site 3
Anticipated drift geology Lowestoft Formation Diamicton – Chalky till, sands, gravels, silts, and clays
Anticipated solid geology Crag Group – Sand, gravels, silts and clays
BDA Category of site Green
UXO Risk category Low

Schedule 2

Hole Number	Type	Scheduled Depth (m)	National grid reference		In-situ Testing*	Installations*
			Easting	Northing		
BH01	CP	15	639410	263081	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
BH02	CP	15	639419	262623	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
BH03	CP	15	640050	262883	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
BH04	CP	15	639792	262547	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
BH05	CP	15	640349	262480	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
BH06	CP	15	640222	262321	Hand Vane in Inspection Pit Standard Penetration Testing	50mm standpipe
TP01	TP	3	639621	263105	Hand Vane in Pit Thermal resistivity probe	N/A
TP02	TP	3	639321	263005	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP01)	N/A
TP03	TP	3	639524	263004	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP02)	N/A
TP04	TP	3	639740	263004	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP03)	N/A

Hole Number	Type	Scheduled Depth (m)	National grid reference		In-situ Testing*	Installations*
			Easting	Northing		
TP05	TP	3	639421	262905	Hand Vane in Pit Thermal resistivity probe	N/A
TP06	TP	2.5	639621	262905	Hand Vane in Pit Thermal resistivity probe Soakaway test (SA01)	N/A
TP07	TP	3	639821	262905	Hand Vane in Pit Thermal resistivity probe	N/A
TP08	TP	3	639943	262977	Hand Vane in Pit Thermal resistivity probe	N/A
TP09	TP	3	639321	262805	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP04)	N/A
TP10	TP	3	639521	262805	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP05)	N/A
TP11	TP	3	639721	262805	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP06)	N/A
TP12	TP	3	639936	262807	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP07)	N/A
TP13	TP	3	640121	262805	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP08)	N/A
TP14	TP	3	639421	262705	Hand Vane in Pit Thermal resistivity probe	N/A
TP15	TP	3	639621	262705	Hand Vane in Pit Thermal resistivity probe	N/A
TP16	TP	3	639821	262705	Hand Vane in Pit Thermal resistivity probe	N/A
TP17	TP	2.5	640021	262705	Hand Vane in Pit Thermal resistivity probe Soakaway test (SA02)	N/A

Hole Number	Type	Scheduled Depth (m)	National grid reference		In-situ Testing*	Installations*
			Easting	Northing		
TP18	TP	3	639521	262605	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP09)	N/A
TP19	TP	3	639721	262605	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP10)	N/A
TP20	TP	3	639921	262605	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP11)	N/A
TP21	TP	3	640107	262605	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP12)	N/A
TP22	TP	3	639442	262505	Hand Vane in Pit Thermal resistivity probe	N/A
TP23	TP	3	639621	262515	Hand Vane in Pit Thermal resistivity probe	N/A
TP24	TP	3	639909	262495	Hand Vane in Pit Thermal resistivity probe	N/A
TP25	TP	3	640021	262505	Hand Vane in Pit Thermal resistivity probe	N/A
TP26	TP	2.5	640269	262551	Hand Vane in Pit Thermal resistivity probe Soakaway test (SA03)	N/A
TP27	TP	3	640117	262419	Hand Vane in Pit Thermal resistivity probe Dynamic Cone Penetrometer (DCP13)	N/A
TP28	TP	3	640280	262406	Hand Vane in Pit Thermal resistivity probe	N/A

*Provisional only. To be confirmed by the Investigation Supervisor during the fieldwork.

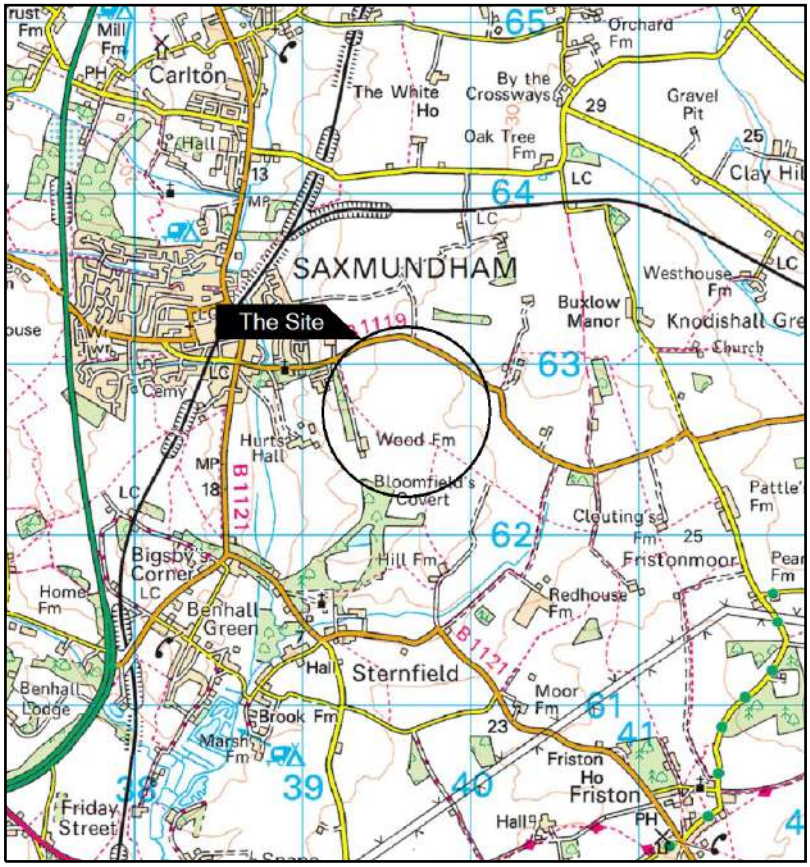
APPENDIX 2

Site Location Plan

APPENDIX 2

GEOTECHNICS
BUILD ON CONFIDENCE

Site Location Plan



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APPENDIX 3

Site Photographs

Looking south from access road off the B1119 leading to Wood Farm.



View from access road leading to Wood Farm looking south east towards



View looking East from B1119 towards site entrance



View looking East towards site entrance and north east cormer of site



View looking East towards TP14 from access road off the B1119 leading to



View looking north towards B1119 from north west corner of compound



View looking south east towards TP02 from site entrance



APPENDIX 4

CP BH Records

APPENDIX 4

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH01
Client	BAKERHICKS	**National Grid Coordinates**	639409.9 E 263080.9 N	**Ground Level**	30.23 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					TOPSOIL: Soft brown slightly sandy slightly gravelly clay with occasional plant fragments. Gravel is subangular to subrounded fine to coarse quartzite and flint.			
0.00 - 0.30	B						0.30		29.93
0.30 - 0.40	D					Firm light brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.30 - 0.40	ES								
0.30 - 0.50	B								
0.40			PID=<0.1			Below 1.70m, becoming stiff.			
0.80 - 0.90	D								
0.80 - 0.90	ES								
0.80 - 1.00	B								
0.90			PID=<0.1						
1.20 - 1.65		1.20 (DRY)			S21				
1.20 - 1.65	D								
1.20 - 1.70	B								
1.70	HV		91/71/73						
1.80 - 1.90	D			17					
2.20 - 2.65	UT50	1.50 (DRY)							
2.20 - 2.70	B								
2.65 - 2.70	D								
2.70	HV		92/95/90						
2.80 - 2.90	D								
3.20 - 3.65		1.50 (DRY)			S20				
3.20 - 3.65	D								
3.20 - 3.70	B								
3.80 - 3.90	D								
4.20 - 4.65	UT55	1.50 (DRY)				Stiff dark brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.	4.20		26.03
4.20 - 4.70	B								
4.20 - 4.65			182						
4.65 - 4.70	D								
4.80 - 4.90	D								
5.00 - 5.10	D					Stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse chalk and flint.	5.00		25.23
5.20 - 5.65		4.50 (DRY)			S28				
5.20 - 5.65	D			0					
5.20 - 5.70	B								
5.50	HV		>150						
6.00 - 6.10	D			16					
6.20 - 6.65	UT65	4.50 (DRY)							
6.20 - 6.70	B								
6.65 - 6.70	D								
6.70	HV		>150						
7.00 - 7.10	D								
7.20 - 7.65		4.50 (DRY)			S32				
7.20 - 7.65	D								
7.20 - 7.70	B								
8.00 - 8.10	D								
8.20 - 8.65	UT75	4.50 (DRY)							
8.20 - 8.70	B								
8.65 - 8.70	D								
9.00 - 9.10	D								
9.20 - 9.65		4.50 (DRY)			S36				
9.20 - 9.65	D								
9.20 - 9.70	B								
10.00 - 10.10	D								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			21/11/23	08:00
1.70	1.20	Dry	21/11/23	16:00
1.70	1.20	Dry	22/11/23	08:00
15.00	4.50	Dry	22/11/23	16:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
4.20	1.50	4.20	20	4.50	seepage

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 1 x 60ml glass vial, 2 x 258ml amber glass jars and 1 x 1L plastic tub. A 50mm standpipe was installed to 14.00m with a geowrapped slotted section from 5.00m to 14.00m with a up-standing cover installed. Backfill details from base of hole: bentonite up to 14.00m, gravel filter up to 5.00m, bentonite seal up to 0.5m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Figure

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH01
Client	BAKERHICKS	**National Grid Coordinates**	639409.9 E 263080.9 N	**Ground Level**	30.23 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
10.20 - 10.65	UT95								
10.20 - 10.70	B								
10.20 - 10.65			349						
10.65 - 10.70	D								
11.00 - 11.10	D								
11.20 - 11.70	B								
11.70 - 12.15		4.50 (DRY)			S50				
11.70 - 12.15	D								
12.00 - 12.10	D								
12.20 - 12.70	B					Below 12.20m, with pockets of dark brown sandy clay.			
13.00 - 13.10	D								
13.20 - 13.65	UT90	4.50 (DRY)							
13.20 - 13.70	B								
13.20 - 13.70	B								
13.65 - 13.70	D								
14.30 - 14.40	D								
14.50 - 14.95		4.50 (DRY)			S46	Dense light brown fine to medium SAND.	14.30		15.93
14.50 - 14.95	D								
						End of Borehole	15.00		15.23

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Figure

20/03/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH02
Client	BAKERHICKS	**National Grid Coordinates**	639419.0 E 262623.0 N	**Ground Level**	28.11 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					MADE GROUND: Soft brown slightly gravelly, sandy CLAY with occasional plant fragments. Gravel is angular to subrounded flint, brick and tile.			
0.00 - 0.20	B								
0.20			PID=0.1				0.40		27.71
0.40 - 0.50	D					Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.			
0.40 - 0.50	ES								
0.40 - 0.60	B								
0.60			PID=<0.1						
0.80 - 0.90	D								
0.80 - 0.90	ES								
1.10 - 1.20	D								
1.20 - 1.65	UT50	1.20							
1.20 - 1.65		(DRY)	226			Below 1.65m, becoming stiff.			
1.65 - 1.70	D								
1.80 - 2.10	B								
2.10 - 2.20	D								
2.10			PID=0.1						
2.20 - 2.65		1.50 (DRY)			S13				
2.20 - 2.65	D								
2.80 - 3.10	B								
3.10 - 3.20	D								
3.20 - 3.65	UT55	1.50 (DRY)				Stiff grey slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse flint, chalk and rare shale.	3.20		24.91
3.20 - 3.70	B								
3.65 - 3.70	D			18		Between 3.80m to 4.00m boulder present. Driller notes presence of chalk.			
4.00 - 4.10	D					White mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk.	4.00		24.11
4.20 - 4.65		1.50 (DRY)			S21				
4.20 - 4.65	D								
4.20 - 4.90	B								
5.00 - 5.10	D								
5.20 - 5.65	UT50	1.50 (DRY)							
5.40 - 5.90	B					Stiff grey slightly sandy, slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk.	5.40		22.71
5.65 - 5.70	D								
5.70	HV		>150						
6.00 - 6.10	D								
6.10	HV		>150						
6.30 - 6.75		1.50 (DRY)			S25				
6.30 - 6.75	D								
6.40 - 6.90	B								
7.00 - 7.10	D								
7.30 - 7.75	UT85	1.50							
7.30 - 7.75		(DRY)	321						
7.40 - 7.90	B								
7.75 - 7.80	D								
8.00 - 8.10	D			16					
8.30 - 8.75		1.50 (DRY)			S38				
8.30 - 8.75	D								
8.40 - 8.90	B								
9.00 - 9.10	D								
9.30 - 9.75	UT100	1.50 (DRY)							
9.40 - 9.90	B								
9.75 - 9.80	D								
10.00 - 10.10	D								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00	0.00		23/11/23	08:00
0.00	15.00	DRY	23/11/23	16:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring,

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 1 x 60ml glass vial, 2 x 258ml amber glass jars and 1 x 1L plastic tub. A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 12.00m to 15.00m with a up-standing cover installed. Backfill details from base of hole: gravel filter up to 5.00m, bentonite seal up to 0.5m, concrete up to ground level.

Logged by RA

Figure

19/03/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH02
Client	BAKERHICKS	**National Grid Coordinates**	639419.0 E 262623.0 N	**Ground Level**	28.11 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
10.30 - 10.75		1.50 (DRY)			S44				
10.30 - 10.75	D								
10.40 - 10.90	B								
11.00 - 11.10	D								
11.80 - 12.25	UT100	1.50 (DRY)							
11.80 - 12.30	B								
12.25 - 12.30	D								
12.30 - 12.40	D					Stiff brown mottled orange grey slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse chalk and sandstone.	12.30		15.81
12.50 - 12.60	D					Dense light brown fine to medium SAND.	12.50		15.61
12.50 - 13.00	B								
13.00 - 13.45		1.50 (DRY)			S49				
13.00 - 13.45	D								
13.50 - 13.60	D								
13.50 - 14.00	B								
14.50 - 14.95		1.50 (DRY)			S49				
14.50 - 14.60	D								
14.50 - 15.00	B					End of Borehole	15.00		13.11

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RA

Figure

19/03/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH03
Client	BAKERHICKS	**National Grid Coordinates**	640050.0 E 262883.0 N	**Ground Level**	19.35 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					TOPSOIL: Grass over soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and roots (up to 5mm in diameter). Gravel is angular to subrounded fine to coarse flint and chalk.	0.30		19.05
0.00 - 0.30	B					Soft orangish brown slightly gravelly sandy CLAY. Gravel angular to subrounded fine to coarse flint and rare chalk.	0.80		18.55
0.30 - 0.40	D					Firm dark orangish brown slightly gravelly sandy CLAY. Gravel angular to subrounded fine to coarse flint and rare chalk.			
0.30 - 0.40	ES								
0.30 - 0.50	B								
0.40	HV		20/22/23						
0.80 - 0.90	D								
0.80 - 0.90	ES								
0.80 - 1.10	B								
0.80	HV		42/47/35						
1.20 - 1.65	UT40	1.20 (DRY)							
1.65 - 1.70	D					Below 1.80m, becoming stiff.			
1.80 - 2.00	B					Medium dense orangish brown gravelly, clayey to very clayey SAND. Gravel angular to subrounded fine to coarse flint.	2.00		17.35
1.80	HV		72/66/77						
2.00 - 2.10	D								
2.20 - 2.65		1.50 (DRY)			S11				
2.20 - 2.65	D								
2.20 - 2.70	B								
3.00 - 3.10	D								
3.20 - 3.65		1.50 (DRY)			S10				
3.20 - 3.65	D								
3.20 - 3.70	B								
4.00 - 4.10	D								
4.30 - 4.75		1.50 (DRY)			S16				
4.30 - 4.75	D								
4.30 - 4.80	B					Between 4.80m-8.70m, becoming slightly gravelly fine to medium grained.			
5.00 - 5.10	D								
5.50 - 5.95		5.50 (5.00)			S12				
5.50 - 5.95	D								
5.50 - 6.00	B								
6.00 - 6.10	D								
6.50 - 6.95		6.00 (5.00)			S13				
6.50 - 6.95	D								
6.50 - 7.00	B								
7.00 - 7.10	D								
7.60 - 8.05		7.50 (6.00)			S36	Below 7.60m, becoming dense.			
7.60 - 8.05	D								
7.60 - 8.10	B								
8.00 - 8.10	D								
8.70 - 8.80	D					Between 8.70m-9.80m, becoming gravelly and fine to coarse grained.			
8.70 - 9.50	B								
9.00 - 9.45		9.00 (7.50)			S43				
9.00 - 9.45	D								
9.80 - 10.50	B					At 10.00m becoming Medium Dense			
9.80 - 9.90	D								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			28/11/23	08:00
15.00	14.50	12	28/11/23	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring.

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
Water was added to assist boring between 4.30m-15.00m.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1L plastic tub.
A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 2.00m to 10.00m with a flush/up-standing cover installed.
Backfill details from base of hole: Bentonite seal up to 10.00m, gravel filter up to 2.00m bentonite seal up 0.5m and concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by CS

Figure

19/02/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
Client	BAKERHICKS	**National Grid Coordinates**	640050.0 E 262883.0 N	**Borehole**	BH03
				Ground Level	19.35 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
10.00 - 10.45		10.00 (9.00)			S21				
10.00 - 10.45	D								
11.00 - 11.10	D								
11.50 - 11.95		11.50 (10.00)			S36	Below 11.50m becoming Dense			
11.50 - 11.95	D								
11.50 - 12.00	B								
12.20 - 12.30	D								
13.00 - 13.45		13.00 (11.00)			S36				
13.00 - 13.45	D								
13.00 - 13.50	B								
14.00 - 14.10	D								
14.50 - 14.95		14.50 (13.00)			S42				
14.50 - 14.95	D								
14.50 - 15.00	B					End of Borehole	15.00		4.35

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS

Figure

19/02/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
Client	BAKERHICKS	**National Grid Coordinates**	639791.9 E 262547.0 N	**Borehole**	BH04
				Ground Level	23.34 m OD

Sampling			Properties			Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					TOPSOIL: Soft brown slightly gravelly sandy clay with some plant fragments. Gravel is subangular to subrounded fine to coarse flint and brick.			
0.00 - 0.40	B								
0.40 - 0.50	D					Soft and firm light brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint, chalk and rare brick.	0.40		22.94
0.40 - 0.50	ES								
0.40 - 0.60	B								
0.50			PID=<0.1						
0.90 - 1.00	D					Stiff grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	0.90		22.44
0.90 - 1.00	ES								
0.90 - 1.20	B								
1.00			PID=<0.1						
1.20 - 1.65		1.20 (DRY)			S14	Stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	1.65		21.69
1.20 - 1.65	D								
1.90 - 2.00	D								
1.90 - 2.20	B								
2.20 - 2.65	UT60	1.50							
2.20	HV	(DRY)	117/121/130						
2.65 - 2.70	D								
2.90 - 3.00	D								
2.90 - 3.20	B								
3.20 - 3.65		1.50 (DRY)			S18				
3.20 - 3.65	D								
3.20	HV		>150						
3.90 - 4.00	D								
3.90 - 4.30	B								
4.30 - 4.75	UT48	1.50							
4.30	HV	(DRY)	>150						
4.75 - 4.80	D								
4.90 - 5.00	D								
4.90 - 5.40	B								
5.40 - 5.85		1.50 (DRY)			S21				
5.40 - 5.85	D								
5.40	HV		>150						
6.00 - 6.10	D								
6.00 - 6.40	B					Stiff dark grey mottled brown slightly sandy slightly gravelly CLAY with rare gypsum crystals up to 10mm. Gravel is subangular to subrounded fine to coarse chalk, sandstone and rare flint.	6.00		17.34
6.10	HV		>150						
6.40 - 6.85	UT50	1.50 (DRY)							
6.85 - 6.90	D								
7.00 - 7.10	D					Medium dense light brown slightly gravelly clayey fine to medium SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite. Between 7.00 - 7.40m, becoming slightly gravelly. Gravel is subangular fine to coarse chalk and sandstone.	7.00		16.34
7.00 - 7.40	B								
7.40 - 7.85		1.50 (DRY)			S29				
7.40 - 7.85	D								
8.00 - 8.10	D								
8.50 - 8.95		8.50 (8.00)			S25				
8.50 - 8.95	D								
8.50 - 9.50	B								
9.00 - 9.10	D								
9.50 - 9.95		9.00 (8.50)			S26				
9.50 - 10.50	B								
9.50 - 9.95	D								
10.00 - 10.10	D								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			27/11/23	08:00
15.00	15.00	14.50	27/11/23	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during boring,

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
Water was added to assist boring between 7.50m-15.00m.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1L plastic tub.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 8.00m to 15.00m with a flush/up-standing cover installed.
Backfill details from base of hole: Gravel filter up to 8.00m. bentonite seal up 0.50m and concrete up to ground level.

Logged by CS

Figure Sheet 1 of 2
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
Client	BAKERHICKS	**National Grid Coordinates**	639791.9 E 262547.0 N	**Borehole**	BH04
				Ground Level	23.34 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
10.50 - 10.95		10.50 (9.00)			S29	Between 10.50 - 11.50m, with some pockets of slightly gravelly very sandy clay. Gravel is subangular to subrounded fine to medium of flint and quartzite.			
10.50 - 10.95	D								
10.50 - 11.50	B								
11.00 - 11.10	D								
11.50 - 12.50	B								
12.00 - 12.45		12.00 (11.00)			S33	Below 12.00m becoming medium dense to dense.			
12.00 - 12.45	D								
13.00 - 13.50	B								
13.50 - 13.95		13.50 (11.50)			S27				
13.50 - 13.60	D								
13.50 - 13.60	D								
14.50 - 14.95		14.50 (13.50)			S31				
14.50 - 14.95	D								
14.50 - 15.00	B								
14.90 - 15.00	D					End of Borehole	15.00		8.34

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS

Figure

19/02/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH05
Client	BAKERHICKS	**National Grid Coordinates**	640349.0 E 262479.9 N	**Ground Level**	16.48 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and roots (up to 10mm in diameter). Gravel angular to subrounded fine to coarse flint and chalk.			
0.00 - 0.30	B								
0.50 - 0.60	D						0.50		15.98
0.50 - 0.60	ES					Soft orangish brown slightly gravelly sandy CLAY. Gravel angular to subrounded fine to coarse flint and chalk. Below 0.80m, becoming firm.			
0.50 - 0.70	B								
0.80 - 0.90	D								
0.80 - 0.90	ES								
0.80 - 1.00	B						1.20		15.28
0.80	HV		41/37/47			Firm to stiff grey slightly sandy slightly gravelly CLAY with occasional layers (up to 10mm in thickness) of orange fine to medium sand. Gravel angular to subrounded fine to coarse chalk and flint.			
1.20 - 1.65		1.20 (DRY)			S13				
1.20 - 1.65	D								
1.20 - 1.70	B					Below 1.90m, becoming stiff.			
1.20	HV		62/66/79						
1.90 - 2.00	D								
1.90	HV		80/88/76						
2.20 - 2.65	UT40	1.50 (DRY)				Below 2.65m, becomes dark blueish grey and sand layers absent.			
2.65 - 2.70	D								
2.90 - 3.00	D								
2.90 - 3.30	B								
2.90	HV		109/105/102						
3.30 - 3.75		1.50 (DRY)			S21				
3.30 - 3.75	D								
3.30 - 3.90	B					Below 3.90m, with occasional layers (up to 10mm in thickness) and pockets (up to 15mm in diameter) of fine to medium orange sand.			
3.30	HV		118/112/110						
3.90 - 4.00	D					Stiff grey mottled orange slightly gravelly sandy CLAY. Gravel angular to subrounded fine to coarse chalk and rare flint.	4.20		12.28
4.20 - 4.65	UT60								
4.20 - 4.70	B								
4.20	HV		77/69/84						
4.65 - 4.70	D					Firm to stiff orangish brown slightly gravelly sandy CLAY with occasional layers (up to 10mm in thickness) of fine to medium orange sand. Gravel is angular to subrounded fine to medium flint and chalk.	5.00		11.48
5.00 - 5.10	D								
5.20 - 5.65		5.20 (4.50)			S15				
5.20 - 5.65	D								
5.20 - 5.70	B								
5.20	HV		41/33/46						
6.00 - 6.10	D								
6.30 - 6.75		6.75 (5.00)			S26				
6.30 - 6.75	D								
6.30 - 6.80	B								
6.30	HV		33/40/43						
7.00 - 7.10	D					Medium dense to dense orangish brown slightly gravelly clayey SAND. Gravel angular to subrounded fine to coarse flint and rare chalk.	7.00		9.48
7.40 - 7.85		7.40 (6.00)			S27				
7.40 - 7.85	D								
7.40 - 7.90	B								
8.00 - 8.10	D								
8.50 - 8.95		8.50 (6.50)			S39	Below 8.50m, gravel rare and chalk absent.			
8.50 - 8.95	D								
8.50 - 9.00	B								
9.00 - 9.10	D								
9.50 - 9.95		9.00 (7.50)			S42				
9.50 - 10.00	B								
9.50 - 9.95	D								
10.00 - 10.10	D								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			29/11/23	08:00
12.00	12.00	10.4	29/11/23	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
0.40	0.00			0.00	Seepage

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
Water was added to assist boring between 7.00m and 12.00m.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1L plastic tub.
A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 8.00m to 15.00m with a flush/up-standing cover installed.
Backfill details from base of hole: gravel filter up to 8.00m, bentonite seal up to 0.50m, concrete up to ground level.

Logged by CS

Figure

Sheet 1 of 2

19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH05
Client	BAKERHICKS	**National Grid Coordinates**	640349.0 E 262479.9 N	**Ground Level**	16.48 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
11.00 - 11.10	D								
11.50 - 11.95	D								
11.50 - 12.00	B								
12.50 - 12.60	D								
13.00 - 13.45	D								
13.00 - 13.50	B								
13.70 - 13.80	D								
14.50 - 14.95	D								
14.50 - 15.00	B					End of Borehole	15.00		1.48

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS

Figure

19/02/2024

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH06
Client	BAKERHICKS	**National Grid Coordinates**	640222.0 E 262321.0 N	**Ground Level**	20.15 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.10	D					TOPSOIL: Soft brown slightly gravelly sandy clay with occasional plant fragments. Gravel is angular to subrounded fine to coarse flint.			
0.00 - 0.40	B								
0.40 - 0.50	D					Soft brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk.	0.40		19.75
0.40 - 0.50	ES								
0.40 - 0.60	B								
0.50			PID=<0.1						
0.60	HV		30/55/42			Firm brown mottled grey slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	0.90		19.25
0.90 - 1.00	D								
0.90 - 1.00	ES								
0.90 - 1.20	B								
1.00			PID=<0.1						
1.20 - 1.65	UT65	1.20							
1.20	HV	(DRY)	75/83/73						
1.65 - 1.70	D								
1.90 - 2.20	B								
2.00 - 2.10	D			19					
2.20 - 2.65		1.50 (DRY)			S19				
2.20 - 2.65	D								
2.90 - 3.00	D					Stiff grey mottled brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded fine to coarse chalk and flint.	2.90		17.25
2.90 - 3.20	B								
3.20 - 3.65	UT60	1.50							
3.20	HV	(DRY)	>150						
3.20 - 3.65			194						
3.65 - 3.70	D								
3.90 - 4.00	D								
3.90 - 4.20	B								
4.20 - 4.65		1.50 (DRY)			S21				
4.20 - 4.65	D								
4.20	HV		>150						
4.90 - 5.00	D			19					
4.90 - 5.40	B								
5.40 - 5.85	UT								
5.45 - 5.85	UT80	1.50							
5.45 - 5.85		(DRY)	227						
5.85 - 5.90	D								
5.90 - 6.30	B								
6.30 - 6.40	D								
6.40 - 6.85		1.50 (DRY)			S27	Firm Orange brown sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to medium chalk and flint.	6.30		13.85
6.40 - 6.85	D								
6.40 - 7.00	B								
7.00 - 7.10	D					Loose brown slightly gravelly very clayey fine to medium SAND. Gravel is subangular to subrounded fine to medium chalk and flint.	7.00		13.15
7.50 - 7.95		7.50 (7.00)			S9				
7.50 - 7.95	D								
7.50 - 8.00	B								
8.40 - 8.50	D			20					
8.50 - 8.95		8.50 (7.00)			S14	Stiff grey mottled orangish brown slightly gravelly sandy CLAY with pockets of fine to medium sand. Gravel is subangular to subrounded fine to medium flint.	8.40		11.75
8.50 - 8.95	B								
8.50 - 9.40	B								
9.40 - 9.70		9.00 (8.00)			S50/ 150mm	Very Dense orangish brown slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to medium flint.	9.40		10.75
9.40 - 10.00	B								
9.40 - 9.50	D								
9.40 - 9.50	D								
9.40	HV								

Boring

Depth	Hole Dia.	Technique	Crew
1.20	0.30	Inspection Pit	DC/LC
15.00	0.15	Cable Percussion	DC/LC

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			30/11/23	08:00
7.00	1.50	Dry	30/11/23	18:00
15.00	14.50	12.8	01/12/23	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
					None encountered during excavation.

Remarks Inspection pit hand excavated to 1.20m depth and no services were found. Water was added to assist boring between 7.00m and 15.00m. ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1L plastic tub. A 50mm standpipe was installed to 6.50m with a geowrapped slotted section from 1.50m to 6.50m with a up-standing cover installed. Backfill details from base of hole: bentonite seal up to 6.50m, gravel filter up to 1.50m, bentonite seal up to 0.50m, concrete up to ground level.

Logged by RA

Figure

19/03/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Borehole	BH06
Client	BAKERHICKS	**National Grid Coordinates**	640222.0 E 262321.0 N	**Ground Level**	20.15 m OD

Scale 1:50

Sampling			Properties			Strata			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w(%)	SPT N	Description	Depth	Legend	Level (m OD)
10.30 - 10.40	D								
10.50 - 10.95		10.50 (9.00)			S48	At 10.50 becoming dense.			
10.50 - 10.95	D								
10.50 - 11.00	B								
11.30 - 11.40	D								
11.50 - 11.90	B								
12.00 - 12.45		12.00 (10.00)			S48	Dense greyish brown fine to medium SAND.	12.00		8.15
12.00 - 12.45	D								
12.60 - 12.70	D								
13.20 - 13.30	D								
13.20 - 13.90	B					Dense orangish brown fine to medium SAND.	13.20		6.95
13.40 - 13.85		13.40 (11.20)			S50				
13.40 - 13.85	D								
13.80 - 13.90	D								
14.00 - 14.10	D								
14.50 - 14.88		14.50 (12.80)			S50/ 225mm	At 14.50m becoming very dense.			
14.50 - 14.88	D								
						End of Borehole	15.00		5.15

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RA

Figure

19/03/2024

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BH01	1.20	29.03	S		1	3	6	5	5	5	21	
BH01	3.20	27.03	S		1	4	5	5	5	5	20	
BH01	5.20	25.03	S		1	4	5	5	8	10	28	
BH01	7.20	23.03	S		3	4	4	9	9	10	32	
BH01	9.20	21.03	S		1	4	6	8	8	14	36	
BH01	11.70	18.53	S		1	6	10	10	14	16	50	
BH01	14.50	15.73	S		4	10	10	11	11	14	46	

Hammer No.:	AR3999	**Remarks**
Energy Ratio, Er (%):	76	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BH02	2.20	25.91	S		1	2	2	3	4	4	13	
BH02	4.20	23.91	S		3	4	4	5	6	6	21	
BH02	6.30	21.81	S		3	3	5	5	6	9	25	
BH02	8.30	19.81	S		2	4	7	8	10	13	38	
BH02	10.30	17.81	S		2	5	8	10	11	15	44	
BH02	13.00	15.11	S		4	6	8	11	14	16	49	
BH02	14.50	13.61	S		5	7	11	11	13	14	49	

Hammer No.:	AR3999
Energy Ratio, Er (%):	76

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BH03	2.20	17.15	S		1	1	2	3	3	3	11	
BH03	3.20	16.15	S		1	2	2	2	3	3	10	
BH03	4.30	15.05	S		1	2	3	4	4	5	16	
BH03	5.50	13.85	S		1	1	2	2	3	5	12	
BH03	6.50	12.85	S		1	2	2	2	4	5	13	
BH03	7.60	11.75	S		3	7	6	8	11	11	36	
BH03	9.00	10.35	S		6	9	9	8	12	14	43	
BH03	10.00	9.35	S		3	4	3	4	6	8	21	
BH03	11.50	7.85	S		4	6	8	8	9	11	36	
BH03	13.00	6.35	S		3	5	7	8	8	13	36	
BH03	14.50	4.85	S		4	6	8	10	10	14	42	

Hammer No.:	AR3999	**Remarks**
Energy Ratio, Er (%):	76	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BH04	1.20	22.14	S		1	2	3	3	4	4	14	
BH04	3.20	20.14	S		3	4	4	4	4	6	18	
BH04	5.40	17.94	S		3	4	4	5	6	6	21	
BH04	7.40	15.94	S		5	6	6	7	8	8	29	
BH04	8.50	14.84	S		4	5	5	5	7	8	25	
BH04	9.50	13.84	S		4	4	5	6	7	8	26	
BH04	10.50	12.84	S		4	6	7	7	7	8	29	
BH04	12.00	11.34	S		3	5	7	8	9	9	33	
BH04	13.50	9.84	S		4	4	6	7	7	7	27	
BH04	14.50	8.84	S		4	5	7	8	8	8	31	

Hammer No.:	AR3999	**Remarks**
Energy Ratio, Er (%):	76	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH05	1.20	15.28	S		1	1	2	3	3	5	13	
BH05	3.30	13.18	S		1	2	3	5	5	8	21	
BH05	5.20	11.28	S		2	1	4	3	4	4	15	
BH05	6.30	10.18	S		2	4	6	5	6	9	26	
BH05	7.40	9.08	S		3	4	5	6	8	8	27	
BH05	8.50	7.98	S		4	5	7	9	10	13	39	
BH05	9.50	6.98	S		4	6	9	10	10	13	42	

Hammer No.:	AR3999
Energy Ratio, Er (%):	76

Remarks

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Engineer** BAKERHICKS **Project No.** PC238661

Client BAKERHICKS

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH06	2.20	17.95	S		2	6	7	4	4	4	19	
BH06	4.20	15.95	S		2	3	4	5	5	7	21	
BH06	6.40	13.75	S		2	4	5	7	7	8	27	
BH06	7.50	12.65	S		1	1	1	2	2	4	9	
BH06	8.50	11.65	S		2	2	3	3	4	4	14	
BH06	9.40	10.75	S		9	10	20	30			50/150	
BH06	10.50	9.65	S		6	8	8	10	10	20	48	
BH06	12.00	8.15	S		3	6	10	11	12	15	48	
BH06	13.40	6.75	S		4	6	10	9	10	21	50	
BH06	14.50	5.65	S		3	9	15	15	20		50/225	

Hammer No.:	AR3999	**Remarks**
Energy Ratio, Er (%):	76	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Borehole

22-24 Aaron Road
Whittlesey
Peterborough
PE7 2EX

SPT Hammer Ref:	AR3999
Test Date:	04/05/2023
Report Date:	05/05/2023
File Name:	AR3999.spt
Test Operator:	PR

Instrumented Rod Data

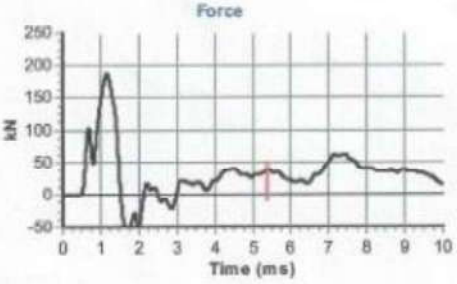
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.3
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	11853
Accelerometer No.2:	10332

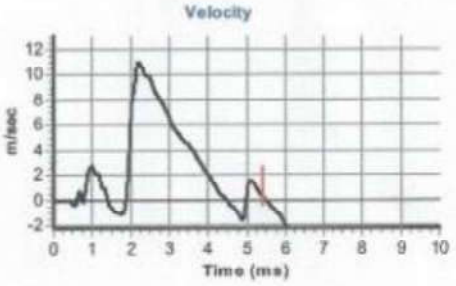
SPT Hammer Information

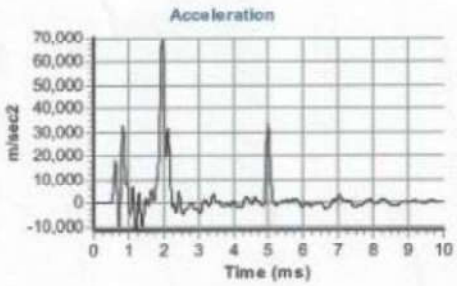
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	15.0

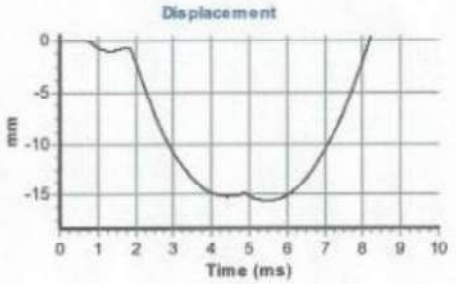
Comments / Location

Maximum calibration interval is 12 months









Calculations

Area of Rod A (mm2):	944
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	361

Energy Ratio E_r (%): **76**

P. Rodgman

Signed: Phil Rodgman

Title: Mr

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APPENDIX 5

Trial Pit Records

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP01
Client	BAKERHICKS	**National Grid Coordinates**	639620.9 E 263105.1 N	**Ground Level**	26.34 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results
0.00 - 0.30	B		
0.00 - 0.30	ES		
0.30	D		
0.50 - 0.70	B		
0.50 - 0.70	D		
0.50 - 0.70	ES		
0.50 - 0.70	L		
0.50	HV		68/71/89 kPa
0.70	D		
0.90 - 1.10	ES		
1.00	D		
1.00 - 1.20	B		
1.00	HV		76/82/72 kPa
1.50	D		
1.50	HV		73/98/91 kPa
1.90 - 2.10	B		
2.00	D		
2.00	HV		83/122/128 kPa
2.50	D		
2.50	HV		101/119/110 kPa
2.80 - 3.00	B		
3.00	D		
3.00	HV		79/88/103 kPa

Description	Depth	Legend	Level (m OD)
TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets roots. Gravel is angular to subrounded fine to coarse of quartzite, flint and chalk.	0.30		26.04
Firm orangish brown, slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded of chalk and flint.	1.20		25.14
Stiff bluish grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
End of Excavation	3.00		23.34

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	21/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	290
		Date Backfilled	21/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP02
Client	BAKERHICKS	**National Grid Coordinates**	639321.0 E 263005.0 N	**Ground Level**	29.17 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and with occasional roots (up to 10mm in diameter).Gravel is angular to subrounded fine to coarse of quartzite and flint and rare ceramic fragments.	0.30		28.87
0.30	D						
0.30	ES						
0.40 - 0.70	B			Firm orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of quartzite, flint and chalk. Below 0.60m becoming orangish brown mottled grey in colour.			
0.40	HV		11/13/09 kPa				
0.60	D		w (%) = 19				
0.60	ES						
0.70 - 1.30	B						
0.70	HV		15/17/21 kPa				
1.00	D						
1.00	ES						
1.00	L						
1.30	HV		37/34/41 kPa		2.00		27.17
1.50	D			Stiff orangish brown mottled grey slightly gravelly sandy CLAY with a low cobble content of subrounded of flint and chalk.			
1.90 - 2.20	B						
2.00	D						
2.20	HV		46/41/49 kPa				
2.50	D						
2.80 - 3.00	B						
2.90	D			End of Excavation	3.00		26.17
3.00	HV		96/92/94 kPa				

Excavation

Plant	8 Tonne tacked excavator	**Width (B)**	0.60
Date	21/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	279
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
1.34	3.00			seepage

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
20/03/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP03
Client	BAKERHICKS	**National Grid Coordinates**	639523.9 E 263003.9 N	**Ground Level**	28.41 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets and with occasional roots (Up to 10mm in diameter) Gravel is angular to subrounded fine to coarse of quartzite, flint and chalk.	0.30		28.11
0.30	D			Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY with a low cobble content. Gravel is angular to subrounded fine to coarse of quartzite, flint and chalk.			
0.30	ES						
0.40	B						
0.50	HV		52/57/55 kPa				
0.60 - 0.80	B						
0.70	D						
0.70	ES						
1.00 - 1.40	B			below 1.40m becoming stiff			
1.00	HV		26/28/30 kPa				
1.20	D						
1.50	D						
1.50	HV		24/26/28 kPa				
1.90 - 2.10	B						
2.00	D						
2.00	HV		36/40/42 kPa	below 2.40m becoming dark bluish grey in colour			
2.50	D						
2.50	HV		37/40/38 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		25.41
3.00	HV		77/98/100 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	21/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	250
		Date Backfilled	21/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

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Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP04
Client	BAKERHICKS	**National Grid Coordinates**	639740.0 E 263004.0 N	**Ground Level**	24.46 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
				TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse.	0.30		24.16
0.50	HV		45/53/71 kPa	Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
0.80 - 1.00	B						
0.90	D						
0.90	ES			Below 1.00m becoming grey in colour.			
1.00	HV		91/83/95 kPa				
1.40 - 1.60	B				1.40		23.06
1.50	D			Stiff dark grey gravelly CLAY with a low cobble content. Gravel is angular to subrounded fine to coarse of flint and chalk.			
1.50	HV		126/121/120 kPa	Below 1.70m becoming very stiff			
2.00	D						
2.00	HV		101/130/112 kPa				
2.40 - 2.60	B						
2.50	D						
2.50	HV		128/117/103 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		21.46
3.00	HV		120/130/130 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	22/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	118
		Date Backfilled	22/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
1.05	3.00			Water seepage

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

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Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
Client	BAKERHICKS	**National Grid Coordinates**	639740.0 E 263004.0 N	**Location ID**	TP04A

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.30	D				0.30		
0.30	ES			Soft light brown mottled dark brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.	0.40		
				End of Excavation			

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	22/11/2023	**Length (C)**	2.70
Shoring	None.	**Orientation (degrees)**	091
		Date Backfilled	22/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.. Trail Pit terminated due to land drain in pit at 0.40m.

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Checked by ij
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP05
Client	BAKERHICKS	**National Grid Coordinates**	639420.9 E 262905.0 N	**Ground Level**	31.77 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.30	D				0.35		31.42
0.30	ES			Soft light orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.50	HV		22/38/27 kPa				
0.80	D						
0.80	ES						
0.80 - 1.00	B			Below 1.10m, with a low cobble content chalk and flint.			
1.00	HV		31/28/32 kPa				
1.50	D						
1.80 - 2.00	B				1.80		29.97
1.90	D			Soft white slightly sandy slightly gravelly silty CLAY which varies to slightly sandy slightly gravelly clayey SILT with a low cobble content. Gravel is angular to subrounded fine to coarse of flint. At 2.30m, flint boulder present			
2.50	D						
2.50	HV		30/32/20 kPa				
2.80 - 3.00	B			Below 2.70m, becoming white mottled brown in colour.			
3.00	D				3.00		28.77
3.00	HV		33/47/48 kPa	End of Excavation			

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	22/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	136
		Date Backfilled	22/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
1.90	3.00			

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial. Soakaway Test carried out at 2.50m. Pit collapsed during the test.

Logged by RC
Checked by ij
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP06
Client	BAKERHICKS	**National Grid Coordinates**	639620.8 E 262905.8 N	**Ground Level**	26.77 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.35	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.35	D				0.35		26.42
0.35	ES			Soft light brown mottled grey slightly sandy slightly gravelly CLAY. With a low cobble content of subangular flint. Gravel is subangular to subrounded fine to coarse of flint.			
0.50	HV		28/32/57 kPa				
0.80 - 1.00	B						
0.90	D			Below 1.00m, becoming firm.			
0.90	ES						
1.00	HV		74/88/89 kPa	Below 1.20m, becoming light grey in colour.			
1.50	D						
1.50	HV		71/93/89 kPa		1.60		25.17
1.70	D			Stiff dark grey slightly sandy slightly gravelly CLAY with a low cobble content of subangular to subrounded flint. Gravel is subangular to rounded fine to coarse of flint and chalk.			
1.80 - 2.00	B			Below 1.80m, becoming gravelly.			
2.00	HV		97/113/89 kPa	Below 2.20m, low cobbles include subangular to subrounded chalk.			
2.30 - 2.50	B						
2.50	D			End of Excavation	2.50		24.27
2.50	HV		88/112/119 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	27/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	098
		Date Backfilled	27/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial. Soakaway Test Carried out at 2.50m. Pit collapsed during the test.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP07
Client	BAKERHICKS	**National Grid Coordinates**	639821.0 E 262905.2 N	**Ground Level**	23.57 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.30	D				0.30		23.27
0.30	ES			Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.50	HV		48/77/63 kPa				
0.80 - 1.00	B						
0.90	D						
0.90	ES						
1.00	HV		81/91/96 kPa				
1.40 - 1.60	B				1.30		22.27
1.50	D			Stiff grey slightly sandy slightly gravelly CLAY. Gravel is angular to rounded fine to coarse of flint and chalk.			
1.50	HV		120/109/111 kPa	Below 1.50m becoming very stiff			
2.00	D						
2.00	HV		98/83/81 kPa				
2.40 - 2.60	B						
2.50	D						
2.50	HV		130/115/111 kPa				
2.80 - 3.00	B			Below 2.70m becoming dark grey in colour. Below 2.80m low cobble content of chalk and flint.	2.90		20.67
2.80	HV		107/123/115 kPa	Brown slightly sandy clayey GRAVEL with a low cobble content. Gravel is angular to rounded fine to coarse of chalk and flint.	3.00		20.57
2.90 - 3.00	B						
3.00	D			End of Excavation			

Excavation

Plant	8 Tonne tracked excavtor	**Width (B)**	0.60
Date	22/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	107
		Date Backfilled	22/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP08
Client	BAKERHICKS	**National Grid Coordinates**	639942.9 E 262977.1 N	**Ground Level**	20.97 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. with occasional rootlets and roots up to 10mm in diameter. Gravel is angular to rounded fine to coarse of flint and chalk.	0.30		20.67
0.30	D			Soft to firm orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.	0.70		20.27
0.30	ES			Firm grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk. Between 0.70m and 1.40m occasional sand layers present up to 10mm in thickness.	1.40		19.57
0.50 - 0.80	B			Stiff bluish grey slightly sandy slightly gravelly CLAY with occasional pockets of orange fine to medium sand. Gravel is angular to subrounded fine to coarse of chalk and flint.	3.00		17.97
0.50	HV		86/79/105 kPa	End of Excavation			
0.70	D						
0.70	ES						
0.70 - 1.20	B						
0.90 - 1.20	B						
1.00	D						
1.00	HV		104/101/87 kPa				
1.40 - 1.60	B						
1.50	D						
1.50	HV		140/128/115 kPa				
2.00	D						
2.00	HV		132/129/134 kPa				
2.40 - 2.60	B						
2.50	D						
2.50	HV		122/125/119 kPa				
3.00	D						
3.00	HV		128/132/148 kPa				

Excavation

Plant	8Tonnes Tracked excavator	**Width (B)**	0.60
Date	23/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	292
		Date Backfilled	23/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP09
Client	BAKERHICKS	**National Grid Coordinates**	639321.0 E 262804.9 N	**Ground Level**	32.45 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.30	D				0.30		32.15
0.30	ES			Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint.			
0.50	HV		38/42/53 kPa				
0.90	D						
0.90	ES						
0.90 - 1.10	B						
1.00	HV		52/70/70 kPa				
1.50	D						
1.50	HV		130/107/114 kPa				
1.90 - 2.20	B			At 1.90m, with flint boulder (250mm diameter).			
2.00	D						
2.00	HV		119/128/126 kPa	Below 2.20m becoming light grey mottled brown.			
2.50	D						
2.50	HV		99/93/87 kPa				
2.85 - 3.00	B				2.85		29.60
3.00	D			Stiff dark grey slightly sandy slightly gravelly CLAY with a low cobble content and pockets of bluish grey clay. Gravel is subangular to subrounded fine to coarse of flint and chalk.	3.00		29.45
3.00	HV		97/91/83 kPa	Below 2.85m pockets of bluish grey clay present.			
				End of Excavation			

Excavation

Plant	8Tonne tracked excavator	**Width (B)**	0.60
Date	22/11/2023	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	101
		Date Backfilled	22/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP10
Client	BAKERHICKS	**National Grid Coordinates**	639520.9 E 262805.0 N	**Ground Level**	28.33 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			Soft to firm dark brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.30	D				0.30		28.03
0.30	ES			Firm orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
0.30 - 0.50	B				0.60		27.73
0.50	D			Firm grey mottled orangish brown slightly sandy slightly gravelly CLAY with occassional sand layers. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.50	ES						
0.50	L			Below 1.00m becoming stiff.			
0.50	HV		48/54/64 kPa				
0.60 - 0.80	B						
0.70	D			Below 1.50, with a low subangular cobble content of flint.			
0.70	ES						
1.00	D						
1.00	HV		86/96/101 kPa				
1.50	D						
1.50 - 2.00	B			Below 2.20m, becoming bluish grey.			
1.50	HV		92/98/104 kPa				
2.00	D						
2.00	HV		80/96/122 kPa				
2.50	D						
2.50 - 3.00	B			End of Excavation	3.00		25.33
2.50	HV		110/119/90 kPa				
3.00	D						
3.00	HV		128/130/122 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	23/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	280
		Date Backfilled	23/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP11
Client	BAKERHICKS	**National Grid Coordinates**	639721.0 E 262805.0 N	**Ground Level**	24.83 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results
0.00 - 0.30	B		
0.30	D		
0.30	ES		
0.30	L		
0.50	HV		60/59/57 kPa
0.80	D		w (%) = 17
0.80	ES		
0.80 - 1.00	B		
1.00	HV		72/98/72 kPa
1.50	D		
1.50	HV		85/77/74 kPa
1.90 - 2.10	B		
2.00	D		
2.00	HV		130/118/121 kPa
2.50	D		w (%) = 17
2.50	HV		107/129/130 kPa
2.80 - 3.00	B		
3.00	D		
3.00	HV		111/124/109 kPa

Description	Depth	Legend	Level (m OD)
TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint and chalk.			
Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of flint and chalk.	0.30		24.53
Below 1.10m, with a low subangular to subrounded cobble content of flint and chalk. Below 1.30m becoming grey mottled brown. Below 1.50m becoming stiff.			
Very stiff dark grey slightly sandy slightly gravelly CLAY with a low subrounded cobble content of chalk and flint. Gravel is subangular to rounded fine to coarse of chalk and flint.	1.90		22.93
End of Excavation	3.00		21.83

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	24/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	097
		Date Backfilled	24/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/03/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP12
Client	BAKERHICKS	**National Grid Coordinates**	639936.0 E 262807.0 N	**Ground Level**	20.94 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse of flint and chalk.	0.30		20.64
0.30	D			Firm orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of quartzite, flint and chalk.	0.70		20.24
0.30	ES			Firm grey mottled orangish brown slightly sandy slightly gravelly CLAY with occasional roots (up to 10mm thickness). Gravel is angular subrounded fine to coarse of flint and chalk.			
0.40 - 0.60	B						
0.50	D						
0.50	ES						
0.50	HV		38/42/40 kPa				
0.70	D						
0.70 - 1.00	B						
0.90	D				1.50		19.44
1.00	HV		88/78/88 kPa	Stiff bluish grey slightly sandy slightly gravelly CLAY with a low cobble content of chalk and flint. Gravel is angular to subrounded fine to coarse of chalk and flint.			
1.50	D						
1.50 - 1.80	B						
1.50	HV		112/108/106 kPa				
2.00	D						
2.00	HV		128/135/135 kPa				
2.50	D						
2.50 - 2.80	B						
2.50	HV		128/101/112 kPa	Below 2.80m, becoming bluish grey mottled brown in colour.			
3.00	D			End of Excavation	3.00		17.94
3.00	HV		133/135/131 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	23/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	287
		Date Backfilled	23/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP13
Client	BAKERHICKS	**National Grid Coordinates**	640120.9 E 262804.9 N	**Ground Level**	16.58 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.35	D				0.40		16.18
0.35	ES			Light brown slightly gravelly clayey fine to coarse SAND with occasional pockets of firm clay.. Gravel is angular to subrounded fine to coarse of flint.			
0.35	L						
0.80 - 1.00	B						
1.00	D						
1.00	ES						
				From 1.30m strata becomes slightly clayey SAND.			
1.50	D						
1.70 - 2.00	B				1.70		14.88
1.80	D			Light yellowish brown slightly clayey slightly gravelly SAND. Gravel is subangular to subrounded fine to medium of quartzite and flint.			
2.50	D						
2.80 - 3.00	B						
3.00	D						
				End of Excavation	3.00		13.58

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	24/11/2023	**Length (C)**	2.60
Shoring	None.	**Orientation (degrees)**	092
		Date Backfilled	24/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP14
Client	BAKERHICKS	**National Grid Coordinates**	639420.9 E 262705.0 N	**Ground Level**	28.79 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly CLAY with rare rootlets up to 2mm in diameter. Gravel is angular to subangular fine to medium of flint.			
0.30	D				0.30		28.49
0.30	ES			Firm grey mottled light brown slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of flint and chalk.			
0.35	D						
0.35	ES						
0.50	HV		49/52/67 kPa				
0.80	D						
0.80 - 1.00	B						
1.00	D						
1.00	ES						
1.00	HV		108/80/67 kPa				
1.50	D				1.70		27.09
1.50	HV		89/130/128 kPa				
1.70 - 2.00	B			Stiff dark grey slightly sandy slightly gravelly CLAY with a low subrounded cobble content of flint and chalk. Gravel is subangular to rounded fine to coarse of flint and chalk.			
1.80	D						
1.90 - 2.10	B						
2.00	D						
2.00	HV		129/98/103 kPa				
2.50	D						
2.50	HV		118/122/124 kPa	End of Excavation	3.00		25.79
2.80 - 3.00	B						
3.00	D						
3.00	HV		130/113/124 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	24/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	240
		Date Backfilled	24/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP15
Client	BAKERHICKS	**National Grid Coordinates**	639621.0 E 262705.0 N	**Ground Level**	26.10 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.40	D				0.40		25.70
0.40	ES			Firm to stiff white mottled grey slightly sandy slightly gravelly CLAY with a low cobble subrounded content of flint and chalk. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.50	HV		31/42/53 kPa				
0.80 - 1.00	B						
0.90	D						
0.90	ES						
1.00	HV		61/72/63 kPa				
1.50	D			Below 1.40m, becoming light grey.			
1.50	HV		78/90/81 kPa				
1.90 - 2.10	B						
2.00	D			Below 2.00m, becoming very stiff.			
2.00	HV		96/102/108 kPa				
2.40 - 2.60	B				2.40		23.70
2.50	D			Very stiff dark grey slightly gravelly CLAY. with a low subangular to subrounded cobble content of flint and chalk. Gravel is subangular to rounded fine to coarse of flint and chalk.			
2.50	HV		99/91/106 kPa				
3.00	D			End of Excavation	3.00		23.10
3.00	HV		120/108/113 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	27/11/2023	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	103
		Date Backfilled	27/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP16
Client	BAKERHICKS	**National Grid Coordinates**	639820.9 E 262705.0 N	**Ground Level**	22.33 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft to firm dark brown slightly sandy slightly gravelly clay with occasional roots (up to 10mm diameter). Gravel is angular to subrounded fine to coarse of quartzite and chalk			
0.30	D				0.30		22.03
0.30	ES			Firm orangish brown slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.30 - 0.60	B				0.60		21.73
0.50	D			Firm grey mottled orange slightly sandy slightly gravelly CLAY with occasional roots (up to 10mm in diameter). Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.50	ES						
0.50	HV		58/65/72 kPa	At 1.20m, with a low cobble content and sand layers.	1.30		21.03
0.60 - 0.80	B			Stiff bluish grey slightly sandy slightly gravelly CLAY with a low cobble content of chalk and flint. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.80	D						
1.00 - 1.50	B						
1.00	HV		80/65/64 kPa				
1.50	D						
1.50	HV		135/135/128 kPa				
2.00	D						
2.00	HV		114/114/118 kPa				
2.30 - 2.60	B						
2.50	D						
2.50	HV		116/108/131 kPa				
3.00	D			End of Excavation	3.00		19.33
3.00	HV		122/128/135 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	23/11/2023	**Length (C)**	2.50
Shoring	None.	**Orientation (degrees)**	297
		Date Backfilled	23/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by CS
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP17
Client	BAKERHICKS	**National Grid Coordinates**	640020.9 E 262705.0 N	**Ground Level**	19.17 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.10	ES				0.30		18.87
0.30	D			Firm light brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint and chalk.			
0.30	ES						
0.30			PID = 0.1, 0.80-1.0, 0.0				
0.50	HV		68/66/47 kPa				
0.80 - 1.00	B						
1.00	D			Below 1.20m, with a low subangular to subrounded cobble content of flint and chalk.			
1.00	ES						
1.00	HV		58/77/68 kPa	Below 1.50m, becoming stiff.			
1.50	D						
1.50	HV		71/91/93 kPa				
2.00	D						
2.00 - 2.20	B						
2.00	HV		87/75/99 kPa				
2.40 - 2.50	B				2.40		16.77
2.40 - 2.50	D			Brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of chalk and flint.	2.50		16.67
2.50	D			End of Excavation			

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	28/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	131
		Date Backfilled	28/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial. Soakaway Test carried out at a depth of 2.50m bgl.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP18
Client	BAKERHICKS	**National Grid Coordinates**	639520.9 E 262604.9 N	**Ground Level**	28.80 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
0.30	D				0.30		28.50
0.30	ES			Firm grey mottled brown slightly sandy gravelly CLAY with a low subangular to subrounded cobble content of flint. Gravel is angular to to subrounded fine to coarse of flint and chalk.			
0.30			PID = 0.80, 1.60, 0.0				
0.50	HV		70/71/58 kPa				
0.80 - 1.00	B						
0.90	D						
0.90	ES						
1.00	HV		60/62/77 kPa	Below 1.40m, becoming grey in colour.			
1.50	D				1.65		27.15
1.50	HV		88/80/76 kPa	Very stiff dark grey slightly sandy slightly gravelly CLAY with a Low subangular to subrounded cobble content of flint and chalk. Gravel is subangular to subrounded fine to coarse of flint and chalk.			
1.70 - 1.90	B						
1.80	D						
2.00	HV		113/130/130 kPa				
2.48 - 3.00	B						
2.50	D						
2.50	HV		124/130/117 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		25.80
3.00	HV		107/112/121 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	27/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	122
		Date Backfilled	27/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP19
Client	BAKERHICKS	**National Grid Coordinates**	639721.0 E 262604.9 N	**Ground Level**	25.97 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.30	D				0.30		25.67
0.30	ES			Stiff grey mottled light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint and chalk.			
0.50	HV		63/68/51 kPa	Between 0.30m and 0.40m layer of orangish brown sand.			
0.90 - 1.10	B						
1.00	D						
1.00	ES						
1.00	HV		107/83/103 kPa				
1.50	D						
1.50	HV		121/112/93 kPa	Below 1.50m becoming very stiff.			
1.90 - 2.10	B			Below 1.60m, with a low subangular to subrounded cobble content of chalk and flint.			
2.00	D			Below 1.70m, becoming dark grey in colour.			
2.00	HV		107/91/88 kPa				
2.50	D						
2.50	HV		117/125/94 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		22.97
3.00	HV		130/114/103 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	28/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	263
		Date Backfilled	28/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP20
Client	BAKERHICKS	**National Grid Coordinates**	639921.0 E 262604.9 N	**Ground Level**	23.26 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.00			PID = 0.8, 1.0, 0.0		0.30		22.96
0.30	D			Firm brown mottled grey slightly sandy slightly gravelly CLAY. with a low subangular to subrounded cobble content of flint and chalk. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.30	ES						
0.50	HV		43/51/62 kPa				
0.80	D						
0.80	ES						
0.80 - 1.00	B						
1.00	HV		59/63/79 kPa				
1.45 - 1.70	B				1.45		21.81
1.50	D			Stiff dark grey mottled white gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
1.50	HV		85/90/98 kPa				
2.00	D			Below 2.20m becoming very stiff.			
2.00	HV		109/121/107 kPa				
2.20 - 2.50	B			Below 2.20m with a low subangular to subrounded cobble of flint.			
2.40 - 2.60	B						
2.50	D						
2.50	HV		130/117/114 kPa				
2.90	D						
3.00	D			End of Excavation	3.00		20.26
3.00	HV		112/120/109 kPa				

Excavation

Plant	8 Tonee tracked excavator	**Width (B)**	0.60
Date	28/11/2023	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	163
		Date Backfilled	28/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP21
Client	BAKERHICKS	**National Grid Coordinates**	640106.9 E 262604.9 N	**Ground Level**	21.85 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. with occasional rootlets (rootlets and roots up to 5mm in diameter). With occasional black organic material present.	0.30		21.55
0.30	D			Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.30	ES						
0.30			PID = 0.10				
0.50	HV		81/88/63 kPa				
0.80	D						
0.80	ES						
0.80 - 1.00	B						
0.80			PID = <0.1				
0.90	D						
1.00	HV		91/81/89 kPa				
1.50	D						
1.50	HV		110/93/104 kPa				
1.90 - 2.10	B						
2.00	D						
2.00	HV		117/91/121 kPa				
2.50	D						
2.50	HV		97/120/99 kPa				
2.80	HV		101/127/130 kPa		2.90		18.95
2.90 - 3.00	B			Firm Orangish brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint,	3.00		18.85
3.00	D			End of Excavation			

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	29/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	087
		Date Backfilled	
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/03/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP22
Client	BAKERHICKS	**National Grid Coordinates**	639441.9 E 262504.9 N	**Ground Level**	27.62 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.40	D				0.40		27.22
0.40	ES			Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and chalk.			
0.40			PID = 0.20				
0.50	HV		65/61/51 kPa	Below 0.80m becoming grey mottled brown.			
0.80 - 1.00	B			Below 1.00m becoming very stiff.			
0.90	D						
0.90	ES						
1.00			PID = <0.1				
1.00	HV		97/100/111 kPa	Very stiff dark grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint.	1.50		26.12
1.50	D			From 1.50m low cobble content present of subangular to subrounded chalk.			
1.50 - 1.70	B			CHALK recovered as slightly sandy, subangular to rounded fine to coarse gravel. Gravel is weak creamish white with occasional black specks, Matrix is grey clay. From 1.95 low cobble content of subrounded chalk present.	1.95		25.67
1.50	HV		127/130/130 kPa				
1.60	D						
1.95 - 2.10	B						
2.00	D			Very stiff dark grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint. From 2.50m low cobble content of subangular to subrounded chalk.	2.50		25.12
2.50	D						
2.50	HV		113/130/122 kPa				
2.80 - 3.00	B			End of Excavation	3.00		24.62
3.00	D						
3.00	HV		101/114/99 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	30/11/2023	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	162
		Date Backfilled	30/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP23
Client	BAKERHICKS	**National Grid Coordinates**	639620.9 E 262515.0 N	**Ground Level**	25.76 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.30	D				0.30		25.46
0.30	ES			Firm grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
0.50	HV		69/55/52 kPa				
0.80	D						
0.80	ES						
0.80 - 1.00	B						
1.00	HV		62/50/71 kPa		1.20		24.56
1.20 - 1.50	B			Yellowish brown slightly sandy clayey angular to subrounded fine to coarse GRAVEL with a medium subangular to subrounded cobble content of flint.. Gravel is flint and chalk.			
1.50	D						
1.70 - 1.90	B				1.70		24.06
1.80	D			Stiff dark grey slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse of flint and chalk. From 1.70m, with a low subangular to subrounded cobble content present of chalk.			
2.00	HV		110/121/123 kPa				
2.50	D						
2.50	HV		105/130/118 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		22.76
3.00	HV		108/99/122 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	30/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	07
		Date Backfilled	30/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
1.70	3.00			Water seepage at 1.70m

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). Glass, 2 x 40ml Vial.

ES = 1L plastic tub, 1 x 250ml

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP24
Client	BAKERHICKS	**National Grid Coordinates**	639908.9 E 262495.0 N	**Ground Level**	22.92 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results
0.00 - 0.40	B		
0.30			PID = 0.20
0.40	D		
0.40	ES		
0.50	HV		80/89/62 kPa
0.80 - 1.00	B		
0.90	D		
0.90	ES		
1.00			PID = 0.1
1.00	HV		70/91/82 kPa
1.50	D		
1.50	HV		86/89/92 kPa
1.70 - 1.90	B		
1.80	D		
2.00	HV		111/103/93 kPa
2.50	D		
2.50	HV		89/130/91 kPa
2.80 - 3.00	B		
3.00	D		
3.00	HV		128/130/123 kPa

Description	Depth	Legend	Level (m OD)
TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of flint.			
	0.40		22.52
Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk and flint.			
Below 1.40m becoming grey mottled brown in colour.			
	1.70		21.22
Stiff grey slightly sandy gravelly CLAY with a low subrounded to rounded cobble content of chalk. Gravel is subangular to rounded fine to coarse of flint and chalk.			
Below 2.30m, becomes dark grey in colour.			
	3.00		19.92
End of Excavation			

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	30/11/2023	**Length (C)**	2.90
Shoring	None.	**Orientation (degrees)**	062
		Date Backfilled	30/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). Glass, 2 x 40ml Vial.

ES = 1L plastic tub, 1 x 250ml

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP25
Client	BAKERHICKS	**National Grid Coordinates**	640020.9 E 262505.0 N	**Ground Level**	22.20 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse to of flint.			
0.30			PID = 0.10				
0.40	D				0.40		21.80
0.40	ES			Firm grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint and chalk.			
0.50	HV		50/52/60 kPa				
0.80 - 1.00	B			Below 0.90m, with a low subangular cobble content of flint.			
0.90	D						
0.90	ES						
1.00			PID = <0.1				
1.00	HV		73/68/65 kPa	Below 1.50m, becoming stiff.			
1.50	D						
1.50	HV		100/98/85 kPa				
1.90 - 2.10	B			Below 1.90m, becoming dark grey in colour.			
2.00	D			Below 2.00m, becoming very stiff.			
2.00	HV		109/123/130 kPa				
2.50	D			Below 2.40m, with a low subrounded to rounded cobble content of chalk.			
2.50	HV		125/98/118 kPa				
2.80 - 3.00	B						
3.00	D			End of Excavation	3.00		19.20
3.00	HV		130/130/124 kPa				

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	30/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	113
		Date Backfilled	30/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). Glass, 2 x 40ml Vial.

ES = 1L plastic tub, 1 x 250ml

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP26
Client	BAKERHICKS	**National Grid Coordinates**	640268.9 E 262551.0 N	**Ground Level**	18.96 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.40	D				0.40		18.56
0.40	ES			Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is angular to subrounded fine to coarse of flint. From 0.40m, with rare pockets of clayey sand and a low subangular to subround cobble of flint.			
0.40			PID = <0.1				
0.90	D						
0.90	ES						
0.90 - 1.10	B						
0.90			PID = 0.10				
1.50	D						
1.90 - 2.10	B			At 1.90m, grading to gravelly clayey sand.			
2.00	D						
2.20 - 2.50	B			Yellowish brown fine to coarse SAND.	2.20		16.76
2.30	D						
				End of Excavation	2.50		16.46

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	29/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	268
		Date Backfilled	29/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial. Soakaway Test carried out at a depth of 2.50m bgl.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP27
Client	BAKERHICKS	**National Grid Coordinates**	640117.0 E 262418.9 N	**Ground Level**	23.82 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results
0.00 - 0.30	B		
0.30	D		
0.30	ES		
0.30			PID = <0.1
0.50	HV		71/82/63 kPa
0.80 - 1.00	B		
0.80			PID = <0.1
0.90	D		
0.90	ES		
1.00	HV		51/63/70 kPa
1.50	D		
1.50	HV		85/71/83 kPa
1.80 - 2.00	B		
2.00	D		
2.00	HV		122/130/117 kPa
2.50	D		
2.50	HV		kPa
2.80 - 3.00	B		
3.00	D		
3.00	HV		kPa

Description	Depth	Legend	Level (m OD)
TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
	0.30		23.52
Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of chalk and flint.			
Below 1.70m, becoming grey in colour.	1.80		22.02
Stiff dark grey gravelly CLAY with a low subangular to subrounded cobble content of flint. Gravel is subangular to subrounded fine to coarse of flint and chalk. At 1.90m, flint boulder 450mm diameter.			
Below 2.50m, becoming dark grey mottled dark brown in colour.			
End of Excavation	3.00		20.82

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	29/11/2023	**Length (C)**	2.80
Shoring	None.	**Orientation (degrees)**	011
		Date Backfilled	29/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). ES = 1L plastic tub, 1 x 250ml Glass, 2 x 40ml Vial. Hand Vane attempted at 2.50m bgl and 3.00m bgl strata to brittle.

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Engineer**	BAKERHICKS	**Project No.**	PC238661
				Location ID	TP28
Client	BAKERHICKS	**National Grid Coordinates**	640280.0 E 262406.0 N	**Ground Level**	21.13 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.30	B			TOPSOIL: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of flint.			
0.30	D				0.30		20.83
0.30	ES			Firm brown mottled grey slightly sandy slightly gravelly CLAY with a low subangular to rounded cobble content of chalk. Gravel is subangular to subrounded fine to coarse of flint and chalk.			
0.30			PID = 0.1				
0.50	HV		72/61/73 kPa				
0.80	D						
0.80	ES			Below 1.00m, becoming stiff.			
0.80 - 1.00	B						
0.80			PID = 0.10		1.30		19.83
1.00	HV		74/109/94 kPa	Stiff grey slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse of chalk and flint.			
1.30 - 1.50	B						
1.50	D						
1.50	HV		93/107/89 kPa				
2.00	D						
2.00	HV		101/125/92 kPa	Below 2.10m, becoming dark grey in colour.			
2.30 - 2.50	B			Below 2.30m, with a low subangular to subrounded cobble content of chalk and flint.			
2.50	D						
2.50	HV		128/119/130 kPa				
3.00	D			End of Excavation	3.00		18.13

Excavation

Plant	8 Tonne tracked excavator	**Width (B)**	0.60
Date	29/11/2023	**Length (C)**	2.70
Shoring	None.	**Orientation (degrees)**	021
		Date Backfilled	29/11/2023
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks

Remarks Thermal Resistivity Tests carried out at 0.60m (2 tests) and 1.50m (1 test). Glass, 2 x 40ml Vial.

ES = 1L plastic tub, 1 x 250ml

Logged by RC
Checked by IJ
Figure Sheet 1 of 1
19/02/2024

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TP01 [1]


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
CSB LIONLINK
PROJECT NO.
238661
HOLE ID
TP01
DATE
21/9/23
BOX NO.
NOTES
cm
10
20
30
40
50
60
70
80
90

TP01 [2]



TP01 [3]



TP01 [4]



TP02 [1]


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
CS3 LIONLINK
PROJECT NO.
PC238661
HOLE ID
TP02
DATE
21/9/23
BOX NO.
NOTES
0-0.40m
cm
10
20
30
40
50
60
70
80
90

TP02 [2]



TP02 [3]


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
CSR LIONLINK
PROJECT NO.
PC238661
HOLE ID
TP02
DATE
21/9/23
BOX NO.
NOTES

TP02 [4]


GEOTECHNICS
PHOTOGRAPHIC BOARD
PROJECT NAME
CSR LIONLINK
PROJECT NO.
PC238661
HOLE ID
TP02
DATE
21/9/23
BOX NO.
NOTES

TP03 0.00-3.00m Front view



TP03 Spoil [1]



TP03 Spoil [2]



TP04 0.00-3.00m Front view [1]



TP04 0.00-3.00m Side view



TP04 Spoil [1]



TP04 Spoil [2]



TP05 0.00-3.00m Front view [2]



TP05 Spoil [1]



TP05 Spoil [2]



TP06 0.00-2.50m Front view



TP06 Spoil



TP07 0.00-3.00M Front view [1]



TP07 0.00-3.00M Front view [2]



TP07 Spoil [1]



TP07 Spoil [2]



TP08 0.00-3.00m Side view [1]



TP08 Spoil



TP09 0.00-3.00m Front view [1]



TP09 0.00-3.00m Front view [2]



TP09 Spoil [1]



TP09 Spoil [2]



TP10 0.00-3.00m Front view



TP10 0.00-3.00m Side view



TP10 Spoil [1]



TP10 Spoil [2]



TP11 0.00-3.00m Front view [1]



TP11 0.00-3.00m Front view [2]



TP11 Spoil [1]



TP11 Spoil [2]



TP12 0.00-3.00m Side view [1]



TP12 0.00-3.00m Side view [2]



TP12 Spoil



TP13 0.00-3.00m Front view



TP13 Spoil



TP14 0.00-3.00m Front view [1]



TP14 0.00-3.00m Front view [2]



TP14 Spoil [1]



TP14 Spoil [2]



TP15 0.00-3.00m Front view [1]



TP15 0.00-3.00m Front view [2]



TP15 Spoil [1]



TP15 Spoil [2]



TP16 0.00-3.00 Side view



TP16 0.00-3.00m Front view [2]



TP16 Spoil



TP17 Front view [1]



TP17 Front view [2]



TP17 Spoil [1]



TP17 Spoil [2]



TP18 0.00-3.00m Front view [1]



TP18 0.00-3.00m Front view [2]



TP18 Spoil'



TP19 0.00-3.00m Front view [1]



TP19 0.00-3.00m Front view [2]



TP19 Spoil [1]



TP19 Spoil [2]



TP20 0.00-3.00m Front view [1]



TP20 0.00-3.00m Front view [2]



TP20 Spoil [1]



TP20 Spoil [2]



TP21 0.00-3.00m Front view [1]



TP21 0.00-3.00m Front view [2]



TP21 Spoil [1]



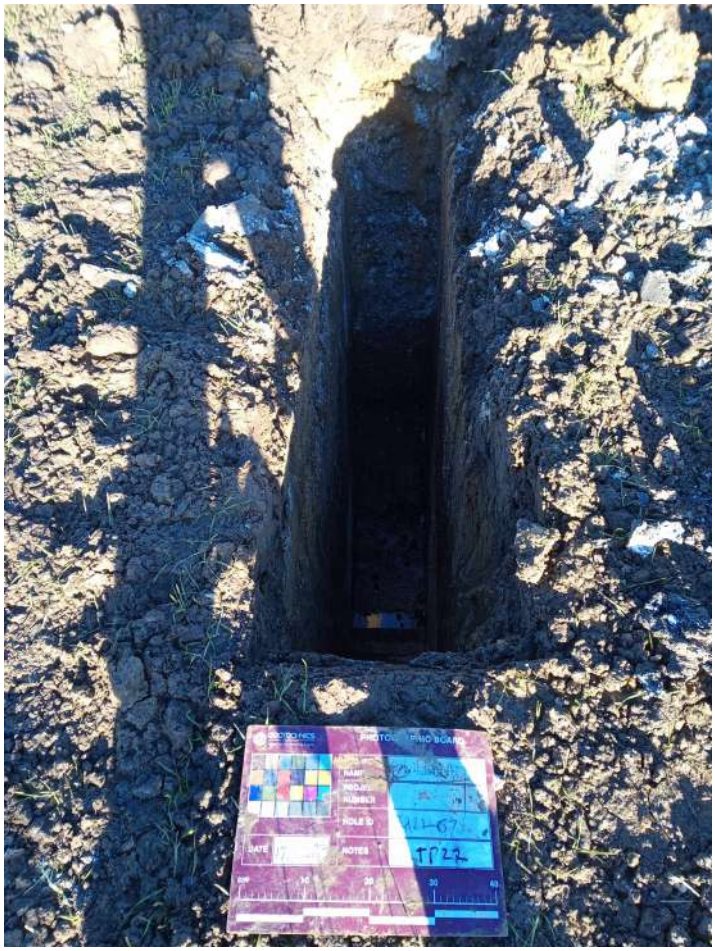
TP21 Spoil [2]



TP22 0.00-3.00m Front view [1]



TP22 0.00-3.00m Front view [2]



TP22 Spoil [1]



TP22 Spoil [2]



TP23 0.00-3.00m Front view [1]



TP23 0.00-3.00m Front view [2]



TP23 Spoil [1]



TP23 Spoil [2]



TP24 0.00-3.00m Front view [1]



TP24 0.00-3.00m Front view [2]



TP24 Spoil [1]



TP24 Spoil [2]



TP25 0.00-3.00m Front view [1]



TP25 0.00-3.00m Front view [2]



TP25 Spoil [1]



TP25 Spoil [2]



TP26 0.00-2.50m Front view [1]



TP26 0.00-2.50m Front view [2]



TP26 Spoil [1]



TP26 Spoil [2]



TP27 0.00-3.00m Front view



TP27 Spoil



TP28 0.00-3.00m Front view [1]



TP28 0.00-3.00m Front view [2]



TP28 Spoil [1]



TP28 Spoil [2]



APPENDIX 6

Thermal Resistivity Results

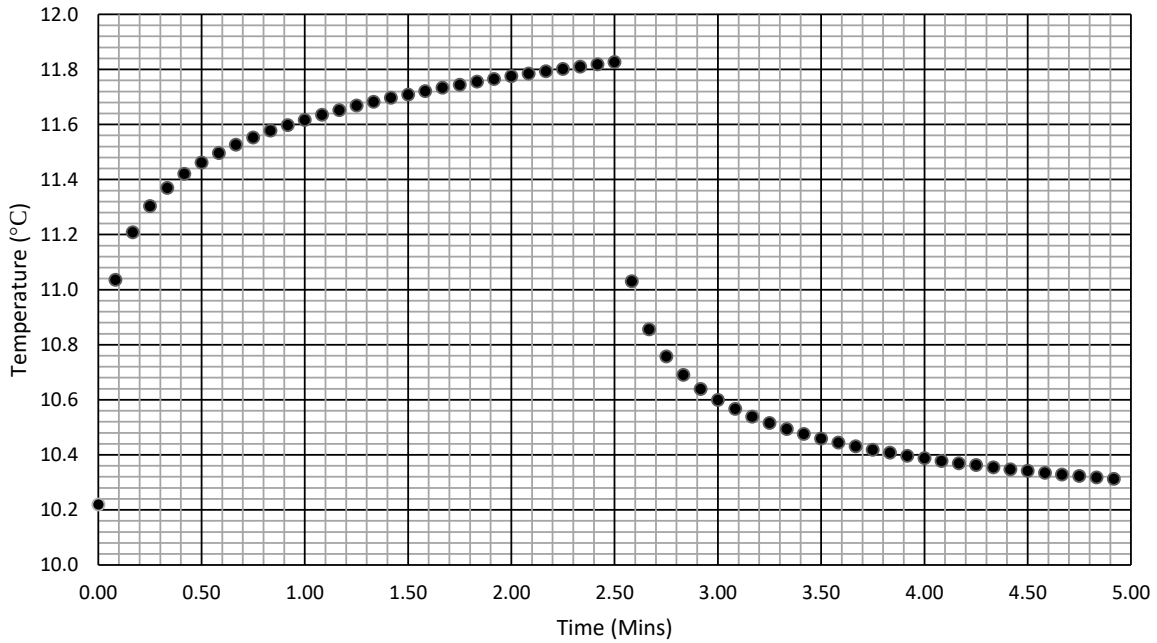
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP01
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP01A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.22
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.46	Thermal Resistivity (mK/W)	0.69

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.036	2.58	11.031
0.17	11.209	2.67	10.856
0.25	11.304	2.75	10.758
0.33	11.370	2.83	10.691
0.42	11.421	2.92	10.640
0.50	11.462	3.00	10.600
0.58	11.497	3.08	10.567
0.67	11.527	3.17	10.539
0.75	11.553	3.25	10.516
0.83	11.578	3.33	10.494
0.92	11.598	3.42	10.476
1.00	11.617	3.50	10.460
1.08	11.636	3.58	10.445
1.17	11.653	3.67	10.431
1.25	11.669	3.75	10.419
1.33	11.683	3.83	10.408
1.42	11.697	3.92	10.397
1.50	11.709	4.00	10.388
1.58	11.722	4.08	10.378
1.67	11.734	4.17	10.370
1.75	11.745	4.25	10.363
1.83	11.756	4.33	10.355
1.92	11.766	4.42	10.348
2.00	11.776	4.50	10.342
2.08	11.785	4.58	10.335
2.17	11.794	4.67	10.329
2.25	11.802	4.75	10.324
2.33	11.811	4.83	10.318
2.42	11.819	4.92	10.313
2.50	11.827		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

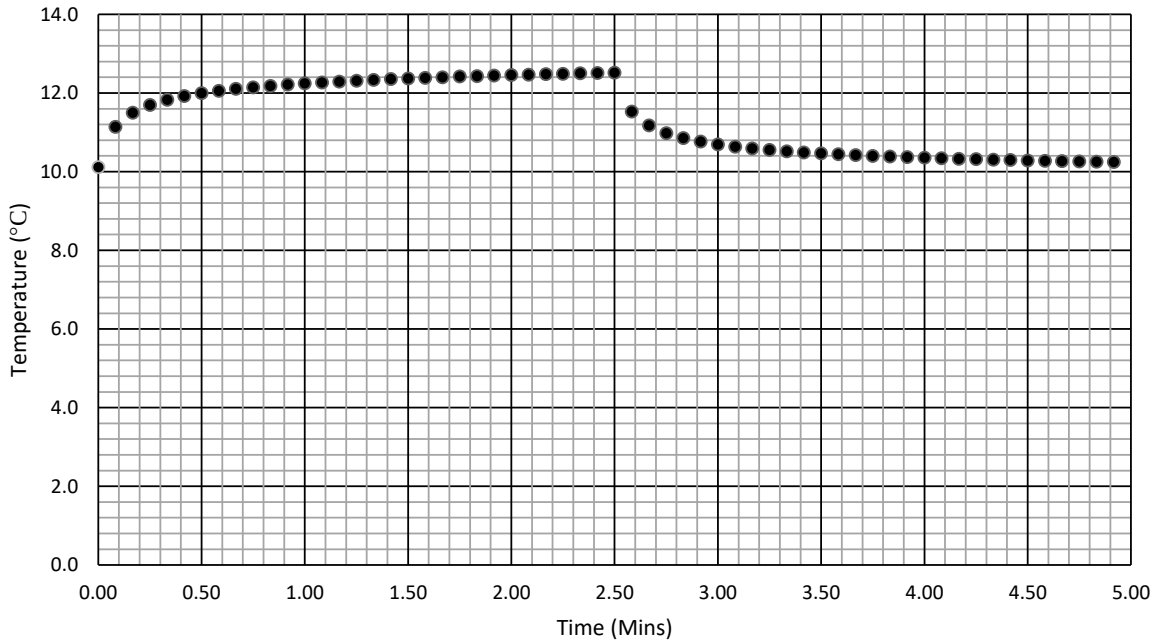
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP01
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP01B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.12
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.03	Thermal Resistivity (mK/W)	0.97

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.140	2.58	11.534
0.17	11.501	2.67	11.179
0.25	11.700	2.75	10.985
0.33	11.829	2.83	10.859
0.42	11.924	2.92	10.767
0.50	11.997	3.00	10.697
0.58	12.056	3.08	10.641
0.67	12.106	3.17	10.595
0.75	12.147	3.25	10.556
0.83	12.184	3.33	10.523
0.92	12.216	3.42	10.493
1.00	12.246	3.50	10.468
1.08	12.271	3.58	10.445
1.17	12.296	3.67	10.425
1.25	12.318	3.75	10.406
1.33	12.337	3.83	10.389
1.42	12.357	3.92	10.373
1.50	12.374	4.00	10.358
1.58	12.391	4.08	10.345
1.67	12.406	4.17	10.332
1.75	12.421	4.25	10.321
1.83	12.434	4.33	10.310
1.92	12.447	4.42	10.300
2.00	12.460	4.50	10.289
2.08	12.472	4.58	10.280
2.17	12.482	4.67	10.272
2.25	12.493	4.75	10.263
2.33	12.503	4.83	10.256
2.42	12.513	4.92	10.249
2.50	12.522		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

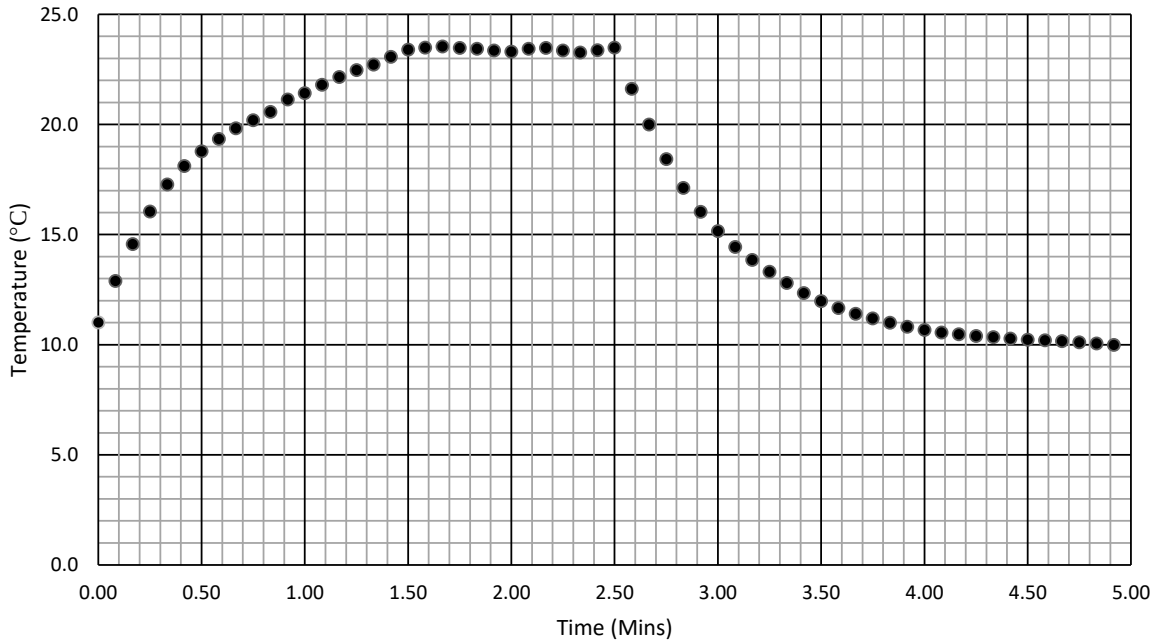
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP01
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP01C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.02
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	0.13	Thermal Resistivity (mK/W)	7.73

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.904	2.58	21.622
0.17	14.581	2.67	19.998
0.25	16.052	2.75	18.430
0.33	17.281	2.83	17.126
0.42	18.113	2.92	16.041
0.50	18.786	3.00	15.168
0.58	19.350	3.08	14.444
0.67	19.830	3.17	13.854
0.75	20.202	3.25	13.317
0.83	20.584	3.33	12.812
0.92	21.141	3.42	12.350
1.00	21.432	3.50	11.982
1.08	21.803	3.58	11.674
1.17	22.159	3.67	11.405
1.25	22.470	3.75	11.202
1.33	22.720	3.83	11.006
1.42	23.077	3.92	10.827
1.50	23.406	4.00	10.675
1.58	23.499	4.08	10.559
1.67	23.550	4.17	10.479
1.75	23.488	4.25	10.407
1.83	23.446	4.33	10.355
1.92	23.370	4.42	10.283
2.00	23.307	4.50	10.234
2.08	23.444	4.58	10.200
2.17	23.485	4.67	10.164
2.25	23.369	4.75	10.112
2.33	23.272	4.83	10.066
2.42	23.382	4.92	9.998
2.50	23.496		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

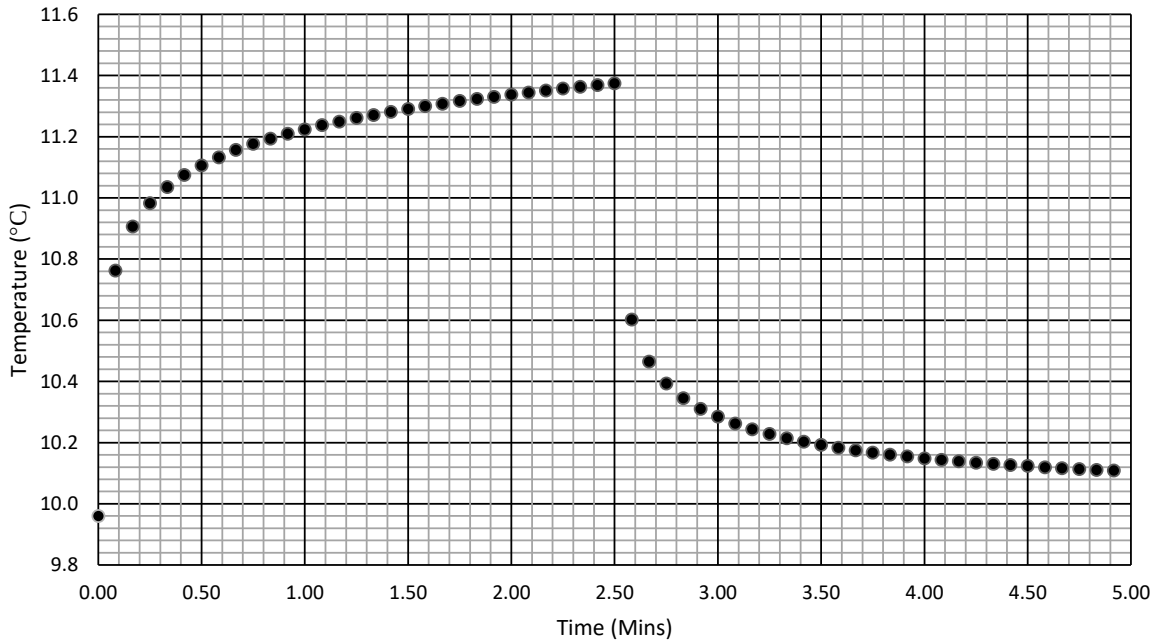
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP02
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/09/2023
		Test No.	TP02A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.96
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	2.29	Thermal Resistivity (mK/W)	0.44

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.763	2.58	10.603
0.17	10.907	2.67	10.465
0.25	10.983	2.75	10.394
0.33	11.036	2.83	10.346
0.42	11.075	2.92	10.311
0.50	11.106	3.00	10.285
0.58	11.133	3.08	10.263
0.67	11.157	3.17	10.244
0.75	11.177	3.25	10.229
0.83	11.194	3.33	10.215
0.92	11.210	3.42	10.203
1.00	11.224	3.50	10.193
1.08	11.238	3.58	10.184
1.17	11.250	3.67	10.175
1.25	11.262	3.75	10.168
1.33	11.271	3.83	10.161
1.42	11.282	3.92	10.155
1.50	11.291	4.00	10.149
1.58	11.300	4.08	10.144
1.67	11.308	4.17	10.139
1.75	11.317	4.25	10.135
1.83	11.324	4.33	10.131
1.92	11.331	4.42	10.127
2.00	11.338	4.50	10.124
2.08	11.345	4.58	10.120
2.17	11.351	4.67	10.117
2.25	11.358	4.75	10.114
2.33	11.364	4.83	10.111
2.42	11.369	4.92	10.109
2.50	11.375		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

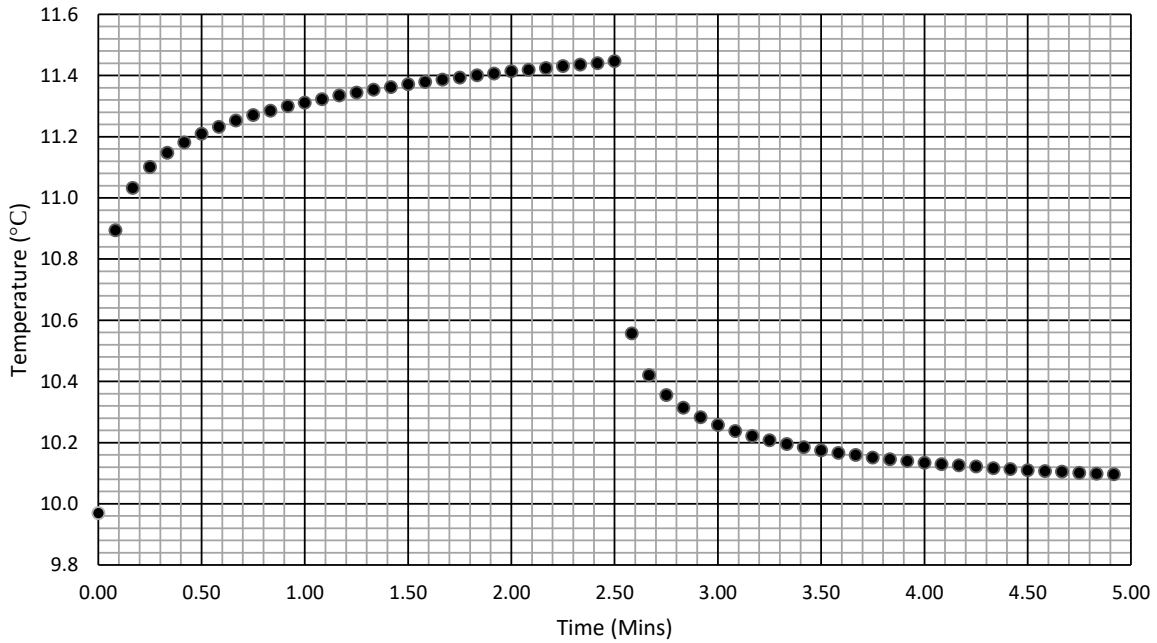
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP02
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP02B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.97
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	2.50	Thermal Resistivity (mK/W)	0.40

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.895	2.58	10.557
0.17	11.033	2.67	10.421
0.25	11.102	2.75	10.356
0.33	11.148	2.83	10.314
0.42	11.182	2.92	10.283
0.50	11.210	3.00	10.258
0.58	11.233	3.08	10.238
0.67	11.253	3.17	10.222
0.75	11.271	3.25	10.208
0.83	11.285	3.33	10.196
0.92	11.300	3.42	10.185
1.00	11.312	3.50	10.175
1.08	11.323	3.58	10.167
1.17	11.335	3.67	10.160
1.25	11.345	3.75	10.152
1.33	11.354	3.83	10.146
1.42	11.363	3.92	10.140
1.50	11.372	4.00	10.135
1.58	11.380	4.08	10.130
1.67	11.387	4.17	10.126
1.75	11.394	4.25	10.122
1.83	11.401	4.33	10.117
1.92	11.407	4.42	10.114
2.00	11.414	4.50	10.110
2.08	11.419	4.58	10.107
2.17	11.425	4.67	10.105
2.25	11.431	4.75	10.102
2.33	11.436	4.83	10.099
2.42	11.441	4.92	10.097
2.50	11.447		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

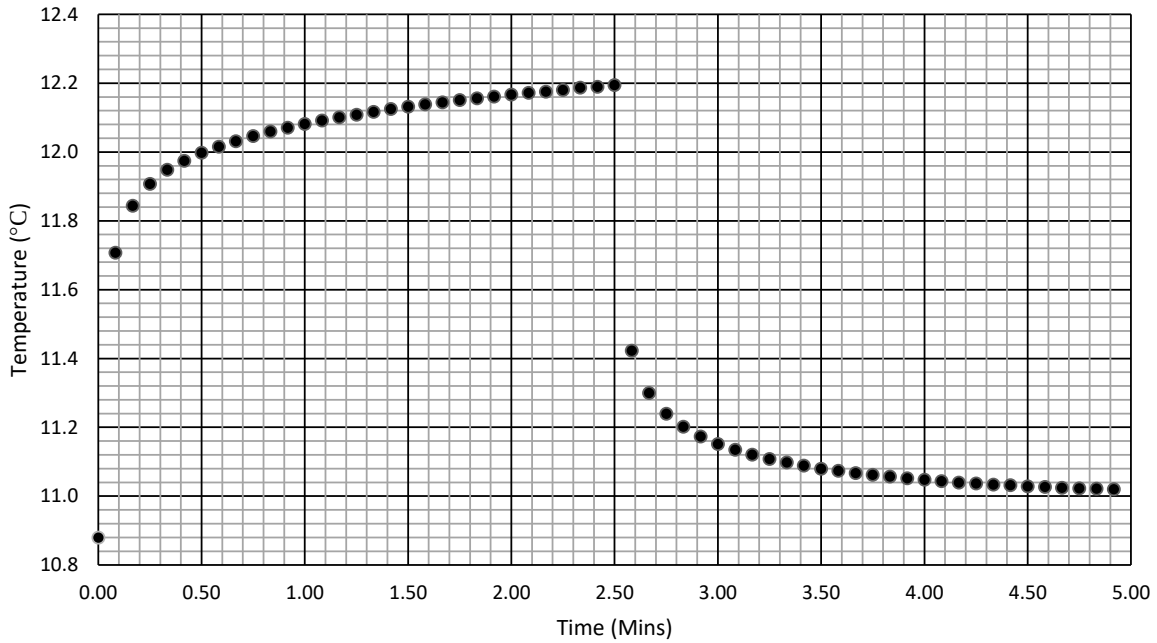
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP02
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP02C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.88
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	3.05	Thermal Resistivity (mK/W)	0.33

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.708	2.58	11.423
0.17	11.844	2.67	11.300
0.25	11.908	2.75	11.240
0.33	11.949	2.83	11.202
0.42	11.975	2.92	11.174
0.50	11.998	3.00	11.152
0.58	12.016	3.08	11.135
0.67	12.032	3.17	11.121
0.75	12.047	3.25	11.108
0.83	12.060	3.33	11.098
0.92	12.071	3.42	11.089
1.00	12.082	3.50	11.080
1.08	12.092	3.58	11.074
1.17	12.101	3.67	11.067
1.25	12.109	3.75	11.062
1.33	12.117	3.83	11.057
1.42	12.125	3.92	11.052
1.50	12.132	4.00	11.048
1.58	12.139	4.08	11.044
1.67	12.145	4.17	11.040
1.75	12.151	4.25	11.037
1.83	12.156	4.33	11.034
1.92	12.161	4.42	11.032
2.00	12.167	4.50	11.029
2.08	12.172	4.58	11.027
2.17	12.176	4.67	11.025
2.25	12.181	4.75	11.023
2.33	12.187	4.83	11.022
2.42	12.190	4.92	11.020
2.50	12.195		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

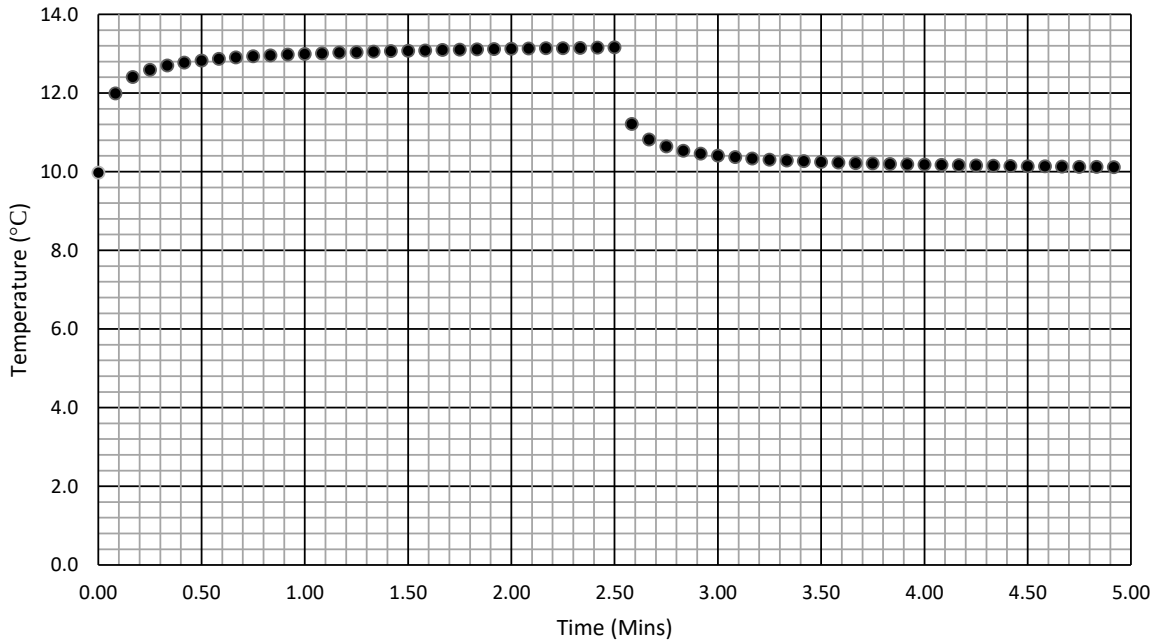
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP03
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP03A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.98
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.78	Thermal Resistivity (mK/W)	0.56

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.991	2.58	11.216
0.17	12.407	2.67	10.822
0.25	12.595	2.75	10.643
0.33	12.704	2.83	10.536
0.42	12.777	2.92	10.465
0.50	12.830	3.00	10.412
0.58	12.872	3.08	10.371
0.67	12.906	3.17	10.338
0.75	12.935	3.25	10.311
0.83	12.958	3.33	10.288
0.92	12.980	3.42	10.268
1.00	12.998	3.50	10.252
1.08	13.014	3.58	10.237
1.17	13.029	3.67	10.223
1.25	13.042	3.75	10.212
1.33	13.054	3.83	10.201
1.42	13.066	3.92	10.192
1.50	13.076	4.00	10.183
1.58	13.086	4.08	10.174
1.67	13.095	4.17	10.168
1.75	13.104	4.25	10.161
1.83	13.112	4.33	10.154
1.92	13.119	4.42	10.148
2.00	13.126	4.50	10.143
2.08	13.133	4.58	10.138
2.17	13.139	4.67	10.132
2.25	13.145	4.75	10.128
2.33	13.152	4.83	10.124
2.42	13.157	4.92	10.120
2.50	13.162		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

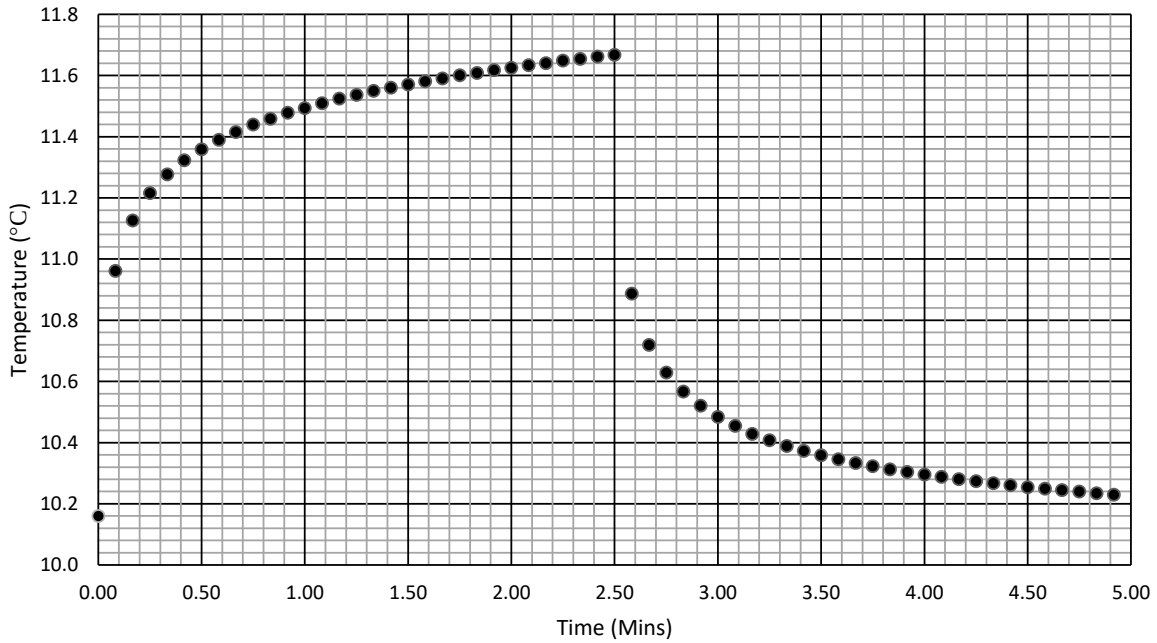
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP03
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP03B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.16
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.74	Thermal Resistivity (mK/W)	0.58

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.962	2.58	10.887
0.17	11.127	2.67	10.720
0.25	11.216	2.75	10.629
0.33	11.277	2.83	10.567
0.42	11.323	2.92	10.521
0.50	11.359	3.00	10.484
0.58	11.390	3.08	10.455
0.67	11.416	3.17	10.429
0.75	11.440	3.25	10.408
0.83	11.459	3.33	10.389
0.92	11.479	3.42	10.373
1.00	11.494	3.50	10.359
1.08	11.510	3.58	10.346
1.17	11.525	3.67	10.334
1.25	11.537	3.75	10.323
1.33	11.550	3.83	10.313
1.42	11.561	3.92	10.304
1.50	11.571	4.00	10.296
1.58	11.581	4.08	10.288
1.67	11.591	4.17	10.281
1.75	11.601	4.25	10.274
1.83	11.609	4.33	10.268
1.92	11.618	4.42	10.261
2.00	11.626	4.50	10.255
2.08	11.634	4.58	10.250
2.17	11.641	4.67	10.245
2.25	11.649	4.75	10.240
2.33	11.655	4.83	10.235
2.42	11.662	4.92	10.230
2.50	11.668		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

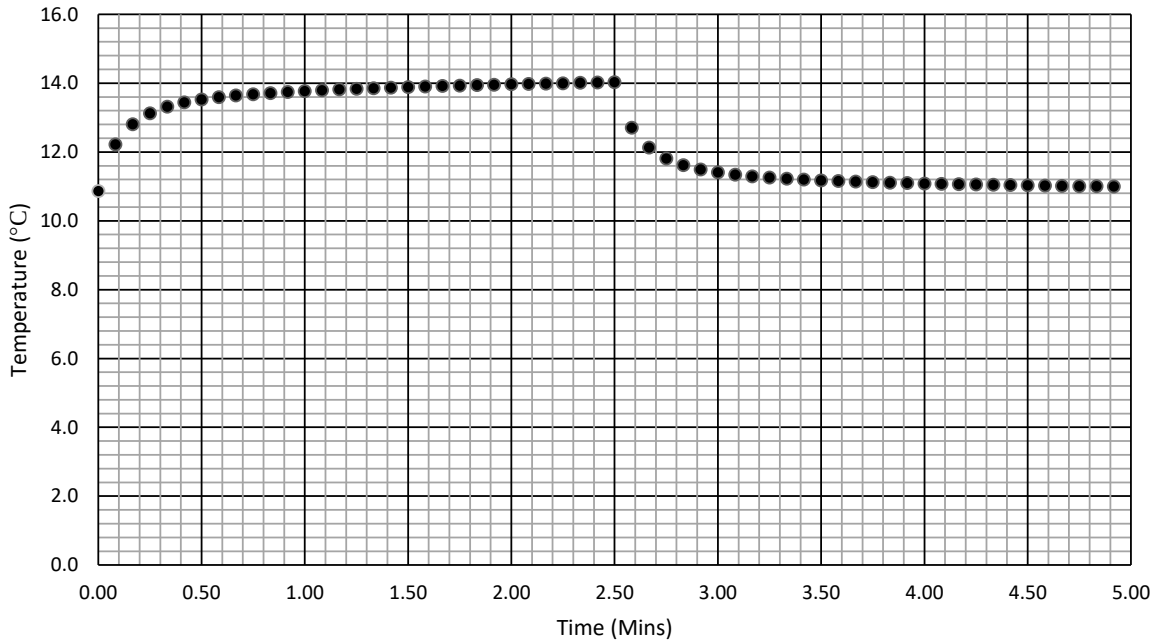
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP03
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	21/11/2023
		Test No.	TP03C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.87
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.20	Thermal Resistivity (mK/W)	0.84

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.223	2.58	12.708
0.17	12.810	2.67	12.130
0.25	13.130	2.75	11.813
0.33	13.322	2.83	11.620
0.42	13.446	2.92	11.496
0.50	13.531	3.00	11.411
0.58	13.595	3.08	11.347
0.67	13.644	3.17	11.299
0.75	13.684	3.25	11.261
0.83	13.718	3.33	11.230
0.92	13.748	3.42	11.203
1.00	13.775	3.50	11.181
1.08	13.798	3.58	11.161
1.17	13.819	3.67	11.143
1.25	13.840	3.75	11.127
1.33	13.858	3.83	11.113
1.42	13.876	3.92	11.100
1.50	13.891	4.00	11.089
1.58	13.906	4.08	11.078
1.67	13.920	4.17	11.067
1.75	13.933	4.25	11.058
1.83	13.945	4.33	11.050
1.92	13.958	4.42	11.042
2.00	13.970	4.50	11.034
2.08	13.981	4.58	11.026
2.17	13.990	4.67	11.020
2.25	14.001	4.75	11.014
2.33	14.012	4.83	11.007
2.42	14.021	4.92	11.001
2.50	14.032		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

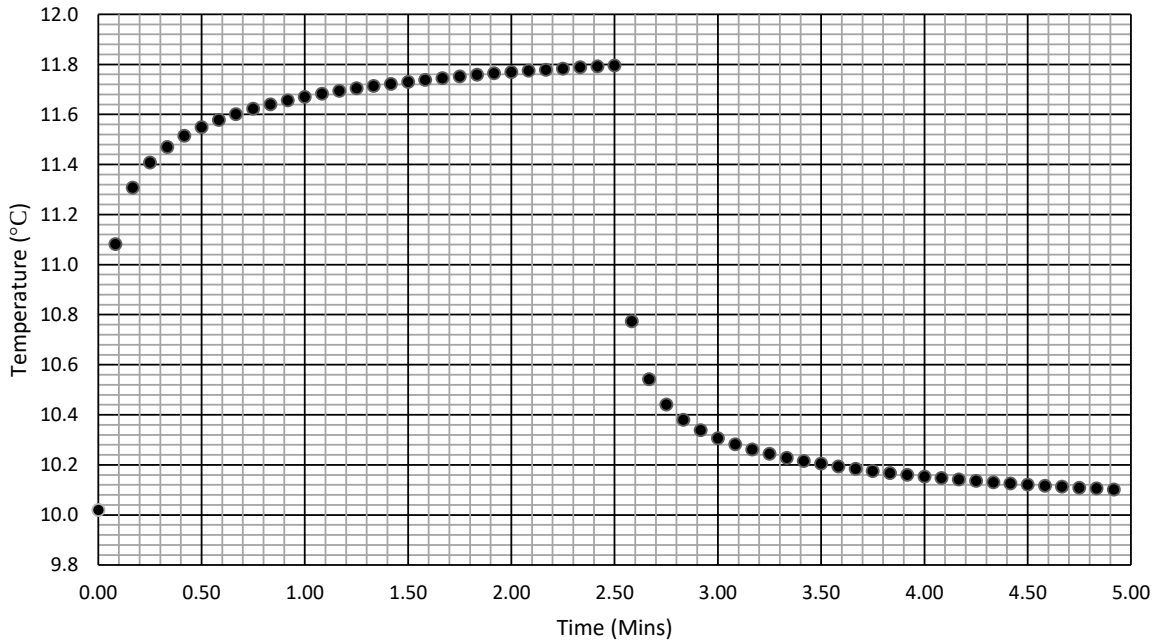
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP04
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP04A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.02
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	2.22	Thermal Resistivity (mK/W)	0.45

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.082	2.58	10.774
0.17	11.308	2.67	10.543
0.25	11.408	2.75	10.442
0.33	11.470	2.83	10.381
0.42	11.515	2.92	10.339
0.50	11.550	3.00	10.307
0.58	11.579	3.08	10.283
0.67	11.602	3.17	10.262
0.75	11.623	3.25	10.245
0.83	11.641	3.33	10.229
0.92	11.657	3.42	10.216
1.00	11.671	3.50	10.205
1.08	11.683	3.58	10.194
1.17	11.695	3.67	10.185
1.25	11.705	3.75	10.176
1.33	11.714	3.83	10.168
1.42	11.723	3.92	10.161
1.50	11.731	4.00	10.154
1.58	11.739	4.08	10.148
1.67	11.746	4.17	10.142
1.75	11.752	4.25	10.136
1.83	11.759	4.33	10.131
1.92	11.765	4.42	10.126
2.00	11.770	4.50	10.121
2.08	11.775	4.58	10.117
2.17	11.779	4.67	10.113
2.25	11.784	4.75	10.109
2.33	11.789	4.83	10.106
2.42	11.793	4.92	10.102
2.50	11.796		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

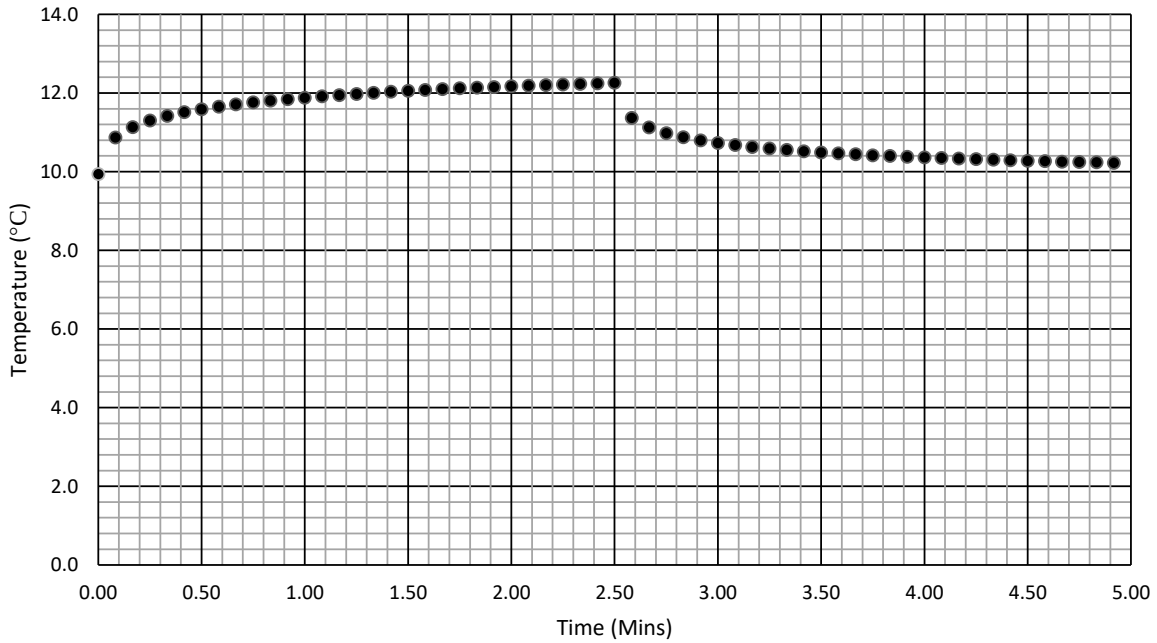
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP04
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP04B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.94
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	0.79	Thermal Resistivity (mK/W)	1.27

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.875	2.58	11.367
0.17	11.138	2.67	11.127
0.25	11.302	2.75	10.982
0.33	11.421	2.83	10.878
0.42	11.514	2.92	10.798
0.50	11.591	3.00	10.732
0.58	11.657	3.08	10.678
0.67	11.713	3.17	10.632
0.75	11.763	3.25	10.591
0.83	11.808	3.33	10.555
0.92	11.849	3.42	10.523
1.00	11.886	3.50	10.494
1.08	11.920	3.58	10.468
1.17	11.951	3.67	10.444
1.25	11.980	3.75	10.421
1.33	12.008	3.83	10.402
1.42	12.033	3.92	10.383
1.50	12.057	4.00	10.365
1.58	12.079	4.08	10.349
1.67	12.100	4.17	10.334
1.75	12.121	4.25	10.319
1.83	12.139	4.33	10.306
1.92	12.157	4.42	10.293
2.00	12.174	4.50	10.281
2.08	12.191	4.58	10.270
2.17	12.206	4.67	10.258
2.25	12.221	4.75	10.249
2.33	12.236	4.83	10.239
2.42	12.250	4.92	10.230
2.50	12.263		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

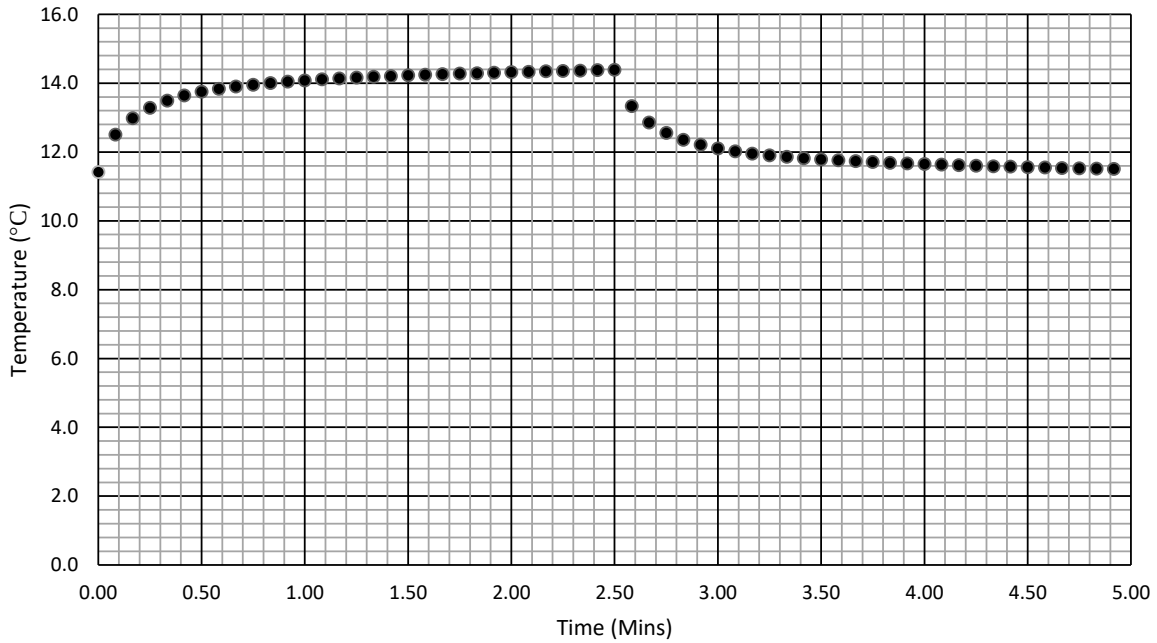
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP04
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP04C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.42
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	0.85	Thermal Resistivity (mK/W)	1.17

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.507	2.58	13.334
0.17	12.987	2.67	12.861
0.25	13.290	2.75	12.561
0.33	13.496	2.83	12.358
0.42	13.643	2.92	12.214
0.50	13.753	3.00	12.106
0.58	13.837	3.08	12.024
0.67	13.903	3.17	11.959
0.75	13.959	3.25	11.905
0.83	14.005	3.33	11.860
0.92	14.046	3.42	11.823
1.00	14.081	3.50	11.790
1.08	14.112	3.58	11.761
1.17	14.140	3.67	11.735
1.25	14.166	3.75	11.711
1.33	14.189	3.83	11.689
1.42	14.210	3.92	11.670
1.50	14.230	4.00	11.652
1.58	14.249	4.08	11.635
1.67	14.266	4.17	11.619
1.75	14.281	4.25	11.605
1.83	14.295	4.33	11.591
1.92	14.309	4.42	11.578
2.00	14.322	4.50	11.565
2.08	14.336	4.58	11.553
2.17	14.348	4.67	11.541
2.25	14.359	4.75	11.531
2.33	14.370	4.83	11.520
2.42	14.380	4.92	11.510
2.50	14.390		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

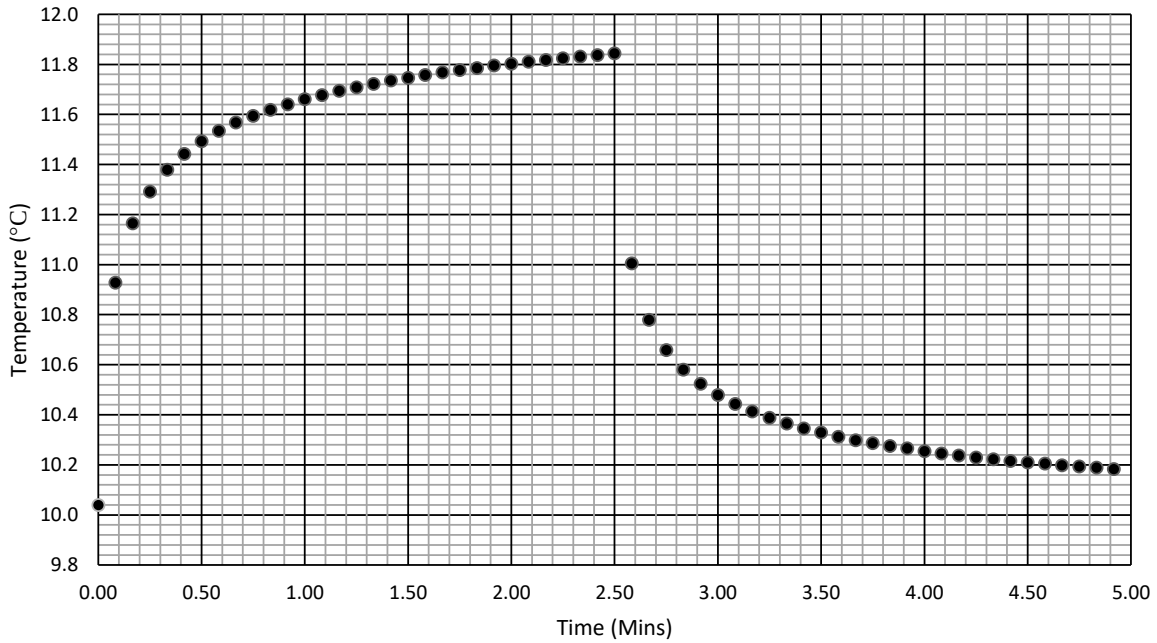
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP05
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP05A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.04
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.50	Thermal Resistivity (mK/W)	0.67

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.928	2.58	11.006
0.17	11.165	2.67	10.780
0.25	11.292	2.75	10.659
0.33	11.379	2.83	10.581
0.42	11.443	2.92	10.524
0.50	11.494	3.00	10.480
0.58	11.535	3.08	10.444
0.67	11.568	3.17	10.414
0.75	11.595	3.25	10.388
0.83	11.619	3.33	10.366
0.92	11.641	3.42	10.346
1.00	11.661	3.50	10.330
1.08	11.678	3.58	10.313
1.17	11.695	3.67	10.299
1.25	11.709	3.75	10.287
1.33	11.723	3.83	10.276
1.42	11.736	3.92	10.266
1.50	11.747	4.00	10.255
1.58	11.758	4.08	10.246
1.67	11.769	4.17	10.238
1.75	11.778	4.25	10.230
1.83	11.786	4.33	10.223
1.92	11.796	4.42	10.216
2.00	11.803	4.50	10.210
2.08	11.811	4.58	10.205
2.17	11.818	4.67	10.199
2.25	11.825	4.75	10.194
2.33	11.832	4.83	10.189
2.42	11.838	4.92	10.184
2.50	11.845		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

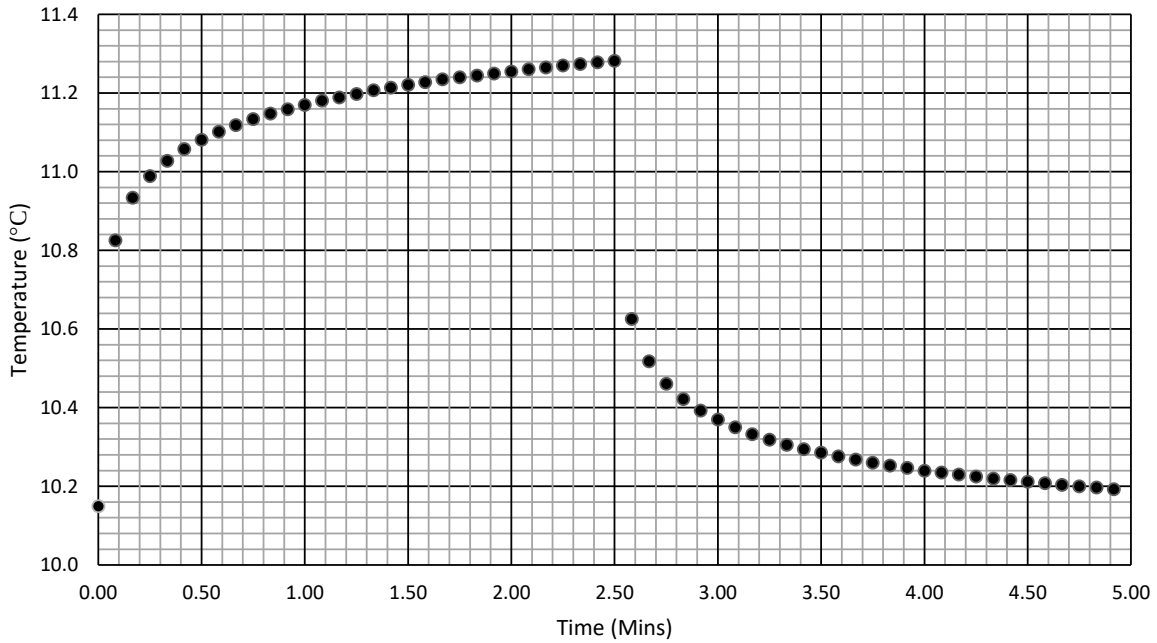
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP05
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP05B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.15
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	2.40	Thermal Resistivity (mK/W)	0.42

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.826	2.58	10.626
0.17	10.934	2.67	10.518
0.25	10.989	2.75	10.461
0.33	11.028	2.83	10.422
0.42	11.058	2.92	10.393
0.50	11.081	3.00	10.370
0.58	11.102	3.08	10.350
0.67	11.119	3.17	10.333
0.75	11.134	3.25	10.319
0.83	11.148	3.33	10.306
0.92	11.159	3.42	10.295
1.00	11.170	3.50	10.286
1.08	11.181	3.58	10.276
1.17	11.189	3.67	10.268
1.25	11.198	3.75	10.260
1.33	11.207	3.83	10.253
1.42	11.214	3.92	10.247
1.50	11.221	4.00	10.240
1.58	11.228	4.08	10.235
1.67	11.235	4.17	10.230
1.75	11.240	4.25	10.225
1.83	11.245	4.33	10.220
1.92	11.250	4.42	10.216
2.00	11.255	4.50	10.212
2.08	11.261	4.58	10.208
2.17	11.265	4.67	10.204
2.25	11.270	4.75	10.200
2.33	11.274	4.83	10.197
2.42	11.278	4.92	10.193
2.50	11.282		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

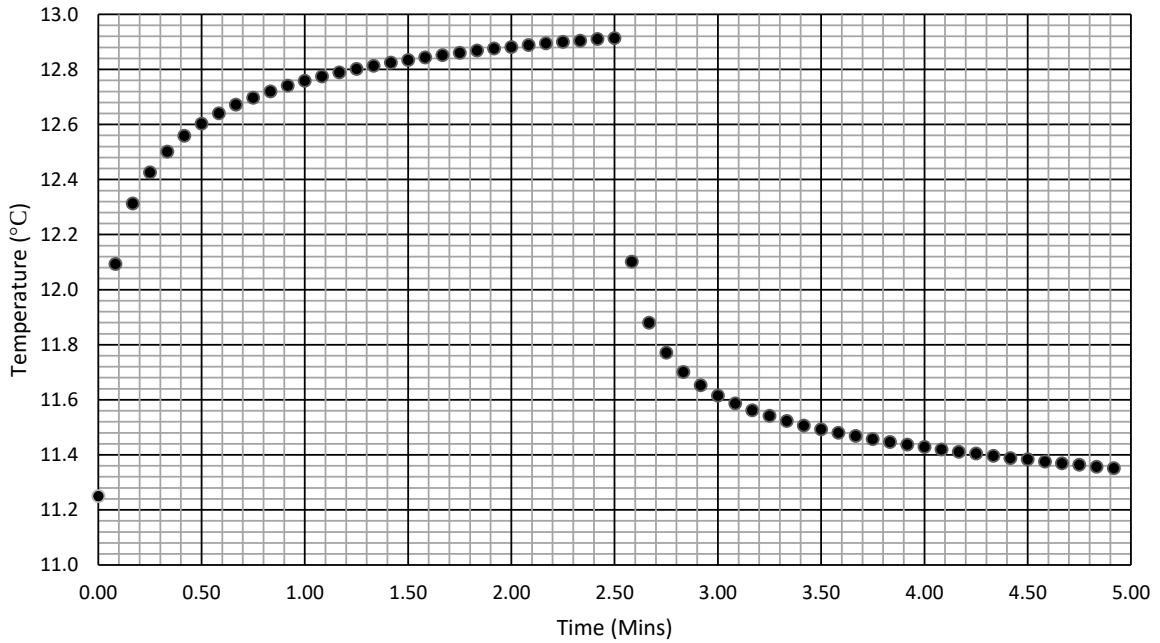
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP05
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP05C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.25
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.63	Thermal Resistivity (mK/W)	0.61

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.094	2.58	12.102
0.17	12.314	2.67	11.880
0.25	12.427	2.75	11.771
0.33	12.502	2.83	11.701
0.42	12.559	2.92	11.653
0.50	12.603	3.00	11.616
0.58	12.641	3.08	11.587
0.67	12.672	3.17	11.562
0.75	12.698	3.25	11.542
0.83	12.721	3.33	11.523
0.92	12.741	3.42	11.507
1.00	12.759	3.50	11.493
1.08	12.775	3.58	11.481
1.17	12.790	3.67	11.469
1.25	12.802	3.75	11.458
1.33	12.814	3.83	11.447
1.42	12.825	3.92	11.438
1.50	12.835	4.00	11.429
1.58	12.844	4.08	11.420
1.67	12.852	4.17	11.412
1.75	12.861	4.25	11.405
1.83	12.869	4.33	11.397
1.92	12.876	4.42	11.389
2.00	12.882	4.50	11.384
2.08	12.889	4.58	11.376
2.17	12.895	4.67	11.370
2.25	12.901	4.75	11.364
2.33	12.905	4.83	11.357
2.42	12.911	4.92	11.352
2.50	12.914		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

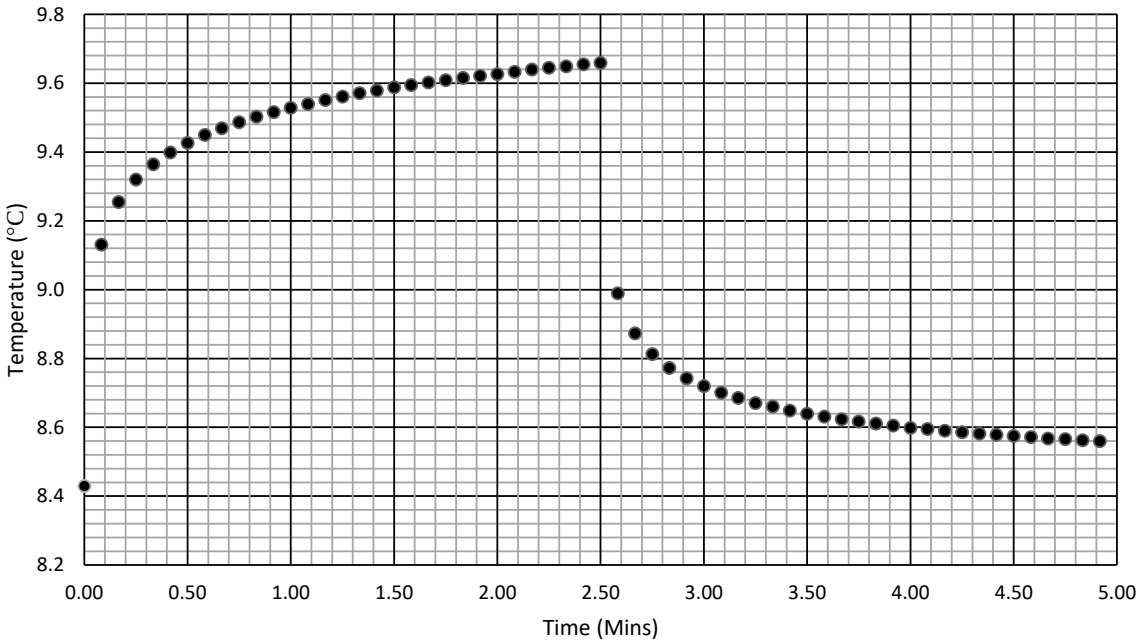
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP06
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP06A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.43
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	2.25	Thermal Resistivity (mK/W)	0.45

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.131	2.58	8.990
0.17	9.255	2.67	8.873
0.25	9.320	2.75	8.813
0.33	9.365	2.83	8.773
0.42	9.399	2.92	8.743
0.50	9.427	3.00	8.720
0.58	9.450	3.08	8.701
0.67	9.469	3.17	8.686
0.75	9.487	3.25	8.671
0.83	9.503	3.33	8.661
0.92	9.516	3.42	8.649
1.00	9.529	3.50	8.640
1.08	9.540	3.58	8.631
1.17	9.551	3.67	8.624
1.25	9.561	3.75	8.617
1.33	9.571	3.83	8.611
1.42	9.579	3.92	8.605
1.50	9.588	4.00	8.599
1.58	9.595	4.08	8.595
1.67	9.602	4.17	8.590
1.75	9.609	4.25	8.586
1.83	9.616	4.33	8.582
1.92	9.622	4.42	8.579
2.00	9.627	4.50	8.575
2.08	9.633	4.58	8.572
2.17	9.640	4.67	8.568
2.25	9.645	4.75	8.566
2.33	9.649	4.83	8.563
2.42	9.655	4.92	8.560
2.50	9.659		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

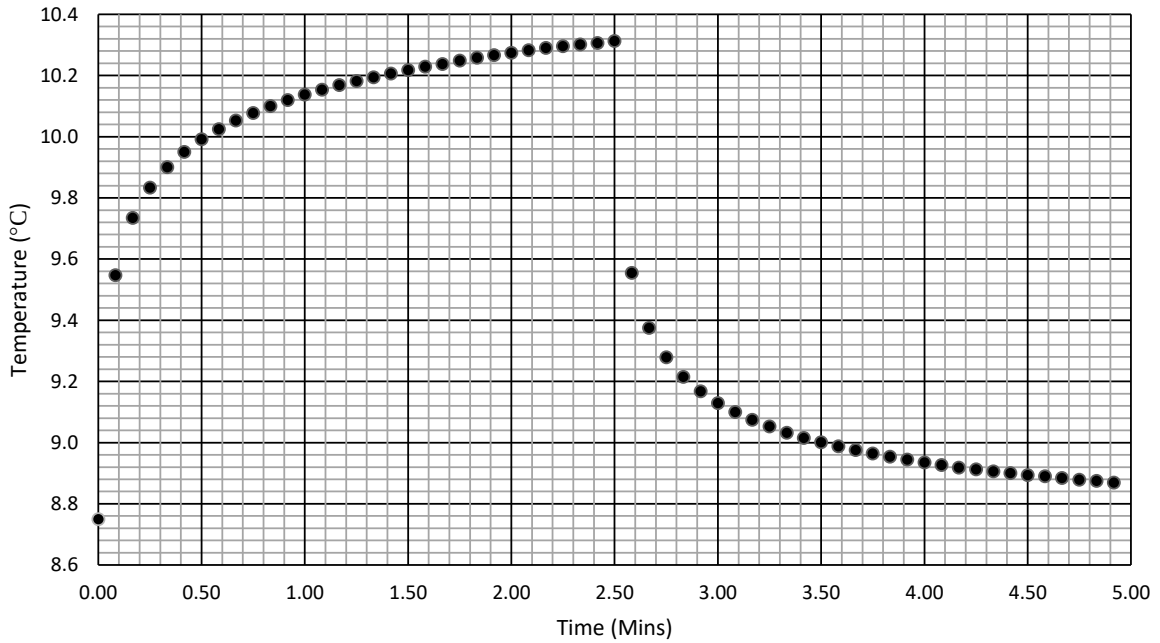
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP06
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP06B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.75
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.51	Thermal Resistivity (mK/W)	0.66

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.548	2.58	9.555
0.17	9.735	2.67	9.375
0.25	9.834	2.75	9.279
0.33	9.901	2.83	9.215
0.42	9.951	2.92	9.168
0.50	9.992	3.00	9.130
0.58	10.025	3.08	9.100
0.67	10.053	3.17	9.075
0.75	10.078	3.25	9.053
0.83	10.100	3.33	9.033
0.92	10.120	3.42	9.016
1.00	10.138	3.50	9.001
1.08	10.154	3.58	8.988
1.17	10.169	3.67	8.976
1.25	10.182	3.75	8.965
1.33	10.195	3.83	8.954
1.42	10.207	3.92	8.945
1.50	10.218	4.00	8.936
1.58	10.229	4.08	8.927
1.67	10.238	4.17	8.919
1.75	10.249	4.25	8.913
1.83	10.259	4.33	8.906
1.92	10.267	4.42	8.901
2.00	10.275	4.50	8.894
2.08	10.283	4.58	8.890
2.17	10.291	4.67	8.885
2.25	10.296	4.75	8.879
2.33	10.302	4.83	8.875
2.42	10.307	4.92	8.870
2.50	10.313		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

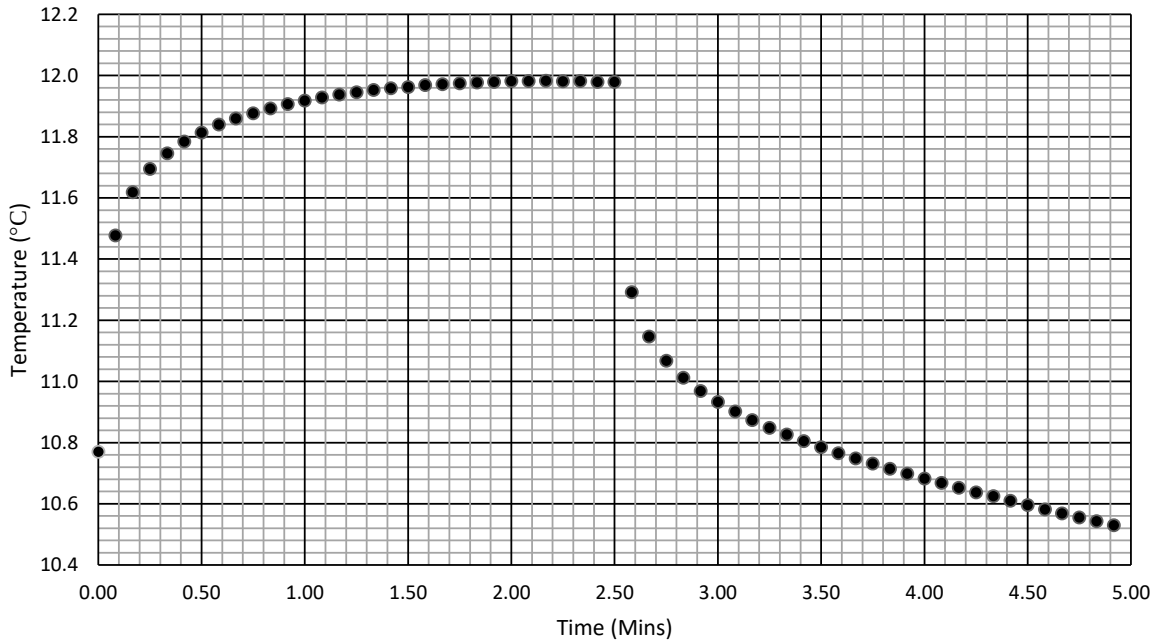
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP06
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP06C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.77
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.39	Thermal Resistivity (mK/W)	0.72

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.478	2.58	11.292
0.17	11.619	2.67	11.147
0.25	11.695	2.75	11.068
0.33	11.746	2.83	11.012
0.42	11.785	2.92	10.969
0.50	11.814	3.00	10.933
0.58	11.840	3.08	10.902
0.67	11.860	3.17	10.874
0.75	11.877	3.25	10.849
0.83	11.893	3.33	10.827
0.92	11.907	3.42	10.805
1.00	11.918	3.50	10.785
1.08	11.929	3.58	10.766
1.17	11.938	3.67	10.749
1.25	11.946	3.75	10.732
1.33	11.953	3.83	10.715
1.42	11.959	3.92	10.699
1.50	11.963	4.00	10.683
1.58	11.969	4.08	10.669
1.67	11.972	4.17	10.653
1.75	11.975	4.25	10.638
1.83	11.978	4.33	10.625
1.92	11.980	4.42	10.610
2.00	11.982	4.50	10.596
2.08	11.982	4.58	10.582
2.17	11.983	4.67	10.569
2.25	11.981	4.75	10.556
2.33	11.982	4.83	10.543
2.42	11.980	4.92	10.530
2.50	11.980		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

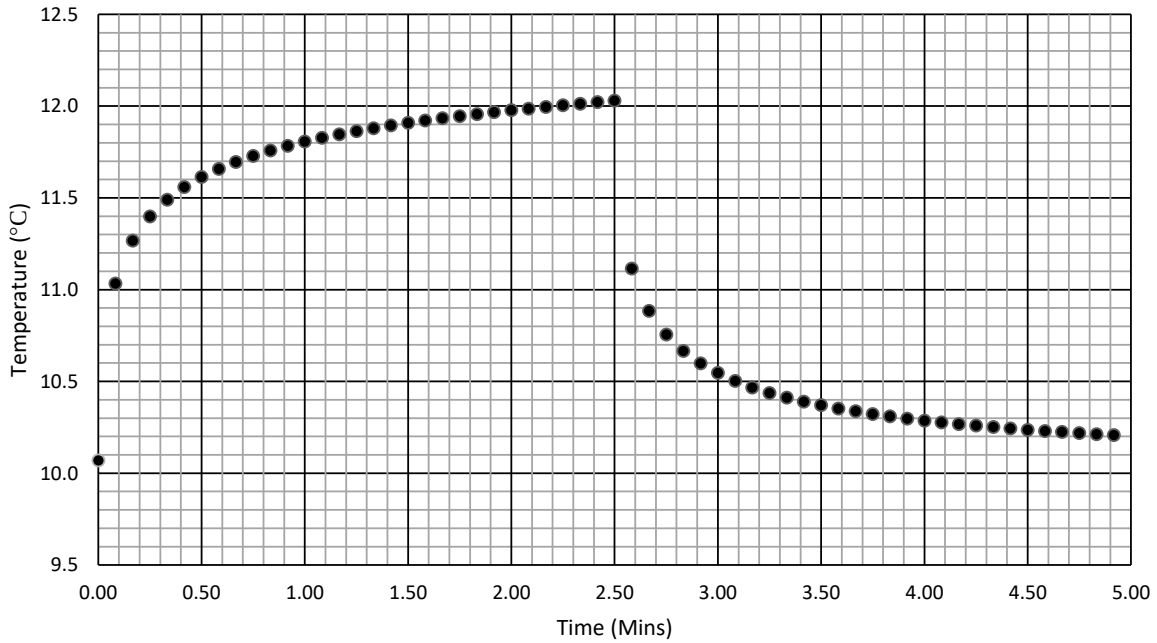
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP07
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/12/2023
		Test No.	TP07A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.07
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.30	Thermal Resistivity (mK/W)	0.77

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.034	2.58	11.115
0.17	11.268	2.67	10.885
0.25	11.400	2.75	10.756
0.33	11.491	2.83	10.666
0.42	11.560	2.92	10.599
0.50	11.614	3.00	10.547
0.58	11.659	3.08	10.504
0.67	11.697	3.17	10.468
0.75	11.729	3.25	10.438
0.83	11.759	3.33	10.413
0.92	11.784	3.42	10.390
1.00	11.807	3.50	10.371
1.08	11.828	3.58	10.353
1.17	11.847	3.67	10.338
1.25	11.864	3.75	10.323
1.33	11.880	3.83	10.310
1.42	11.895	3.92	10.298
1.50	11.909	4.00	10.287
1.58	11.922	4.08	10.277
1.67	11.935	4.17	10.268
1.75	11.946	4.25	10.260
1.83	11.957	4.33	10.252
1.92	11.968	4.42	10.244
2.00	11.978	4.50	10.237
2.08	11.987	4.58	10.231
2.17	11.996	4.67	10.225
2.25	12.006	4.75	10.219
2.33	12.014	4.83	10.213
2.42	12.022	4.92	10.208
2.50	12.030		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

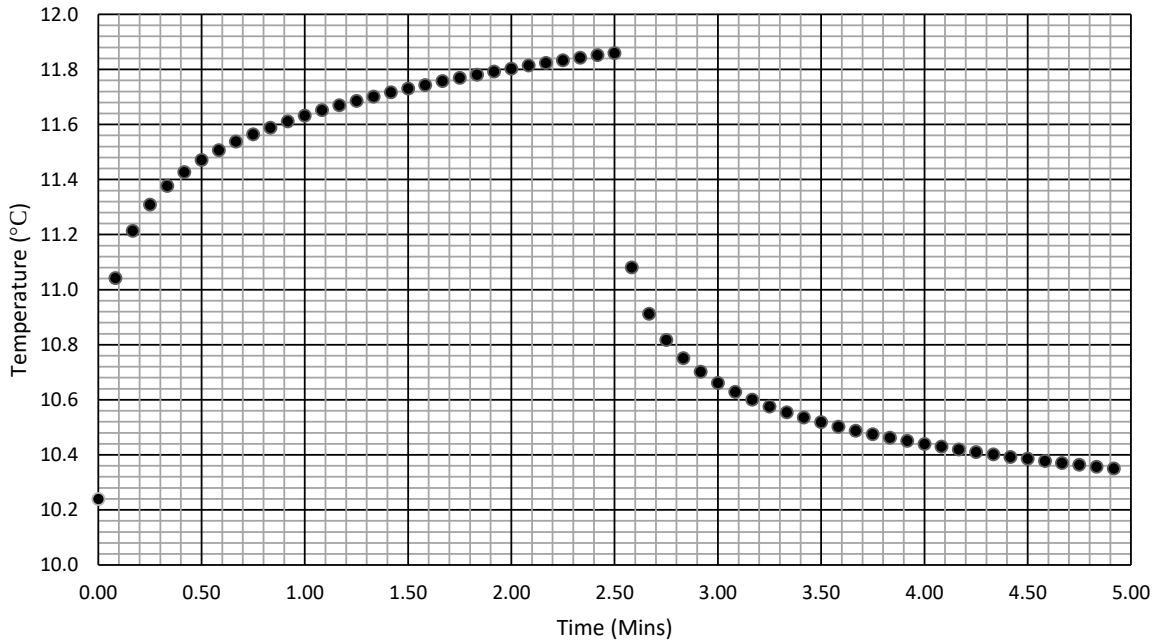
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP07
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP07B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.24
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.26	Thermal Resistivity (mK/W)	0.79

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.043	2.58	11.081
0.17	11.214	2.67	10.913
0.25	11.309	2.75	10.818
0.33	11.377	2.83	10.752
0.42	11.428	2.92	10.702
0.50	11.471	3.00	10.662
0.58	11.507	3.08	10.629
0.67	11.538	3.17	10.601
0.75	11.565	3.25	10.576
0.83	11.589	3.33	10.555
0.92	11.612	3.42	10.536
1.00	11.633	3.50	10.519
1.08	11.652	3.58	10.503
1.17	11.670	3.67	10.488
1.25	11.686	3.75	10.475
1.33	11.702	3.83	10.463
1.42	11.717	3.92	10.451
1.50	11.731	4.00	10.440
1.58	11.744	4.08	10.430
1.67	11.758	4.17	10.420
1.75	11.770	4.25	10.411
1.83	11.781	4.33	10.402
1.92	11.793	4.42	10.393
2.00	11.803	4.50	10.386
2.08	11.815	4.58	10.378
2.17	11.824	4.67	10.371
2.25	11.834	4.75	10.364
2.33	11.843	4.83	10.357
2.42	11.852	4.92	10.351
2.50	11.860		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

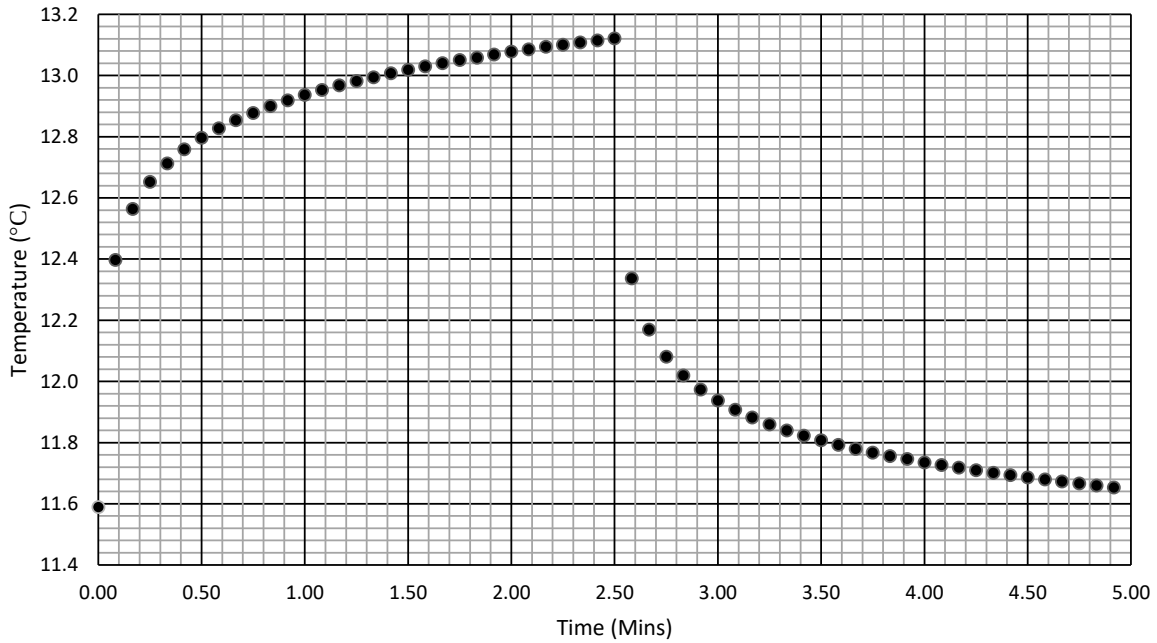
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP07
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP07C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.59
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.46	Thermal Resistivity (mK/W)	0.68

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.398	2.58	12.337
0.17	12.564	2.67	12.170
0.25	12.653	2.75	12.081
0.33	12.713	2.83	12.020
0.42	12.759	2.92	11.974
0.50	12.797	3.00	11.938
0.58	12.828	3.08	11.908
0.67	12.854	3.17	11.882
0.75	12.878	3.25	11.860
0.83	12.900	3.33	11.840
0.92	12.919	3.42	11.823
1.00	12.937	3.50	11.808
1.08	12.953	3.58	11.793
1.17	12.968	3.67	11.780
1.25	12.982	3.75	11.768
1.33	12.995	3.83	11.756
1.42	13.008	3.92	11.747
1.50	13.019	4.00	11.736
1.58	13.030	4.08	11.727
1.67	13.041	4.17	11.719
1.75	13.051	4.25	11.710
1.83	13.059	4.33	11.702
1.92	13.069	4.42	11.694
2.00	13.078	4.50	11.687
2.08	13.086	4.58	11.680
2.17	13.094	4.67	11.673
2.25	13.101	4.75	11.667
2.33	13.109	4.83	11.660
2.42	13.115	4.92	11.654
2.50	13.122		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

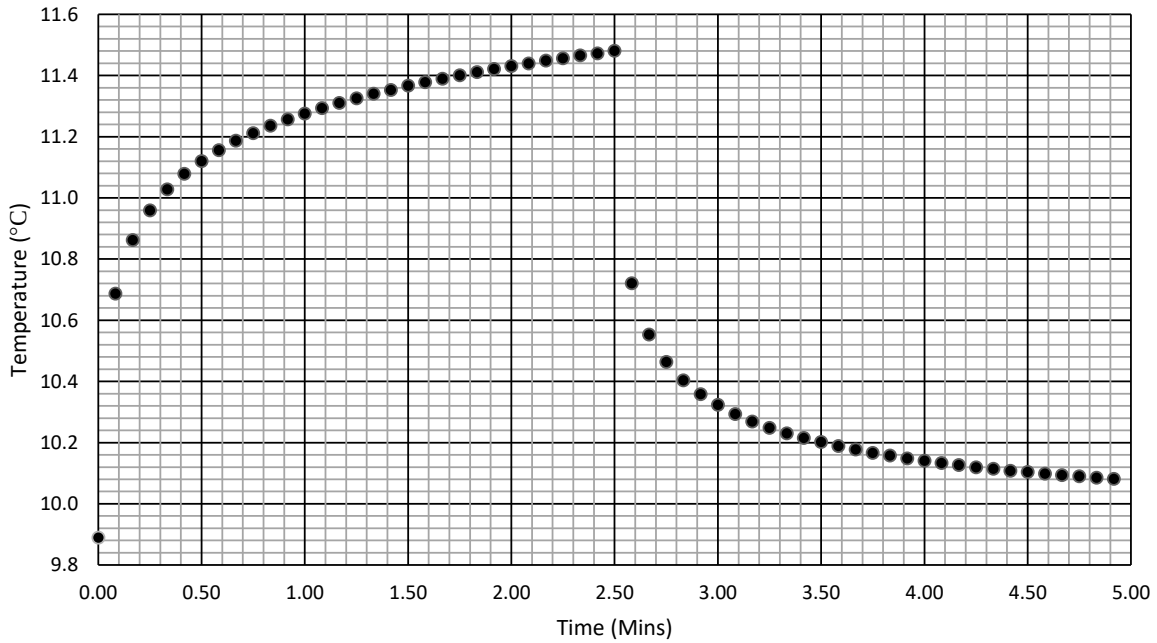
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP08
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP08A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.89
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	1.51	Thermal Resistivity (mK/W)	0.66

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.687	2.58	10.721
0.17	10.863	2.67	10.554
0.25	10.960	2.75	10.464
0.33	11.028	2.83	10.404
0.42	11.079	2.92	10.359
0.50	11.121	3.00	10.324
0.58	11.156	3.08	10.294
0.67	11.187	3.17	10.269
0.75	11.212	3.25	10.249
0.83	11.236	3.33	10.231
0.92	11.257	3.42	10.216
1.00	11.276	3.50	10.202
1.08	11.294	3.58	10.189
1.17	11.311	3.67	10.178
1.25	11.326	3.75	10.167
1.33	11.341	3.83	10.158
1.42	11.353	3.92	10.149
1.50	11.367	4.00	10.141
1.58	11.379	4.08	10.134
1.67	11.390	4.17	10.127
1.75	11.401	4.25	10.120
1.83	11.412	4.33	10.115
1.92	11.422	4.42	10.108
2.00	11.431	4.50	10.104
2.08	11.440	4.58	10.099
2.17	11.449	4.67	10.094
2.25	11.457	4.75	10.090
2.33	11.466	4.83	10.086
2.42	11.473	4.92	10.082
2.50	11.481		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

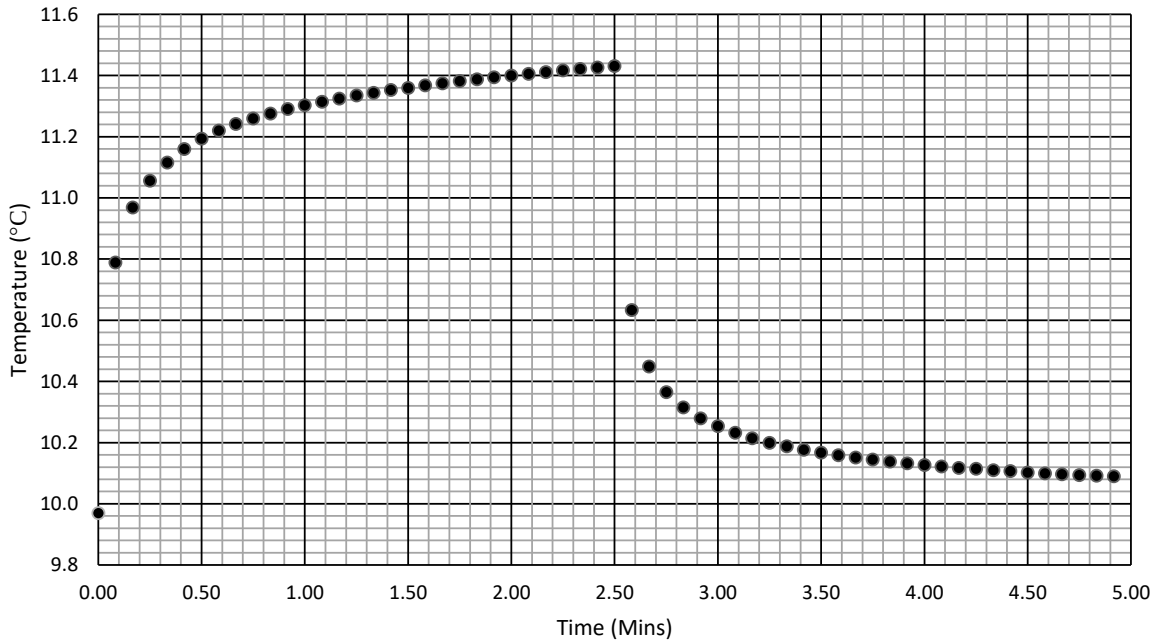
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP08
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP08B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.97
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	2.36	Thermal Resistivity (mK/W)	0.42

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.789	2.58	10.634
0.17	10.969	2.67	10.449
0.25	11.057	2.75	10.365
0.33	11.116	2.83	10.315
0.42	11.160	2.92	10.280
0.50	11.194	3.00	10.254
0.58	11.220	3.08	10.233
0.67	11.242	3.17	10.215
0.75	11.260	3.25	10.200
0.83	11.276	3.33	10.188
0.92	11.291	3.42	10.177
1.00	11.303	3.50	10.168
1.08	11.315	3.58	10.159
1.17	11.325	3.67	10.152
1.25	11.335	3.75	10.145
1.33	11.344	3.83	10.138
1.42	11.353	3.92	10.133
1.50	11.360	4.00	10.127
1.58	11.368	4.08	10.122
1.67	11.375	4.17	10.118
1.75	11.382	4.25	10.115
1.83	11.388	4.33	10.110
1.92	11.395	4.42	10.107
2.00	11.400	4.50	10.103
2.08	11.406	4.58	10.100
2.17	11.412	4.67	10.097
2.25	11.417	4.75	10.094
2.33	11.422	4.83	10.092
2.42	11.427	4.92	10.090
2.50	11.431		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

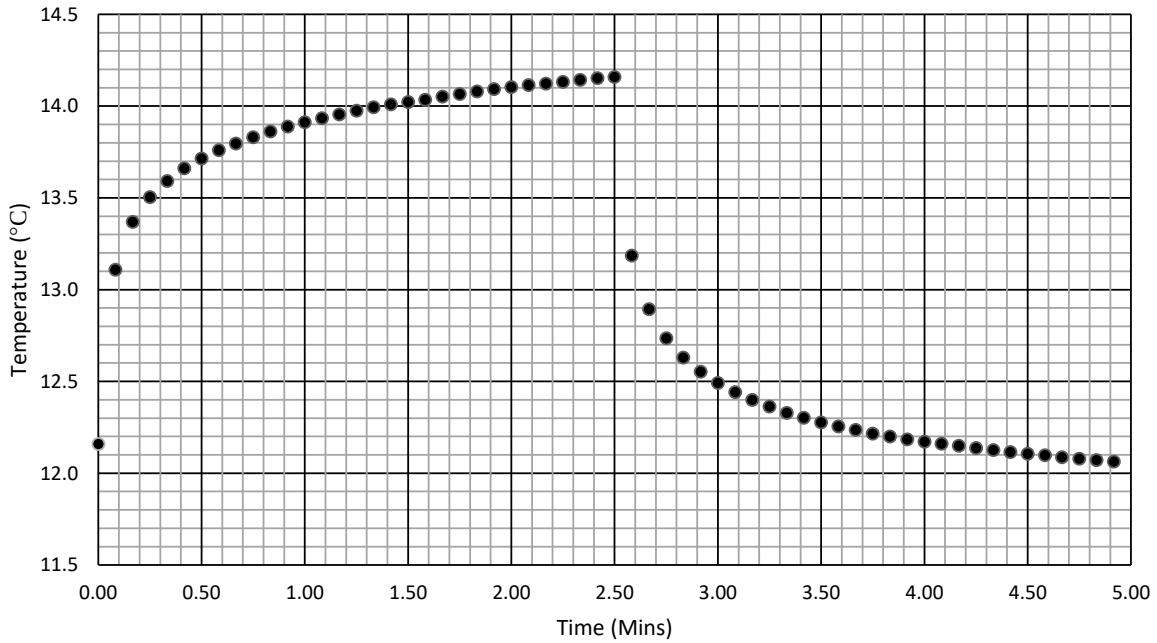
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP08
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP08C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	12.16
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.06	Thermal Resistivity (mK/W)	0.95

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	13.110	2.58	13.186
0.17	13.370	2.67	12.894
0.25	13.505	2.75	12.735
0.33	13.593	2.83	12.630
0.42	13.661	2.92	12.553
0.50	13.715	3.00	12.493
0.58	13.760	3.08	12.442
0.67	13.797	3.17	12.400
0.75	13.832	3.25	12.364
0.83	13.863	3.33	12.329
0.92	13.890	3.42	12.302
1.00	13.913	3.50	12.277
1.08	13.935	3.58	12.256
1.17	13.956	3.67	12.236
1.25	13.976	3.75	12.216
1.33	13.994	3.83	12.200
1.42	14.010	3.92	12.185
1.50	14.022	4.00	12.172
1.58	14.035	4.08	12.161
1.67	14.052	4.17	12.150
1.75	14.067	4.25	12.137
1.83	14.081	4.33	12.126
1.92	14.093	4.42	12.115
2.00	14.105	4.50	12.106
2.08	14.115	4.58	12.098
2.17	14.123	4.67	12.087
2.25	14.132	4.75	12.079
2.33	14.143	4.83	12.072
2.42	14.153	4.92	12.064
2.50	14.160		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

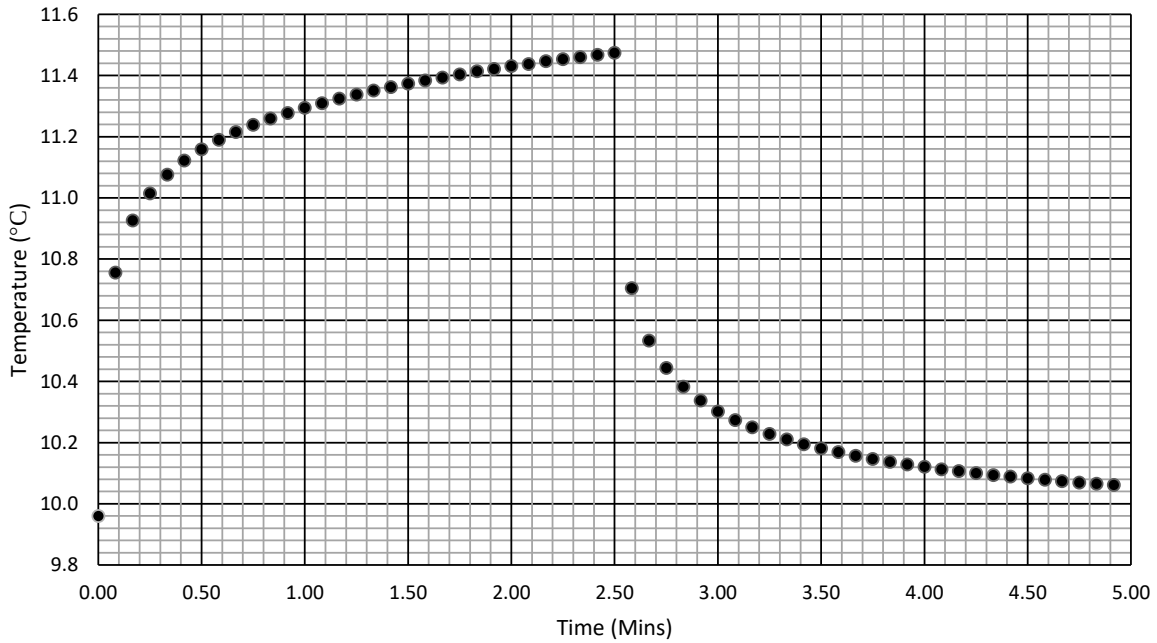
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP09
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP09A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.96
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.67	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.756	2.58	10.705
0.17	10.927	2.67	10.534
0.25	11.015	2.75	10.444
0.33	11.076	2.83	10.383
0.42	11.122	2.92	10.338
0.50	11.159	3.00	10.302
0.58	11.190	3.08	10.274
0.67	11.216	3.17	10.250
0.75	11.239	3.25	10.229
0.83	11.260	3.33	10.211
0.92	11.278	3.42	10.195
1.00	11.295	3.50	10.182
1.08	11.310	3.58	10.169
1.17	11.325	3.67	10.157
1.25	11.338	3.75	10.147
1.33	11.351	3.83	10.137
1.42	11.363	3.92	10.129
1.50	11.374	4.00	10.121
1.58	11.384	4.08	10.113
1.67	11.394	4.17	10.107
1.75	11.404	4.25	10.101
1.83	11.414	4.33	10.094
1.92	11.422	4.42	10.089
2.00	11.431	4.50	10.084
2.08	11.438	4.58	10.079
2.17	11.447	4.67	10.074
2.25	11.454	4.75	10.070
2.33	11.461	4.83	10.066
2.42	11.468	4.92	10.062
2.50	11.475		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

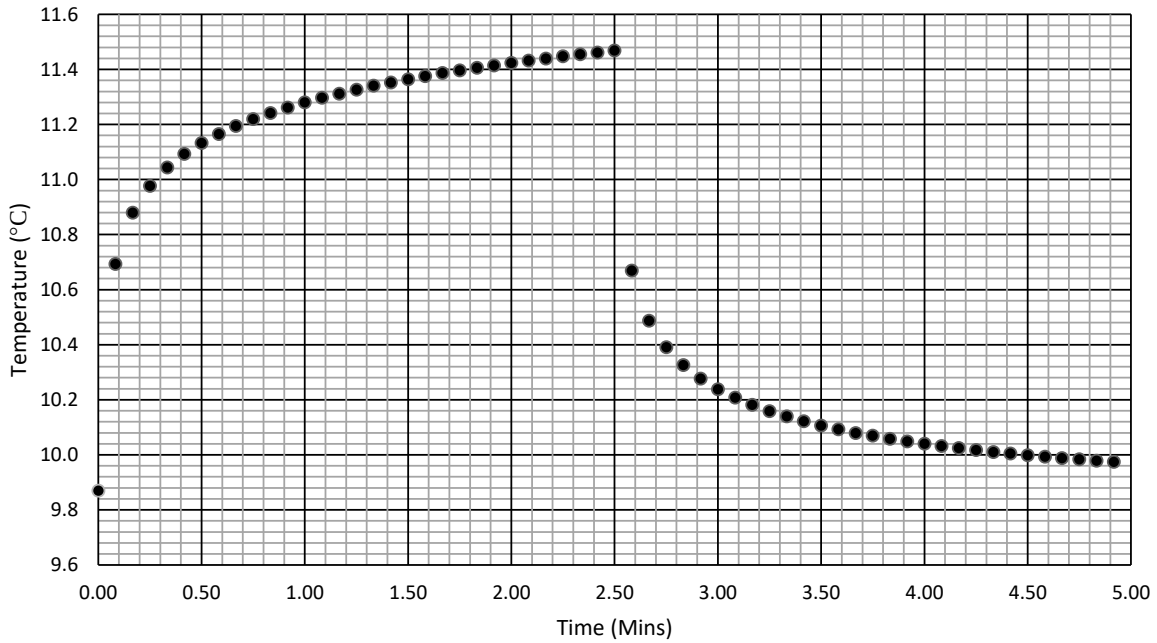
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP09
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP09B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.87
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.54	Thermal Resistivity (mK/W)	0.65

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.694	2.58	10.670
0.17	10.880	2.67	10.488
0.25	10.977	2.75	10.391
0.33	11.044	2.83	10.326
0.42	11.093	2.92	10.277
0.50	11.133	3.00	10.239
0.58	11.166	3.08	10.208
0.67	11.195	3.17	10.182
0.75	11.220	3.25	10.159
0.83	11.242	3.33	10.140
0.92	11.262	3.42	10.122
1.00	11.281	3.50	10.107
1.08	11.298	3.58	10.093
1.17	11.312	3.67	10.080
1.25	11.327	3.75	10.070
1.33	11.341	3.83	10.059
1.42	11.353	3.92	10.049
1.50	11.364	4.00	10.041
1.58	11.376	4.08	10.032
1.67	11.387	4.17	10.025
1.75	11.397	4.25	10.018
1.83	11.406	4.33	10.011
1.92	11.415	4.42	10.005
2.00	11.424	4.50	9.999
2.08	11.432	4.58	9.994
2.17	11.440	4.67	9.989
2.25	11.448	4.75	9.984
2.33	11.455	4.83	9.979
2.42	11.462	4.92	9.975
2.50	11.469		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

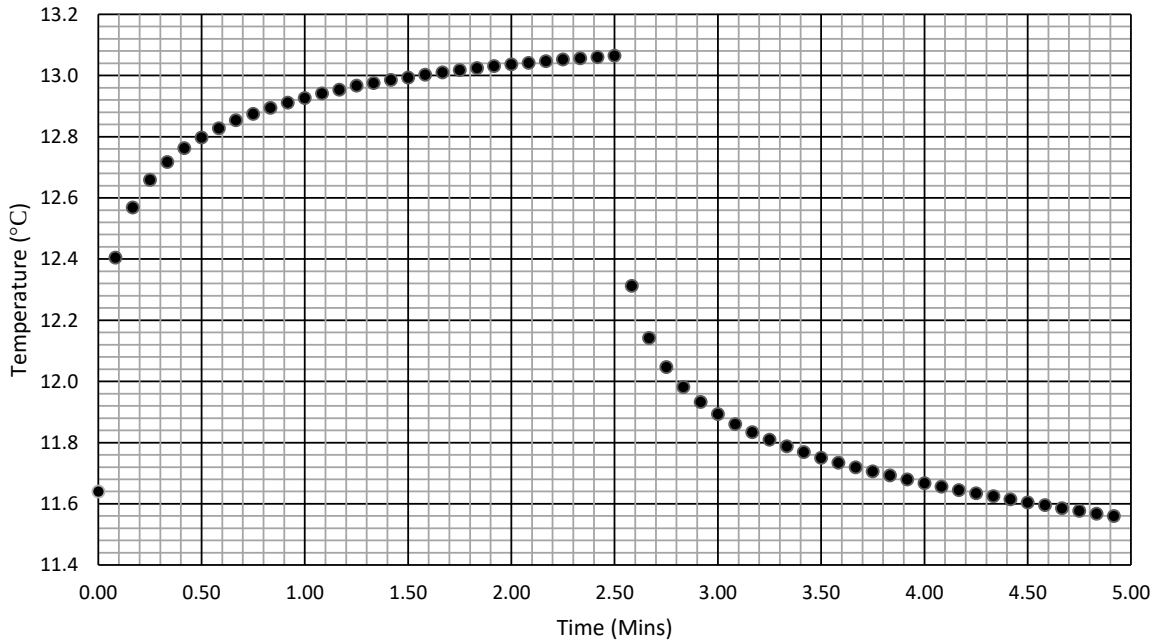
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP09
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	22/11/2023
		Test No.	TP09C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.64
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.48	Thermal Resistivity (mK/W)	0.67

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.405	2.58	12.313
0.17	12.569	2.67	12.142
0.25	12.659	2.75	12.047
0.33	12.718	2.83	11.982
0.42	12.763	2.92	11.933
0.50	12.798	3.00	11.894
0.58	12.828	3.08	11.861
0.67	12.854	3.17	11.834
0.75	12.875	3.25	11.810
0.83	12.895	3.33	11.788
0.92	12.912	3.42	11.769
1.00	12.927	3.50	11.751
1.08	12.942	3.58	11.735
1.17	12.954	3.67	11.720
1.25	12.967	3.75	11.706
1.33	12.976	3.83	11.693
1.42	12.986	3.92	11.680
1.50	12.994	4.00	11.668
1.58	13.003	4.08	11.656
1.67	13.011	4.17	11.645
1.75	13.018	4.25	11.635
1.83	13.025	4.33	11.625
1.92	13.031	4.42	11.615
2.00	13.037	4.50	11.605
2.08	13.042	4.58	11.596
2.17	13.047	4.67	11.586
2.25	13.053	4.75	11.577
2.33	13.057	4.83	11.568
2.42	13.061	4.92	11.560
2.50	13.065		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

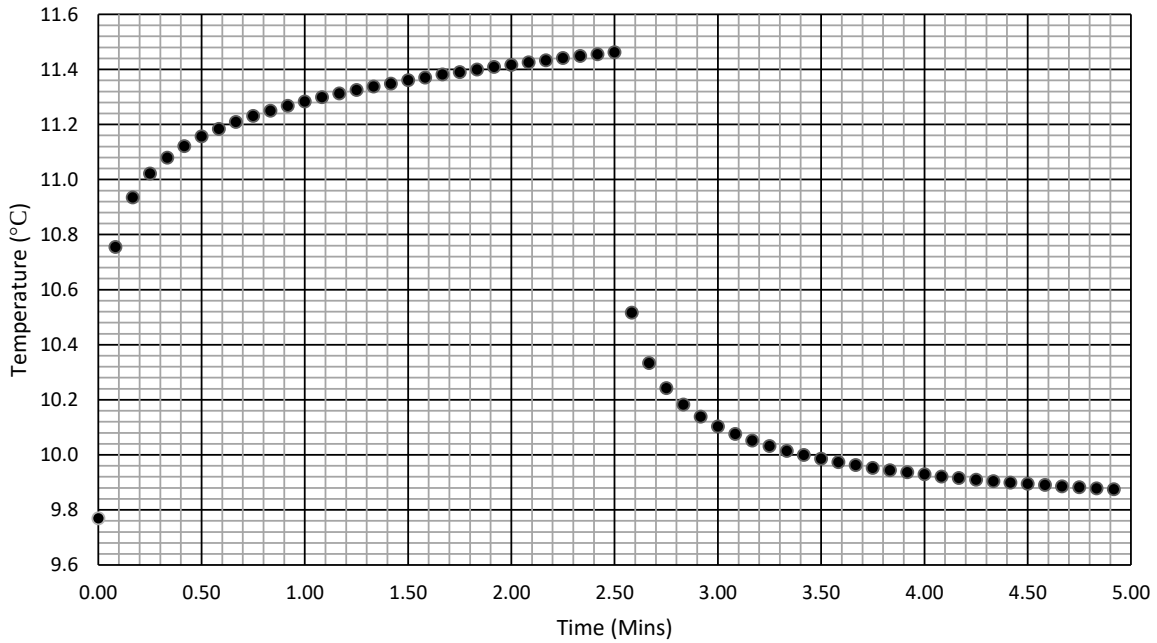
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP10
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP10A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.77
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.68	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.755	2.58	10.517
0.17	10.935	2.67	10.334
0.25	11.022	2.75	10.243
0.33	11.080	2.83	10.183
0.42	11.122	2.92	10.139
0.50	11.157	3.00	10.104
0.58	11.185	3.08	10.076
0.67	11.210	3.17	10.052
0.75	11.232	3.25	10.032
0.83	11.250	3.33	10.015
0.92	11.268	3.42	10.000
1.00	11.284	3.50	9.986
1.08	11.300	3.58	9.974
1.17	11.313	3.67	9.963
1.25	11.326	3.75	9.953
1.33	11.338	3.83	9.945
1.42	11.349	3.92	9.937
1.50	11.361	4.00	9.930
1.58	11.371	4.08	9.922
1.67	11.382	4.17	9.916
1.75	11.391	4.25	9.910
1.83	11.400	4.33	9.905
1.92	11.409	4.42	9.900
2.00	11.417	4.50	9.895
2.08	11.426	4.58	9.891
2.17	11.434	4.67	9.886
2.25	11.442	4.75	9.883
2.33	11.449	4.83	9.879
2.42	11.456	4.92	9.876
2.50	11.463		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

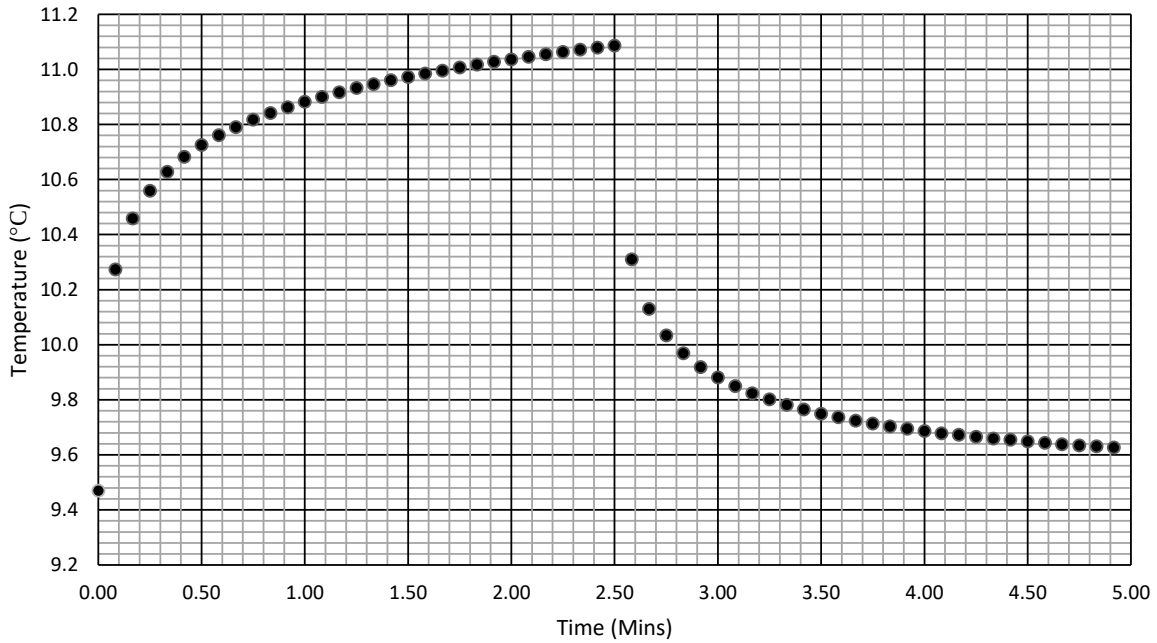
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP10
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP10B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.47
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.47	Thermal Resistivity (mK/W)	0.68

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.274	2.58	10.311
0.17	10.459	2.67	10.131
0.25	10.560	2.75	10.034
0.33	10.629	2.83	9.969
0.42	10.683	2.92	9.919
0.50	10.726	3.00	9.881
0.58	10.761	3.08	9.850
0.67	10.791	3.17	9.824
0.75	10.818	3.25	9.802
0.83	10.842	3.33	9.782
0.92	10.863	3.42	9.765
1.00	10.883	3.50	9.750
1.08	10.901	3.58	9.737
1.17	10.917	3.67	9.725
1.25	10.933	3.75	9.714
1.33	10.947	3.83	9.704
1.42	10.961	3.92	9.695
1.50	10.973	4.00	9.687
1.58	10.985	4.08	9.679
1.67	10.996	4.17	9.673
1.75	11.007	4.25	9.666
1.83	11.018	4.33	9.660
1.92	11.028	4.42	9.655
2.00	11.037	4.50	9.649
2.08	11.046	4.58	9.644
2.17	11.055	4.67	9.639
2.25	11.064	4.75	9.635
2.33	11.072	4.83	9.631
2.42	11.080	4.92	9.627
2.50	11.087		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

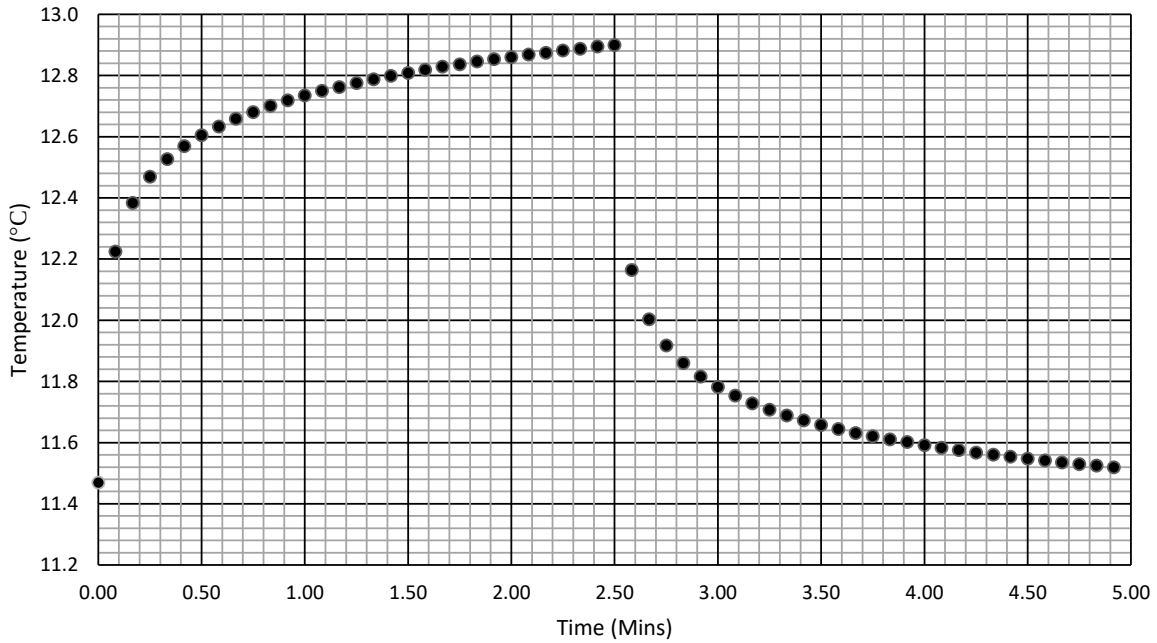
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP10
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP10C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.47
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.57	Thermal Resistivity (mK/W)	0.64

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.225	2.58	12.165
0.17	12.384	2.67	12.004
0.25	12.470	2.75	11.918
0.33	12.527	2.83	11.860
0.42	12.570	2.92	11.816
0.50	12.605	3.00	11.782
0.58	12.634	3.08	11.754
0.67	12.659	3.17	11.729
0.75	12.681	3.25	11.708
0.83	12.701	3.33	11.689
0.92	12.719	3.42	11.673
1.00	12.735	3.50	11.658
1.08	12.750	3.58	11.645
1.17	12.763	3.67	11.632
1.25	12.776	3.75	11.621
1.33	12.788	3.83	11.611
1.42	12.799	3.92	11.602
1.50	12.809	4.00	11.592
1.58	12.819	4.08	11.584
1.67	12.829	4.17	11.576
1.75	12.837	4.25	11.568
1.83	12.846	4.33	11.561
1.92	12.854	4.42	11.554
2.00	12.861	4.50	11.548
2.08	12.869	4.58	11.542
2.17	12.875	4.67	11.536
2.25	12.882	4.75	11.530
2.33	12.888	4.83	11.525
2.42	12.895	4.92	11.520
2.50	12.900		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

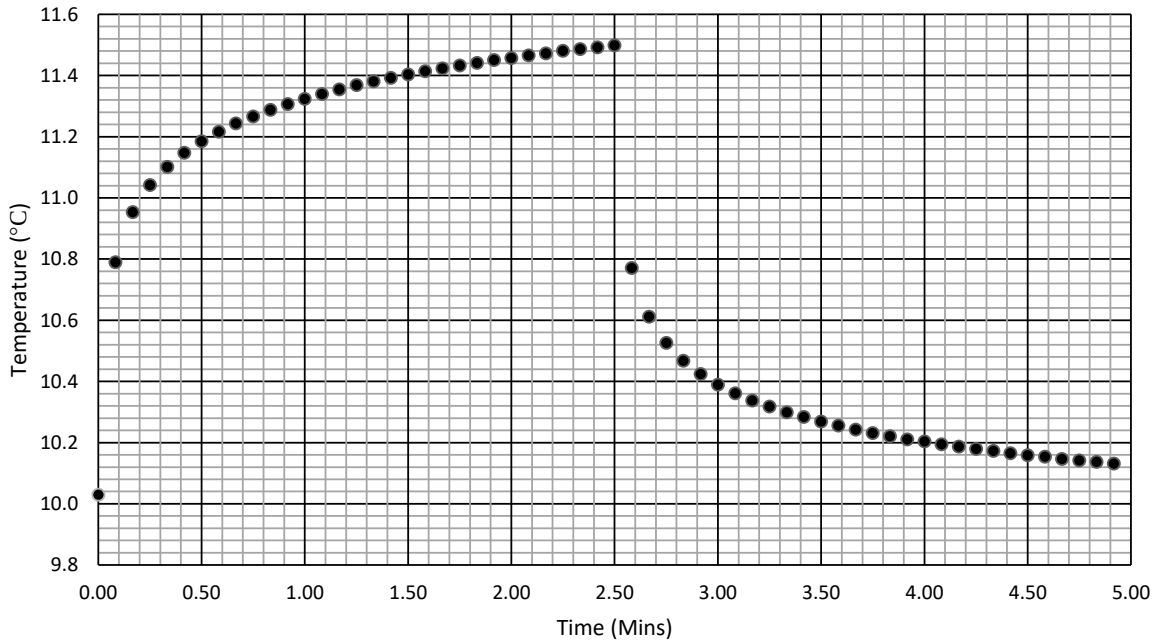
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP11
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP11A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.03
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.51	Thermal Resistivity (mK/W)	0.66

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.790	2.58	10.771
0.17	10.954	2.67	10.612
0.25	11.042	2.75	10.526
0.33	11.102	2.83	10.468
0.42	11.148	2.92	10.425
0.50	11.186	3.00	10.390
0.58	11.217	3.08	10.362
0.67	11.244	3.17	10.338
0.75	11.267	3.25	10.318
0.83	11.288	3.33	10.299
0.92	11.307	3.42	10.284
1.00	11.324	3.50	10.269
1.08	11.340	3.58	10.256
1.17	11.355	3.67	10.243
1.25	11.369	3.75	10.232
1.33	11.381	3.83	10.221
1.42	11.393	3.92	10.211
1.50	11.404	4.00	10.204
1.58	11.414	4.08	10.195
1.67	11.424	4.17	10.187
1.75	11.433	4.25	10.180
1.83	11.442	4.33	10.173
1.92	11.451	4.42	10.166
2.00	11.458	4.50	10.159
2.08	11.466	4.58	10.154
2.17	11.473	4.67	10.147
2.25	11.481	4.75	10.142
2.33	11.487	4.83	10.137
2.42	11.493	4.92	10.132
2.50	11.499		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

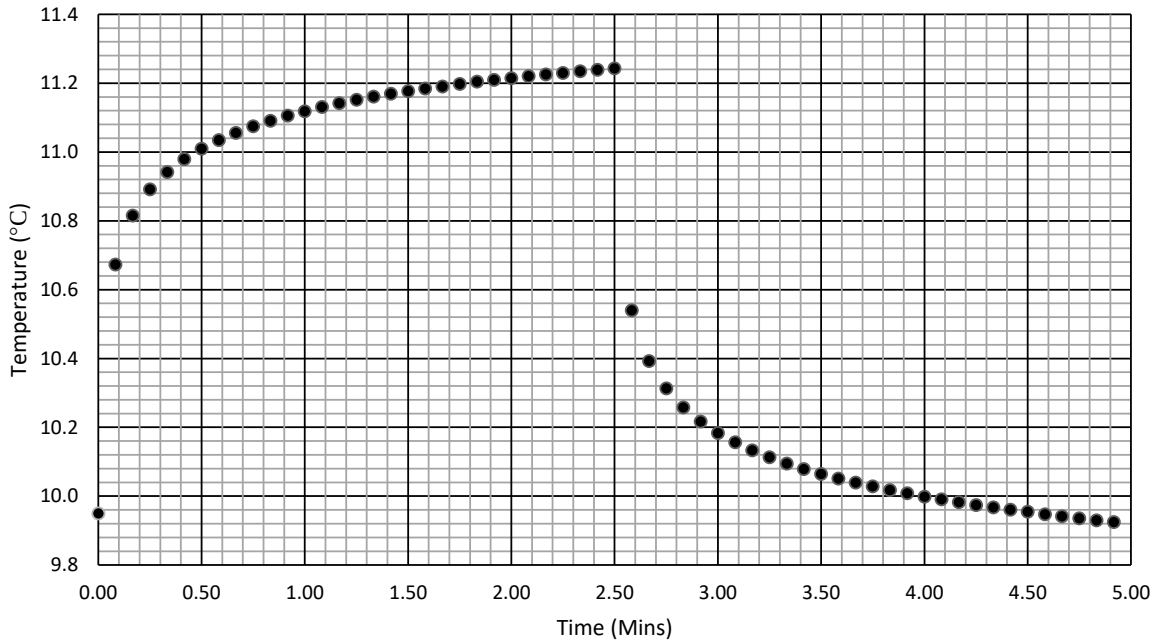
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP11
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP11B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.95
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.76	Thermal Resistivity (mK/W)	0.57

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.673	2.58	10.540
0.17	10.816	2.67	10.393
0.25	10.892	2.75	10.313
0.33	10.942	2.83	10.258
0.42	10.980	2.92	10.217
0.50	11.010	3.00	10.184
0.58	11.035	3.08	10.157
0.67	11.056	3.17	10.133
0.75	11.075	3.25	10.113
0.83	11.091	3.33	10.095
0.92	11.106	3.42	10.079
1.00	11.119	3.50	10.065
1.08	11.131	3.58	10.051
1.17	11.142	3.67	10.040
1.25	11.152	3.75	10.029
1.33	11.161	3.83	10.018
1.42	11.170	3.92	10.009
1.50	11.177	4.00	9.999
1.58	11.185	4.08	9.991
1.67	11.191	4.17	9.983
1.75	11.198	4.25	9.974
1.83	11.205	4.33	9.968
1.92	11.210	4.42	9.961
2.00	11.215	4.50	9.955
2.08	11.221	4.58	9.948
2.17	11.226	4.67	9.942
2.25	11.230	4.75	9.936
2.33	11.235	4.83	9.930
2.42	11.239	4.92	9.925
2.50	11.243		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

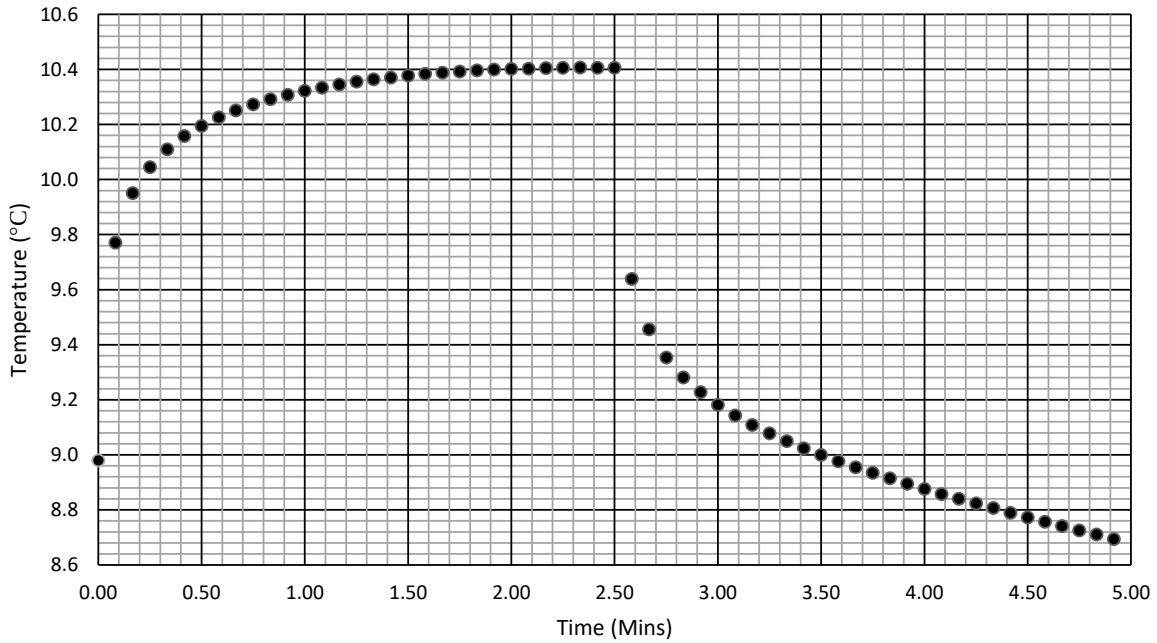
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP11
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP11C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.98
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.15	Thermal Resistivity (mK/W)	0.87

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.771	2.58	9.639
0.17	9.951	2.67	9.456
0.25	10.045	2.75	9.354
0.33	10.110	2.83	9.282
0.42	10.158	2.92	9.228
0.50	10.195	3.00	9.182
0.58	10.226	3.08	9.143
0.67	10.251	3.17	9.109
0.75	10.273	3.25	9.078
0.83	10.292	3.33	9.050
0.92	10.308	3.42	9.024
1.00	10.323	3.50	9.000
1.08	10.334	3.58	8.977
1.17	10.346	3.67	8.955
1.25	10.356	3.75	8.935
1.33	10.364	3.83	8.915
1.42	10.371	3.92	8.895
1.50	10.378	4.00	8.877
1.58	10.384	4.08	8.858
1.67	10.389	4.17	8.841
1.75	10.393	4.25	8.824
1.83	10.397	4.33	8.807
1.92	10.400	4.42	8.790
2.00	10.402	4.50	8.773
2.08	10.403	4.58	8.757
2.17	10.405	4.67	8.742
2.25	10.406	4.75	8.726
2.33	10.407	4.83	8.711
2.42	10.406	4.92	8.695
2.50	10.406		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

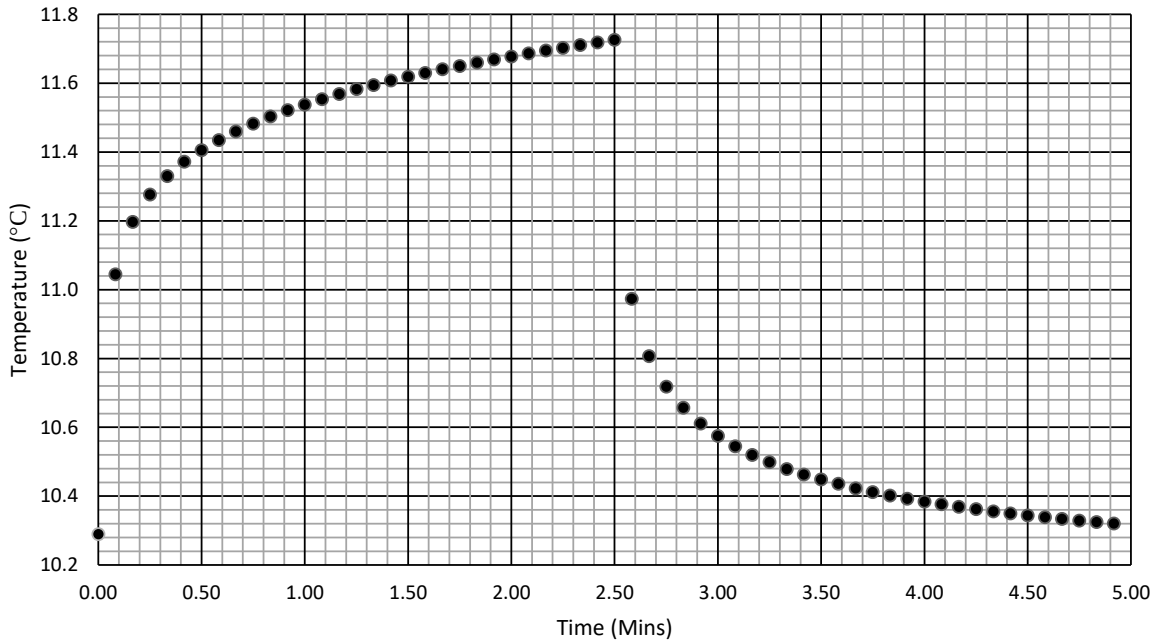
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP12
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP12A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.29
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	1.54	Thermal Resistivity (mK/W)	0.65

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.045	2.58	10.974
0.17	11.197	2.67	10.807
0.25	11.277	2.75	10.718
0.33	11.330	2.83	10.657
0.42	11.372	2.92	10.611
0.50	11.406	3.00	10.575
0.58	11.435	3.08	10.545
0.67	11.460	3.17	10.520
0.75	11.483	3.25	10.499
0.83	11.504	3.33	10.479
0.92	11.522	3.42	10.463
1.00	11.538	3.50	10.449
1.08	11.554	3.58	10.436
1.17	11.569	3.67	10.423
1.25	11.583	3.75	10.412
1.33	11.595	3.83	10.402
1.42	11.608	3.92	10.393
1.50	11.619	4.00	10.384
1.58	11.630	4.08	10.377
1.67	11.641	4.17	10.369
1.75	11.650	4.25	10.363
1.83	11.660	4.33	10.356
1.92	11.669	4.42	10.350
2.00	11.678	4.50	10.344
2.08	11.687	4.58	10.339
2.17	11.695	4.67	10.334
2.25	11.703	4.75	10.329
2.33	11.711	4.83	10.325
2.42	11.719	4.92	10.321
2.50	11.726		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

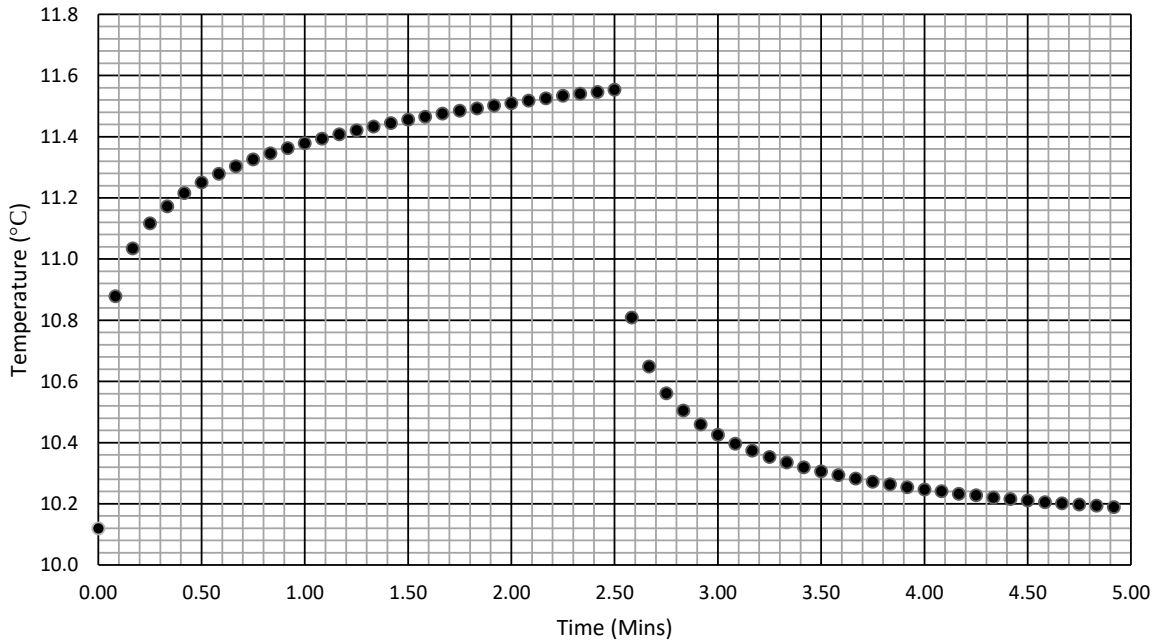
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP12
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP12B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.12
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly sandy CLAY		
Thermal Conductivity (W/mK)	1.66	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.879	2.58	10.809
0.17	11.035	2.67	10.649
0.25	11.117	2.75	10.562
0.33	11.173	2.83	10.505
0.42	11.216	2.92	10.460
0.50	11.251	3.00	10.426
0.58	11.279	3.08	10.397
0.67	11.304	3.17	10.374
0.75	11.326	3.25	10.353
0.83	11.346	3.33	10.336
0.92	11.363	3.42	10.320
1.00	11.379	3.50	10.306
1.08	11.394	3.58	10.294
1.17	11.408	3.67	10.283
1.25	11.421	3.75	10.272
1.33	11.434	3.83	10.264
1.42	11.445	3.92	10.255
1.50	11.456	4.00	10.247
1.58	11.466	4.08	10.241
1.67	11.476	4.17	10.233
1.75	11.485	4.25	10.228
1.83	11.493	4.33	10.221
1.92	11.502	4.42	10.216
2.00	11.510	4.50	10.211
2.08	11.518	4.58	10.206
2.17	11.526	4.67	10.202
2.25	11.534	4.75	10.198
2.33	11.541	4.83	10.194
2.42	11.547	4.92	10.190
2.50	11.554		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

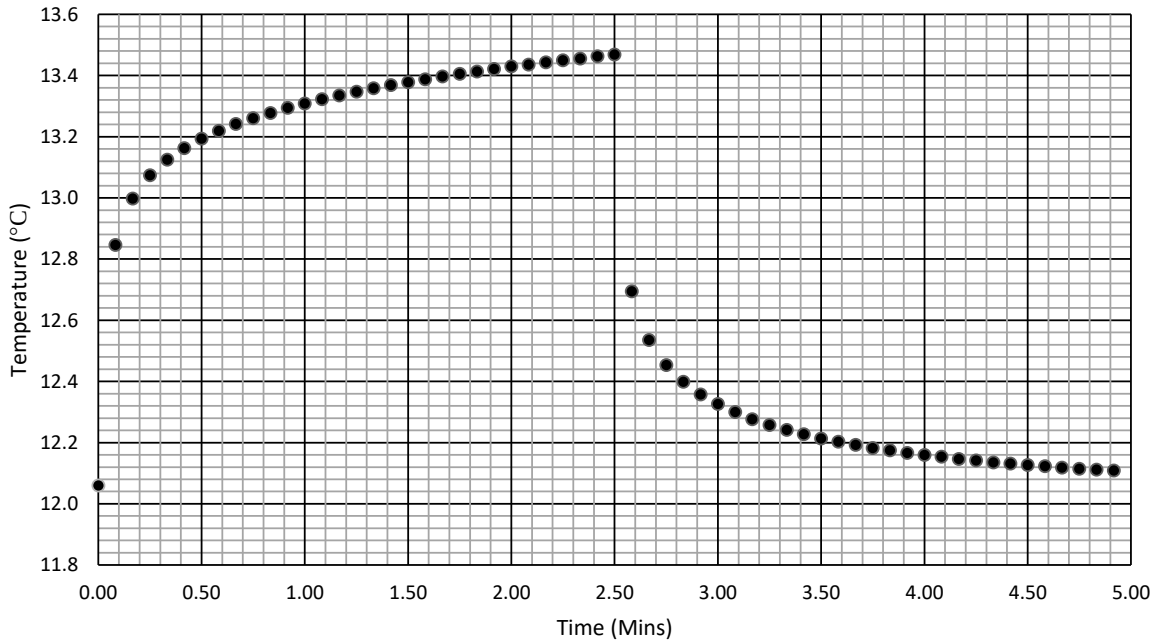
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP12
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP12C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	12.06
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.82	Thermal Resistivity (mK/W)	0.55

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.847	2.58	12.695
0.17	12.998	2.67	12.536
0.25	13.074	2.75	12.454
0.33	13.125	2.83	12.399
0.42	13.163	2.92	12.358
0.50	13.194	3.00	12.327
0.58	13.219	3.08	12.300
0.67	13.242	3.17	12.277
0.75	13.261	3.25	12.258
0.83	13.278	3.33	12.242
0.92	13.295	3.42	12.228
1.00	13.309	3.50	12.214
1.08	13.323	3.58	12.203
1.17	13.335	3.67	12.193
1.25	13.348	3.75	12.183
1.33	13.359	3.83	12.175
1.42	13.369	3.92	12.167
1.50	13.379	4.00	12.160
1.58	13.388	4.08	12.154
1.67	13.397	4.17	12.147
1.75	13.406	4.25	12.142
1.83	13.413	4.33	12.136
1.92	13.422	4.42	12.132
2.00	13.430	4.50	12.127
2.08	13.436	4.58	12.123
2.17	13.444	4.67	12.119
2.25	13.450	4.75	12.115
2.33	13.456	4.83	12.112
2.42	13.463	4.92	12.109
2.50	13.469		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

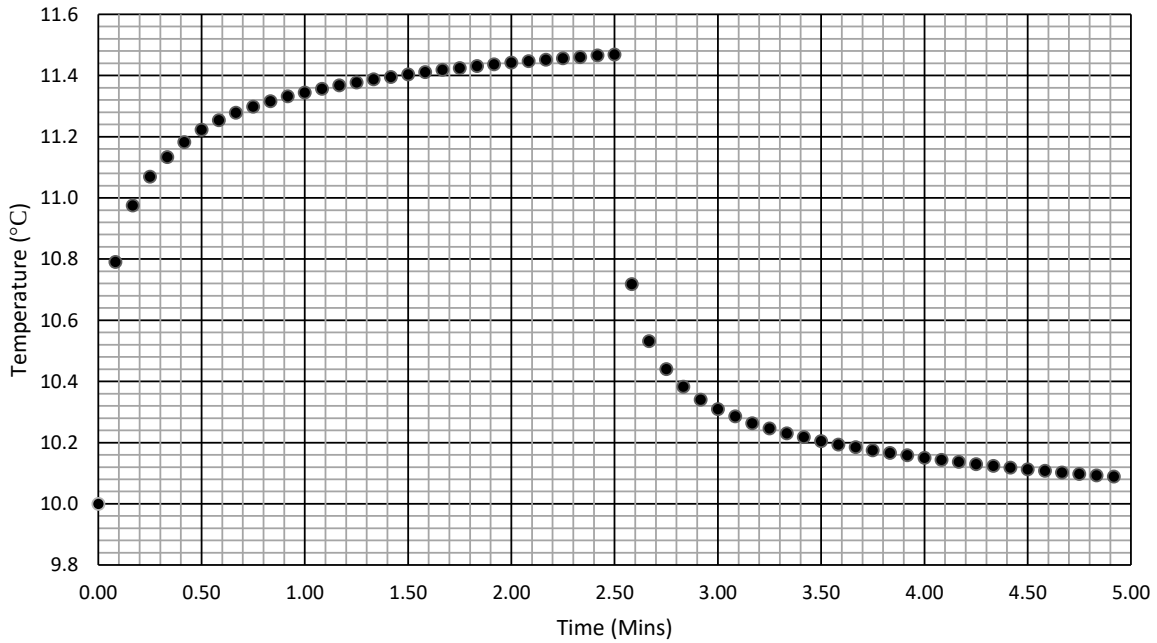
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP13
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP13A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.00
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly clayey SAND		
Thermal Conductivity (W/mK)	1.92	Thermal Resistivity (mK/W)	0.52

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.791	2.58	10.718
0.17	10.976	2.67	10.532
0.25	11.070	2.75	10.441
0.33	11.134	2.83	10.383
0.42	11.183	2.92	10.341
0.50	11.223	3.00	10.310
0.58	11.254	3.08	10.286
0.67	11.279	3.17	10.264
0.75	11.299	3.25	10.247
0.83	11.316	3.33	10.231
0.92	11.332	3.42	10.218
1.00	11.345	3.50	10.205
1.08	11.357	3.58	10.194
1.17	11.368	3.67	10.185
1.25	11.378	3.75	10.175
1.33	11.388	3.83	10.167
1.42	11.396	3.92	10.159
1.50	11.404	4.00	10.151
1.58	11.412	4.08	10.144
1.67	11.419	4.17	10.137
1.75	11.425	4.25	10.130
1.83	11.431	4.33	10.124
1.92	11.437	4.42	10.119
2.00	11.443	4.50	10.113
2.08	11.447	4.58	10.108
2.17	11.452	4.67	10.103
2.25	11.457	4.75	10.098
2.33	11.461	4.83	10.093
2.42	11.466	4.92	10.089
2.50	11.469		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

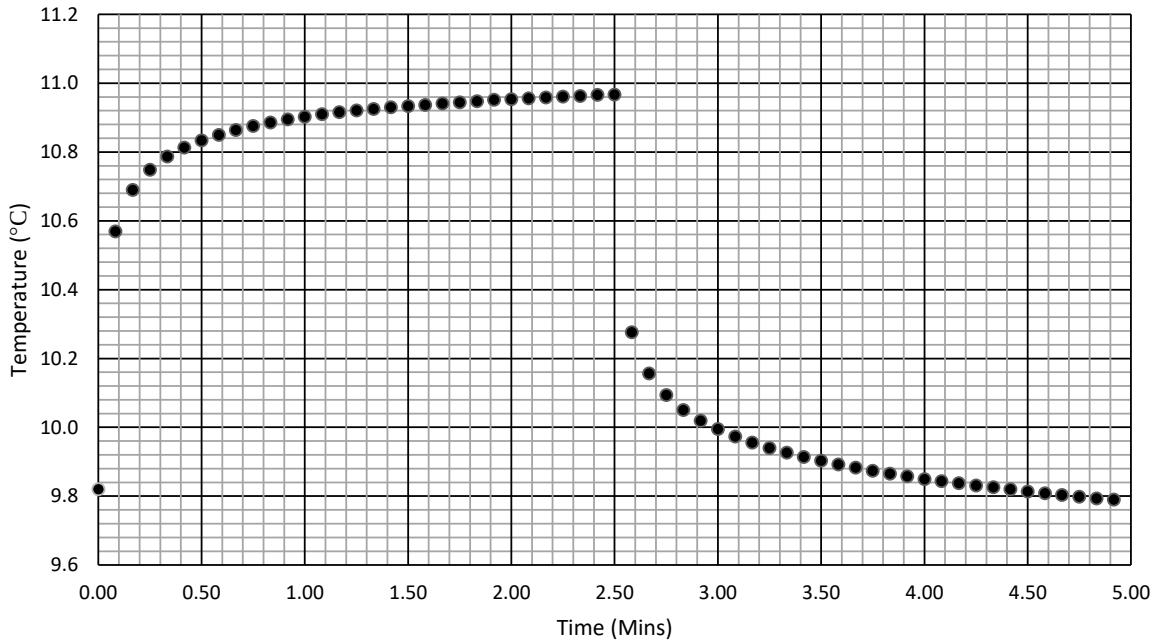
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP13
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP13B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.82
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly clayey SAND		
Thermal Conductivity (W/mK)	2.56	Thermal Resistivity (mK/W)	0.39

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.570	2.58	10.277
0.17	10.690	2.67	10.157
0.25	10.749	2.75	10.094
0.33	10.787	2.83	10.051
0.42	10.813	2.92	10.020
0.50	10.834	3.00	9.995
0.58	10.850	3.08	9.974
0.67	10.864	3.17	9.956
0.75	10.876	3.25	9.940
0.83	10.886	3.33	9.927
0.92	10.895	3.42	9.914
1.00	10.903	3.50	9.903
1.08	10.910	3.58	9.892
1.17	10.916	3.67	9.883
1.25	10.921	3.75	9.874
1.33	10.925	3.83	9.866
1.42	10.930	3.92	9.858
1.50	10.934	4.00	9.850
1.58	10.937	4.08	9.844
1.67	10.941	4.17	9.838
1.75	10.945	4.25	9.831
1.83	10.948	4.33	9.826
1.92	10.952	4.42	9.820
2.00	10.954	4.50	9.814
2.08	10.956	4.58	9.809
2.17	10.959	4.67	9.804
2.25	10.961	4.75	9.799
2.33	10.963	4.83	9.794
2.42	10.966	4.92	9.790
2.50	10.967		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

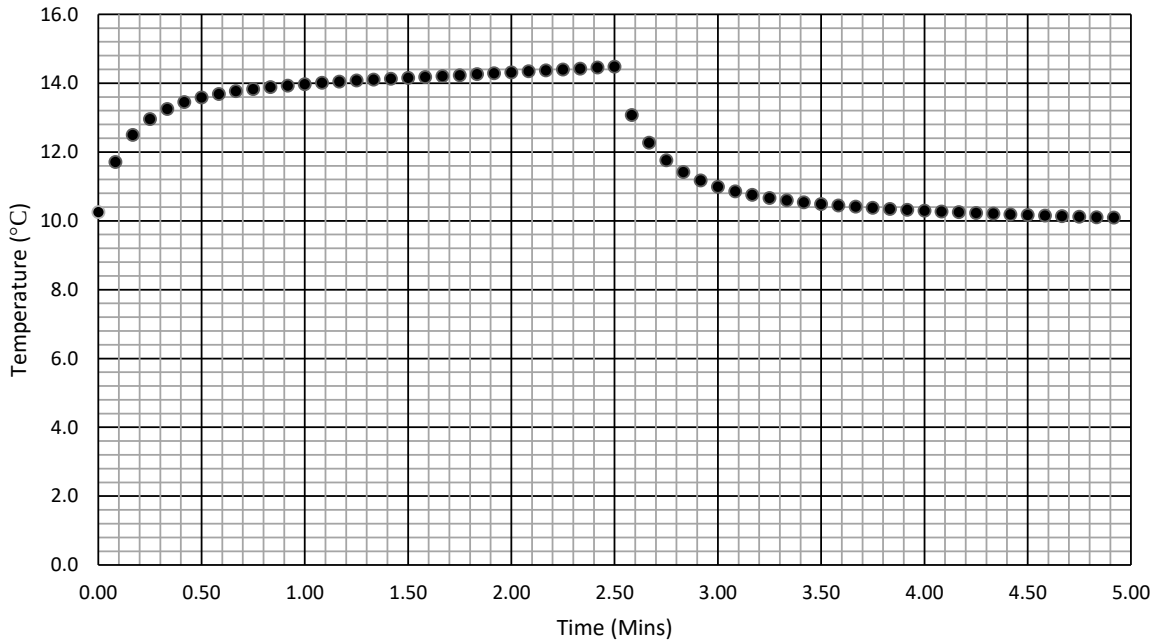
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP13
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP13C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.26
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly clayey sandy		
Thermal Conductivity (W/mK)	0.52	Thermal Resistivity (mK/W)	1.93

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.714	2.58	13.081
0.17	12.501	2.67	12.273
0.25	12.963	2.75	11.764
0.33	13.256	2.83	11.419
0.42	13.454	2.92	11.175
0.50	13.591	3.00	10.997
0.58	13.692	3.08	10.862
0.67	13.771	3.17	10.756
0.75	13.835	3.25	10.670
0.83	13.887	3.33	10.601
0.92	13.935	3.42	10.543
1.00	13.975	3.50	10.493
1.08	14.012	3.58	10.451
1.17	14.051	3.67	10.414
1.25	14.085	3.75	10.381
1.33	14.109	3.83	10.351
1.42	14.136	3.92	10.324
1.50	14.160	4.00	10.299
1.58	14.184	4.08	10.275
1.67	14.209	4.17	10.253
1.75	14.236	4.25	10.232
1.83	14.266	4.33	10.212
1.92	14.294	4.42	10.194
2.00	14.319	4.50	10.176
2.08	14.348	4.58	10.159
2.17	14.377	4.67	10.142
2.25	14.399	4.75	10.126
2.33	14.424	4.83	10.110
2.42	14.457	4.92	10.095
2.50	14.482		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

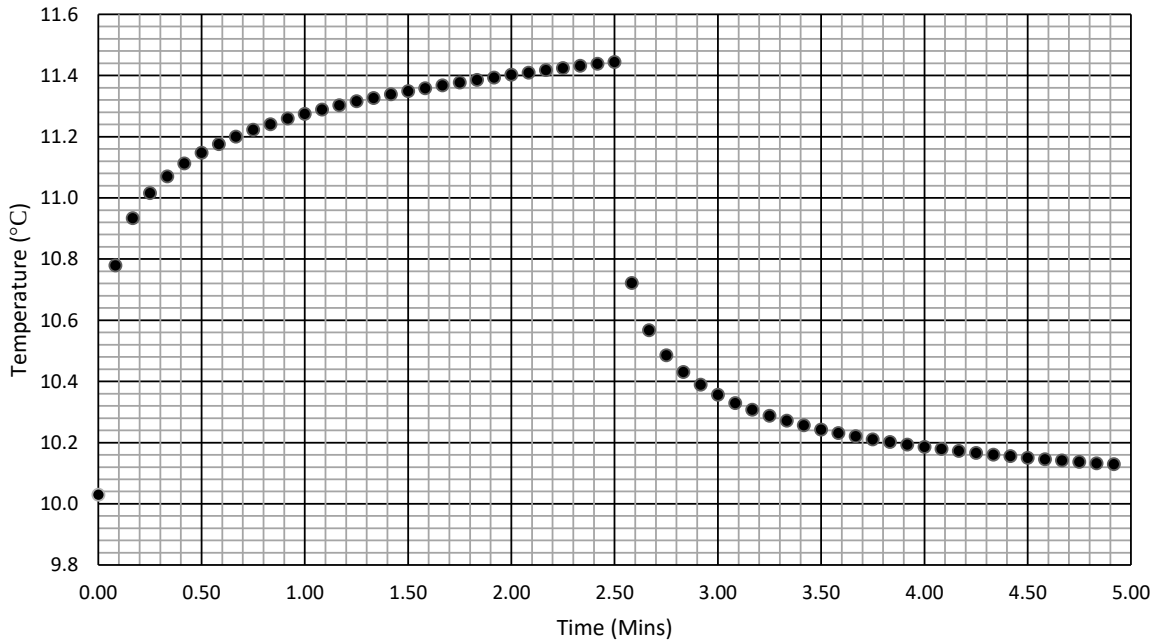
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP14
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP14A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.03
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.64	Thermal Resistivity (mK/W)	0.61

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.780	2.58	10.722
0.17	10.934	2.67	10.568
0.25	11.016	2.75	10.486
0.33	11.071	2.83	10.431
0.42	11.113	2.92	10.390
0.50	11.148	3.00	10.357
0.58	11.176	3.08	10.330
0.67	11.201	3.17	10.308
0.75	11.223	3.25	10.288
0.83	11.241	3.33	10.272
0.92	11.260	3.42	10.257
1.00	11.275	3.50	10.243
1.08	11.289	3.58	10.232
1.17	11.303	3.67	10.221
1.25	11.316	3.75	10.211
1.33	11.327	3.83	10.202
1.42	11.339	3.92	10.194
1.50	11.349	4.00	10.186
1.58	11.359	4.08	10.180
1.67	11.368	4.17	10.173
1.75	11.378	4.25	10.167
1.83	11.386	4.33	10.161
1.92	11.394	4.42	10.156
2.00	11.403	4.50	10.151
2.08	11.410	4.58	10.146
2.17	11.418	4.67	10.142
2.25	11.425	4.75	10.137
2.33	11.432	4.83	10.133
2.42	11.439	4.92	10.130
2.50	11.445		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

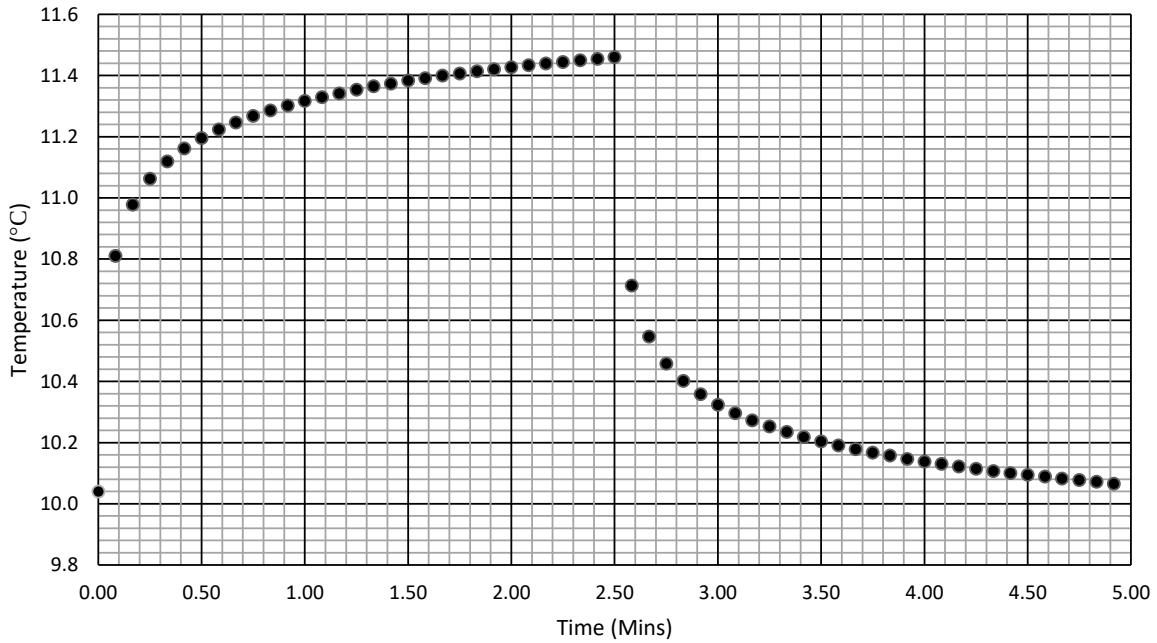
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP14
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP14B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.04
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.62	Thermal Resistivity (mK/W)	0.62

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.811	2.58	10.714
0.17	10.978	2.67	10.547
0.25	11.063	2.75	10.459
0.33	11.120	2.83	10.402
0.42	11.162	2.92	10.359
0.50	11.196	3.00	10.324
0.58	11.224	3.08	10.297
0.67	11.247	3.17	10.273
0.75	11.268	3.25	10.253
0.83	11.286	3.33	10.235
0.92	11.302	3.42	10.218
1.00	11.317	3.50	10.204
1.08	11.330	3.58	10.191
1.17	11.342	3.67	10.179
1.25	11.354	3.75	10.168
1.33	11.365	3.83	10.158
1.42	11.374	3.92	10.147
1.50	11.384	4.00	10.138
1.58	11.392	4.08	10.131
1.67	11.400	4.17	10.122
1.75	11.407	4.25	10.115
1.83	11.414	4.33	10.107
1.92	11.421	4.42	10.101
2.00	11.428	4.50	10.095
2.08	11.434	4.58	10.089
2.17	11.440	4.67	10.083
2.25	11.445	4.75	10.078
2.33	11.450	4.83	10.072
2.42	11.455	4.92	10.066
2.50	11.461		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

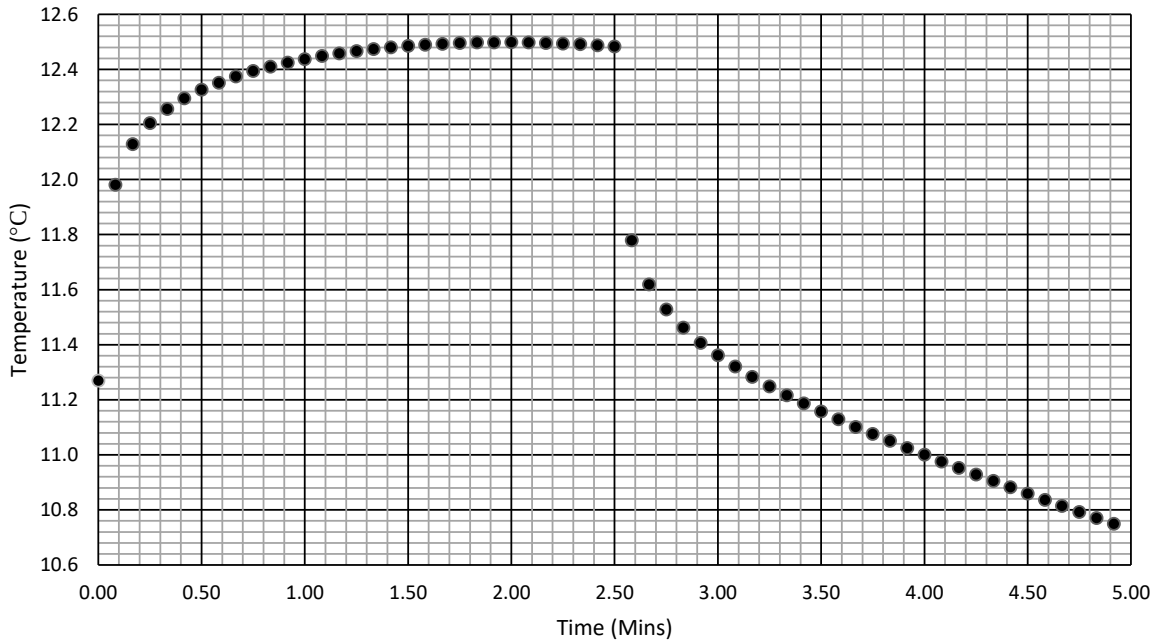
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP14
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	24/11/2023
		Test No.	TP14C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.27
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	0.97	Thermal Resistivity (mK/W)	1.03

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.982	2.58	11.780
0.17	12.129	2.67	11.619
0.25	12.205	2.75	11.528
0.33	12.257	2.83	11.462
0.42	12.295	2.92	11.407
0.50	12.327	3.00	11.362
0.58	12.352	3.08	11.321
0.67	12.375	3.17	11.284
0.75	12.395	3.25	11.249
0.83	12.411	3.33	11.217
0.92	12.425	3.42	11.187
1.00	12.438	3.50	11.158
1.08	12.449	3.58	11.130
1.17	12.459	3.67	11.102
1.25	12.467	3.75	11.076
1.33	12.474	3.83	11.051
1.42	12.481	3.92	11.025
1.50	12.486	4.00	11.001
1.58	12.490	4.08	10.976
1.67	12.493	4.17	10.953
1.75	12.496	4.25	10.929
1.83	12.498	4.33	10.906
1.92	12.498	4.42	10.883
2.00	12.499	4.50	10.860
2.08	12.498	4.58	10.837
2.17	12.496	4.67	10.815
2.25	12.494	4.75	10.793
2.33	12.492	4.83	10.771
2.42	12.488	4.92	10.750
2.50	12.484		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

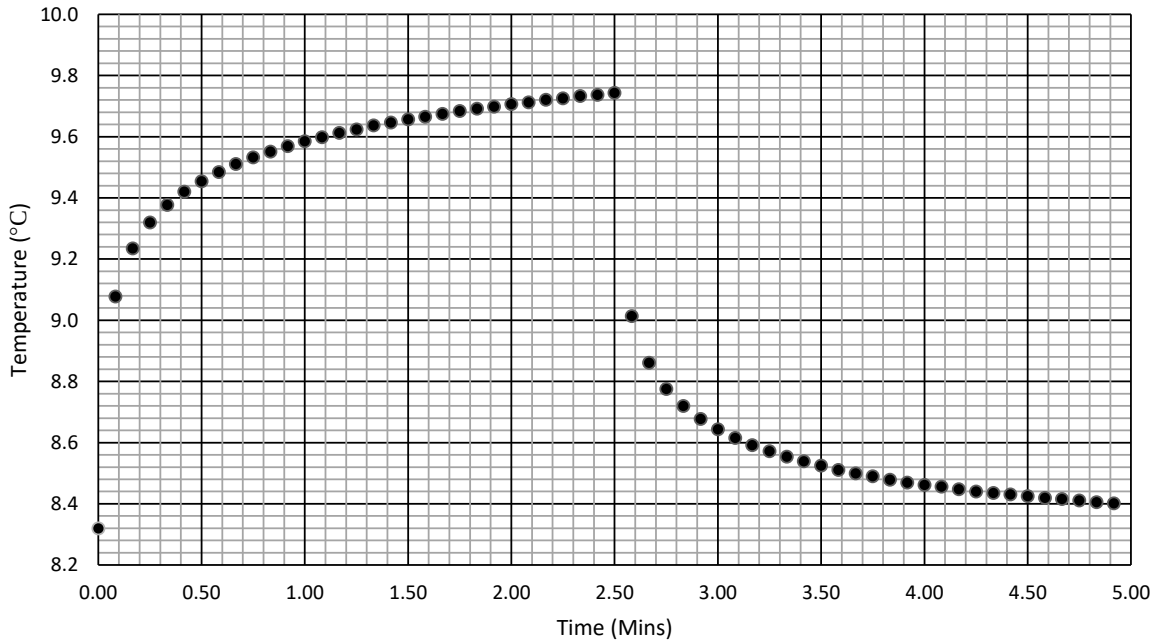
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP15
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP15A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.32
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.68	Thermal Resistivity (mK/W)	0.59

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.078	2.58	9.014
0.17	9.235	2.67	8.861
0.25	9.320	2.75	8.776
0.33	9.377	2.83	8.720
0.42	9.421	2.92	8.678
0.50	9.455	3.00	8.644
0.58	9.485	3.08	8.616
0.67	9.511	3.17	8.592
0.75	9.533	3.25	8.572
0.83	9.552	3.33	8.554
0.92	9.570	3.42	8.539
1.00	9.586	3.50	8.525
1.08	9.599	3.58	8.511
1.17	9.613	3.67	8.500
1.25	9.624	3.75	8.490
1.33	9.637	3.83	8.479
1.42	9.647	3.92	8.470
1.50	9.657	4.00	8.462
1.58	9.666	4.08	8.456
1.67	9.675	4.17	8.448
1.75	9.684	4.25	8.440
1.83	9.692	4.33	8.436
1.92	9.699	4.42	8.431
2.00	9.707	4.50	8.425
2.08	9.713	4.58	8.420
2.17	9.721	4.67	8.416
2.25	9.726	4.75	8.411
2.33	9.733	4.83	8.406
2.42	9.737	4.92	8.402
2.50	9.744		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

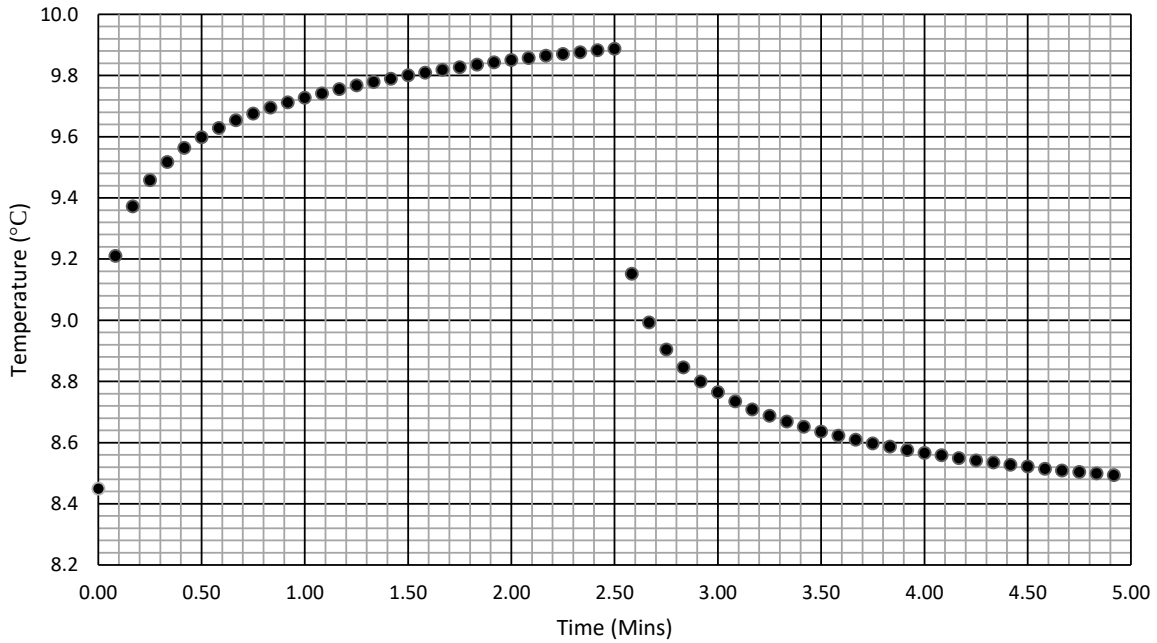
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP15
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP15B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.45
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.54	Thermal Resistivity (mK/W)	0.65

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.211	2.58	9.152
0.17	9.373	2.67	8.993
0.25	9.458	2.75	8.905
0.33	9.518	2.83	8.846
0.42	9.564	2.92	8.800
0.50	9.599	3.00	8.765
0.58	9.629	3.08	8.735
0.67	9.654	3.17	8.709
0.75	9.676	3.25	8.688
0.83	9.696	3.33	8.669
0.92	9.713	3.42	8.652
1.00	9.728	3.50	8.636
1.08	9.742	3.58	8.623
1.17	9.756	3.67	8.610
1.25	9.768	3.75	8.598
1.33	9.780	3.83	8.587
1.42	9.790	3.92	8.576
1.50	9.801	4.00	8.567
1.58	9.810	4.08	8.559
1.67	9.819	4.17	8.550
1.75	9.828	4.25	8.542
1.83	9.836	4.33	8.536
1.92	9.844	4.42	8.528
2.00	9.851	4.50	8.522
2.08	9.858	4.58	8.515
2.17	9.865	4.67	8.509
2.25	9.871	4.75	8.504
2.33	9.877	4.83	8.500
2.42	9.883	4.92	8.494
2.50	9.888		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

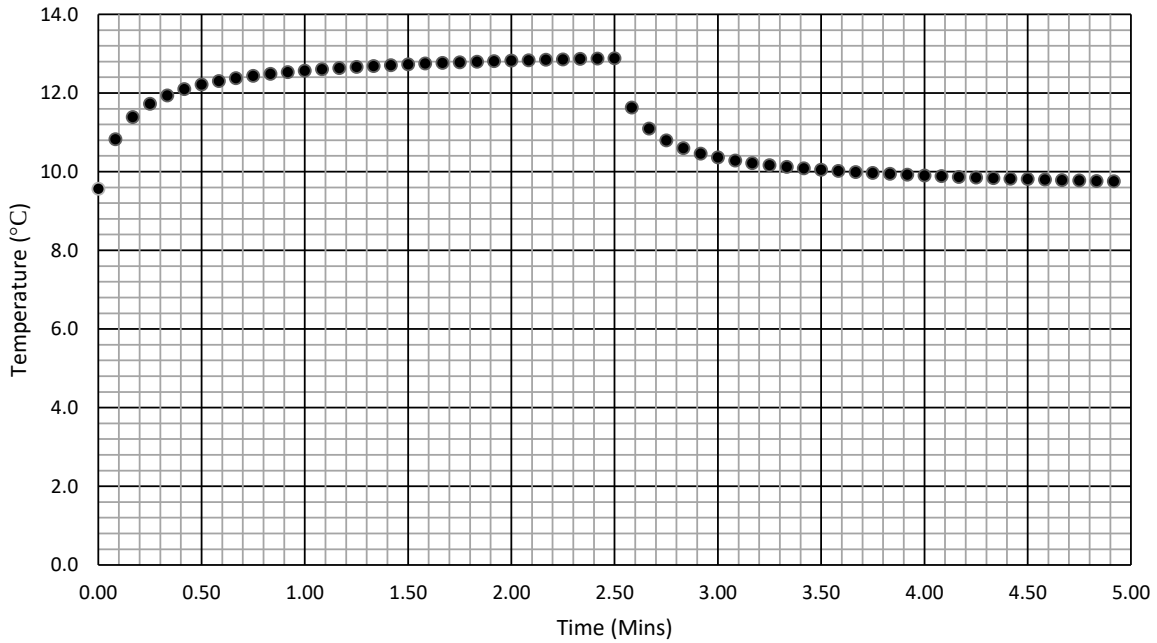
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP15
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP15C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.57
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	0.76	Thermal Resistivity (mK/W)	1.31

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.830	2.58	11.635
0.17	11.393	2.67	11.101
0.25	11.726	2.75	10.798
0.33	11.943	2.83	10.602
0.42	12.099	2.92	10.465
0.50	12.216	3.00	10.364
0.58	12.309	3.08	10.284
0.67	12.382	3.17	10.221
0.75	12.442	3.25	10.169
0.83	12.492	3.33	10.123
0.92	12.536	3.42	10.085
1.00	12.574	3.50	10.051
1.08	12.608	3.58	10.021
1.17	12.637	3.67	9.994
1.25	12.664	3.75	9.969
1.33	12.689	3.83	9.946
1.42	12.712	3.92	9.926
1.50	12.733	4.00	9.906
1.58	12.752	4.08	9.889
1.67	12.769	4.17	9.871
1.75	12.785	4.25	9.856
1.83	12.801	4.33	9.842
1.92	12.814	4.42	9.828
2.00	12.826	4.50	9.816
2.08	12.838	4.58	9.803
2.17	12.849	4.67	9.790
2.25	12.860	4.75	9.781
2.33	12.869	4.83	9.769
2.42	12.879	4.92	9.758
2.50	12.888		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

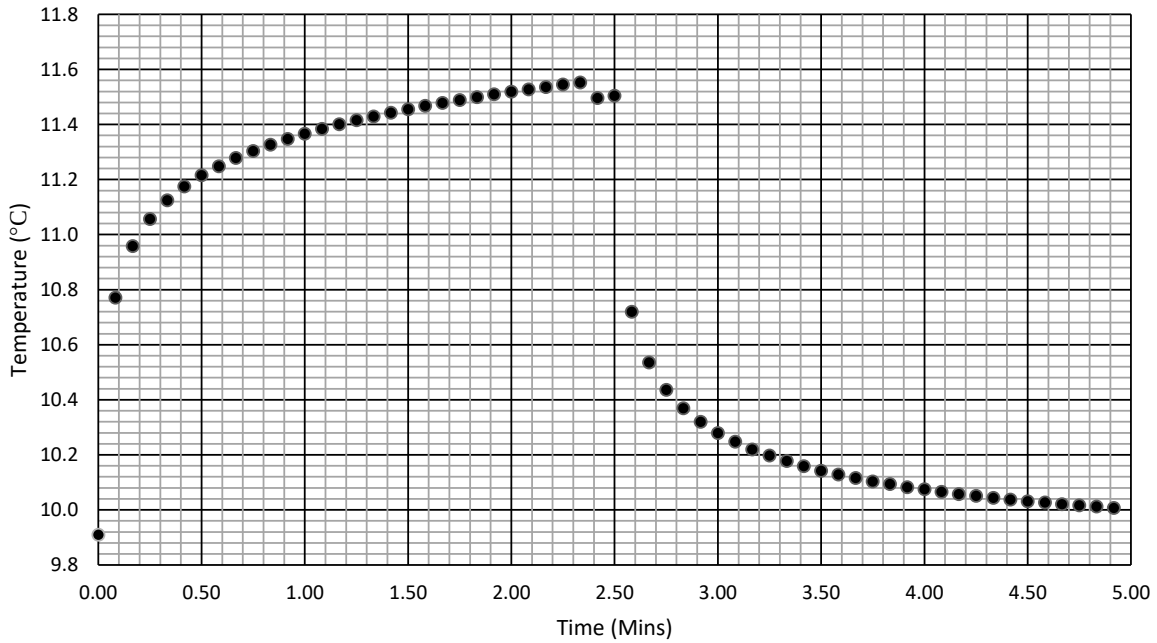
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP16
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP16A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.91
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.56	Thermal Resistivity (mK/W)	0.64

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.771	2.58	10.720
0.17	10.959	2.67	10.536
0.25	11.057	2.75	10.437
0.33	11.125	2.83	10.370
0.42	11.175	2.92	10.320
0.50	11.216	3.00	10.280
0.58	11.249	3.08	10.248
0.67	11.279	3.17	10.220
0.75	11.304	3.25	10.198
0.83	11.327	3.33	10.178
0.92	11.348	3.42	10.159
1.00	11.367	3.50	10.143
1.08	11.385	3.58	10.129
1.17	11.401	3.67	10.116
1.25	11.416	3.75	10.104
1.33	11.430	3.83	10.094
1.42	11.443	3.92	10.083
1.50	11.456	4.00	10.075
1.58	11.468	4.08	10.066
1.67	11.479	4.17	10.058
1.75	11.489	4.25	10.051
1.83	11.500	4.33	10.044
1.92	11.510	4.42	10.038
2.00	11.519	4.50	10.032
2.08	11.528	4.58	10.027
2.17	11.536	4.67	10.021
2.25	11.546	4.75	10.017
2.33	11.553	4.83	10.013
2.42	11.496	4.92	10.008
2.50	11.505		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

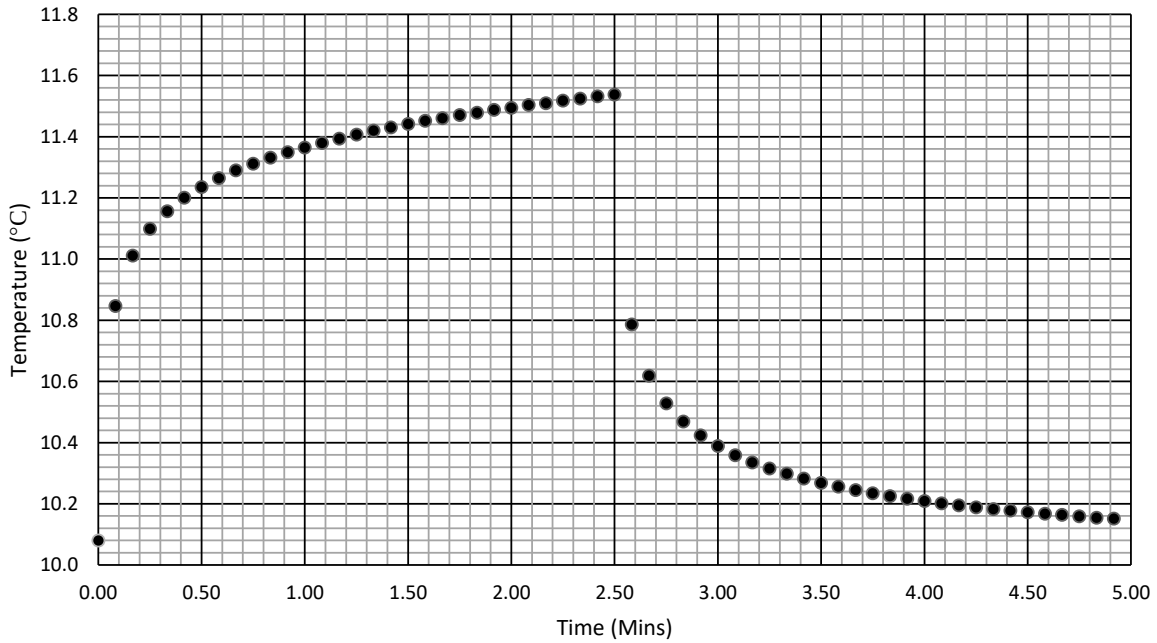
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP16
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP16B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.08
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.67	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.847	2.58	10.787
0.17	11.012	2.67	10.619
0.25	11.099	2.75	10.529
0.33	11.157	2.83	10.469
0.42	11.201	2.92	10.424
0.50	11.236	3.00	10.389
0.58	11.265	3.08	10.359
0.67	11.290	3.17	10.336
0.75	11.312	3.25	10.316
0.83	11.332	3.33	10.299
0.92	11.350	3.42	10.283
1.00	11.365	3.50	10.269
1.08	11.380	3.58	10.256
1.17	11.394	3.67	10.245
1.25	11.407	3.75	10.235
1.33	11.420	3.83	10.225
1.42	11.431	3.92	10.217
1.50	11.442	4.00	10.209
1.58	11.452	4.08	10.202
1.67	11.461	4.17	10.195
1.75	11.471	4.25	10.189
1.83	11.479	4.33	10.183
1.92	11.488	4.42	10.178
2.00	11.495	4.50	10.173
2.08	11.504	4.58	10.168
2.17	11.510	4.67	10.164
2.25	11.518	4.75	10.159
2.33	11.525	4.83	10.155
2.42	11.532	4.92	10.152
2.50	11.538		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

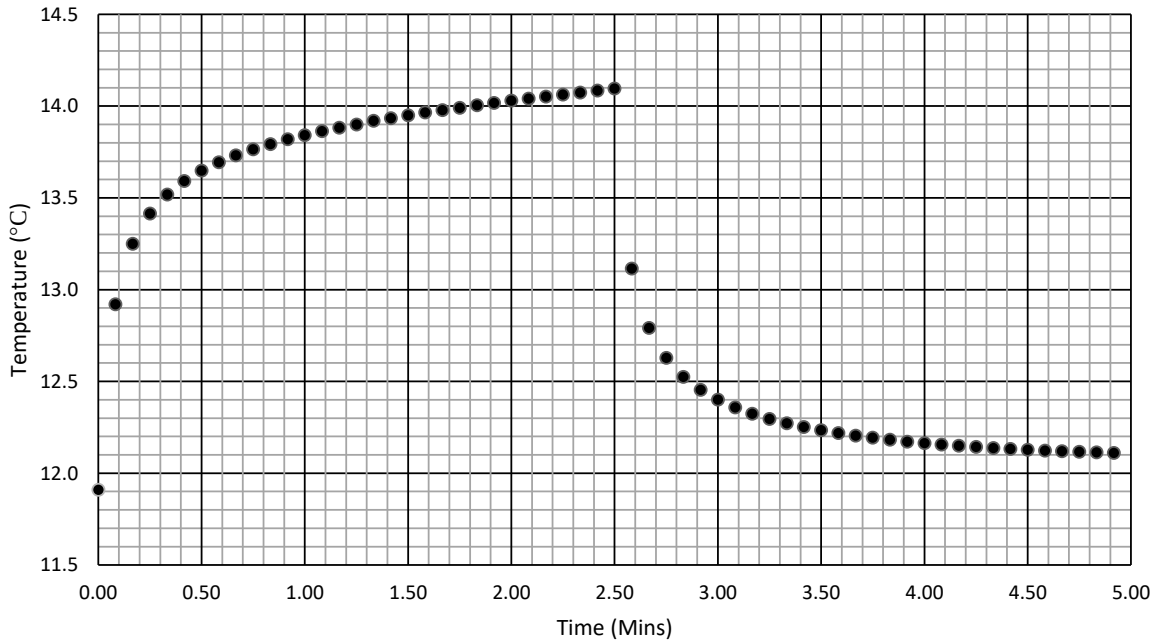
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP16
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	23/11/2023
		Test No.	TP16C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.91
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.28	Thermal Resistivity (mK/W)	0.78

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.921	2.58	13.115
0.17	13.250	2.67	12.792
0.25	13.416	2.75	12.629
0.33	13.519	2.83	12.526
0.42	13.592	2.92	12.455
0.50	13.649	3.00	12.401
0.58	13.694	3.08	12.359
0.67	13.732	3.17	12.325
0.75	13.765	3.25	12.297
0.83	13.794	3.33	12.273
0.92	13.820	3.42	12.253
1.00	13.842	3.50	12.235
1.08	13.864	3.58	12.219
1.17	13.883	3.67	12.205
1.25	13.901	3.75	12.194
1.33	13.920	3.83	12.183
1.42	13.935	3.92	12.173
1.50	13.951	4.00	12.165
1.58	13.966	4.08	12.157
1.67	13.979	4.17	12.150
1.75	13.992	4.25	12.144
1.83	14.006	4.33	12.138
1.92	14.018	4.42	12.133
2.00	14.030	4.50	12.129
2.08	14.042	4.58	12.124
2.17	14.053	4.67	12.121
2.25	14.064	4.75	12.117
2.33	14.075	4.83	12.114
2.42	14.086	4.92	12.111
2.50	14.096		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

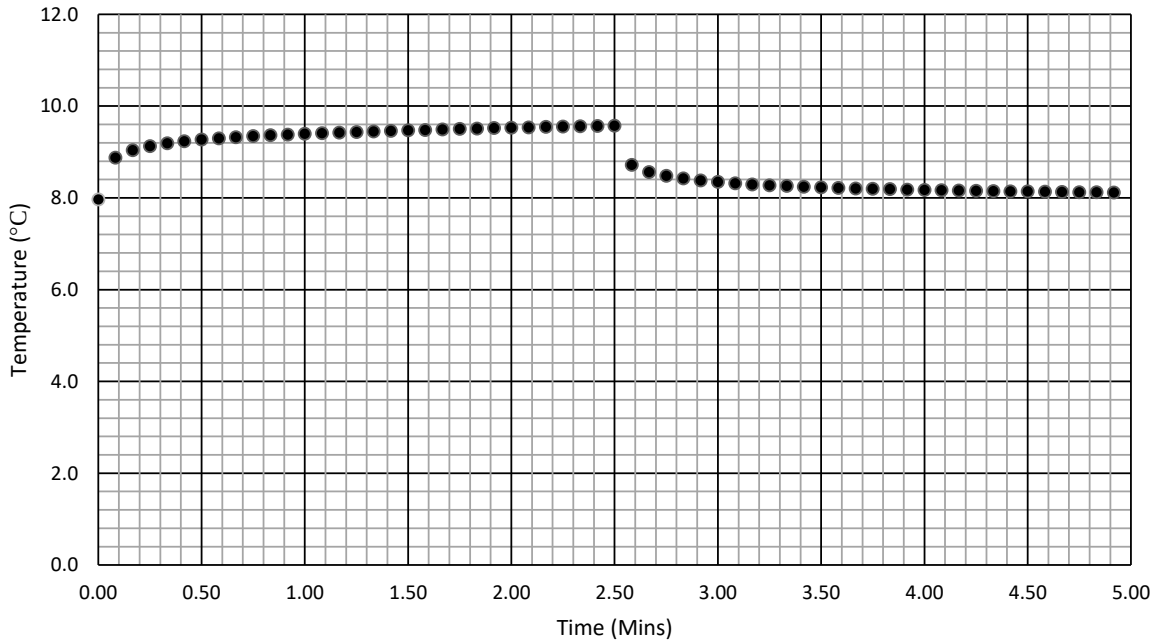
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP17
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP17A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.97
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.60	Thermal Resistivity (mK/W)	0.62

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.880	2.58	8.721
0.17	9.045	2.67	8.568
0.25	9.132	2.75	8.482
0.33	9.191	2.83	8.425
0.42	9.236	2.92	8.383
0.50	9.272	3.00	8.349
0.58	9.302	3.08	8.322
0.67	9.327	3.17	8.298
0.75	9.348	3.25	8.279
0.83	9.368	3.33	8.262
0.92	9.384	3.42	8.247
1.00	9.399	3.50	8.234
1.08	9.413	3.58	8.222
1.17	9.426	3.67	8.210
1.25	9.437	3.75	8.202
1.33	9.449	3.83	8.193
1.42	9.460	3.92	8.184
1.50	9.473	4.00	8.177
1.58	9.484	4.08	8.170
1.67	9.495	4.17	8.163
1.75	9.504	4.25	8.157
1.83	9.514	4.33	8.152
1.92	9.523	4.42	8.147
2.00	9.532	4.50	8.142
2.08	9.540	4.58	8.138
2.17	9.548	4.67	8.133
2.25	9.555	4.75	8.128
2.33	9.563	4.83	8.126
2.42	9.569	4.92	8.121
2.50	9.577		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

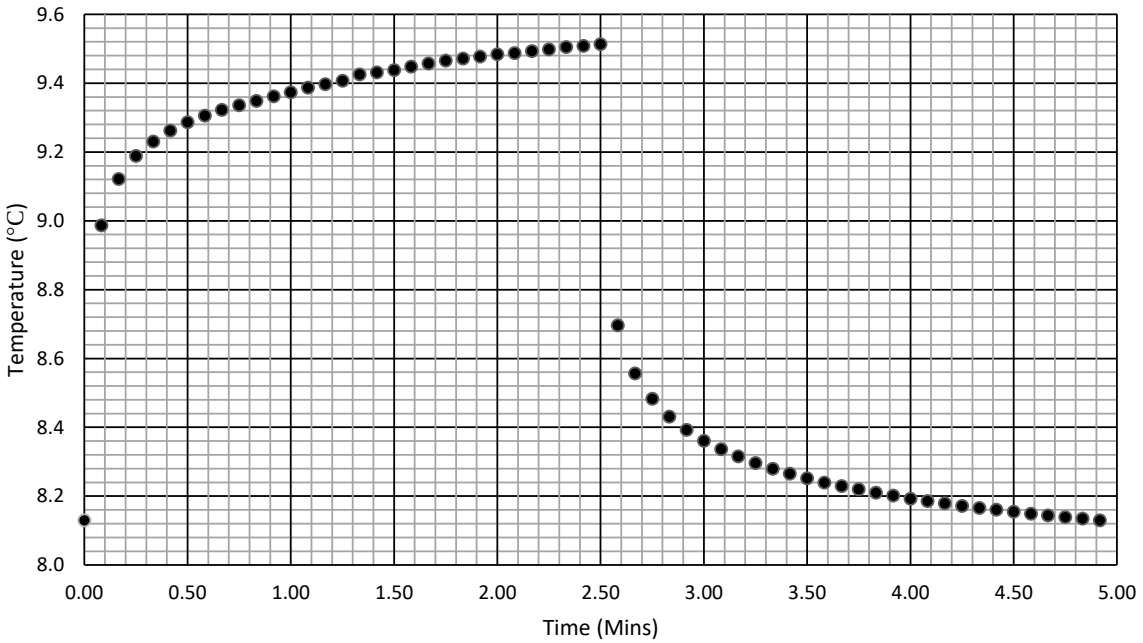
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP17
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP17B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.13
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.75	Thermal Resistivity (mK/W)	0.57

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.987	2.58	8.697
0.17	9.122	2.67	8.557
0.25	9.189	2.75	8.483
0.33	9.231	2.83	8.431
0.42	9.263	2.92	8.393
0.50	9.287	3.00	8.361
0.58	9.306	3.08	8.337
0.67	9.323	3.17	8.316
0.75	9.336	3.25	8.297
0.83	9.349	3.33	8.280
0.92	9.362	3.42	8.266
1.00	9.374	3.50	8.252
1.08	9.387	3.58	8.240
1.17	9.397	3.67	8.230
1.25	9.407	3.75	8.220
1.33	9.426	3.83	8.210
1.42	9.432	3.92	8.202
1.50	9.438	4.00	8.193
1.58	9.448	4.08	8.186
1.67	9.458	4.17	8.179
1.75	9.466	4.25	8.172
1.83	9.472	4.33	8.166
1.92	9.478	4.42	8.161
2.00	9.484	4.50	8.155
2.08	9.488	4.58	8.149
2.17	9.494	4.67	8.144
2.25	9.499	4.75	8.139
2.33	9.505	4.83	8.135
2.42	9.509	4.92	8.130
2.50	9.514		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

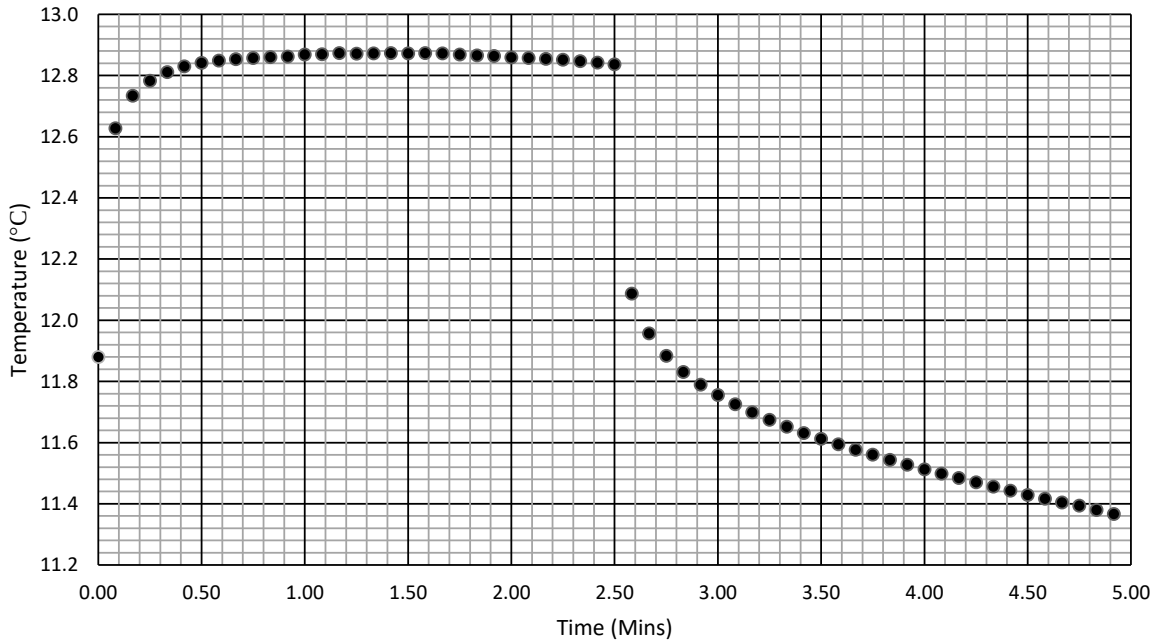
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP17
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP17C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.88
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	2.03	Thermal Resistivity (mK/W)	0.49

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.628	2.58	12.087
0.17	12.734	2.67	11.957
0.25	12.783	2.75	11.884
0.33	12.812	2.83	11.831
0.42	12.830	2.92	11.790
0.50	12.842	3.00	11.756
0.58	12.849	3.08	11.726
0.67	12.854	3.17	11.699
0.75	12.858	3.25	11.675
0.83	12.861	3.33	11.652
0.92	12.862	3.42	11.632
1.00	12.869	3.50	11.613
1.08	12.870	3.58	11.595
1.17	12.874	3.67	11.577
1.25	12.872	3.75	11.561
1.33	12.873	3.83	11.544
1.42	12.874	3.92	11.528
1.50	12.873	4.00	11.513
1.58	12.874	4.08	11.499
1.67	12.873	4.17	11.485
1.75	12.869	4.25	11.471
1.83	12.866	4.33	11.456
1.92	12.864	4.42	11.443
2.00	12.860	4.50	11.429
2.08	12.858	4.58	11.417
2.17	12.855	4.67	11.405
2.25	12.852	4.75	11.394
2.33	12.847	4.83	11.380
2.42	12.843	4.92	11.367
2.50	12.837		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

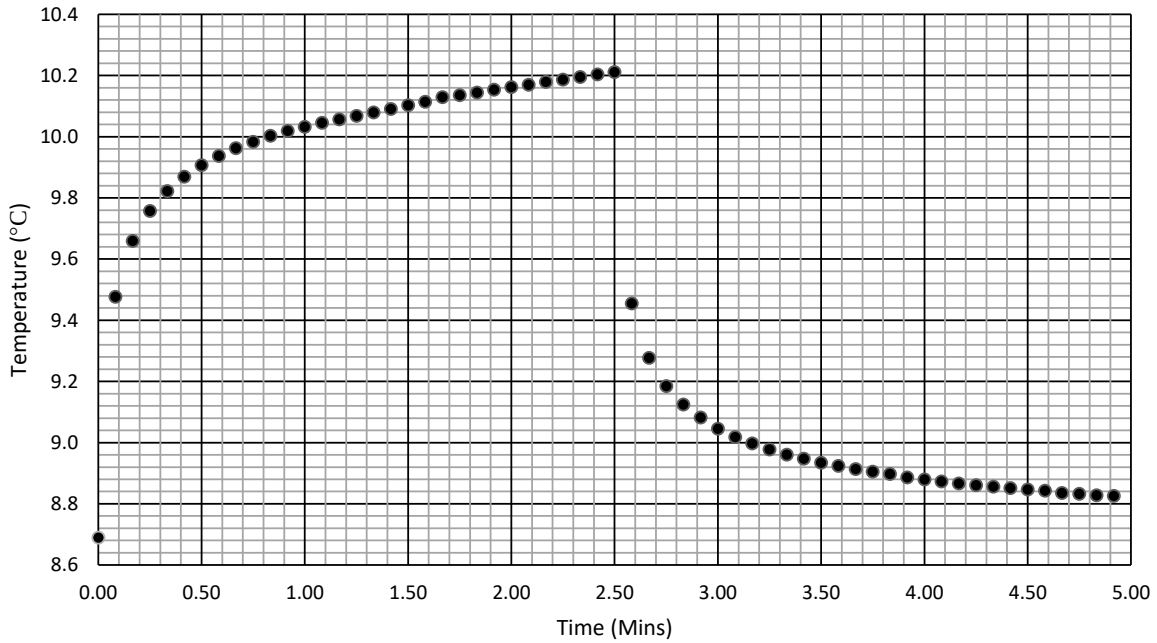
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP18
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP18A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.69
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Gravelly CLAY		
Thermal Conductivity (W/mK)	1.63	Thermal Resistivity (mK/W)	0.62

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.477	2.58	9.455
0.17	9.660	2.67	9.277
0.25	9.758	2.75	9.185
0.33	9.823	2.83	9.125
0.42	9.870	2.92	9.082
0.50	9.907	3.00	9.046
0.58	9.938	3.08	9.018
0.67	9.963	3.17	8.998
0.75	9.984	3.25	8.978
0.83	10.003	3.33	8.961
0.92	10.019	3.42	8.948
1.00	10.033	3.50	8.935
1.08	10.046	3.58	8.924
1.17	10.057	3.67	8.914
1.25	10.068	3.75	8.905
1.33	10.080	3.83	8.898
1.42	10.091	3.92	8.887
1.50	10.103	4.00	8.880
1.58	10.115	4.08	8.873
1.67	10.130	4.17	8.867
1.75	10.136	4.25	8.861
1.83	10.145	4.33	8.856
1.92	10.154	4.42	8.852
2.00	10.163	4.50	8.847
2.08	10.170	4.58	8.843
2.17	10.180	4.67	8.836
2.25	10.187	4.75	8.833
2.33	10.196	4.83	8.828
2.42	10.204	4.92	8.826
2.50	10.212		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

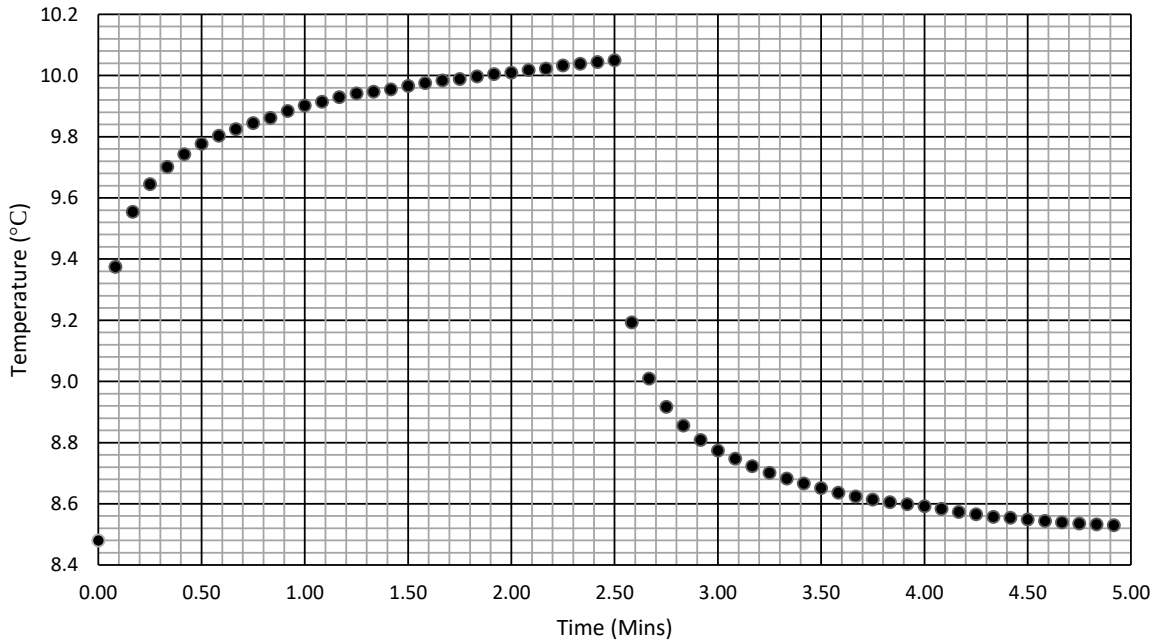
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP18
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP18B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.48
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Gravelly CLAY		
Thermal Conductivity (W/mK)	1.71	Thermal Resistivity (mK/W)	0.59

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.375	2.58	9.193
0.17	9.555	2.67	9.010
0.25	9.645	2.75	8.917
0.33	9.702	2.83	8.856
0.42	9.743	2.92	8.809
0.50	9.777	3.00	8.774
0.58	9.803	3.08	8.748
0.67	9.825	3.17	8.723
0.75	9.845	3.25	8.702
0.83	9.862	3.33	8.683
0.92	9.884	3.42	8.667
1.00	9.902	3.50	8.652
1.08	9.915	3.58	8.637
1.17	9.930	3.67	8.624
1.25	9.942	3.75	8.614
1.33	9.948	3.83	8.606
1.42	9.955	3.92	8.599
1.50	9.966	4.00	8.592
1.58	9.976	4.08	8.584
1.67	9.984	4.17	8.574
1.75	9.989	4.25	8.566
1.83	9.997	4.33	8.558
1.92	10.005	4.42	8.555
2.00	10.010	4.50	8.549
2.08	10.018	4.58	8.544
2.17	10.023	4.67	8.540
2.25	10.033	4.75	8.536
2.33	10.039	4.83	8.533
2.42	10.045	4.92	8.530
2.50	10.050		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

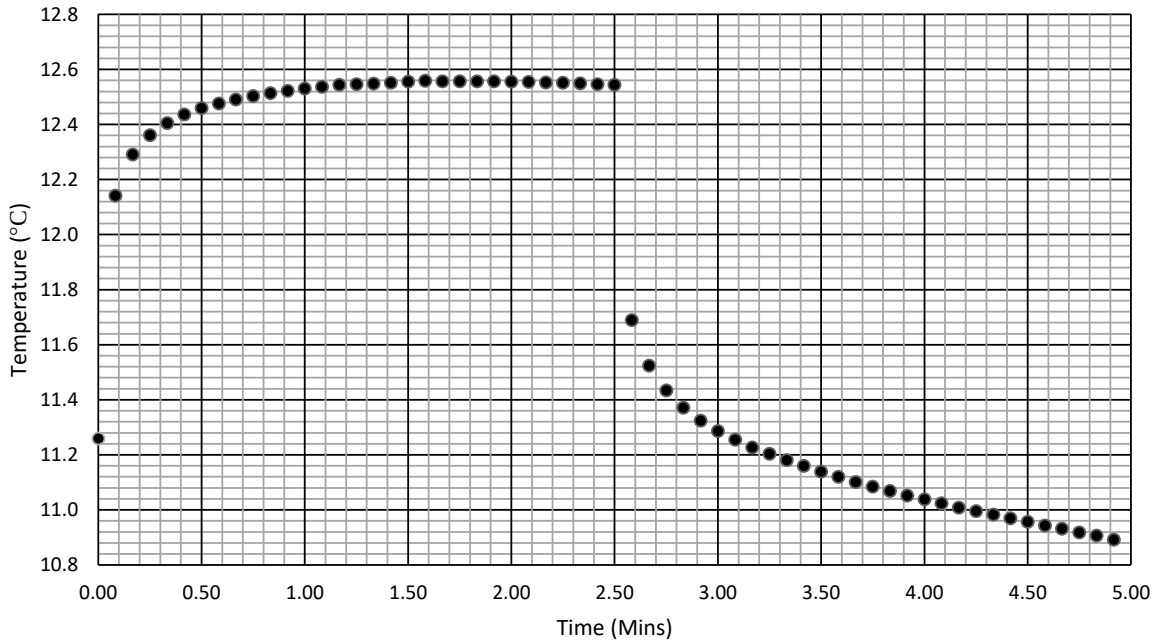
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP18
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	27/11/2023
		Test No.	TP18C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	11.26
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Gravelly CLAY		
Thermal Conductivity (W/mK)	1.72	Thermal Resistivity (mK/W)	0.58

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	12.142	2.58	11.690
0.17	12.291	2.67	11.524
0.25	12.361	2.75	11.434
0.33	12.405	2.83	11.372
0.42	12.437	2.92	11.325
0.50	12.460	3.00	11.287
0.58	12.477	3.08	11.255
0.67	12.491	3.17	11.227
0.75	12.504	3.25	11.204
0.83	12.514	3.33	11.181
0.92	12.523	3.42	11.160
1.00	12.531	3.50	11.139
1.08	12.537	3.58	11.121
1.17	12.545	3.67	11.102
1.25	12.547	3.75	11.085
1.33	12.549	3.83	11.069
1.42	12.552	3.92	11.053
1.50	12.556	4.00	11.039
1.58	12.559	4.08	11.024
1.67	12.557	4.17	11.009
1.75	12.557	4.25	10.996
1.83	12.557	4.33	10.983
1.92	12.557	4.42	10.970
2.00	12.556	4.50	10.957
2.08	12.555	4.58	10.944
2.17	12.553	4.67	10.932
2.25	12.552	4.75	10.919
2.33	12.550	4.83	10.907
2.42	12.547	4.92	10.892
2.50	12.545		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

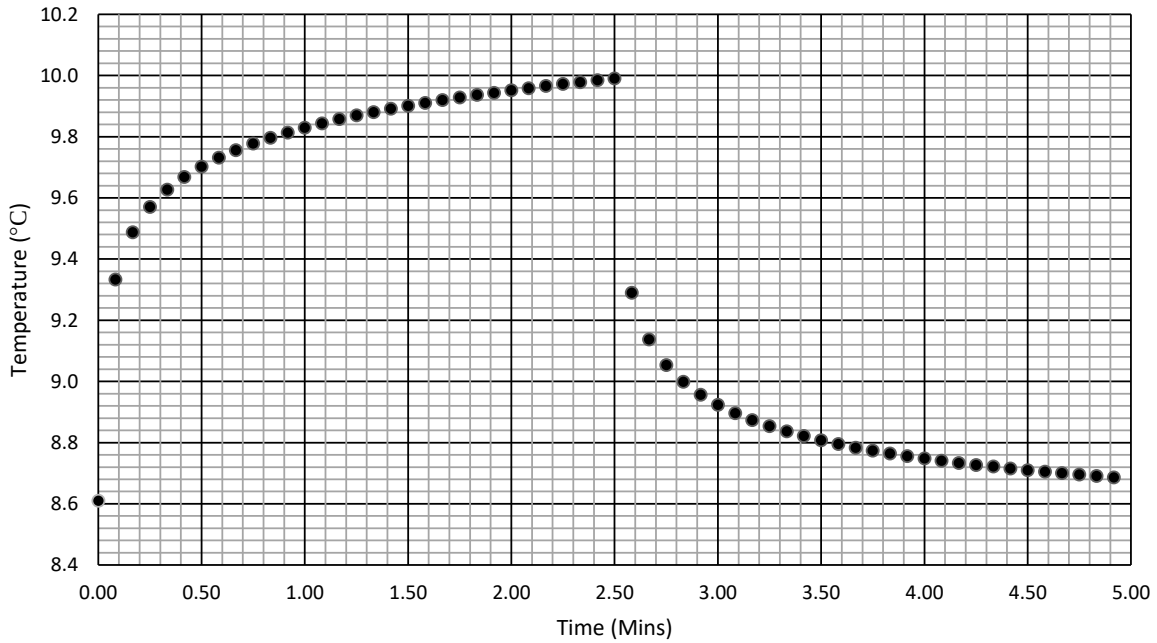
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP19
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP19A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.61
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.59	Thermal Resistivity (mK/W)	0.63

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.334	2.58	9.290
0.17	9.488	2.67	9.138
0.25	9.571	2.75	9.054
0.33	9.627	2.83	8.999
0.42	9.669	2.92	8.957
0.50	9.703	3.00	8.924
0.58	9.732	3.08	8.897
0.67	9.756	3.17	8.874
0.75	9.778	3.25	8.854
0.83	9.797	3.33	8.837
0.92	9.814	3.42	8.822
1.00	9.830	3.50	8.808
1.08	9.844	3.58	8.796
1.17	9.858	3.67	8.784
1.25	9.870	3.75	8.774
1.33	9.881	3.83	8.765
1.42	9.892	3.92	8.756
1.50	9.901	4.00	8.749
1.58	9.911	4.08	8.741
1.67	9.920	4.17	8.734
1.75	9.929	4.25	8.727
1.83	9.937	4.33	8.722
1.92	9.944	4.42	8.716
2.00	9.952	4.50	8.710
2.08	9.959	4.58	8.705
2.17	9.966	4.67	8.701
2.25	9.973	4.75	8.696
2.33	9.979	4.83	8.691
2.42	9.985	4.92	8.687
2.50	9.991		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

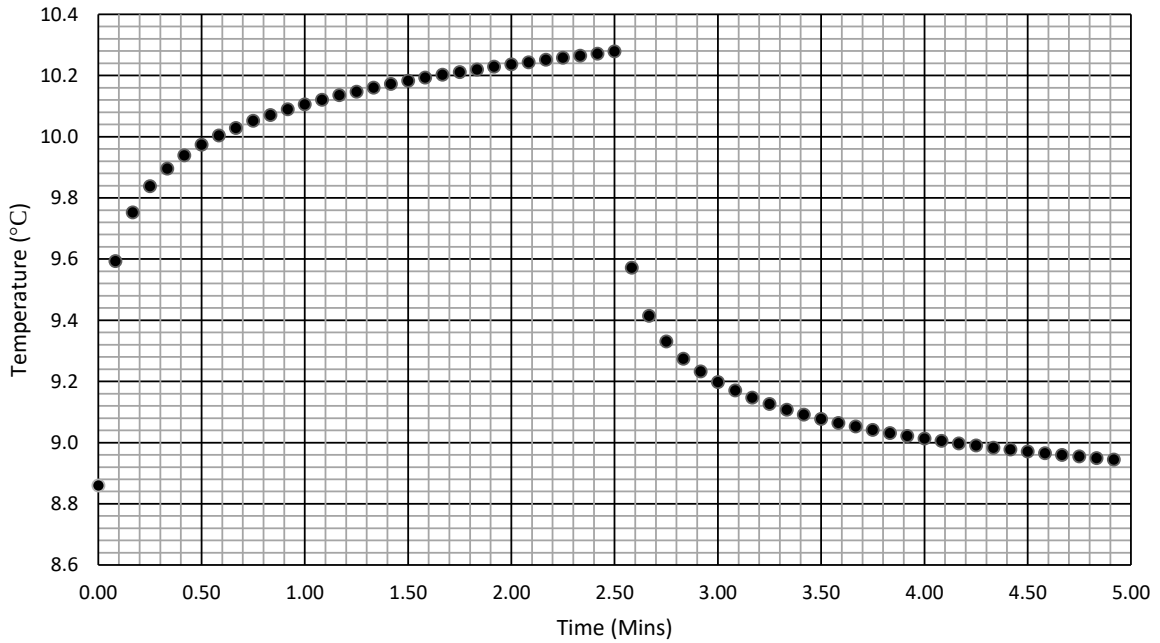
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP19
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP19B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.86
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.46	Thermal Resistivity (mK/W)	0.68

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.594	2.58	9.572
0.17	9.753	2.67	9.415
0.25	9.839	2.75	9.331
0.33	9.896	2.83	9.275
0.42	9.939	2.92	9.233
0.50	9.974	3.00	9.198
0.58	10.004	3.08	9.171
0.67	10.029	3.17	9.147
0.75	10.052	3.25	9.127
0.83	10.071	3.33	9.108
0.92	10.090	3.42	9.092
1.00	10.106	3.50	9.078
1.08	10.121	3.58	9.065
1.17	10.136	3.67	9.053
1.25	10.148	3.75	9.042
1.33	10.161	3.83	9.032
1.42	10.173	3.92	9.022
1.50	10.183	4.00	9.014
1.58	10.194	4.08	9.006
1.67	10.203	4.17	8.998
1.75	10.212	4.25	8.991
1.83	10.220	4.33	8.984
1.92	10.229	4.42	8.978
2.00	10.237	4.50	8.971
2.08	10.244	4.58	8.966
2.17	10.252	4.67	8.960
2.25	10.259	4.75	8.955
2.33	10.265	4.83	8.950
2.42	10.272	4.92	8.945
2.50	10.279		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

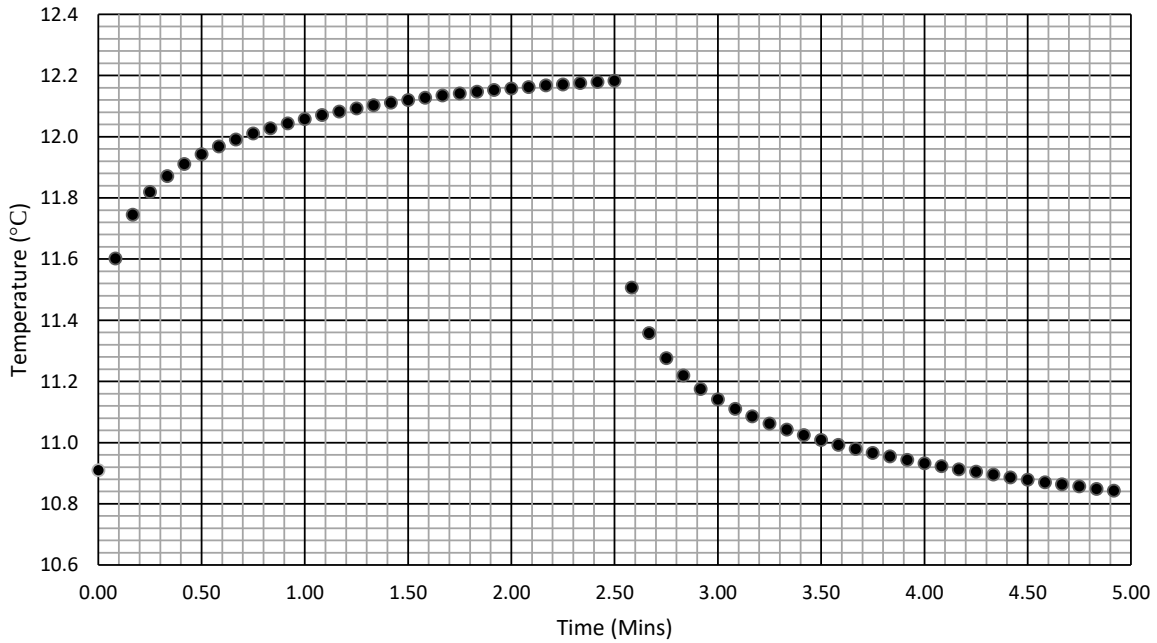
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP19
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP19C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.91
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.48	Thermal Resistivity (mK/W)	0.68

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.602	2.58	11.507
0.17	11.745	2.67	11.358
0.25	11.820	2.75	11.276
0.33	11.872	2.83	11.220
0.42	11.911	2.92	11.176
0.50	11.943	3.00	11.142
0.58	11.969	3.08	11.111
0.67	11.991	3.17	11.086
0.75	12.011	3.25	11.063
0.83	12.028	3.33	11.043
0.92	12.044	3.42	11.025
1.00	12.058	3.50	11.009
1.08	12.071	3.58	10.993
1.17	12.083	3.67	10.980
1.25	12.093	3.75	10.967
1.33	12.103	3.83	10.955
1.42	12.112	3.92	10.944
1.50	12.120	4.00	10.933
1.58	12.128	4.08	10.923
1.67	12.135	4.17	10.913
1.75	12.142	4.25	10.905
1.83	12.148	4.33	10.896
1.92	12.153	4.42	10.887
2.00	12.158	4.50	10.879
2.08	12.163	4.58	10.871
2.17	12.168	4.67	10.864
2.25	12.171	4.75	10.857
2.33	12.176	4.83	10.849
2.42	12.180	4.92	10.843
2.50	12.183		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

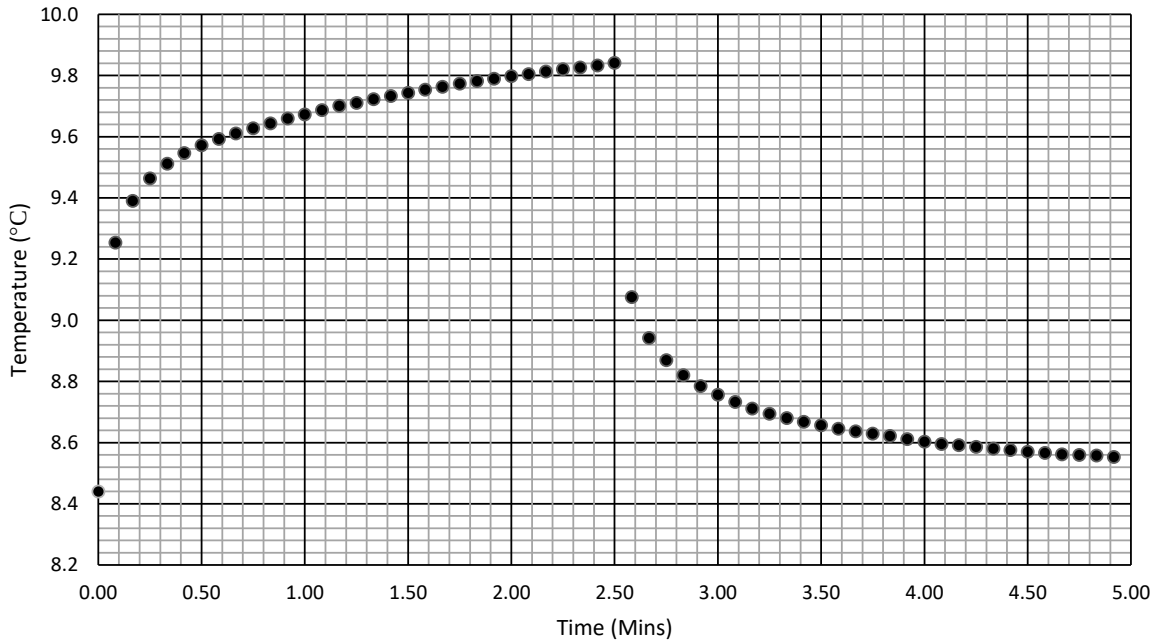
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP20
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP20A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.44
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.67	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.254	2.58	9.076
0.17	9.391	2.67	8.942
0.25	9.464	2.75	8.870
0.33	9.512	2.83	8.821
0.42	9.547	2.92	8.785
0.50	9.572	3.00	8.757
0.58	9.593	3.08	8.733
0.67	9.611	3.17	8.712
0.75	9.628	3.25	8.695
0.83	9.644	3.33	8.681
0.92	9.660	3.42	8.668
1.00	9.673	3.50	8.657
1.08	9.687	3.58	8.646
1.17	9.701	3.67	8.637
1.25	9.711	3.75	8.630
1.33	9.723	3.83	8.622
1.42	9.733	3.92	8.612
1.50	9.744	4.00	8.603
1.58	9.754	4.08	8.596
1.67	9.764	4.17	8.592
1.75	9.774	4.25	8.586
1.83	9.782	4.33	8.581
1.92	9.790	4.42	8.576
2.00	9.798	4.50	8.570
2.08	9.805	4.58	8.567
2.17	9.813	4.67	8.562
2.25	9.821	4.75	8.560
2.33	9.827	4.83	8.558
2.42	9.833	4.92	8.553
2.50	9.842		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

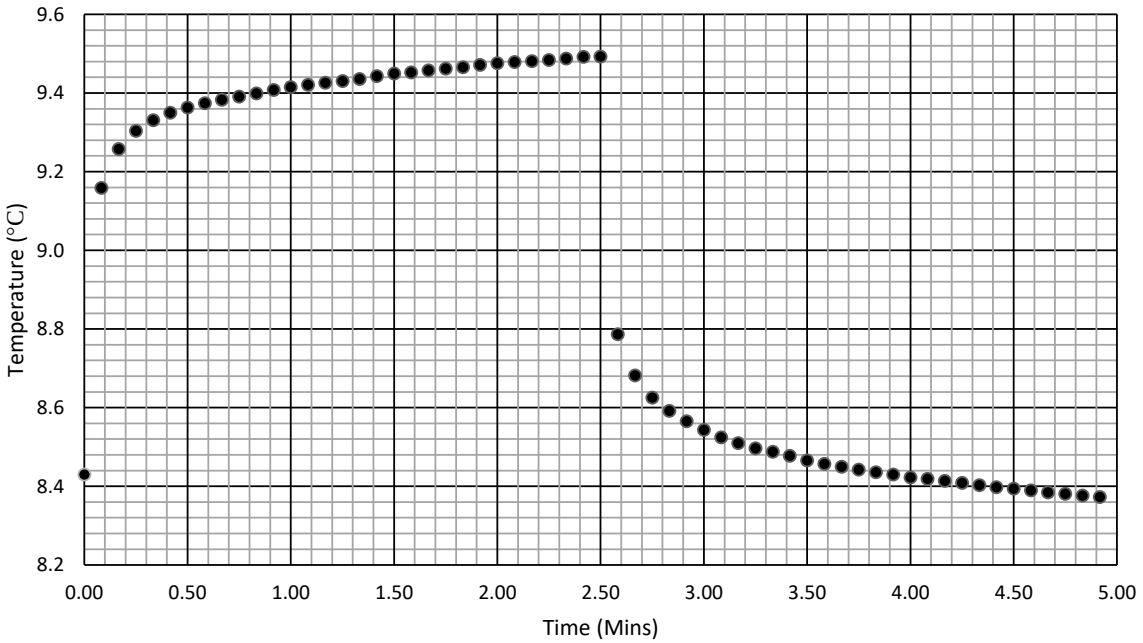
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP20
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP20B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	8.43
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	2.60	Thermal Resistivity (mK/W)	0.38

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	9.159	2.58	8.787
0.17	9.258	2.67	8.682
0.25	9.304	2.75	8.626
0.33	9.331	2.83	8.592
0.42	9.350	2.92	8.566
0.50	9.363	3.00	8.544
0.58	9.374	3.08	8.525
0.67	9.383	3.17	8.510
0.75	9.391	3.25	8.497
0.83	9.399	3.33	8.488
0.92	9.408	3.42	8.478
1.00	9.415	3.50	8.466
1.08	9.421	3.58	8.457
1.17	9.426	3.67	8.450
1.25	9.431	3.75	8.443
1.33	9.436	3.83	8.436
1.42	9.443	3.92	8.430
1.50	9.450	4.00	8.423
1.58	9.453	4.08	8.419
1.67	9.458	4.17	8.414
1.75	9.462	4.25	8.409
1.83	9.466	4.33	8.403
1.92	9.472	4.42	8.398
2.00	9.476	4.50	8.394
2.08	9.479	4.58	8.390
2.17	9.481	4.67	8.385
2.25	9.484	4.75	8.381
2.33	9.488	4.83	8.377
2.42	9.492	4.92	8.373
2.50	9.493		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

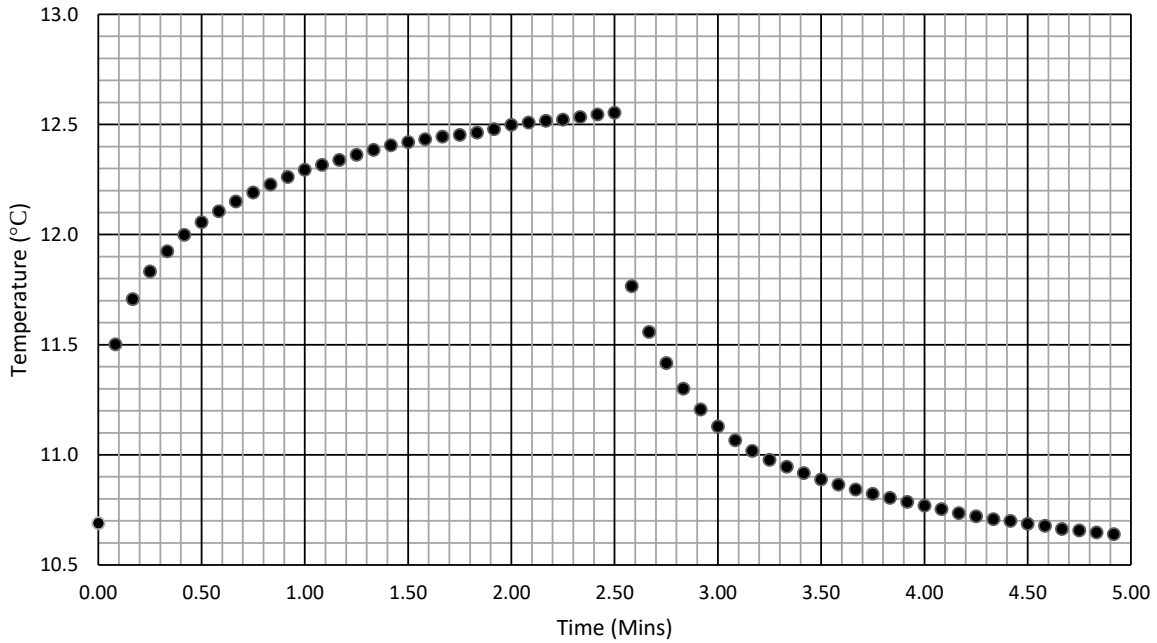
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP20
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	28/11/2023
		Test No.	TP20C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.69
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Gravelly CLAY		
Thermal Conductivity (W/mK)	0.87	Thermal Resistivity (mK/W)	1.15

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.502	2.58	11.767
0.17	11.707	2.67	11.559
0.25	11.833	2.75	11.417
0.33	11.925	2.83	11.301
0.42	11.999	2.92	11.207
0.50	12.057	3.00	11.130
0.58	12.107	3.08	11.067
0.67	12.151	3.17	11.018
0.75	12.191	3.25	10.978
0.83	12.228	3.33	10.946
0.92	12.262	3.42	10.917
1.00	12.295	3.50	10.889
1.08	12.317	3.58	10.865
1.17	12.340	3.67	10.843
1.25	12.363	3.75	10.824
1.33	12.385	3.83	10.805
1.42	12.406	3.92	10.787
1.50	12.420	4.00	10.770
1.58	12.433	4.08	10.754
1.67	12.445	4.17	10.736
1.75	12.453	4.25	10.721
1.83	12.464	4.33	10.709
1.92	12.479	4.42	10.701
2.00	12.499	4.50	10.688
2.08	12.510	4.58	10.678
2.17	12.517	4.67	10.664
2.25	12.522	4.75	10.657
2.33	12.534	4.83	10.648
2.42	12.546	4.92	10.641
2.50	12.554		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

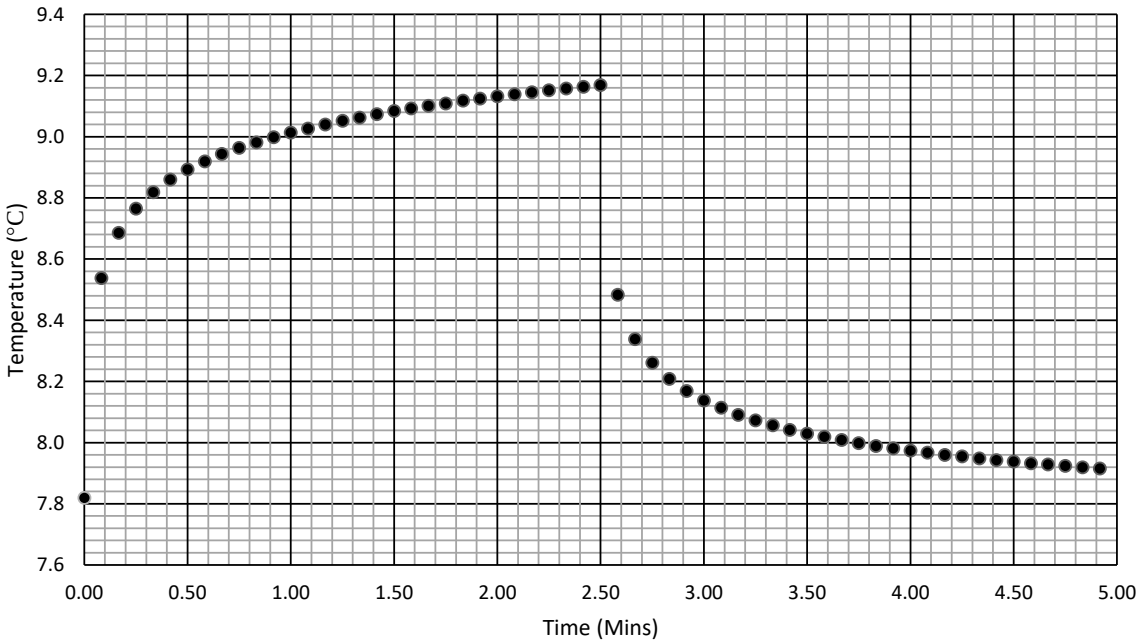
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP21
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP21A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.82
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.65	Thermal Resistivity (mK/W)	0.61

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.538	2.58	8.484
0.17	8.686	2.67	8.339
0.25	8.765	2.75	8.261
0.33	8.819	2.83	8.209
0.42	8.860	2.92	8.169
0.50	8.893	3.00	8.138
0.58	8.920	3.08	8.114
0.67	8.944	3.17	8.091
0.75	8.964	3.25	8.073
0.83	8.982	3.33	8.057
0.92	8.999	3.42	8.042
1.00	9.014	3.50	8.030
1.08	9.027	3.58	8.019
1.17	9.040	3.67	8.009
1.25	9.052	3.75	7.999
1.33	9.063	3.83	7.989
1.42	9.074	3.92	7.982
1.50	9.084	4.00	7.974
1.58	9.093	4.08	7.968
1.67	9.101	4.17	7.960
1.75	9.109	4.25	7.955
1.83	9.118	4.33	7.949
1.92	9.125	4.42	7.943
2.00	9.132	4.50	7.938
2.08	9.139	4.58	7.933
2.17	9.146	4.67	7.929
2.25	9.152	4.75	7.924
2.33	9.158	4.83	7.920
2.42	9.164	4.92	7.916
2.50	9.169		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

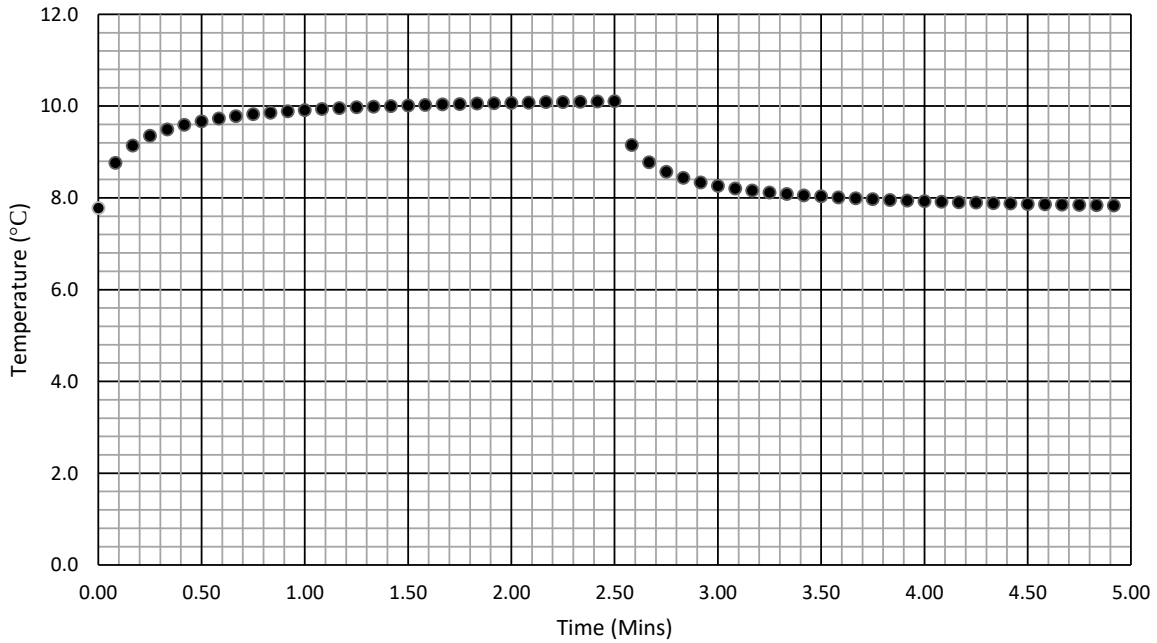
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP21
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP21B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.78
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.11	Thermal Resistivity (mK/W)	0.90

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.764	2.58	9.158
0.17	9.143	2.67	8.781
0.25	9.356	2.75	8.573
0.33	9.497	2.83	8.437
0.42	9.598	2.92	8.341
0.50	9.673	3.00	8.266
0.58	9.734	3.08	8.209
0.67	9.785	3.17	8.161
0.75	9.826	3.25	8.121
0.83	9.860	3.33	8.088
0.92	9.889	3.42	8.059
1.00	9.915	3.50	8.035
1.08	9.938	3.58	8.011
1.17	9.958	3.67	7.992
1.25	9.975	3.75	7.974
1.33	9.990	3.83	7.959
1.42	10.004	3.92	7.944
1.50	10.017	4.00	7.931
1.58	10.029	4.08	7.919
1.67	10.038	4.17	7.908
1.75	10.049	4.25	7.897
1.83	10.058	4.33	7.888
1.92	10.066	4.42	7.879
2.00	10.074	4.50	7.871
2.08	10.081	4.58	7.862
2.17	10.088	4.67	7.855
2.25	10.094	4.75	7.848
2.33	10.100	4.83	7.842
2.42	10.106	4.92	7.835
2.50	10.111		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

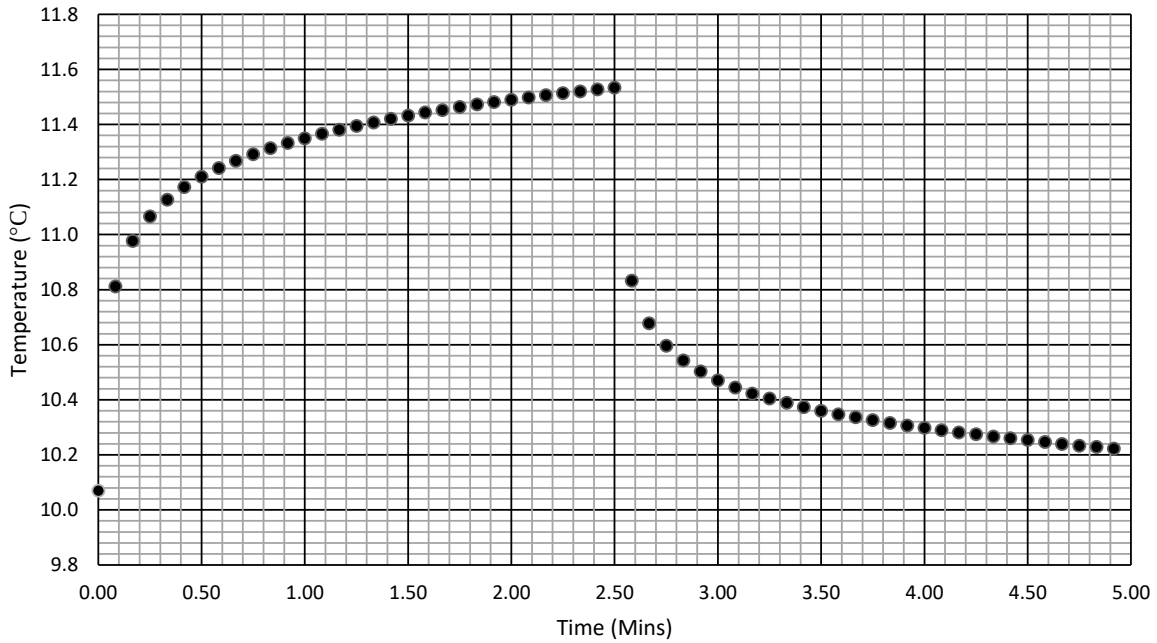
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP21
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP21C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.07
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.35	Thermal Resistivity (mK/W)	0.74

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.812	2.58	10.833
0.17	10.977	2.67	10.678
0.25	11.066	2.75	10.597
0.33	11.127	2.83	10.543
0.42	11.173	2.92	10.503
0.50	11.211	3.00	10.471
0.58	11.242	3.08	10.445
0.67	11.268	3.17	10.423
0.75	11.292	3.25	10.405
0.83	11.314	3.33	10.389
0.92	11.333	3.42	10.374
1.00	11.350	3.50	10.360
1.08	11.367	3.58	10.348
1.17	11.381	3.67	10.337
1.25	11.395	3.75	10.327
1.33	11.408	3.83	10.316
1.42	11.421	3.92	10.307
1.50	11.433	4.00	10.298
1.58	11.444	4.08	10.290
1.67	11.453	4.17	10.282
1.75	11.464	4.25	10.275
1.83	11.473	4.33	10.267
1.92	11.482	4.42	10.261
2.00	11.490	4.50	10.254
2.08	11.499	4.58	10.247
2.17	11.507	4.67	10.240
2.25	11.514	4.75	10.234
2.33	11.521	4.83	10.229
2.42	11.528	4.92	10.223
2.50	11.534		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

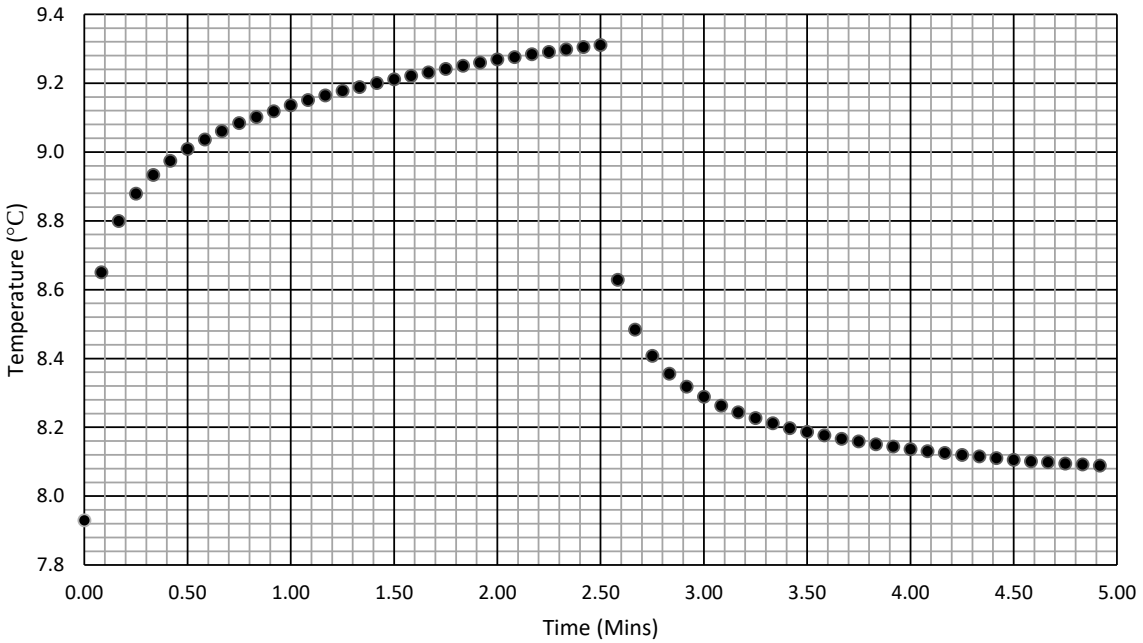
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP22
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP22A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.93
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.63	Thermal Resistivity (mK/W)	0.61

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.651	2.58	8.629
0.17	8.800	2.67	8.484
0.25	8.879	2.75	8.408
0.33	8.934	2.83	8.356
0.42	8.975	2.92	8.318
0.50	9.009	3.00	8.289
0.58	9.037	3.08	8.263
0.67	9.061	3.17	8.244
0.75	9.084	3.25	8.227
0.83	9.102	3.33	8.212
0.92	9.119	3.42	8.198
1.00	9.136	3.50	8.187
1.08	9.151	3.58	8.177
1.17	9.165	3.67	8.167
1.25	9.178	3.75	8.159
1.33	9.189	3.83	8.151
1.42	9.201	3.92	8.144
1.50	9.212	4.00	8.137
1.58	9.222	4.08	8.131
1.67	9.232	4.17	8.126
1.75	9.242	4.25	8.120
1.83	9.251	4.33	8.116
1.92	9.260	4.42	8.111
2.00	9.269	4.50	8.106
2.08	9.276	4.58	8.102
2.17	9.284	4.67	8.099
2.25	9.291	4.75	8.095
2.33	9.299	4.83	8.092
2.42	9.305	4.92	8.089
2.50	9.311		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

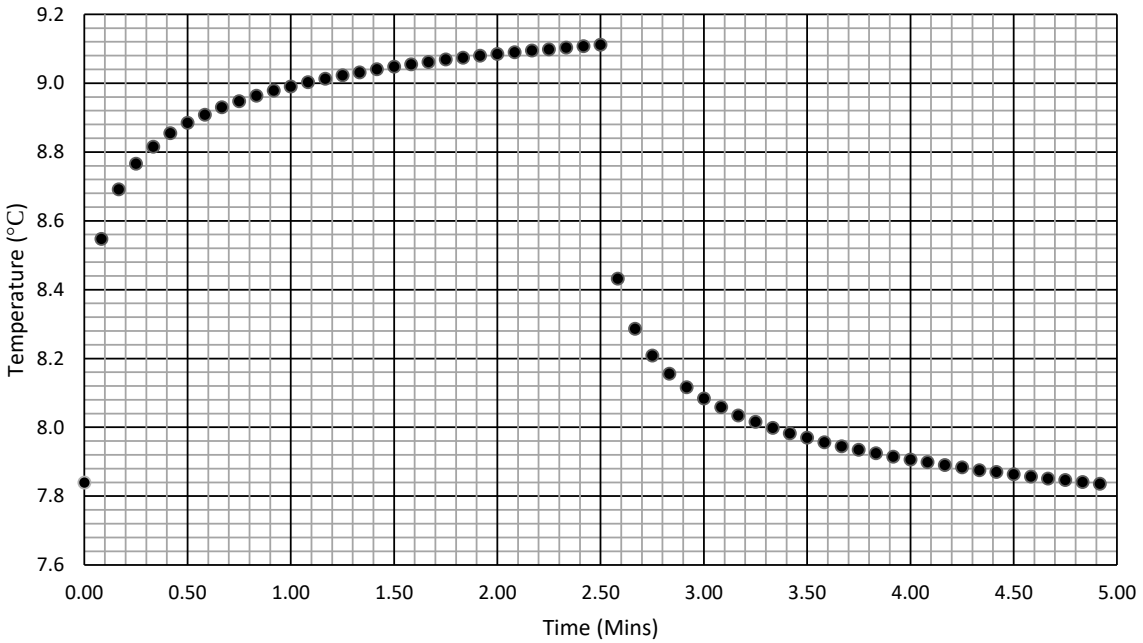
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP22
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP22B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.84
Bulk Density (Mg/m^3)	-	Dry Density (Mg/m^3)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.72	Thermal Resistivity (mK/W)	0.58

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.548	2.58	8.432
0.17	8.692	2.67	8.287
0.25	8.766	2.75	8.209
0.33	8.816	2.83	8.156
0.42	8.855	2.92	8.117
0.50	8.885	3.00	8.084
0.58	8.909	3.08	8.059
0.67	8.930	3.17	8.035
0.75	8.948	3.25	8.016
0.83	8.964	3.33	7.999
0.92	8.979	3.42	7.983
1.00	8.991	3.50	7.970
1.08	9.003	3.58	7.957
1.17	9.013	3.67	7.945
1.25	9.023	3.75	7.935
1.33	9.032	3.83	7.925
1.42	9.041	3.92	7.915
1.50	9.048	4.00	7.907
1.58	9.055	4.08	7.899
1.67	9.062	4.17	7.891
1.75	9.069	4.25	7.884
1.83	9.074	4.33	7.876
1.92	9.080	4.42	7.871
2.00	9.085	4.50	7.864
2.08	9.090	4.58	7.857
2.17	9.095	4.67	7.851
2.25	9.099	4.75	7.847
2.33	9.104	4.83	7.841
2.42	9.108	4.92	7.836
2.50	9.112		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

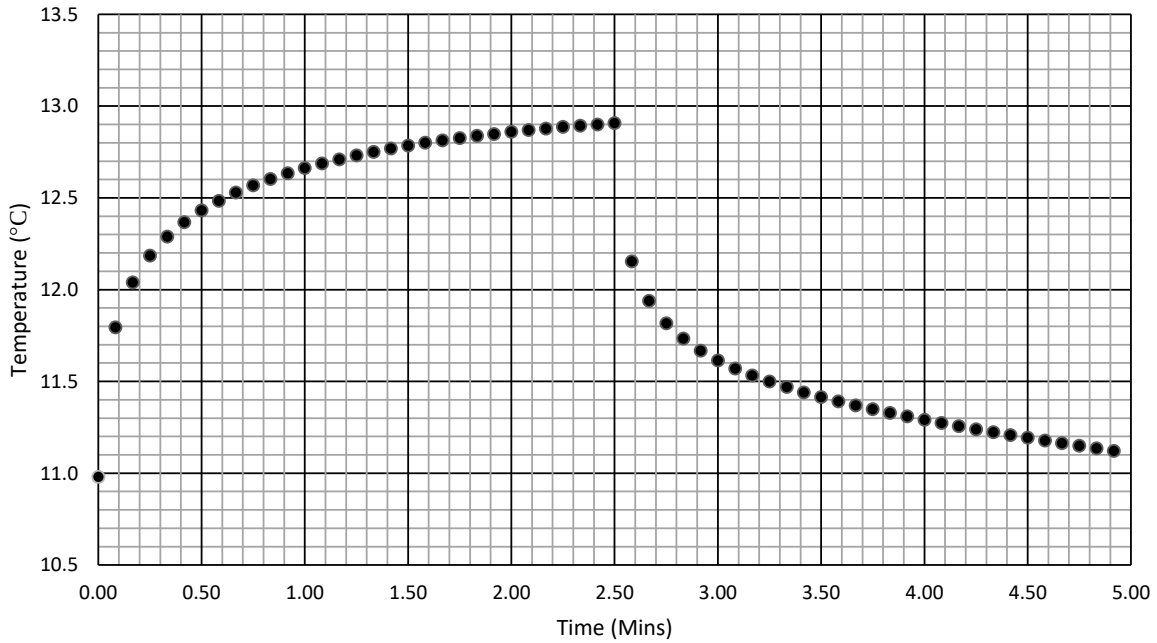
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP22
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP22C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.98
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Gravelly CLAY		
Thermal Conductivity (W/mK)	0.81	Thermal Resistivity (mK/W)	1.24

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.796	2.58	12.154
0.17	12.040	2.67	11.940
0.25	12.186	2.75	11.818
0.33	12.290	2.83	11.734
0.42	12.369	2.92	11.668
0.50	12.432	3.00	11.615
0.58	12.485	3.08	11.571
0.67	12.530	3.17	11.533
0.75	12.569	3.25	11.500
0.83	12.604	3.33	11.470
0.92	12.635	3.42	11.441
1.00	12.663	3.50	11.416
1.08	12.688	3.58	11.392
1.17	12.711	3.67	11.370
1.25	12.733	3.75	11.349
1.33	12.751	3.83	11.329
1.42	12.770	3.92	11.310
1.50	12.786	4.00	11.292
1.58	12.801	4.08	11.274
1.67	12.814	4.17	11.257
1.75	12.827	4.25	11.240
1.83	12.839	4.33	11.224
1.92	12.849	4.42	11.209
2.00	12.861	4.50	11.194
2.08	12.870	4.58	11.179
2.17	12.879	4.67	11.164
2.25	12.887	4.75	11.150
2.33	12.894	4.83	11.136
2.42	12.901	4.92	11.122
2.50	12.908		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

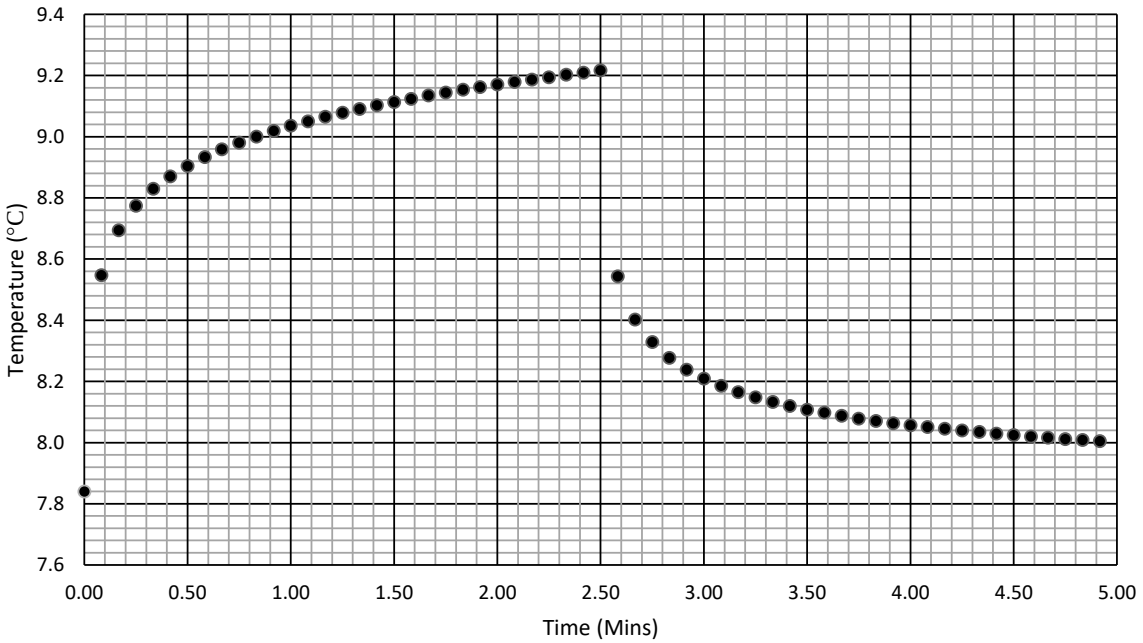
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP23
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP23A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.84
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.56	Thermal Resistivity (mK/W)	0.64

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.548	2.58	8.544
0.17	8.695	2.67	8.403
0.25	8.775	2.75	8.329
0.33	8.830	2.83	8.277
0.42	8.871	2.92	8.239
0.50	8.905	3.00	8.210
0.58	8.934	3.08	8.186
0.67	8.959	3.17	8.165
0.75	8.981	3.25	8.148
0.83	9.001	3.33	8.133
0.92	9.019	3.42	8.120
1.00	9.036	3.50	8.108
1.08	9.051	3.58	8.098
1.17	9.066	3.67	8.088
1.25	9.079	3.75	8.079
1.33	9.091	3.83	8.071
1.42	9.103	3.92	8.064
1.50	9.114	4.00	8.057
1.58	9.124	4.08	8.051
1.67	9.135	4.17	8.046
1.75	9.145	4.25	8.040
1.83	9.154	4.33	8.035
1.92	9.163	4.42	8.030
2.00	9.171	4.50	8.025
2.08	9.180	4.58	8.020
2.17	9.187	4.67	8.017
2.25	9.195	4.75	8.012
2.33	9.203	4.83	8.009
2.42	9.210	4.92	8.005
2.50	9.217		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

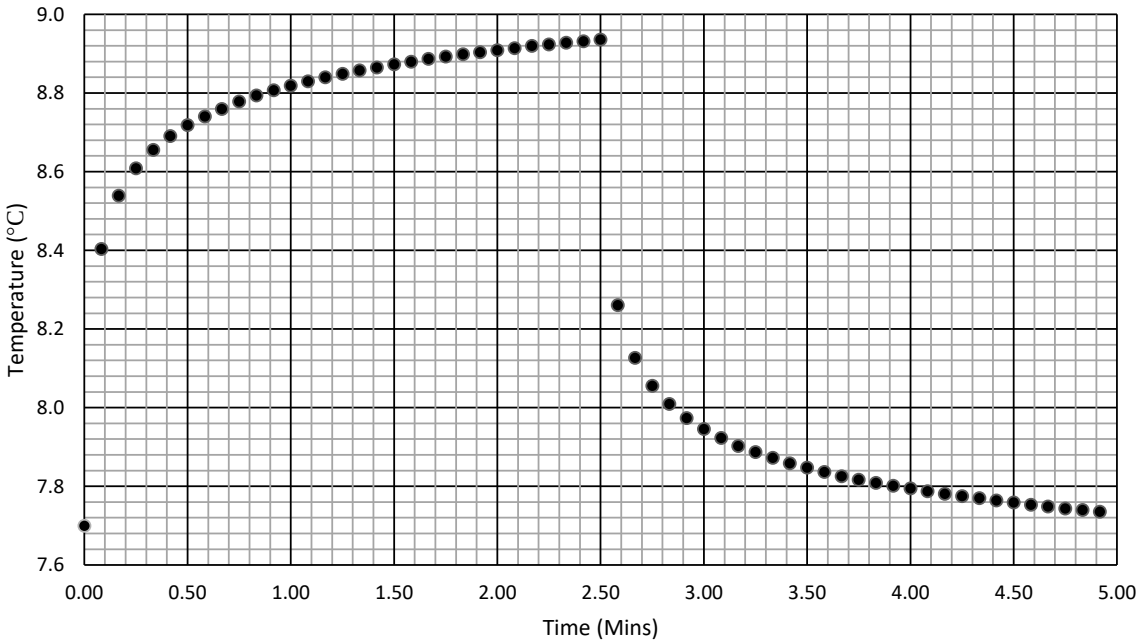
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP23
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP23B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.70
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.90	Thermal Resistivity (mK/W)	0.53

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.404	2.58	8.261
0.17	8.539	2.67	8.127
0.25	8.609	2.75	8.056
0.33	8.656	2.83	8.010
0.42	8.691	2.92	7.974
0.50	8.719	3.00	7.946
0.58	8.741	3.08	7.923
0.67	8.760	3.17	7.903
0.75	8.779	3.25	7.887
0.83	8.794	3.33	7.873
0.92	8.807	3.42	7.859
1.00	8.819	3.50	7.848
1.08	8.830	3.58	7.837
1.17	8.840	3.67	7.826
1.25	8.849	3.75	7.817
1.33	8.858	3.83	7.809
1.42	8.865	3.92	7.802
1.50	8.873	4.00	7.795
1.58	8.880	4.08	7.788
1.67	8.887	4.17	7.781
1.75	8.893	4.25	7.775
1.83	8.899	4.33	7.770
1.92	8.904	4.42	7.764
2.00	8.909	4.50	7.759
2.08	8.914	4.58	7.753
2.17	8.920	4.67	7.749
2.25	8.924	4.75	7.744
2.33	8.928	4.83	7.740
2.42	8.932	4.92	7.736
2.50	8.936		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

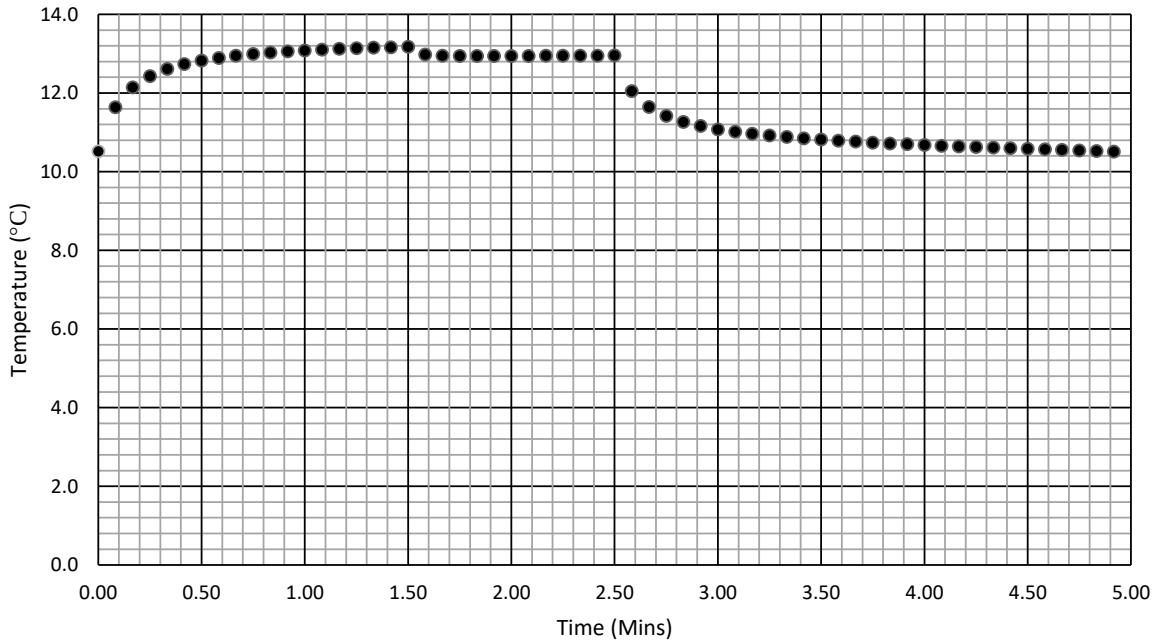
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP23
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP23C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.52
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy clayey GRAVEL		
Thermal Conductivity (W/mK)	3.96	Thermal Resistivity (mK/W)	0.25

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.642	2.58	12.051
0.17	12.146	2.67	11.650
0.25	12.433	2.75	11.419
0.33	12.615	2.83	11.268
0.42	12.739	2.92	11.162
0.50	12.829	3.00	11.080
0.58	12.897	3.08	11.017
0.67	12.950	3.17	10.964
0.75	12.994	3.25	10.921
0.83	13.030	3.33	10.883
0.92	13.060	3.42	10.849
1.00	13.084	3.50	10.819
1.08	13.107	3.58	10.791
1.17	13.126	3.67	10.766
1.25	13.142	3.75	10.743
1.33	13.154	3.83	10.721
1.42	13.166	3.92	10.701
1.50	13.176	4.00	10.682
1.58	12.980	4.08	10.663
1.67	12.952	4.17	10.646
1.75	12.943	4.25	10.630
1.83	12.941	4.33	10.614
1.92	12.943	4.42	10.599
2.00	12.943	4.50	10.583
2.08	12.947	4.58	10.569
2.17	12.950	4.67	10.554
2.25	12.954	4.75	10.541
2.33	12.955	4.83	10.527
2.42	12.955	4.92	10.514
2.50	12.956		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

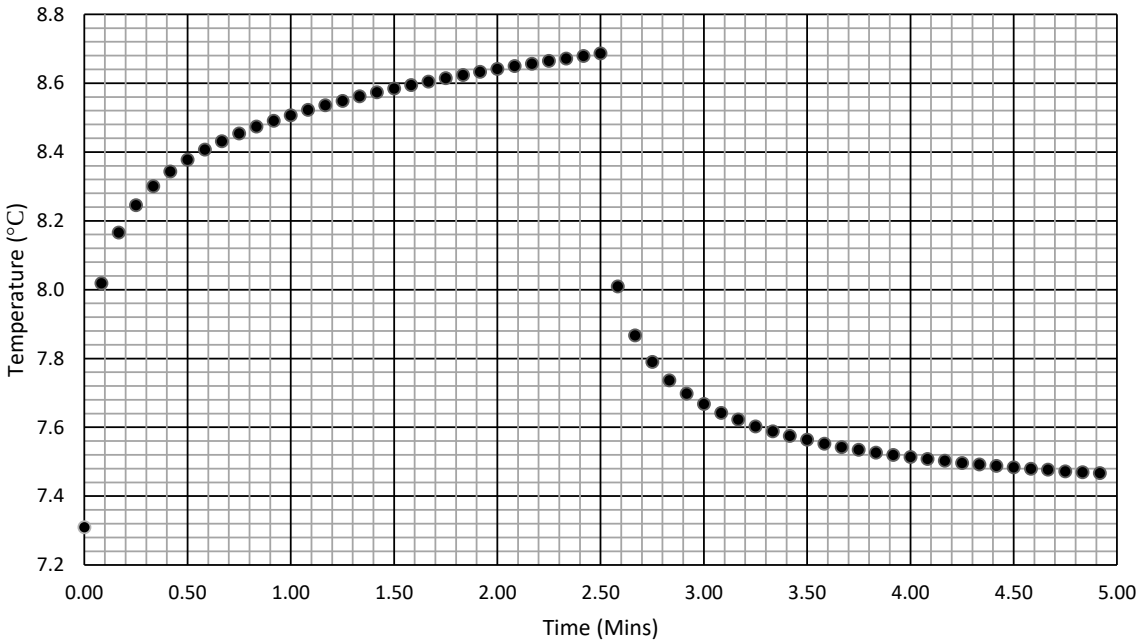
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP24
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP24A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.31
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.61	Thermal Resistivity (mK/W)	0.62

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.019	2.58	8.010
0.17	8.166	2.67	7.867
0.25	8.246	2.75	7.790
0.33	8.301	2.83	7.737
0.42	8.344	2.92	7.698
0.50	8.378	3.00	7.668
0.58	8.407	3.08	7.642
0.67	8.432	3.17	7.623
0.75	8.454	3.25	7.603
0.83	8.474	3.33	7.589
0.92	8.491	3.42	7.575
1.00	8.507	3.50	7.564
1.08	8.523	3.58	7.553
1.17	8.536	3.67	7.543
1.25	8.549	3.75	7.535
1.33	8.562	3.83	7.527
1.42	8.574	3.92	7.520
1.50	8.585	4.00	7.514
1.58	8.595	4.08	7.508
1.67	8.605	4.17	7.503
1.75	8.615	4.25	7.497
1.83	8.624	4.33	7.492
1.92	8.633	4.42	7.488
2.00	8.642	4.50	7.484
2.08	8.650	4.58	7.480
2.17	8.657	4.67	7.477
2.25	8.665	4.75	7.472
2.33	8.672	4.83	7.470
2.42	8.679	4.92	7.467
2.50	8.687		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

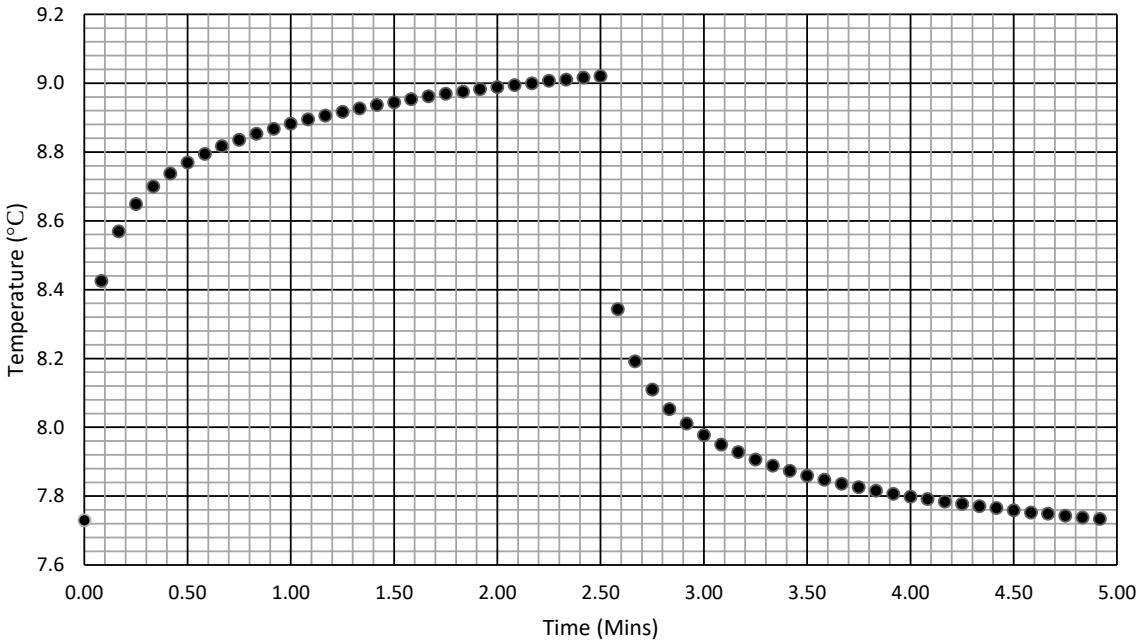
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP24
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP24B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.73
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.64	Thermal Resistivity (mK/W)	0.61

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.426	2.58	8.344
0.17	8.570	2.67	8.192
0.25	8.649	2.75	8.110
0.33	8.700	2.83	8.053
0.42	8.738	2.92	8.011
0.50	8.770	3.00	7.978
0.58	8.795	3.08	7.950
0.67	8.817	3.17	7.928
0.75	8.836	3.25	7.907
0.83	8.853	3.33	7.889
0.92	8.868	3.42	7.874
1.00	8.883	3.50	7.860
1.08	8.895	3.58	7.848
1.17	8.906	3.67	7.836
1.25	8.917	3.75	7.826
1.33	8.927	3.83	7.816
1.42	8.937	3.92	7.807
1.50	8.945	4.00	7.799
1.58	8.954	4.08	7.792
1.67	8.962	4.17	7.784
1.75	8.970	4.25	7.778
1.83	8.976	4.33	7.771
1.92	8.983	4.42	7.766
2.00	8.989	4.50	7.759
2.08	8.995	4.58	7.753
2.17	9.000	4.67	7.749
2.25	9.007	4.75	7.743
2.33	9.011	4.83	7.738
2.42	9.017	4.92	7.734
2.50	9.021		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

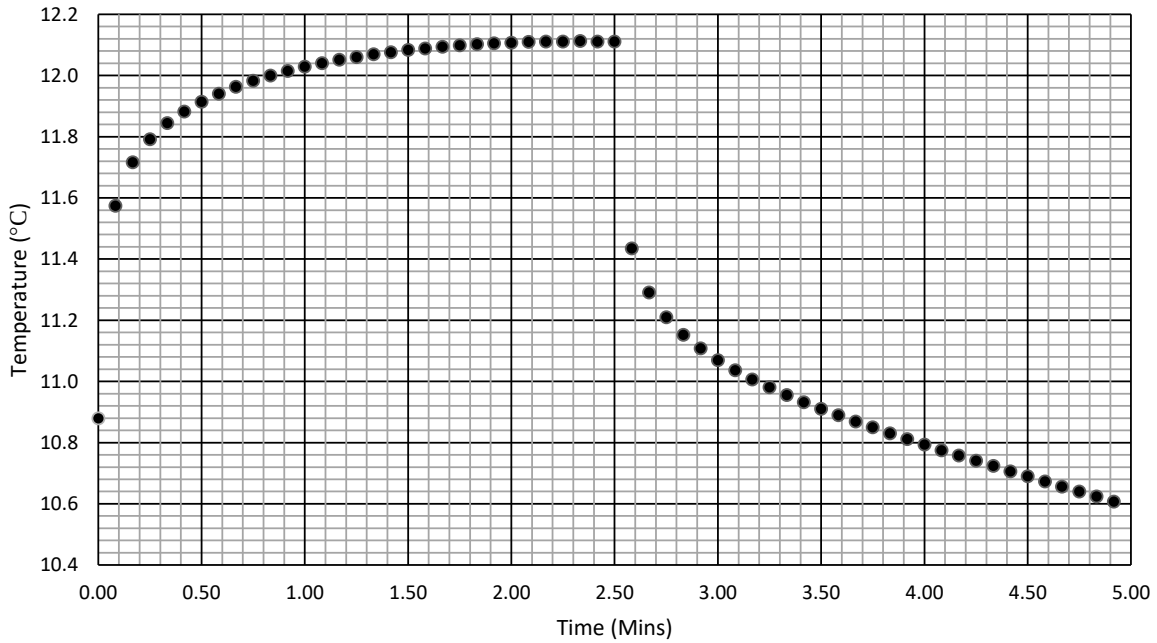
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP24
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP24C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.88
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.10	Thermal Resistivity (mK/W)	0.91

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.575	2.58	11.435
0.17	11.717	2.67	11.291
0.25	11.792	2.75	11.210
0.33	11.845	2.83	11.153
0.42	11.883	2.92	11.108
0.50	11.915	3.00	11.070
0.58	11.941	3.08	11.037
0.67	11.964	3.17	11.007
0.75	11.983	3.25	10.981
0.83	12.000	3.33	10.956
0.92	12.015	3.42	10.932
1.00	12.029	3.50	10.911
1.08	12.041	3.58	10.890
1.17	12.052	3.67	10.869
1.25	12.061	3.75	10.850
1.33	12.070	3.83	10.831
1.42	12.077	3.92	10.812
1.50	12.084	4.00	10.794
1.58	12.089	4.08	10.775
1.67	12.094	4.17	10.758
1.75	12.099	4.25	10.741
1.83	12.103	4.33	10.724
1.92	12.106	4.42	10.706
2.00	12.108	4.50	10.690
2.08	12.110	4.58	10.673
2.17	12.111	4.67	10.656
2.25	12.111	4.75	10.640
2.33	12.113	4.83	10.624
2.42	12.111	4.92	10.607
2.50	12.111		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

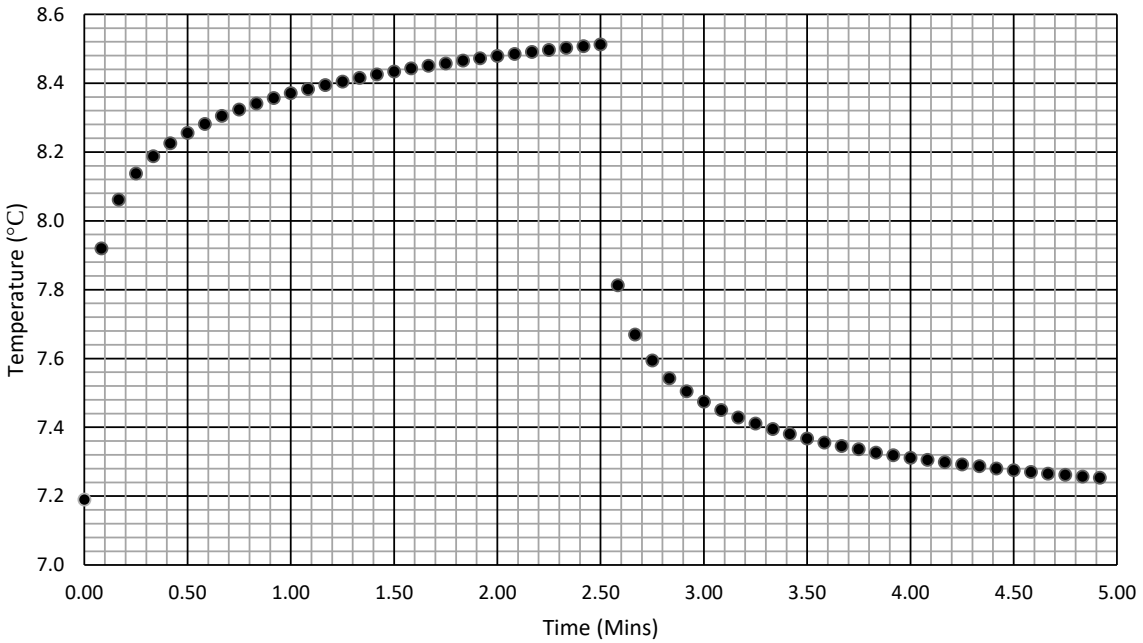
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP25
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP25A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.19
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.70	Thermal Resistivity (mK/W)	0.59

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	7.920	2.58	7.813
0.17	8.062	2.67	7.670
0.25	8.138	2.75	7.595
0.33	8.188	2.83	7.543
0.42	8.226	2.92	7.505
0.50	8.256	3.00	7.475
0.58	8.282	3.08	7.451
0.67	8.305	3.17	7.429
0.75	8.324	3.25	7.411
0.83	8.341	3.33	7.395
0.92	8.357	3.42	7.381
1.00	8.371	3.50	7.368
1.08	8.383	3.58	7.356
1.17	8.395	3.67	7.346
1.25	8.405	3.75	7.337
1.33	8.416	3.83	7.327
1.42	8.426	3.92	7.319
1.50	8.434	4.00	7.312
1.58	8.443	4.08	7.306
1.67	8.451	4.17	7.299
1.75	8.458	4.25	7.292
1.83	8.466	4.33	7.287
1.92	8.473	4.42	7.281
2.00	8.479	4.50	7.276
2.08	8.485	4.58	7.271
2.17	8.491	4.67	7.266
2.25	8.497	4.75	7.262
2.33	8.503	4.83	7.257
2.42	8.508	4.92	7.254
2.50	8.513		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

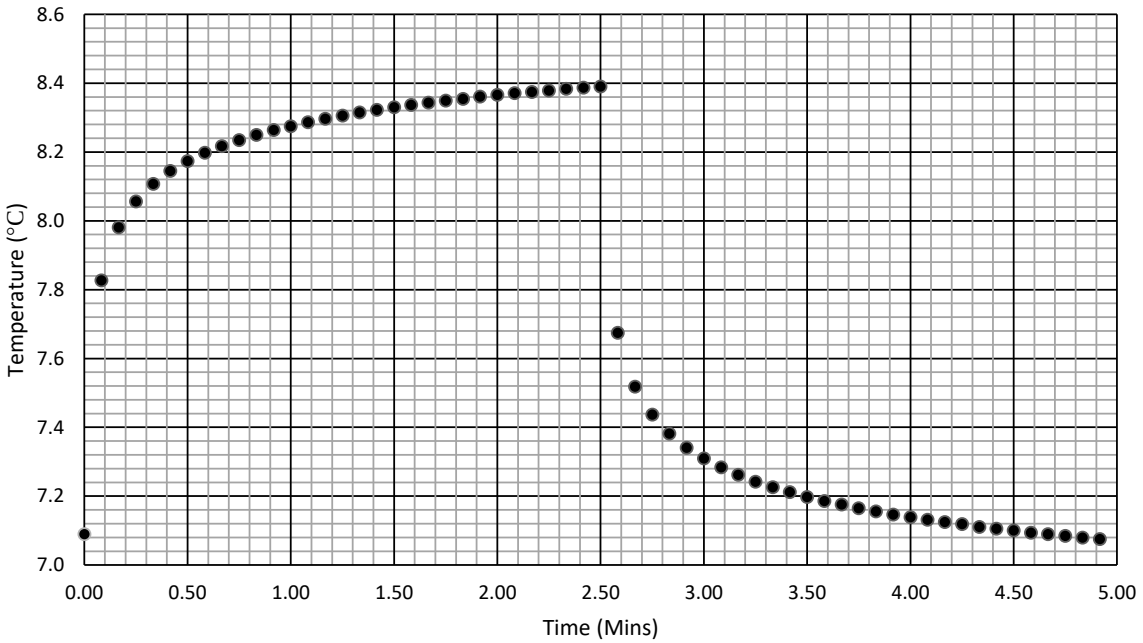
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP25
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP25B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.09
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.81	Thermal Resistivity (mK/W)	0.55

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	7.827	2.58	7.675
0.17	7.981	2.67	7.518
0.25	8.057	2.75	7.437
0.33	8.108	2.83	7.382
0.42	8.145	2.92	7.341
0.50	8.174	3.00	7.310
0.58	8.198	3.08	7.284
0.67	8.217	3.17	7.262
0.75	8.235	3.25	7.242
0.83	8.250	3.33	7.226
0.92	8.264	3.42	7.212
1.00	8.275	3.50	7.198
1.08	8.287	3.58	7.186
1.17	8.297	3.67	7.176
1.25	8.306	3.75	7.165
1.33	8.315	3.83	7.156
1.42	8.323	3.92	7.147
1.50	8.330	4.00	7.139
1.58	8.337	4.08	7.132
1.67	8.344	4.17	7.125
1.75	8.350	4.25	7.119
1.83	8.355	4.33	7.111
1.92	8.361	4.42	7.106
2.00	8.366	4.50	7.101
2.08	8.371	4.58	7.094
2.17	8.375	4.67	7.090
2.25	8.379	4.75	7.085
2.33	8.384	4.83	7.080
2.42	8.387	4.92	7.076
2.50	8.391		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

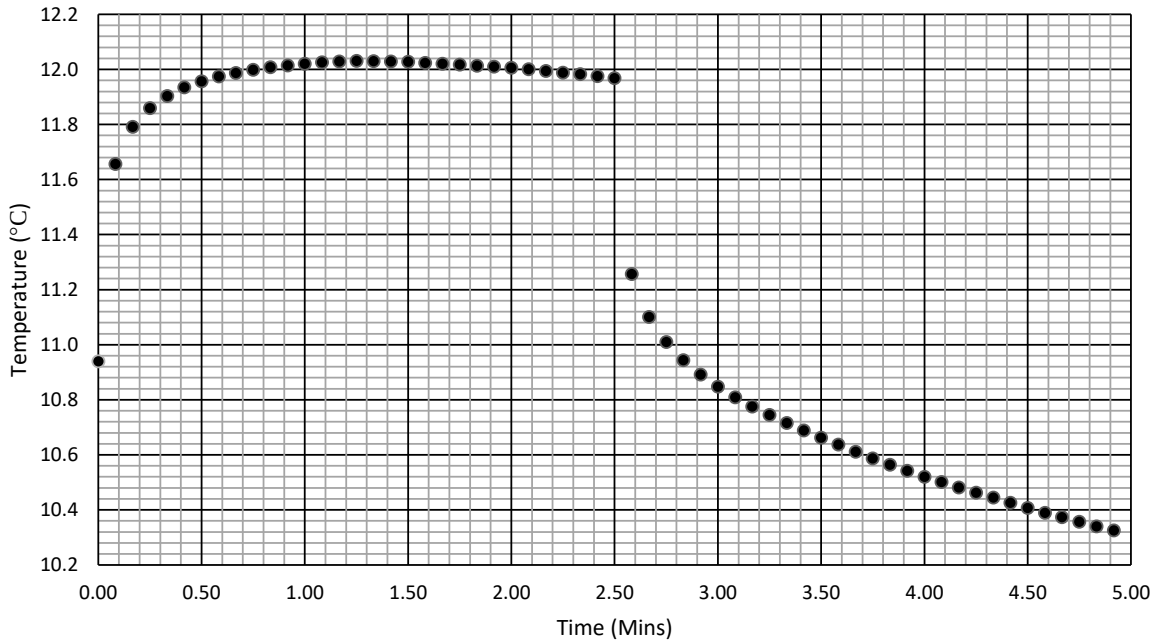
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP25
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	30/11/2023
		Test No.	TP25C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.94
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.44	Thermal Resistivity (mK/W)	0.70

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.657	2.58	11.257
0.17	11.792	2.67	11.101
0.25	11.860	2.75	11.010
0.33	11.904	2.83	10.944
0.42	11.935	2.92	10.892
0.50	11.957	3.00	10.848
0.58	11.975	3.08	10.809
0.67	11.988	3.17	10.776
0.75	11.999	3.25	10.745
0.83	12.008	3.33	10.716
0.92	12.015	3.42	10.689
1.00	12.021	3.50	10.663
1.08	12.026	3.58	10.638
1.17	12.029	3.67	10.612
1.25	12.031	3.75	10.587
1.33	12.030	3.83	10.564
1.42	12.029	3.92	10.543
1.50	12.028	4.00	10.521
1.58	12.024	4.08	10.502
1.67	12.021	4.17	10.482
1.75	12.018	4.25	10.463
1.83	12.014	4.33	10.445
1.92	12.010	4.42	10.426
2.00	12.006	4.50	10.408
2.08	12.001	4.58	10.390
2.17	11.995	4.67	10.374
2.25	11.989	4.75	10.357
2.33	11.983	4.83	10.341
2.42	11.976	4.92	10.326
2.50	11.969		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

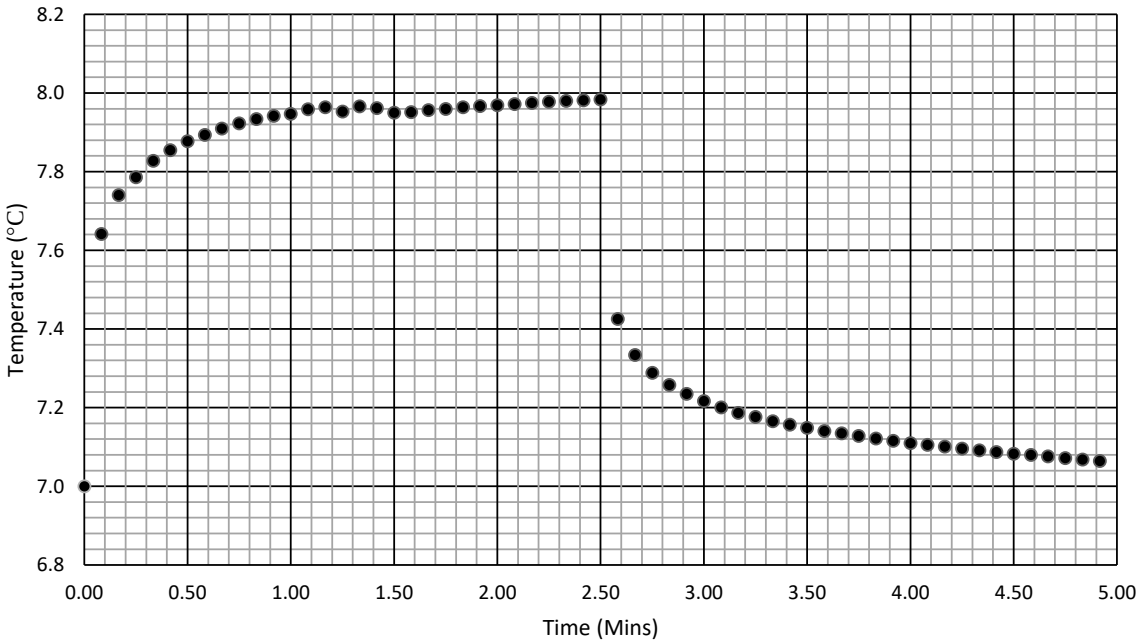
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP26
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP26A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.00
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly slightly clayey SAND		
Thermal Conductivity (W/mK)	3.56	Thermal Resistivity (mK/W)	0.28

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	7.642	2.58	7.426
0.17	7.741	2.67	7.334
0.25	7.786	2.75	7.289
0.33	7.828	2.83	7.258
0.42	7.855	2.92	7.235
0.50	7.878	3.00	7.217
0.58	7.894	3.08	7.201
0.67	7.910	3.17	7.187
0.75	7.923	3.25	7.177
0.83	7.934	3.33	7.166
0.92	7.942	3.42	7.157
1.00	7.947	3.50	7.149
1.08	7.959	3.58	7.141
1.17	7.964	3.67	7.135
1.25	7.953	3.75	7.128
1.33	7.966	3.83	7.122
1.42	7.962	3.92	7.116
1.50	7.950	4.00	7.110
1.58	7.952	4.08	7.106
1.67	7.957	4.17	7.101
1.75	7.960	4.25	7.096
1.83	7.964	4.33	7.092
1.92	7.967	4.42	7.087
2.00	7.969	4.50	7.083
2.08	7.972	4.58	7.080
2.17	7.975	4.67	7.076
2.25	7.978	4.75	7.072
2.33	7.980	4.83	7.068
2.42	7.982	4.92	7.065
2.50	7.984		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

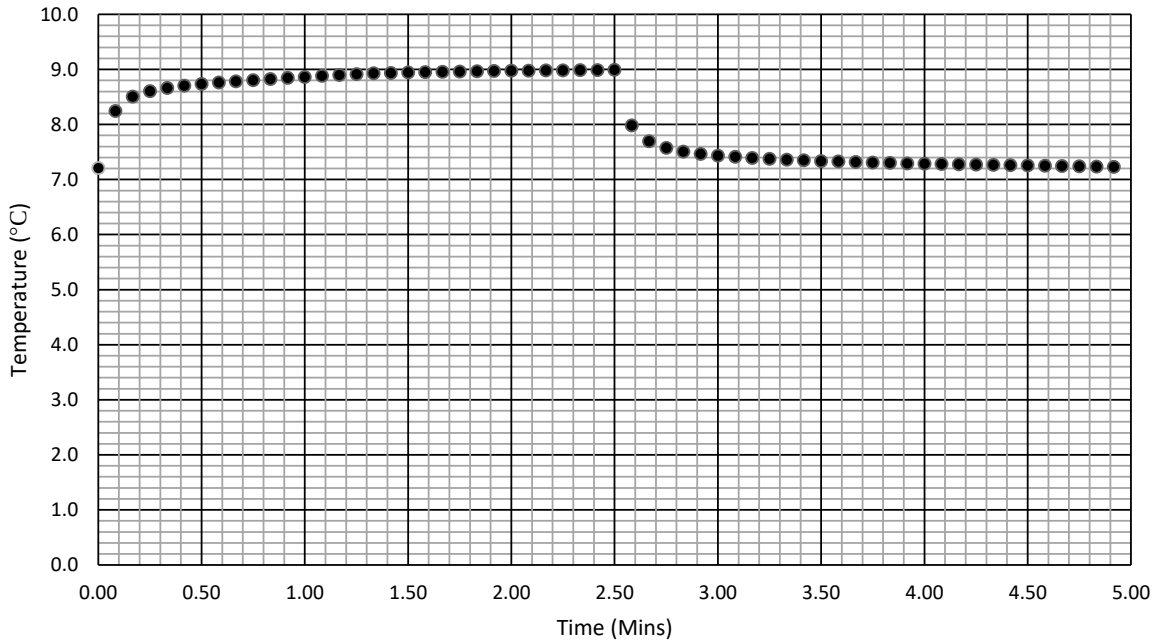
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP26
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP26B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.21
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly slightly clayey SAND		
Thermal Conductivity (W/mK)	1.68	Thermal Resistivity (mK/W)	0.59

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.248	2.58	7.983
0.17	8.506	2.67	7.700
0.25	8.608	2.75	7.579
0.33	8.667	2.83	7.511
0.42	8.708	2.92	7.468
0.50	8.739	3.00	7.437
0.58	8.763	3.08	7.413
0.67	8.786	3.17	7.392
0.75	8.807	3.25	7.376
0.83	8.827	3.33	7.363
0.92	8.846	3.42	7.350
1.00	8.866	3.50	7.338
1.08	8.885	3.58	7.329
1.17	8.901	3.67	7.319
1.25	8.917	3.75	7.311
1.33	8.930	3.83	7.303
1.42	8.940	3.92	7.296
1.50	8.948	4.00	7.289
1.58	8.955	4.08	7.283
1.67	8.960	4.17	7.277
1.75	8.966	4.25	7.272
1.83	8.970	4.33	7.266
1.92	8.974	4.42	7.261
2.00	8.977	4.50	7.256
2.08	8.981	4.58	7.251
2.17	8.983	4.67	7.247
2.25	8.986	4.75	7.242
2.33	8.988	4.83	7.238
2.42	8.991	4.92	7.234
2.50	8.993		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

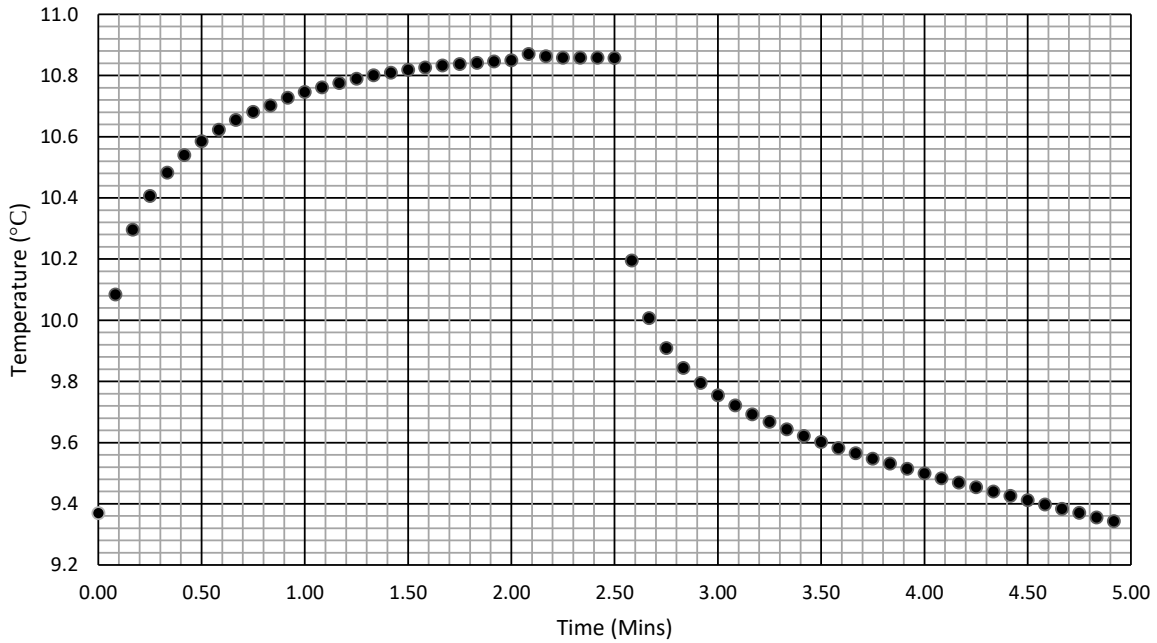
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP26
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP26C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.37
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly gravelly slightly clayey SAND		
Thermal Conductivity (W/mK)	1.01	Thermal Resistivity (mK/W)	0.99

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	10.085	2.58	10.196
0.17	10.296	2.67	10.007
0.25	10.407	2.75	9.909
0.33	10.483	2.83	9.844
0.42	10.540	2.92	9.795
0.50	10.586	3.00	9.755
0.58	10.623	3.08	9.722
0.67	10.655	3.17	9.693
0.75	10.682	3.25	9.668
0.83	10.702	3.33	9.644
0.92	10.728	3.42	9.622
1.00	10.747	3.50	9.602
1.08	10.762	3.58	9.583
1.17	10.776	3.67	9.566
1.25	10.790	3.75	9.548
1.33	10.801	3.83	9.532
1.42	10.810	3.92	9.515
1.50	10.819	4.00	9.500
1.58	10.827	4.08	9.484
1.67	10.833	4.17	9.470
1.75	10.838	4.25	9.455
1.83	10.842	4.33	9.440
1.92	10.846	4.42	9.426
2.00	10.850	4.50	9.412
2.08	10.871	4.58	9.398
2.17	10.863	4.67	9.384
2.25	10.859	4.75	9.371
2.33	10.859	4.83	9.356
2.42	10.859	4.92	9.343
2.50	10.858		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

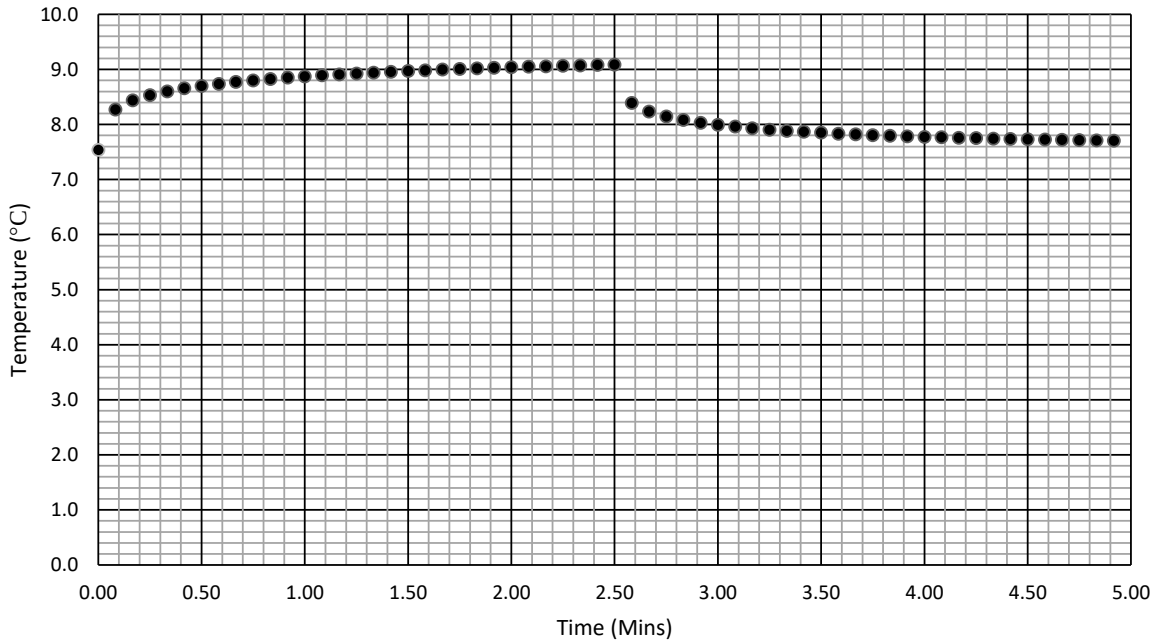
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP27
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP27A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.54
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.25	Thermal Resistivity (mK/W)	0.80

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.273	2.58	8.395
0.17	8.440	2.67	8.236
0.25	8.535	2.75	8.146
0.33	8.604	2.83	8.083
0.42	8.658	2.92	8.034
0.50	8.703	3.00	7.994
0.58	8.741	3.08	7.962
0.67	8.774	3.17	7.933
0.75	8.803	3.25	7.909
0.83	8.829	3.33	7.887
0.92	8.853	3.42	7.868
1.00	8.874	3.50	7.852
1.08	8.894	3.58	7.836
1.17	8.912	3.67	7.822
1.25	8.929	3.75	7.810
1.33	8.945	3.83	7.799
1.42	8.959	3.92	7.789
1.50	8.973	4.00	7.778
1.58	8.986	4.08	7.770
1.67	8.998	4.17	7.762
1.75	9.010	4.25	7.754
1.83	9.021	4.33	7.747
1.92	9.031	4.42	7.740
2.00	9.040	4.50	7.734
2.08	9.050	4.58	7.728
2.17	9.059	4.67	7.722
2.25	9.067	4.75	7.717
2.33	9.076	4.83	7.713
2.42	9.083	4.92	7.708
2.50	9.091		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

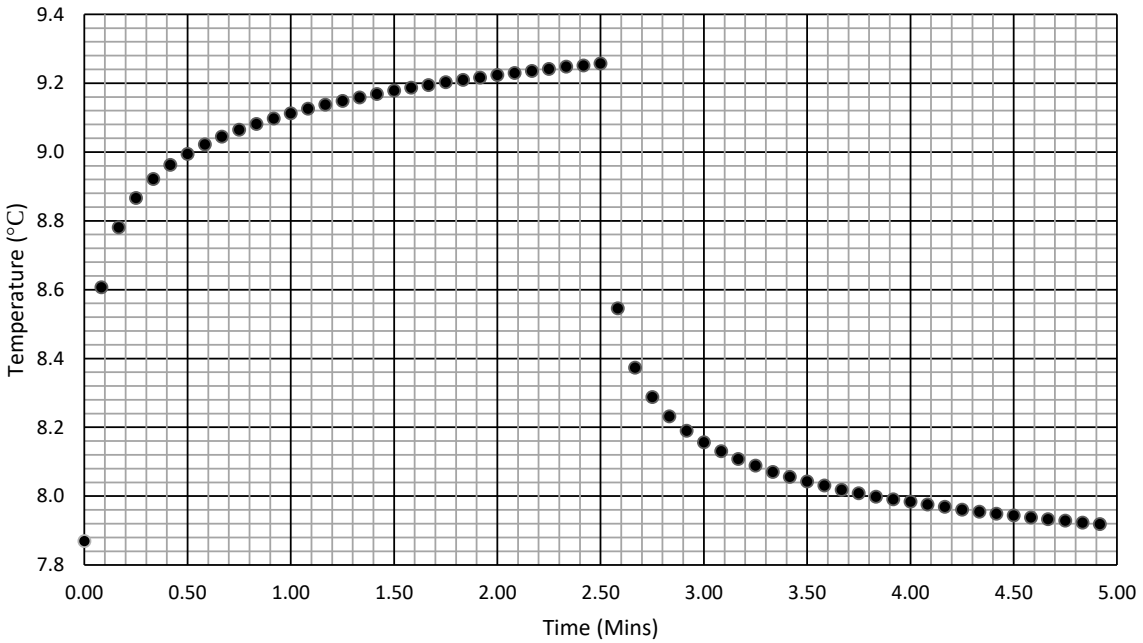
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP27
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP27B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.87
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.66	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.607	2.58	8.546
0.17	8.781	2.67	8.374
0.25	8.867	2.75	8.288
0.33	8.922	2.83	8.232
0.42	8.963	2.92	8.190
0.50	8.995	3.00	8.157
0.58	9.022	3.08	8.131
0.67	9.045	3.17	8.108
0.75	9.065	3.25	8.089
0.83	9.082	3.33	8.071
0.92	9.098	3.42	8.056
1.00	9.113	3.50	8.043
1.08	9.126	3.58	8.031
1.17	9.138	3.67	8.019
1.25	9.149	3.75	8.009
1.33	9.159	3.83	7.999
1.42	9.169	3.92	7.991
1.50	9.179	4.00	7.984
1.58	9.187	4.08	7.976
1.67	9.195	4.17	7.969
1.75	9.203	4.25	7.961
1.83	9.210	4.33	7.955
1.92	9.217	4.42	7.949
2.00	9.224	4.50	7.944
2.08	9.230	4.58	7.938
2.17	9.236	4.67	7.933
2.25	9.242	4.75	7.929
2.33	9.248	4.83	7.923
2.42	9.252	4.92	7.919
2.50	9.258		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

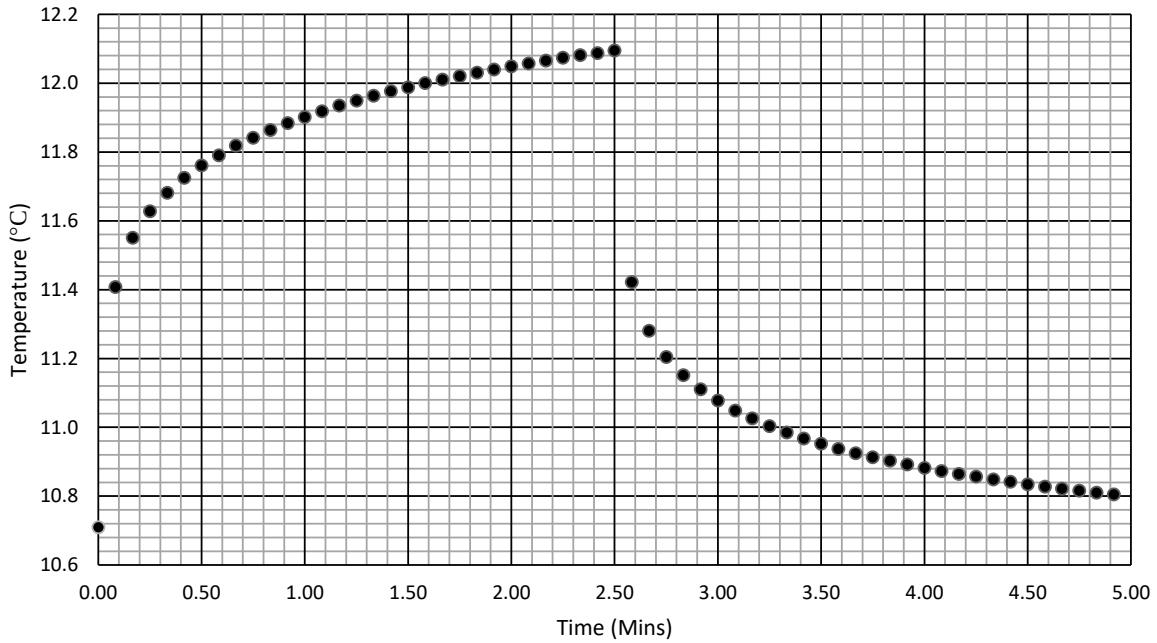
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP27
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP27C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	10.71
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.30	Thermal Resistivity (mK/W)	0.77

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.408	2.58	11.422
0.17	11.551	2.67	11.281
0.25	11.628	2.75	11.205
0.33	11.682	2.83	11.152
0.42	11.725	2.92	11.111
0.50	11.761	3.00	11.078
0.58	11.791	3.08	11.049
0.67	11.819	3.17	11.026
0.75	11.842	3.25	11.004
0.83	11.864	3.33	10.985
0.92	11.884	3.42	10.968
1.00	11.902	3.50	10.953
1.08	11.919	3.58	10.938
1.17	11.935	3.67	10.925
1.25	11.950	3.75	10.913
1.33	11.964	3.83	10.903
1.42	11.977	3.92	10.892
1.50	11.988	4.00	10.882
1.58	12.001	4.08	10.873
1.67	12.011	4.17	10.865
1.75	12.021	4.25	10.857
1.83	12.031	4.33	10.849
1.92	12.040	4.42	10.842
2.00	12.049	4.50	10.835
2.08	12.058	4.58	10.828
2.17	12.066	4.67	10.822
2.25	12.074	4.75	10.816
2.33	12.082	4.83	10.810
2.42	12.088	4.92	10.805
2.50	12.095		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

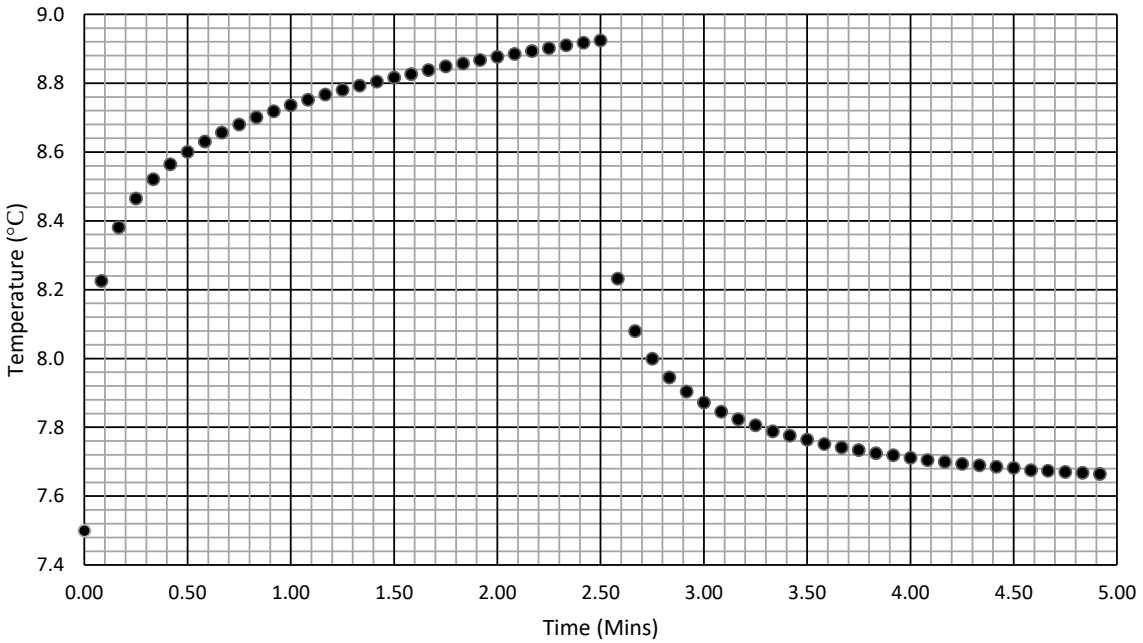
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP28
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP28A

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.50
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.57	Thermal Resistivity (mK/W)	0.63

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.226	2.58	8.232
0.17	8.381	2.67	8.080
0.25	8.465	2.75	8.000
0.33	8.521	2.83	7.945
0.42	8.565	2.92	7.904
0.50	8.601	3.00	7.872
0.58	8.631	3.08	7.846
0.67	8.657	3.17	7.824
0.75	8.680	3.25	7.806
0.83	8.701	3.33	7.789
0.92	8.719	3.42	7.776
1.00	8.736	3.50	7.764
1.08	8.752	3.58	7.752
1.17	8.767	3.67	7.742
1.25	8.781	3.75	7.734
1.33	8.793	3.83	7.725
1.42	8.805	3.92	7.719
1.50	8.817	4.00	7.712
1.58	8.827	4.08	7.705
1.67	8.838	4.17	7.700
1.75	8.849	4.25	7.694
1.83	8.858	4.33	7.690
1.92	8.868	4.42	7.686
2.00	8.877	4.50	7.682
2.08	8.885	4.58	7.676
2.17	8.894	4.67	7.674
2.25	8.902	4.75	7.671
2.33	8.910	4.83	7.668
2.42	8.918	4.92	7.665
2.50	8.925		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

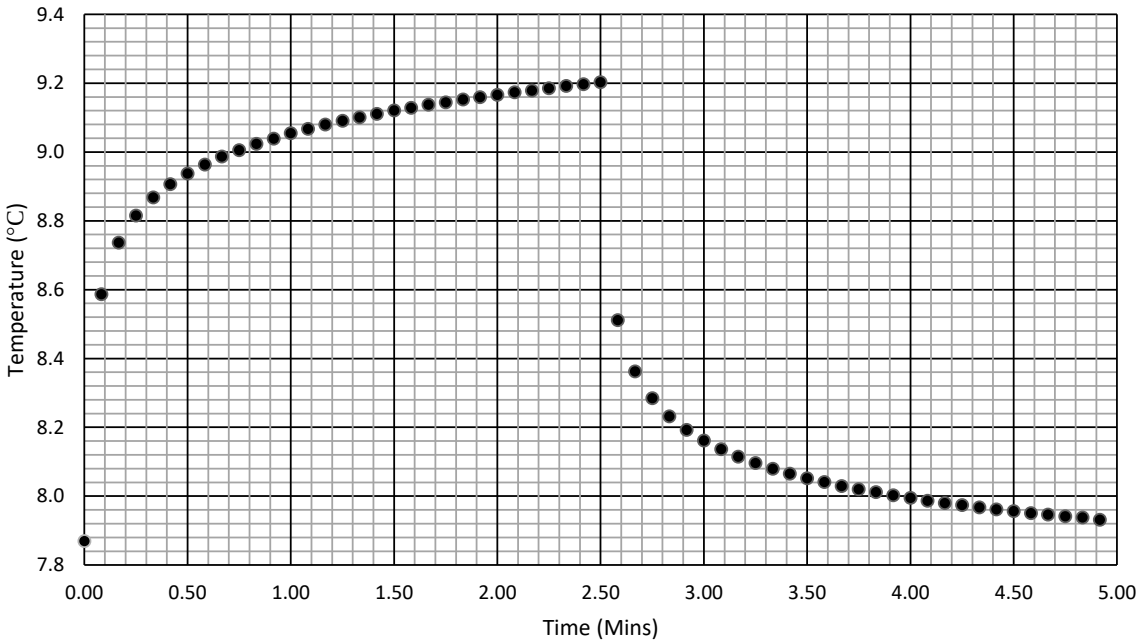
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP28
		Depth (m)	0.60
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP28B

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	7.87
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy slightly gravelly CLAY		
Thermal Conductivity (W/mK)	1.66	Thermal Resistivity (mK/W)	0.60

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	8.587	2.58	8.512
0.17	8.737	2.67	8.363
0.25	8.816	2.75	8.285
0.33	8.868	2.83	8.232
0.42	8.907	2.92	8.193
0.50	8.938	3.00	8.162
0.58	8.964	3.08	8.137
0.67	8.987	3.17	8.115
0.75	9.006	3.25	8.097
0.83	9.024	3.33	8.080
0.92	9.039	3.42	8.066
1.00	9.055	3.50	8.052
1.08	9.068	3.58	8.041
1.17	9.080	3.67	8.030
1.25	9.091	3.75	8.020
1.33	9.101	3.83	8.012
1.42	9.111	3.92	8.003
1.50	9.121	4.00	7.995
1.58	9.129	4.08	7.987
1.67	9.138	4.17	7.980
1.75	9.145	4.25	7.974
1.83	9.153	4.33	7.968
1.92	9.160	4.42	7.962
2.00	9.166	4.50	7.957
2.08	9.174	4.58	7.951
2.17	9.179	4.67	7.947
2.25	9.186	4.75	7.942
2.33	9.192	4.83	7.938
2.42	9.197	4.92	7.932
2.50	9.203		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

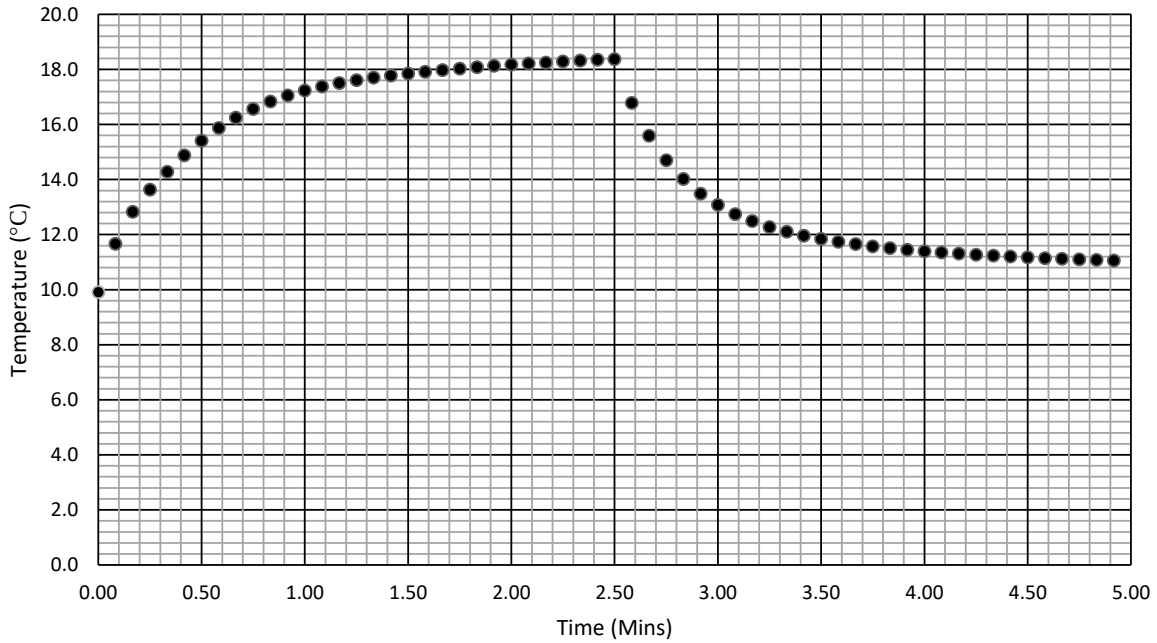
INSITU TESTING - Thermal Resistivity

Form INS015 Rev 1

Project	CS3 Lionlink	Borehole No.	TP28
		Depth (m)	1.50
		Project No.	PC238661
Client	BakerHicks	Date	29/11/2023
		Test No.	TP28C

Probe Type	TR-1	Probe Serial Number	00829
Read Time (Minutes)	5	Pilot Hole Drilled?	No
Calibration Factor	0.980	Sample Type	In-situ
Water Content (%)	-	Initial Temp. (°C)	9.91
Bulk Density (Mg/m³)	-	Dry Density (Mg/m³)	-
Mass of Specimen (g)	-	Avg. Diameter	N/A
		Avg. Length (mm)	N/A
Description of Material	Slightly sandy gravelly CLAY		
Thermal Conductivity (W/mK)	0.23	Thermal Resistivity (mK/W)	4.40

Time (Mins)	Probe Temp. (°C)	Time (Mins)	Probe Temp. (°C)
0.08	11.673	2.58	16.785
0.17	12.827	2.67	15.598
0.25	13.634	2.75	14.703
0.33	14.285	2.83	14.020
0.42	14.887	2.92	13.491
0.50	15.418	3.00	13.079
0.58	15.872	3.08	12.753
0.67	16.251	3.17	12.493
0.75	16.572	3.25	12.282
0.83	16.837	3.33	12.109
0.92	17.055	3.42	11.966
1.00	17.234	3.50	11.845
1.08	17.381	3.58	11.742
1.17	17.506	3.67	11.655
1.25	17.613	3.75	11.580
1.33	17.703	3.83	11.514
1.42	17.786	3.92	11.455
1.50	17.857	4.00	11.402
1.58	17.920	4.08	11.355
1.67	17.982	4.17	11.313
1.75	18.037	4.25	11.276
1.83	18.088	4.33	11.241
1.92	18.135	4.42	11.209
2.00	18.178	4.50	11.180
2.08	18.216	4.58	11.151
2.17	18.253	4.67	11.126
2.25	18.290	4.75	11.102
2.33	18.324	4.83	11.080
2.42	18.354	4.92	11.059
2.50	18.381		



Remarks: Thermal Conductivity corrected based on calibration factor. Thermal Resistivity calculated as the inverse of the corrected Thermal Conductivity value.

GEOTECHNICS

APPENDIX 7

DCP Results

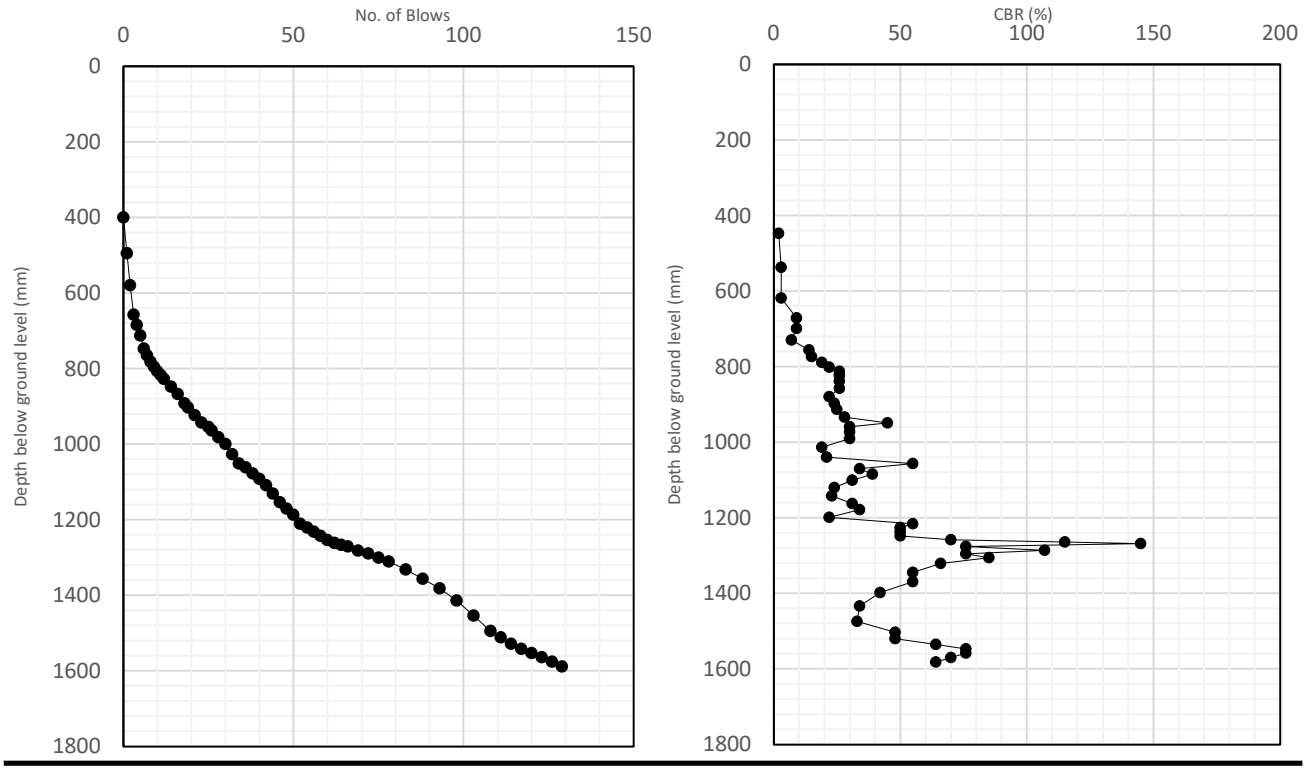
APPENDIX 7

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP02
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639321.0 E, 263005.0 N	**Test Date**	20/11/2023

Test started at	0.40m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	176	400	1	26	740	964	2	66	1047	1271
1	1	271	495	2	28	758	982	3	69	1058	1282
1	2	356	580	2	30	776	1000	3	72	1066	1290
1	3	434	658	2	32	803	1027	3	75	1077	1301
1	4	461	685	2	34	828	1052	3	78	1087	1311
1	5	489	713	2	36	838	1062	5	83	1108	1332
1	6	523	747	2	38	854	1078	5	88	1133	1357
1	7	541	765	2	40	868	1092	5	93	1158	1382
1	8	558	782	2	42	885	1109	5	98	1190	1414
1	9	572	796	2	44	907	1131	5	103	1230	1454
1	10	584	808	2	46	930	1154	5	108	1271	1495
1	11	594	818	2	48	947	1171	3	111	1288	1512
1	12	604	828	2	50	963	1187	3	114	1305	1529
2	14	624	848	2	52	987	1211	3	117	1318	1542
2	16	644	868	2	54	997	1221	3	120	1329	1553
2	18	668	892	2	56	1008	1232	3	123	1340	1564
1	19	679	903	2	58	1019	1243	3	126	1352	1576
2	21	700	924	2	60	1030	1254	3	129	1365	1589
2	23	719	943	2	62	1038	1262				
2	25	731	955	2	64	1043	1267				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

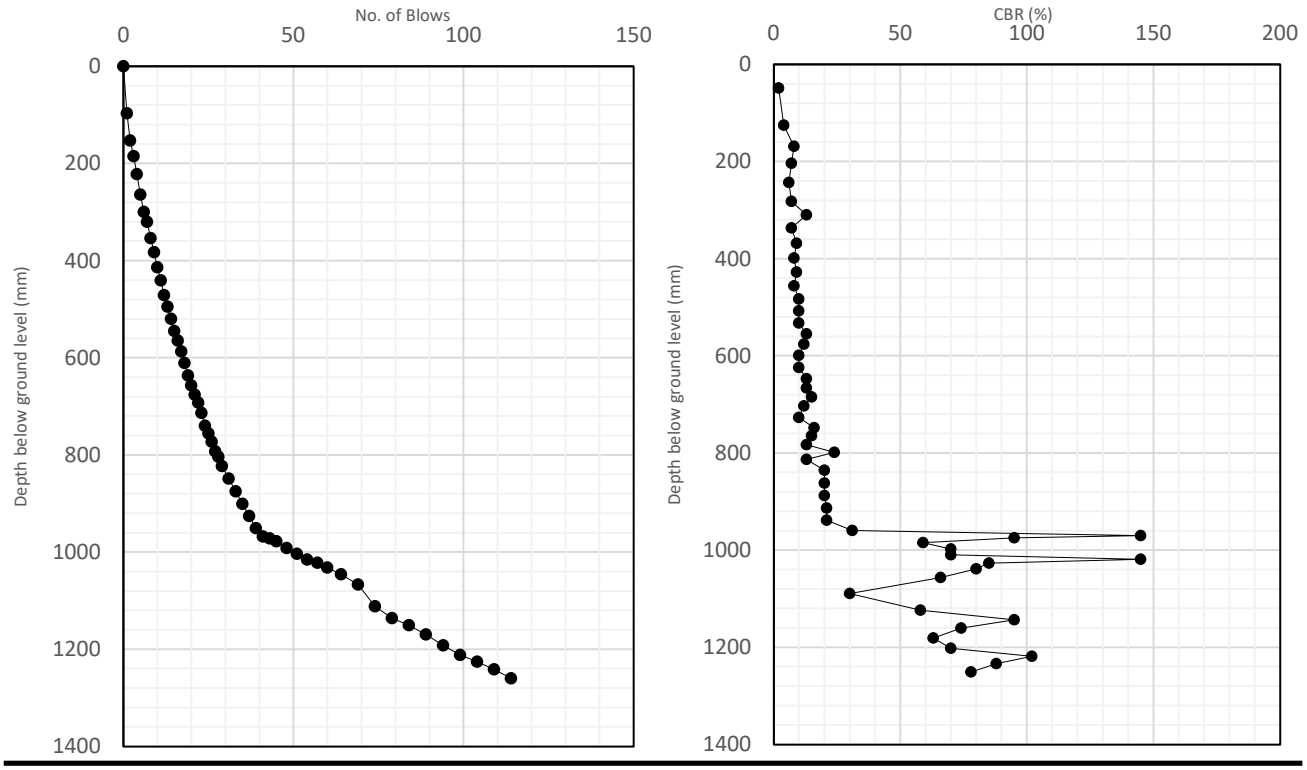
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP03
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639524.0 E, 263004.0 N	**Test Date**	21/11/2023

Test started at	0.00m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	193	0	1	20	850	657	3	54	1209	1016
1	1	290	97	1	21	869	676	3	57	1215	1022
1	2	346	153	1	22	886	693	3	60	1225	1032
1	3	378	185	1	23	907	714	4	64	1239	1046
1	4	415	222	1	24	933	740	5	69	1260	1067
1	5	457	264	1	25	949	756	5	74	1305	1112
1	6	493	300	1	26	966	773	5	79	1329	1136
1	7	513	320	1	27	986	793	5	84	1344	1151
1	8	547	354	1	28	997	804	5	89	1363	1170
1	9	576	383	1	29	1016	823	5	94	1385	1192
1	10	607	414	2	31	1042	849	5	99	1405	1212
1	11	634	441	2	33	1068	875	5	104	1419	1226
1	12	664	471	2	35	1094	901	5	109	1435	1242
1	13	688	495	2	37	1119	926	5	114	1453	1260
1	14	713	520	2	39	1144	951				
1	15	738	545	2	41	1161	968				
1	16	758	565	2	43	1165	972				
1	17	780	587	2	45	1171	978				
1	18	804	611	3	48	1185	992				
1	19	830	637	3	51	1197	1004				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

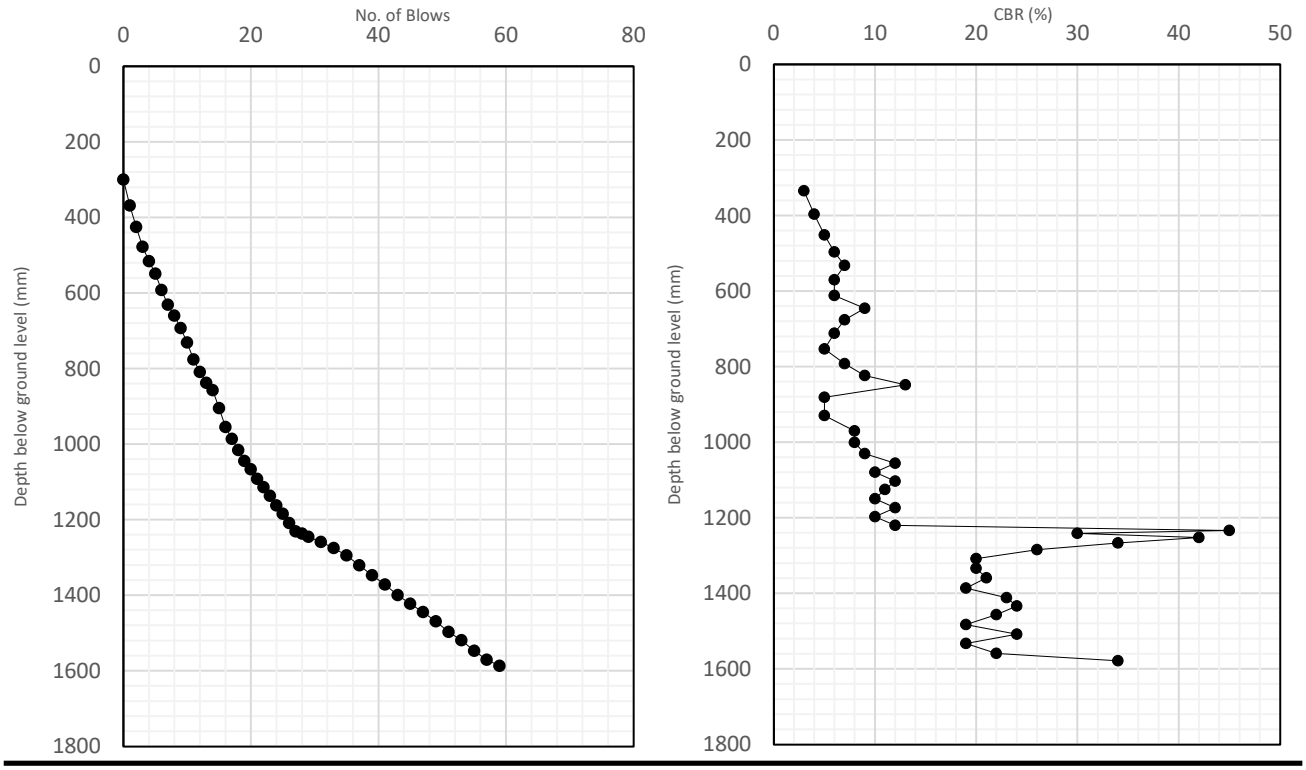
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In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP04
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639740.0 E, 263004.0 N	**Test Date**	22/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	204	300	1	20	971	1067	2	51	1401	1497
1	1	273	369	1	21	996	1092	2	53	1423	1519
1	2	329	425	1	22	1018	1114	2	55	1451	1547
1	3	382	478	1	23	1041	1137	2	57	1475	1571
1	4	420	516	1	24	1067	1163	2	59	1491	1587
1	5	453	549	1	25	1089	1185				
1	6	496	592	1	26	1113	1209				
1	7	535	631	1	27	1135	1231				
1	8	564	660	1	28	1141	1237				
1	9	597	693	1	29	1150	1246				
1	10	635	731	2	31	1163	1259				
1	11	680	776	2	33	1179	1275				
1	12	713	809	2	35	1199	1295				
1	13	742	838	2	37	1225	1321				
1	14	762	858	2	39	1251	1347				
1	15	809	905	2	41	1276	1372				
1	16	859	955	2	43	1304	1400				
1	17	890	986	2	45	1327	1423				
1	18	920	1016	2	47	1349	1445				
1	19	949	1045	2	49	1373	1469				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

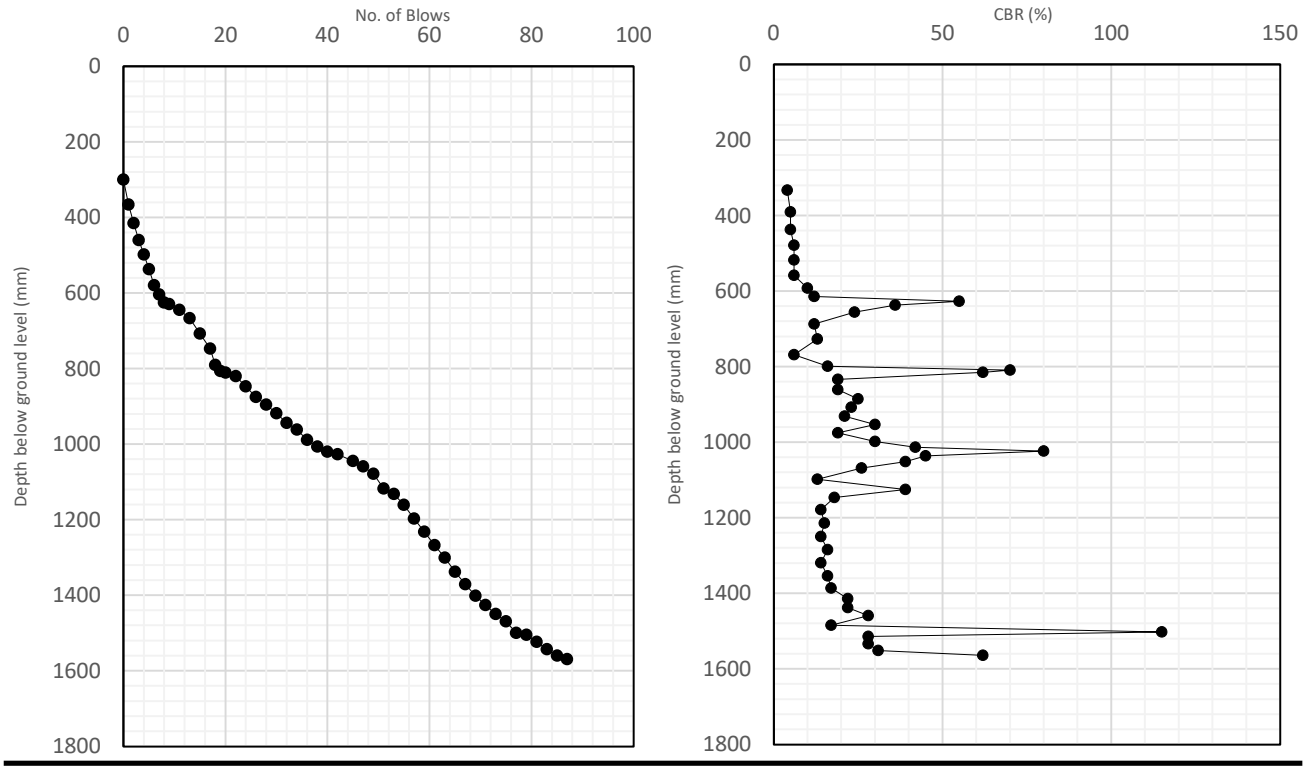
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In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP09
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639321.0 E, 262805.0 N	**Test Date**	22/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	224	300	2	28	820	896	2	69	1326	1402
1	1	290	366	2	30	843	919	2	71	1350	1426
1	2	339	415	2	32	868	944	2	73	1374	1450
1	3	384	460	2	34	886	962	2	75	1393	1469
1	4	422	498	2	36	913	989	2	77	1424	1500
1	5	461	537	2	38	931	1007	2	79	1429	1505
1	6	504	580	2	40	944	1020	2	81	1448	1524
1	7	528	604	2	42	951	1027	2	83	1467	1543
1	8	549	625	3	45	969	1045	2	85	1484	1560
1	9	554	630	2	47	983	1059	2	87	1493	1569
2	11	569	645	2	49	1003	1079				
2	13	591	667	2	51	1042	1118				
2	15	632	708	2	53	1056	1132				
2	17	671	747	2	55	1085	1161				
1	18	715	791	2	57	1121	1197				
1	19	731	807	2	59	1156	1232				
1	20	735	811	2	61	1192	1268				
2	22	744	820	2	63	1225	1301				
2	24	771	847	2	65	1262	1338				
2	26	799	875	2	67	1295	1371				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

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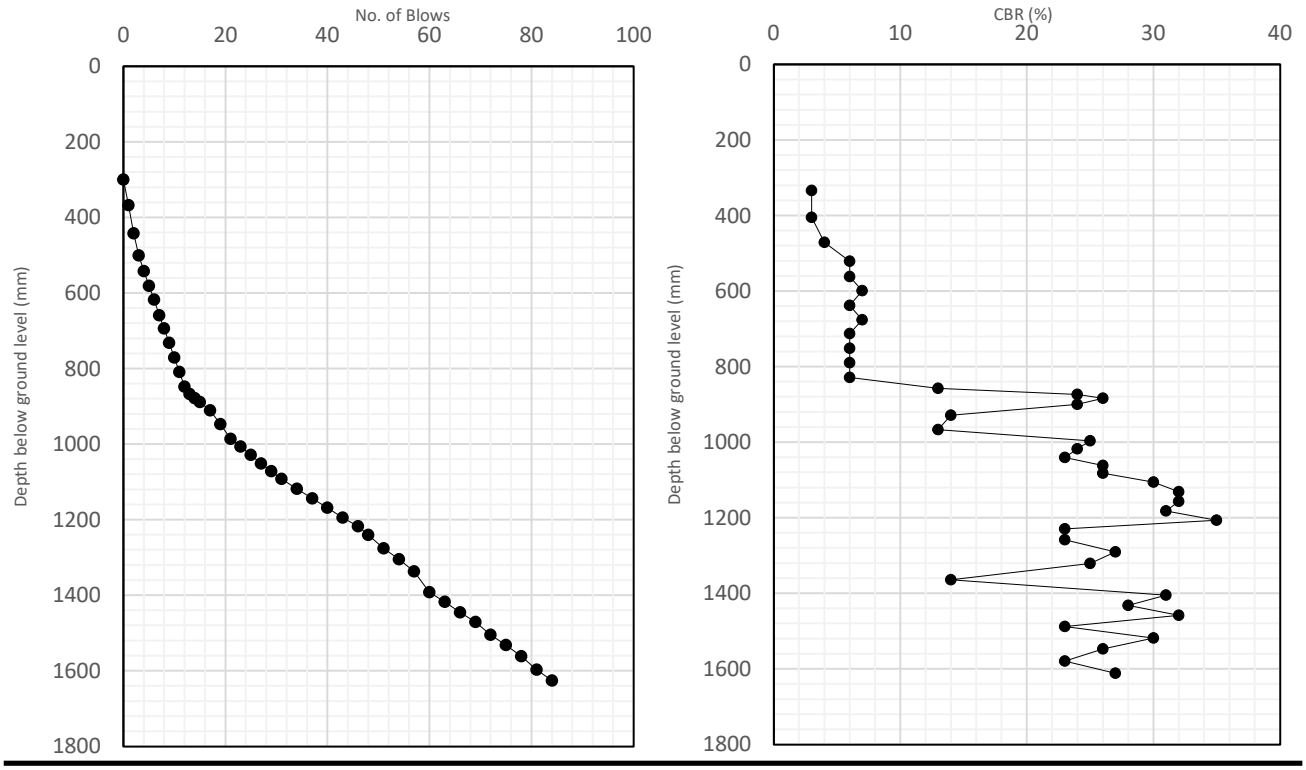
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In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP10
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639521.0 E, 262805.0 N	**Test Date**	23/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	172	300	2	25	901	1029	3	81	1469	1597
1	1	240	368	2	27	924	1052	3	84	1498	1626
1	2	314	442	2	29	944	1072				
1	3	373	501	2	31	964	1092				
1	4	414	542	3	34	991	1119				
1	5	453	581	3	37	1016	1144				
1	6	490	618	3	40	1041	1169				
1	7	531	659	3	43	1067	1195				
1	8	566	694	3	46	1090	1218				
1	9	604	732	2	48	1113	1241				
1	10	643	771	3	51	1148	1276				
1	11	681	809	3	54	1177	1305				
1	12	720	848	3	57	1209	1337				
1	13	740	868	3	60	1264	1392				
1	14	751	879	3	63	1290	1418				
1	15	761	889	3	66	1318	1446				
2	17	783	911	3	69	1343	1471				
2	19	819	947	3	72	1377	1505				
2	21	858	986	3	75	1404	1532				
2	23	879	1007	3	78	1434	1562				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

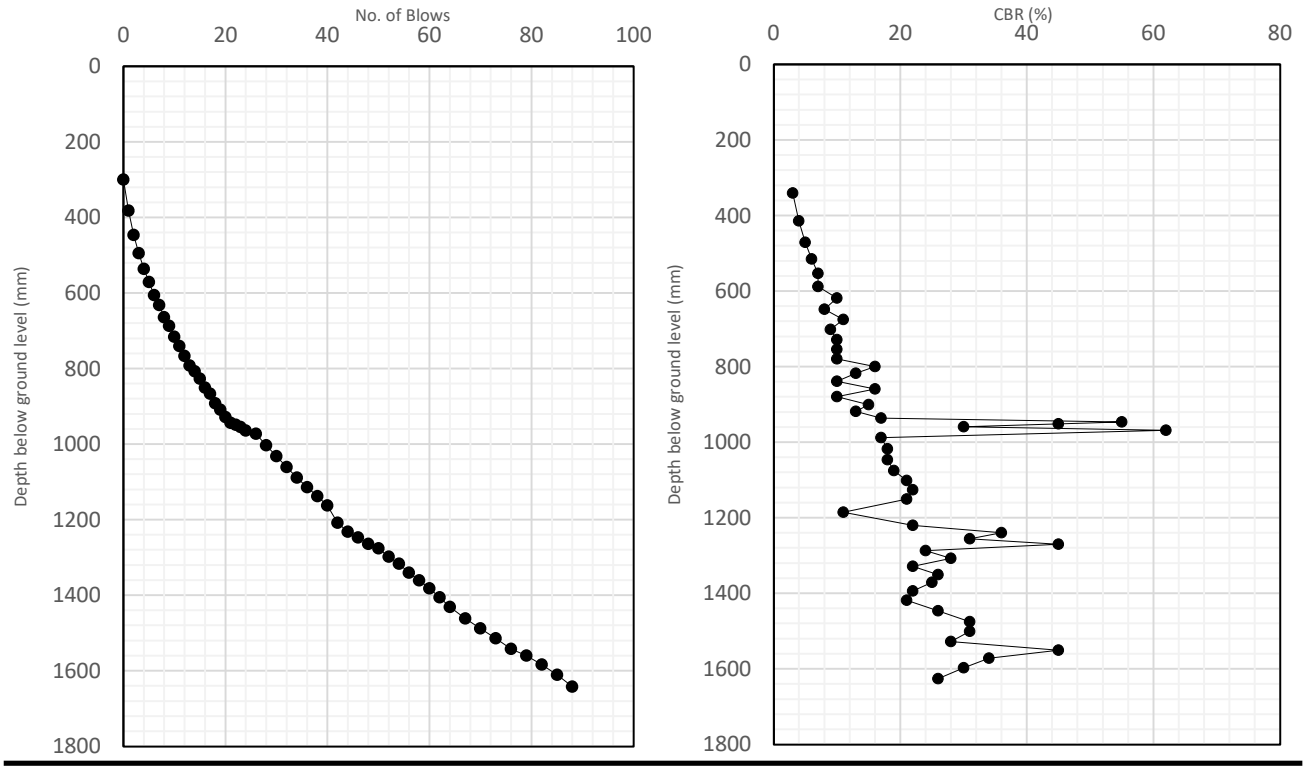
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In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP11
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639721.0 E, 262805.0 N	**Test Date**	22/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	185	300	1	20	814	929	2	56	1226	1341
1	1	267	382	1	21	829	944	2	58	1246	1361
1	2	332	447	1	22	834	949	2	60	1267	1382
1	3	380	495	1	23	840	955	2	62	1291	1406
1	4	421	536	1	24	849	964	2	64	1316	1431
1	5	456	571	2	26	858	973	3	67	1347	1462
1	6	491	606	2	28	888	1003	3	70	1373	1488
1	7	517	632	2	30	917	1032	3	73	1399	1514
1	8	549	664	2	32	946	1061	3	76	1427	1542
1	9	572	687	2	34	974	1089	3	79	1445	1560
1	10	601	716	2	36	999	1114	3	82	1469	1584
1	11	626	741	2	38	1023	1138	3	85	1496	1611
1	12	652	767	2	40	1048	1163	3	88	1527	1642
1	13	677	792	2	42	1093	1208				
1	14	693	808	2	44	1117	1232				
1	15	712	827	2	46	1132	1247				
1	16	736	851	2	48	1149	1264				
1	17	752	867	2	50	1161	1276				
1	18	777	892	2	52	1183	1298				
1	19	794	909	2	54	1202	1317				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

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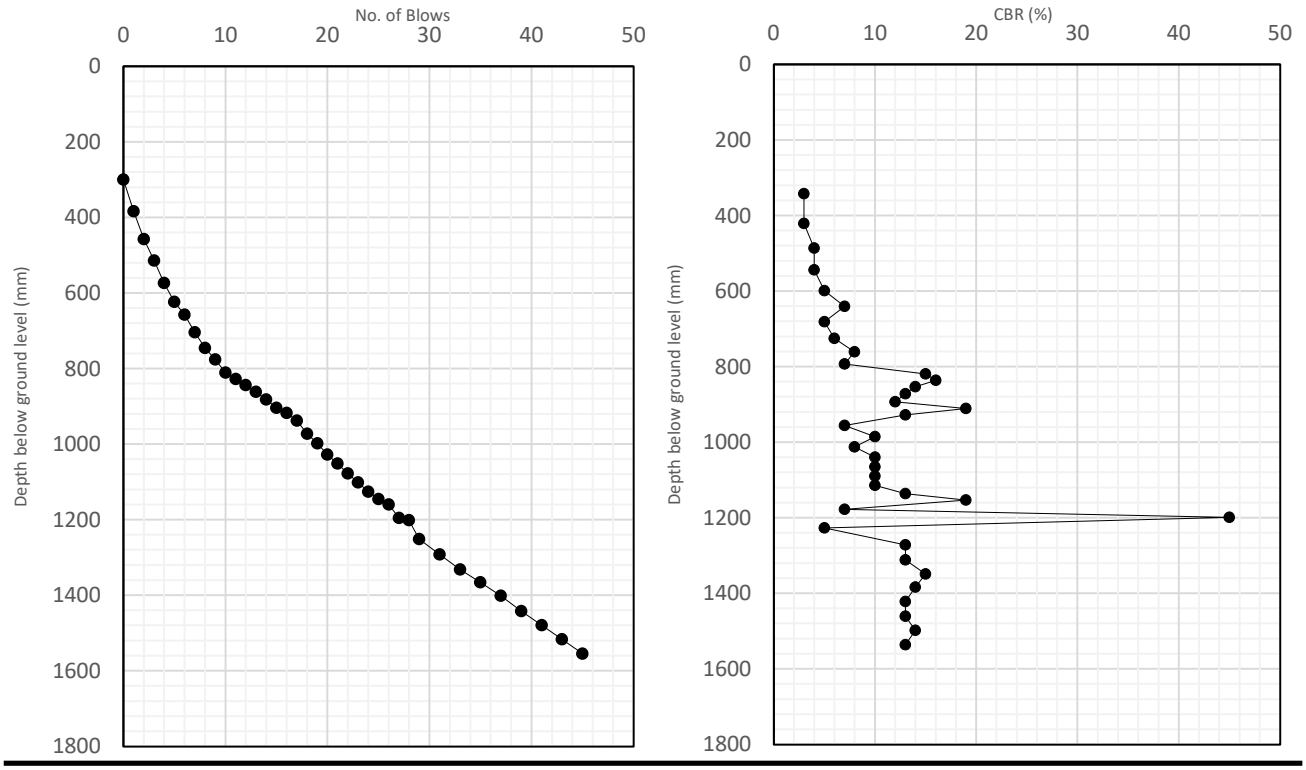
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In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP12
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639936.0 E, 262807.0 N	**Test Date**	23/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	220	300	1	20	948	1028				
1	1	304	384	1	21	972	1052				
1	2	378	458	1	22	998	1078				
1	3	434	514	1	23	1022	1102				
1	4	494	574	1	24	1046	1126				
1	5	544	624	1	25	1066	1146				
1	6	578	658	1	26	1080	1160				
1	7	624	704	1	27	1116	1196				
1	8	666	746	1	28	1122	1202				
1	9	696	776	1	29	1172	1252				
1	10	731	811	2	31	1212	1292				
1	11	748	828	2	33	1252	1332				
1	12	764	844	2	35	1286	1366				
1	13	782	862	2	37	1322	1402				
1	14	802	882	2	39	1362	1442				
1	15	824	904	2	41	1400	1480				
1	16	838	918	2	43	1437	1517				
1	17	858	938	2	45	1475	1555				
1	18	893	973								
1	19	918	998								



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

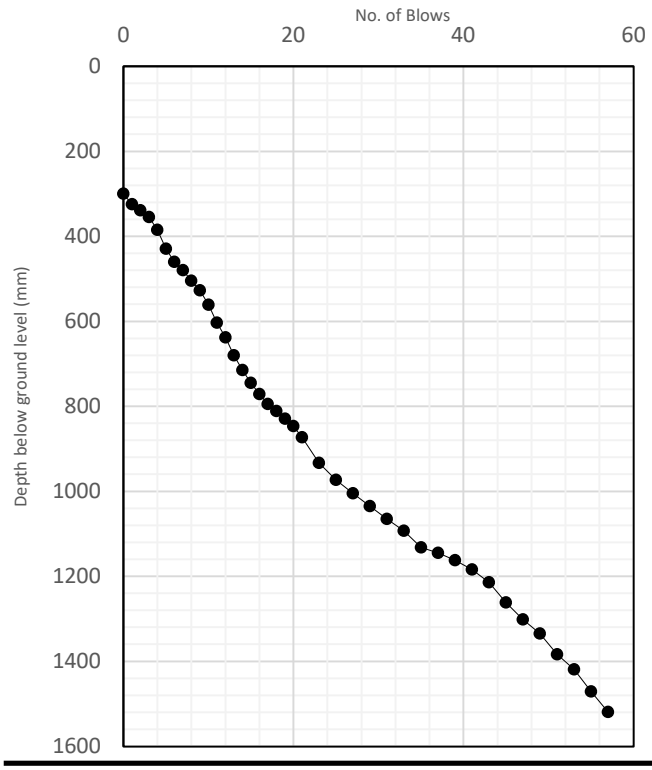
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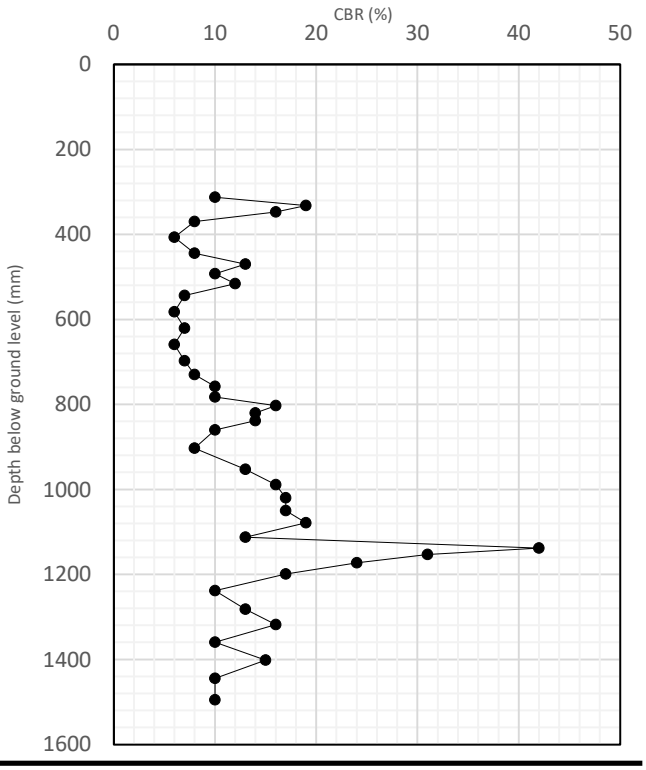
In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP13
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	640121.0 E, 262805.0 N	**Test Date**	24/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	183	300	1	20	730	847				
1	1	208	325	1	21	756	873				
1	2	222	339	2	23	816	933				
1	3	238	355	2	25	856	973				
1	4	268	385	2	27	888	1005				
1	5	312	429	2	29	918	1035				
1	6	343	460	2	31	948	1065				
1	7	363	480	2	33	976	1093				
1	8	388	505	2	35	1015	1132				
1	9	410	527	2	37	1028	1145				
1	10	444	561	2	39	1045	1162				
1	11	486	603	2	41	1067	1184				
1	12	521	638	2	43	1097	1214				
1	13	563	680	2	45	1145	1262				
1	14	598	715	2	47	1185	1302				
1	15	628	745	2	49	1218	1335				
1	16	654	771	2	51	1267	1384				
1	17	678	795	2	53	1302	1419				
1	18	694	811	2	55	1354	1471				
1	19	712	829	2	57	1402	1519				





Remarks

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

Printed: 05/12/2023

GEOTECHNICS

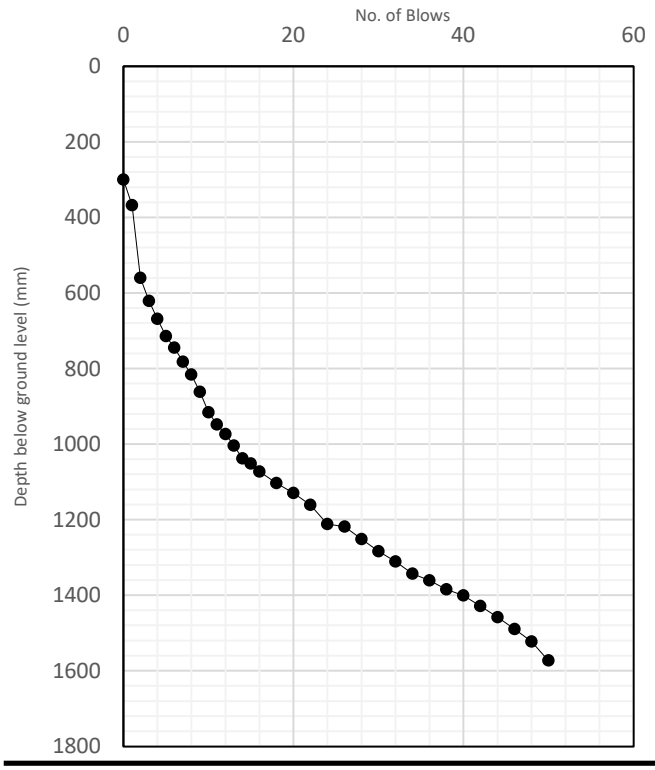
AGS

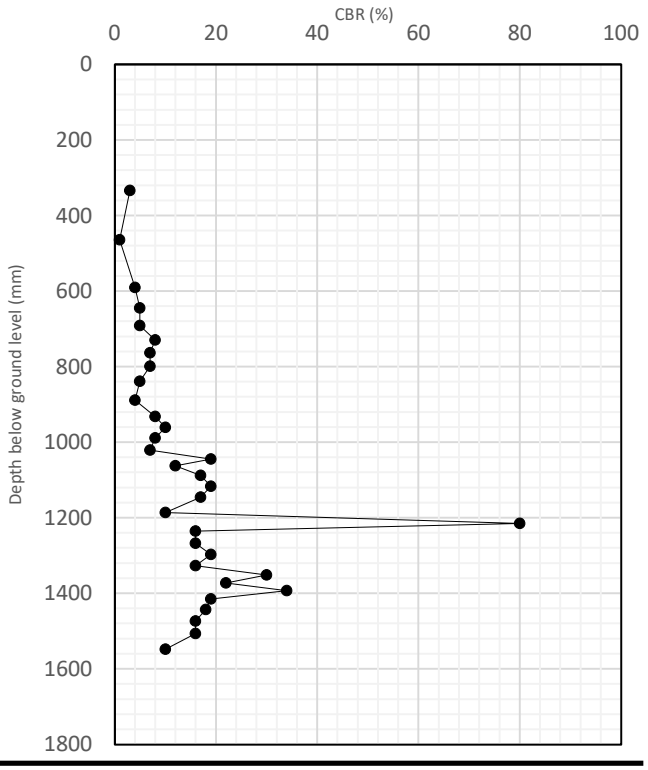
In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP18
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639521.0 E, 262605.0 N	**Test Date**	27/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	216	300	2	24	1128	1212				
1	1	284	368	2	26	1135	1219				
1	2	476	560	2	28	1168	1252				
1	3	537	621	2	30	1200	1284				
1	4	585	669	2	32	1227	1311				
1	5	630	714	2	34	1259	1343				
1	6	661	745	2	36	1277	1361				
1	7	698	782	2	38	1301	1385				
1	8	732	816	2	40	1317	1401				
1	9	778	862	2	42	1345	1429				
1	10	832	916	2	44	1374	1458				
1	11	864	948	2	46	1406	1490				
1	12	890	974	2	48	1439	1523				
1	13	920	1004	2	50	1489	1573				
1	14	954	1038								
1	15	968	1052								
1	16	989	1073								
2	18	1019	1103								
2	20	1046	1130								
2	22	1077	1161								





Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

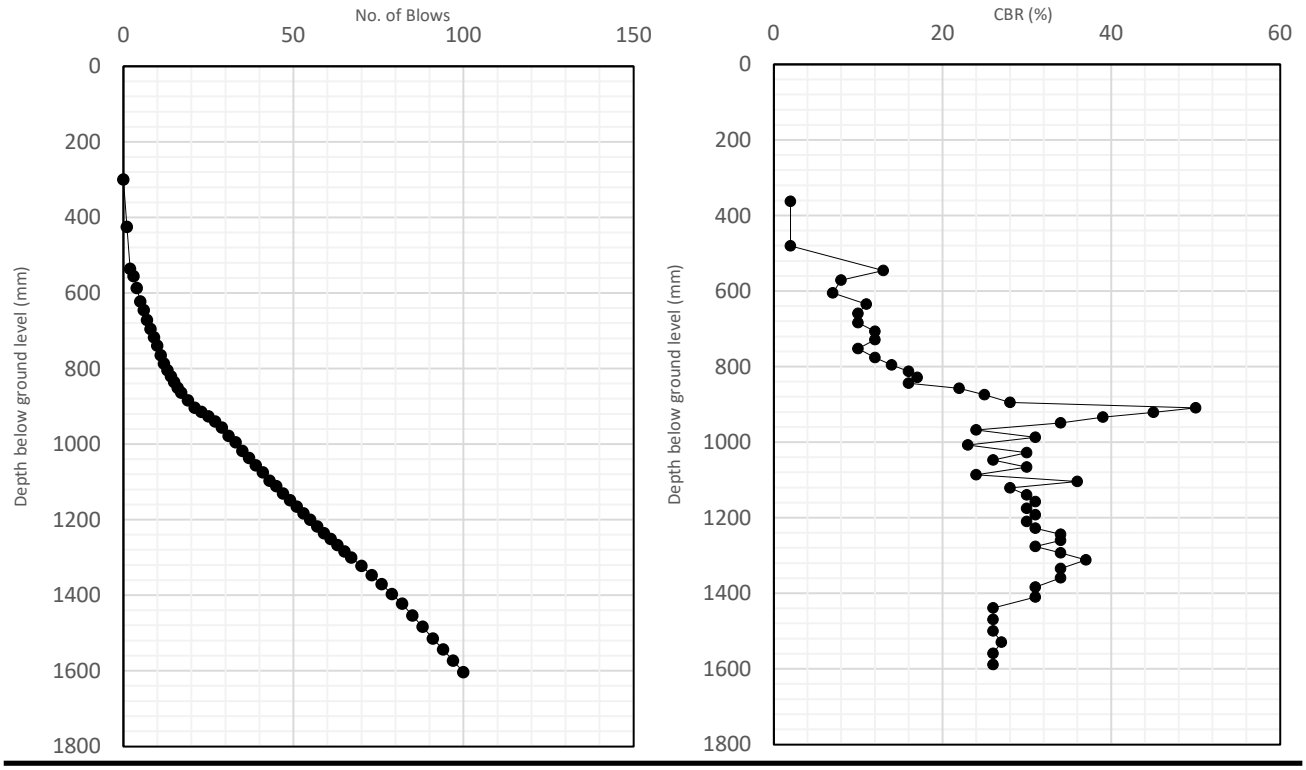
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP19
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639721.0 E, 262605.0 N	**Test Date**	28/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	206	300	2	23	821	915	2	63	1174	1268
1	1	331	425	2	25	833	927	2	65	1191	1285
1	2	442	536	2	27	847	941	2	67	1207	1301
1	3	462	556	2	29	863	957	3	70	1229	1323
1	4	493	587	2	31	885	979	3	73	1253	1347
1	5	529	623	2	33	902	996	3	76	1277	1371
1	6	552	646	2	35	925	1019	3	79	1303	1397
1	7	578	672	2	37	943	1037	3	82	1329	1423
1	8	602	696	2	39	963	1057	3	85	1360	1454
1	9	624	718	2	41	981	1075	3	88	1390	1484
1	10	646	740	2	43	1003	1097	3	91	1421	1515
1	11	671	765	2	45	1018	1112	3	94	1450	1544
1	12	693	787	2	47	1037	1131	3	97	1480	1574
1	13	711	805	2	49	1055	1149	3	100	1510	1604
1	14	727	821	2	51	1072	1166				
1	15	742	836	2	53	1090	1184				
1	16	758	852	2	55	1107	1201				
1	17	770	864	2	57	1125	1219				
2	19	791	885	2	59	1142	1236				
2	21	810	904	2	61	1158	1252				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

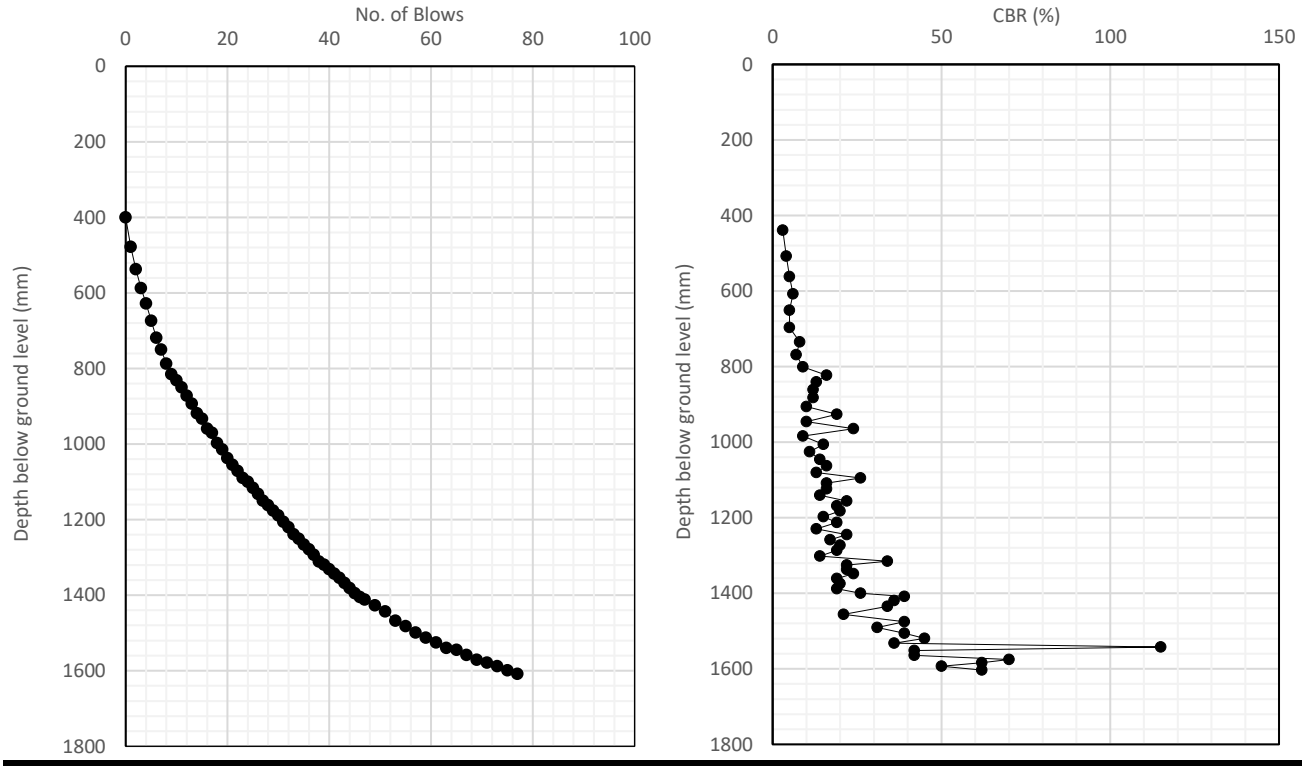
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP20
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639921.0 E, 262605.0 N	**Test Date**	28/11/2023

Test started at	0.40m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	190	400	1	20	827	1037	1	40	1121	1331
1	1	268	478	1	21	845	1055	1	41	1133	1343
1	2	327	537	1	22	861	1071	1	42	1144	1354
1	3	377	587	1	23	880	1090	1	43	1158	1368
1	4	418	628	1	24	890	1100	1	44	1171	1381
1	5	464	674	1	25	906	1116	1	45	1185	1395
1	6	509	719	1	26	922	1132	1	46	1195	1405
1	7	540	750	1	27	940	1150	1	47	1202	1412
1	8	577	787	1	28	952	1162	2	49	1217	1427
1	9	605	815	1	29	966	1176	2	51	1233	1443
1	10	621	831	1	30	979	1189	2	53	1258	1468
1	11	640	850	1	31	996	1206	2	55	1272	1482
1	12	662	872	1	32	1010	1220	2	57	1289	1499
1	13	683	893	1	33	1029	1239	2	59	1303	1513
1	14	709	919	1	34	1041	1251	2	61	1315	1525
1	15	723	933	1	35	1056	1266	2	63	1330	1540
1	16	749	959	1	36	1069	1279	2	65	1335	1545
1	17	760	970	1	37	1083	1293	2	67	1348	1558
1	18	787	997	1	38	1101	1311	2	69	1361	1571
1	19	804	1014	1	39	1109	1319	2	71	1369	1579



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

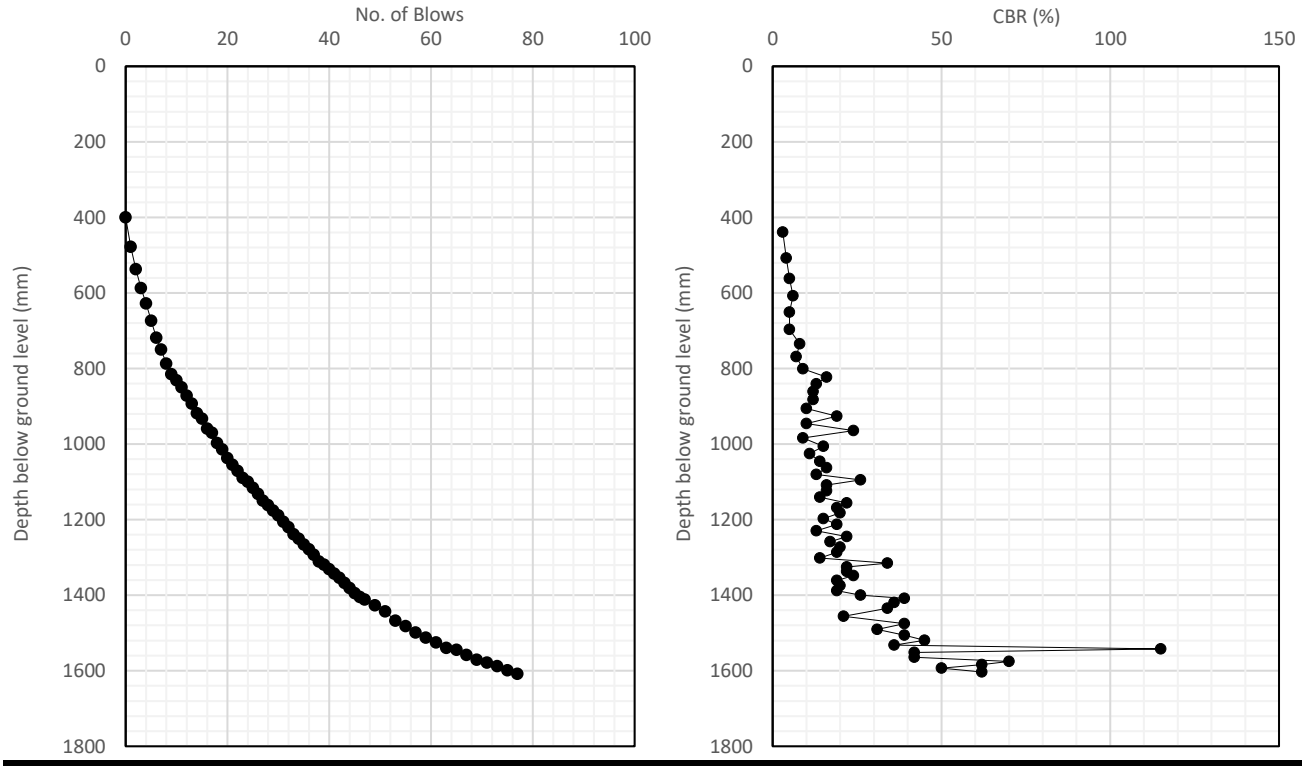
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE	**Location No.**	TP20
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	639921.0 E, 262605.0 N	**Test Date**	28/11/2023

Test started at	0.40m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
2	73	1378	1588								
2	75	1389	1599								
2	77	1398	1608								



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

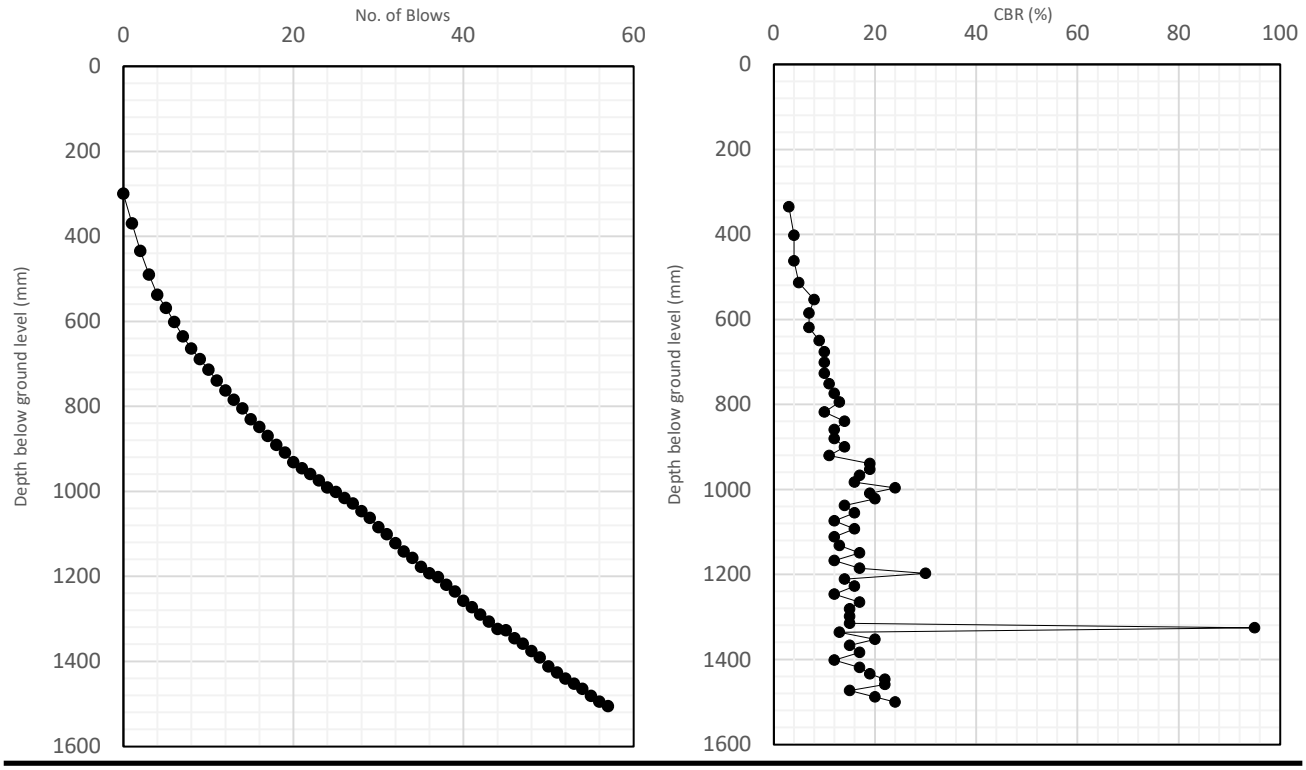
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP21
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	640107.0 E, 262605.0 N	**Test Date**	29/11/2023

Test started at	0.30m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	171	300	1	20	803	932	1	40	1129	1258
1	1	241	370	1	21	817	946	1	41	1144	1273
1	2	306	435	1	22	831	960	1	42	1161	1290
1	3	361	490	1	23	846	975	1	43	1178	1307
1	4	409	538	1	24	862	991	1	44	1195	1324
1	5	440	569	1	25	873	1002	1	45	1198	1327
1	6	473	602	1	26	887	1016	1	46	1217	1346
1	7	507	636	1	27	900	1029	1	47	1230	1359
1	8	535	664	1	28	918	1047	1	48	1247	1376
1	9	560	689	1	29	934	1063	1	49	1262	1391
1	10	585	714	1	30	956	1085	1	50	1283	1412
1	11	611	740	1	31	972	1101	1	51	1298	1427
1	12	634	763	1	32	993	1122	1	52	1312	1441
1	13	656	785	1	33	1013	1142	1	53	1324	1453
1	14	676	805	1	34	1028	1157	1	54	1336	1465
1	15	702	831	1	35	1049	1178	1	55	1353	1482
1	16	720	849	1	36	1064	1193	1	56	1366	1495
1	17	741	870	1	37	1073	1202	1	57	1377	1506
1	18	762	891	1	38	1091	1220				
1	19	780	909	1	39	1107	1236				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

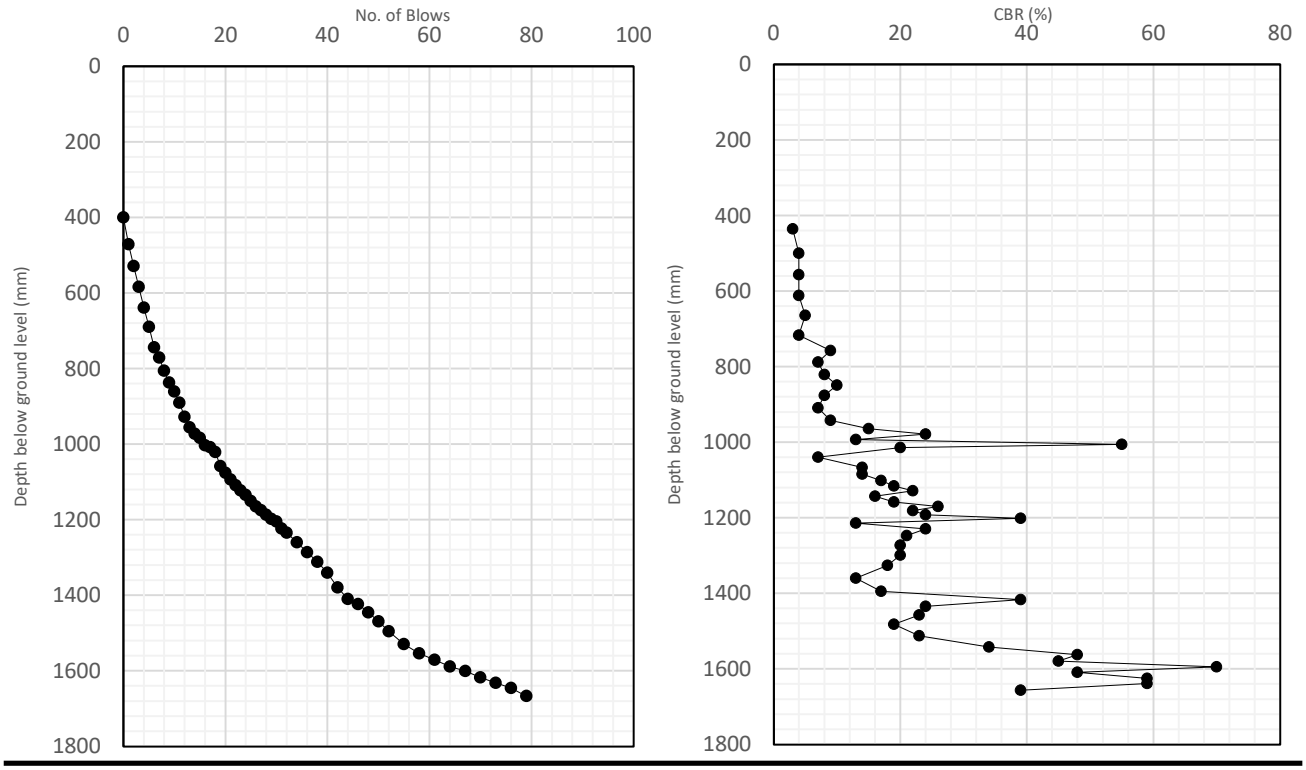
AGS

In Situ Testing - *Dynamic Cone Penetration Test*

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	**Location No.**	TP27
		Project No.	PC238661
Client	BAKERHICKS	**Test No.**	1
Coordinates	640117.0 E, 262419.0 N	**Test Date**	29/11/2023

Test started at	0.40m bgl	**Operator**	RC	**Checked By**	

Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)	Blows No.	Blows Total	Reading (mm)	Corrected Depth (mm)
0	0	157	400	1	20	833	1076	2	48	1203	1446
1	1	228	471	1	21	851	1094	2	50	1226	1469
1	2	286	529	1	22	866	1109	2	52	1253	1496
1	3	341	584	1	23	880	1123	3	55	1287	1530
1	4	396	639	1	24	892	1135	3	58	1311	1554
1	5	447	690	1	25	908	1151	3	61	1328	1571
1	6	501	744	1	26	922	1165	3	64	1346	1589
1	7	528	771	1	27	932	1175	3	67	1358	1601
1	8	563	806	1	28	944	1187	3	70	1375	1618
1	9	594	837	1	29	955	1198	3	73	1389	1632
1	10	618	861	1	30	962	1205	3	76	1403	1646
1	11	648	891	1	31	981	1224	3	79	1424	1667
1	12	685	928	1	32	992	1235				
1	13	713	956	2	34	1017	1260				
1	14	730	973	2	36	1043	1286				
1	15	741	984	2	38	1069	1312				
1	16	760	1003	2	40	1098	1341				
1	17	765	1008	2	42	1137	1380				
1	18	778	1021	2	44	1167	1410				
1	19	815	1058	2	46	1181	1424				



Remarks

Printed: 05/12/2023

CBR estimated using the correlation in the HA Manual for Roads and Bridges, CS229, Rev. 0, 2020 between each test point on the 'No. of Blows vs. Depth' plot

GEOTECHNICS

AGS

APPENDIX 8

Soakaway Results

APPENDIX 8

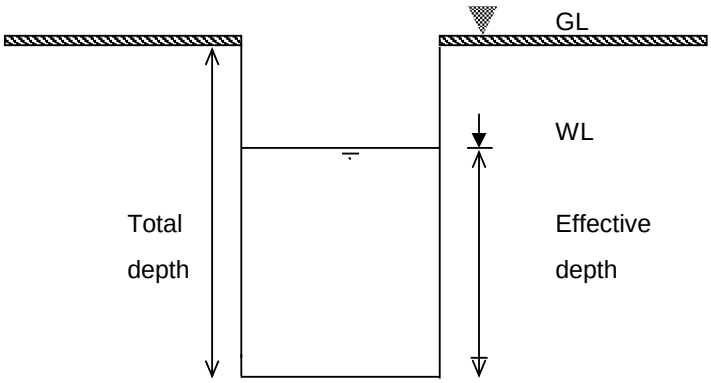
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Trial Pit	TP06
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	27/11/2023

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.70	0.80	100.00
1.00	1.69	0.81	101.25
2.00	1.68	0.82	102.50
3.00	1.68	0.82	102.50
4.00	1.66	0.84	105.00
5.00	1.66	0.84	105.00
10.00	1.66	0.84	105.00
15.00	1.65	0.85	106.25
20.00	1.64	0.86	107.50
25.00	1.64	0.86	107.50
30.00	1.64	0.86	107.50
40.00	1.64	0.86	107.50
50.00	1.64	0.86	107.50
60.00	1.64	0.86	107.50
90.00	1.63	0.87	108.75
122.00	1.62	0.88	110.00
161.00	1.62	0.88	110.00
206.00	1.62	0.88	110.00
240.00	1.62	0.88	110.00

TRIAL PIT SOAKAWAY



Trial pit length	=	2.800	m
Trial pit width	=	0.600	m
Trial pit depth	=	2.500	m
Effective depth (Head of Water)	=	0.800	m

Initial depth from GL	=	1.700m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.600	1.900	
25%	0.200	2.300	
Vp75-25	=	m3	
ap50	=	m2	
tp75-25	=	min	
Soil Infiltration, f	=	*	m/sec

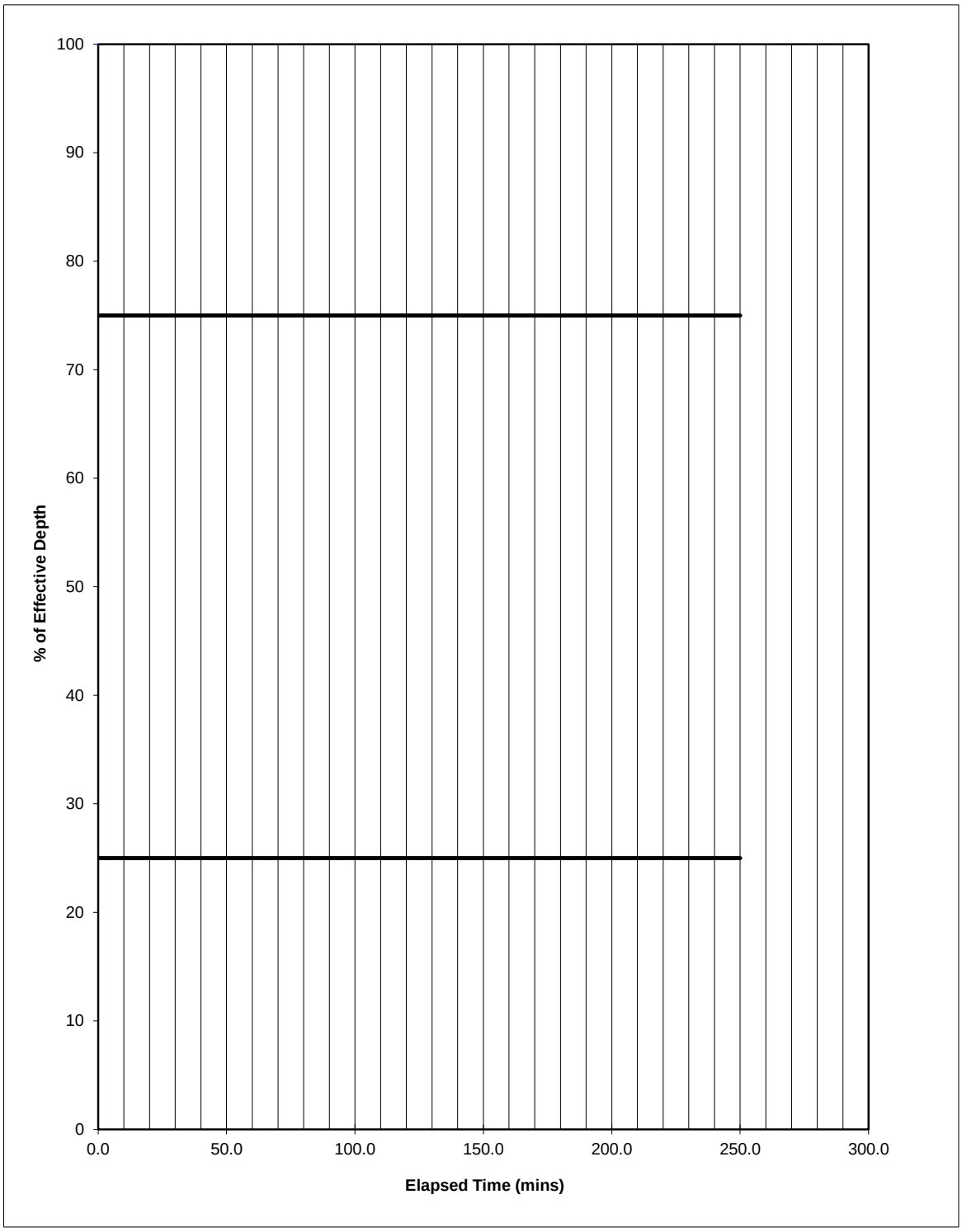
Remarks Unable to calculate infiltration rate as water level rose during the test due to the collapse of the trial pit sides.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Trial Pit	TP06
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	27/11/2023



tp75	=
tp25	=

Remarks Unable to calculate infiltration rate as water level rose during the test due to the collapse of the trial pit sides.

GEOTECHNICS

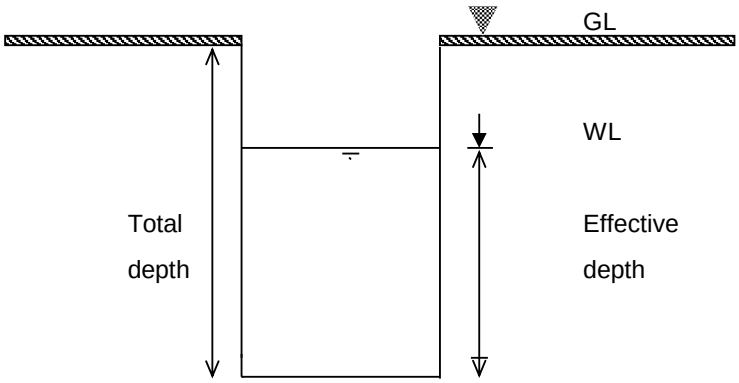
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	LIONLINK NG ONSHORE HVDC CONVERTER STATION SITE 3	Trial Pit	TP17
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	28/11/2023

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.27	1.23	100.00
1.00	1.27	1.23	100.00
2.00	1.27	1.23	100.00
3.00	1.27	1.23	100.00
4.00	1.27	1.23	100.00
5.00	1.27	1.23	100.00
7.00	1.27	1.23	100.00
9.00	1.27	1.23	100.00
11.00	1.27	1.23	100.00
13.00	1.28	1.22	99.19
15.00	1.29	1.21	98.37
20.00	1.29	1.21	98.37
25.00	1.29	1.21	98.37
30.00	1.29	1.21	98.37
35.00	1.29	1.21	98.37
40.00	1.30	1.20	97.56
45.00	1.30	1.20	97.56
50.00	1.30	1.20	97.56
55.00	1.30	1.20	97.56
60.00	1.31	1.19	96.75
90.00	1.33	1.17	95.12
120.00	1.35	1.15	93.50
150.00	1.36	1.14	92.68
180.00	1.37	1.13	91.87
212.00	1.39	1.11	90.24

TRIAL PIT SOAKAWAY



Trial pit length	=	2.800	m
Trial pit width	=	0.600	m
Trial pit depth	=	2.500	m
Effective depth (Head of Water)	=	1.230	m

Initial depth from GL	=	1.270m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.923	1.578	
25%	0.308	2.193	
Vp75-25	=	m3	
ap50	=	m2	
tp75-25	=	min	
Soil Infiltration, f	=	*	m/sec

Depth to top of Granular Fill if used (m bgl) x

Porosity of Gravel Fill if used (%) = x

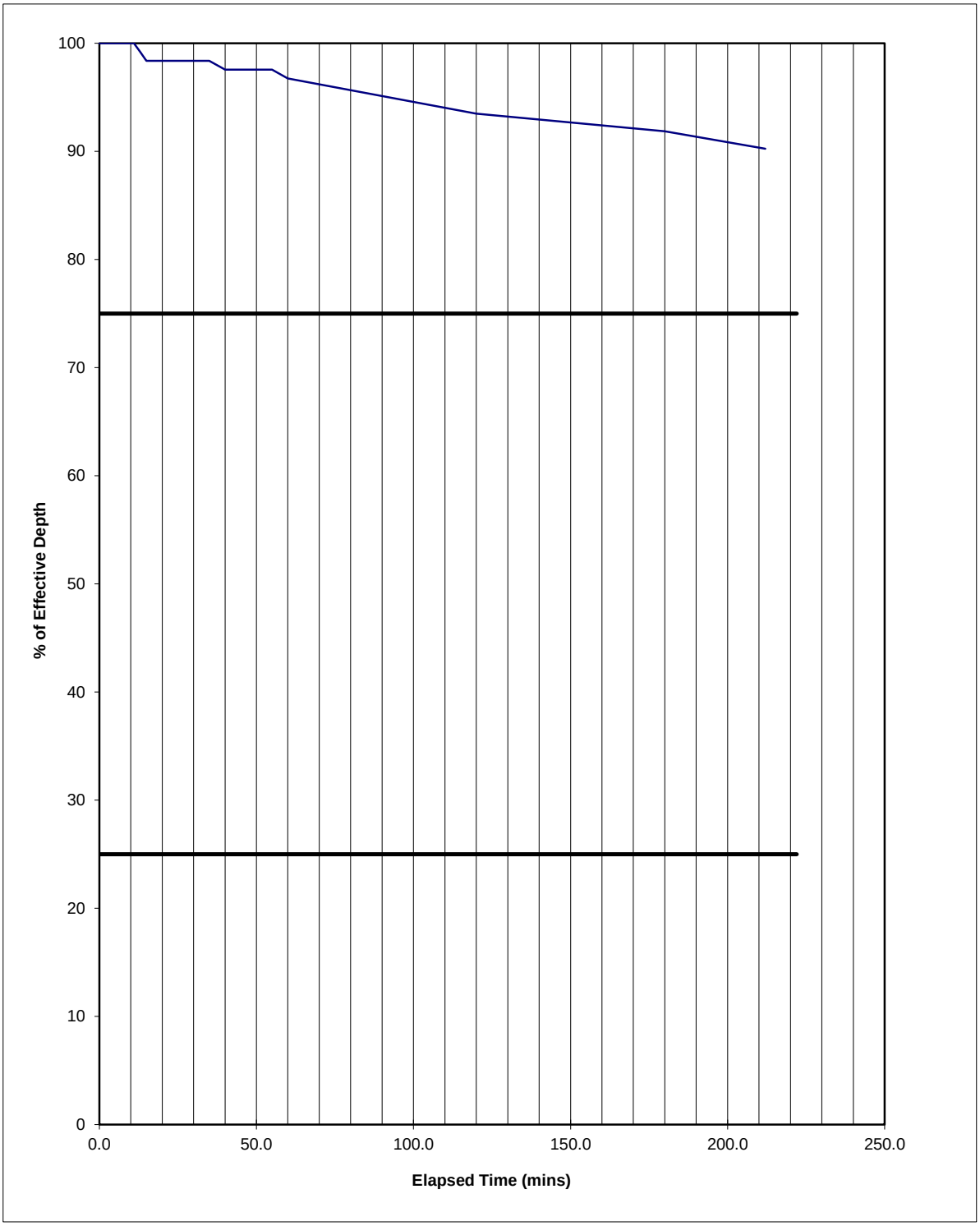
Remarks Unable to calculate infiltration rate as water level did not fall below 75% effective depth.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	LIONLINK NG ONSHORE HVDC CONVERTER STATION SITE 3	Trial Pit	TP17
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	28/11/2023



tp75	=
tp25	=

Remarks Unable to calculate infiltration rate as water level did not fall below 75% effective depth.

GEOTECHNICS

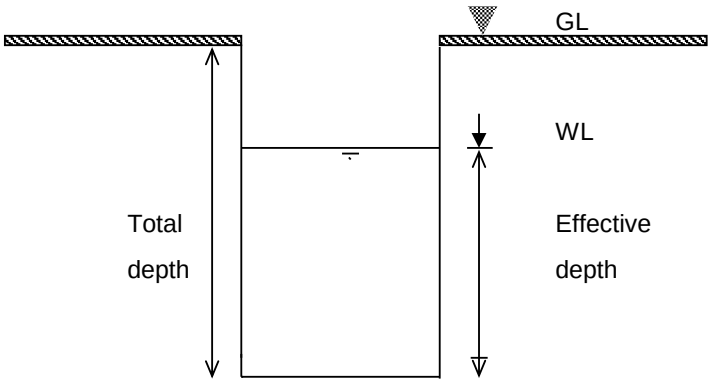
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Trial Pit	TP26
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	29/11/2023

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.62	0.88	110.00
1.00	1.63	0.87	108.75
2.00	1.64	0.86	107.50
3.00	1.66	0.84	105.00
4.00	1.66	0.84	105.00
5.00	1.66	0.84	105.00
11.00	1.68	0.82	102.50
15.00	1.68	0.82	102.50
18.00	1.68	0.82	102.50
24.00	1.69	0.81	101.25
30.00	1.69	0.81	101.25
35.00	1.69	0.81	101.25
40.00	1.70	0.80	100.00
50.00	1.70	0.80	100.00
60.00	1.71	0.79	98.75
90.00	1.73	0.77	96.25
100.00	1.74	0.76	95.00
110.00	1.74	0.76	95.00
120.00	1.74	0.76	95.00
135.00	1.75	0.75	93.75
150.00	1.75	0.75	93.75
165.00	1.76	0.74	92.50
180.00	1.77	0.73	91.25
230.00	1.78	0.72	90.00
256.00	1.79	0.71	88.75

TRIAL PIT SOAKAWAY



Trial pit length	=	2.800	m
Trial pit width	=	0.600	m
Trial pit depth	=	2.500	m
Effective depth (Head of Water)	=	0.800	m

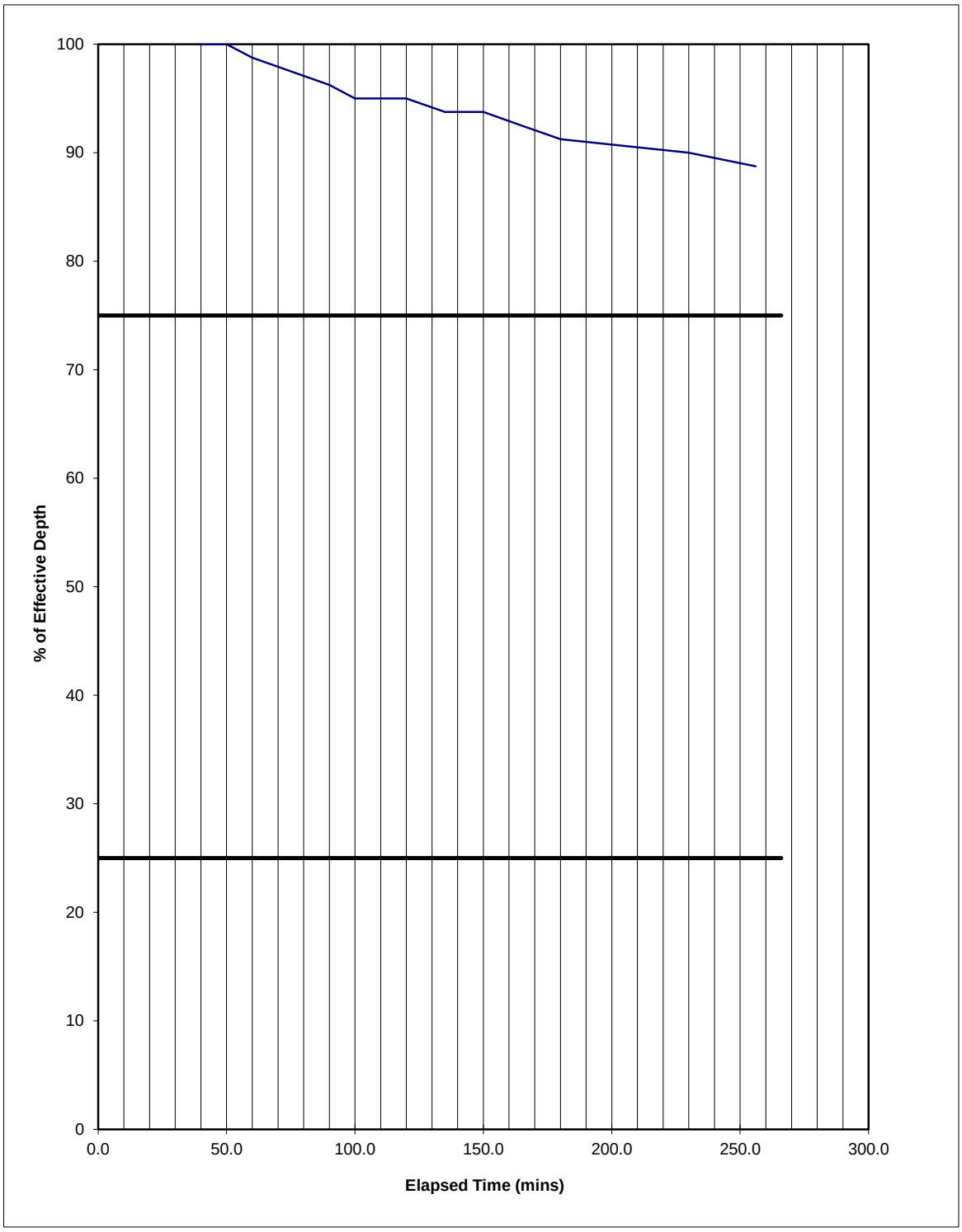
Initial depth from GL	=	1.620m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	0.600	1.900	
25%	0.200	2.300	
Vp75-25	=	m3	
ap50	=	m2	
tp75-25	=	min	
Soil Infiltration, f	=	*	m/sec

Remarks Unable to calculate infiltration rate as water level did not reach 75% effective depth.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Project	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Trial Pit	TP26
		Test No	1
		Project No	PC238661
Client	BAKER HICKS	Date	29/11/2023



tp75	=
tp25	=

Remarks Unable to calculate infiltration rate as water level did not reach 75% effective depth.

GEOTECHNICS

APPENDIX 9

Archaeological Report

Cotswold Archaeology

Land at Saxmundham (Converter Station Site 3), Saxmundham, Suffolk

Archaeological Monitoring



for:
Steven Chapman
(Geotechnics Ltd)

on behalf of:
National Grid Ventures

CA Project: SU0679
CA Report: SU0679_1
OASIS ID: cotswold2-519728
HER Ref.: SXM 083

January 2024

Land at Saxmundham (Converter Station Site 3), Saxmundham, Suffolk

Archaeological Monitoring

CA Project: SU0679
CA Report: SU0679_1
OASIS ID: cotswold2-519728
HER Ref.: SXM 083

Document Control Grid						
Revision	Date	Author	Checked by	Status	Reasons for revision	Approved by
A	January 2024	P. Boyles	S. Boulter	Internal review	Quality Control	S. Boulter

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Fig. 1 Site location plan (1:25,000 @ A4)

Fig. 2 Site plan (1:3500 @ A3)

Fig. 3 Trial pits, main field: photographs

Fig. 4 Trial pits, eastern end of site: photographs

Fig. 5 Geology in trial pits: photographs

Fig. 6 Geology in Trial Pit 13: photographs

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SUMMARY

Project name:	Land at Saxmundham (Converter 3 Site)
Location:	Saxmundham, Suffolk
NGR:	639616 262798
Type:	Archaeological Monitoring
Fieldwork dates:	21st November – 30th November 2023
OASIS ID:	cotswold2-519728
Location of archive:	To be deposited with Suffolk County Council Archaeological Service (SCCAS) and the Archaeology Data Service (ADS)
Site code:	SXM 083

In November 2023, Cotswold Archaeology (CA) carried out an archaeological monitoring of geotechnical trial works at Land at Saxmundham (Converter 3 Site), Saxmundham, Suffolk. The excavation of twenty-eight trial pits and six boreholes by geotechnical contractors was observed, revealing no *in situ* archaeological features or deposits. A small quantity of fire-cracked flint was found in the topsoil alongside a fragment of post-medieval clay pipe stem. In addition, a large earthwork representing the remains of a sand or gravel quarry pit, known from late 19th and early 20th century historic mapping, were surveyed.

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1. INTRODUCTION

1.1. In November 2023, Cotswold Archaeology (CA) carried out an archaeological monitoring of geotechnical trial pits and boreholes at Land at Saxmundham (Converter Station Site 3), Saxmundham, Suffolk (centred at NGR: 639616 262798; Fig. 1). This archaeological monitoring was undertaken for Steven Chapman (Geotechnics Ltd) on behalf of National Grid Ventures.

1.2. The proposed construction works for the new converter station at the site will clearly have archaeological implications and while no formal documentation (Brief) has been issued by Suffolk County Council Archaeological Service (SCCAS), they are providing archaeological advice for the project. Prior to work commencing, the prospective geotechnical contractors were asked to include Archaeological Monitoring within their respective tenders for test-pitting and boreholes. On that basis, the subsequently contracted geotechnical contractor, Geotechnics Ltd, commissioned CA to undertake the monitoring work.

1.3. While there has been no direction from SCCAS regarding the detailed scope of the archaeological works, the project has been treated with the same due process as those with a formal archaeological Brief. A Written Scheme of Investigation (WSI) was prepared by CA (CA 2023) and accepted by Hannah Cutler, Senior Archaeological Officer at SCCAS. The WSI formed the basis upon which the archaeological monitoring was conducted, alongside *Standard for archaeological monitoring and recording* (CIfA 2023a), *Universal guidance for archaeological monitoring and recording* (CIfA 2023b), *Requirements for Archaeological Excavation* (SCCAS 2023), the *EAA Standards for Field Archaeology in the East of England* (Gurney 2003), and the *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015).

The site

1.4. The development site is approximately 83ha in extent, located on the eastern outskirts of Saxmundham. The part of the site subject to the present archaeological monitoring work consists of three arable fields, bounded to the north by a road (the B1119), to the west by a track leading to Wood Farm, and to the south and east by further agricultural fields. The ground level is relatively flat, with a gentle gradient from the north-west corner of the site, which is around 30.50m above Ordnance Datum (m AOD), falling away towards the east, which was around 16.4m AOD, a steady drop

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of *c.*14m over a distance of *c.*1.25km. There was also a second, slighter gradient from the south-east edge of the site, which sat between 21 and 23m AOD, falling away towards the north-east. A deep, oval shaped depression dominates the north-east corner of the site, representing the remains of a disused quarry pit, which has since been reclaimed as farmland.

1.5. The surface geology encountered during the archaeological monitoring consisted of a yellow-grey, chalk-flecked clay, with pockets of red-brown sandy clay appearing to fill periglacial features (ice wedges, *etc.*). In several places the red-brown sandy clay sat over the chalk-flecked clay and may have represented a separate subsoil horizon. In the far north-east corner of the site, the surface geology consisted of a reddish-brown gravelly sand. The British Geological Survey (BGS) identifies these deposits as Diamicton belonging to the Lowestoft Formation, a sedimentary superficial deposit formed between 480 and 423 thousand years ago during the Quaternary period (BGS 2023). This overlays a sedimentary bedrock formed of Crag Group sands, formed between 5.333 million and 11.8 thousand years ago during the Neogene and Quaternary periods (*ibid*.).

2. ARCHAEOLOGICAL BACKGROUND

2.1. SCCAS have communicated that a formal search of the Suffolk HER database is not required at this stage of archaeological work, and that the summary provided in the WSI of known archaeological remains in the immediate vicinity of the site will suffice for the purposes of the current report. The information in the WSI was taken from the Suffolk Heritage Explorer website (SHE 2023) and is reproduced below with minor additions.

2.2. **SXM 009**: there is one HER listing within the development area itself. A north-south orientated rectangular plot of land fronting onto Leiston Road to the north is described as 'ancient woodland' (Great Wood) and earthworks of unknown date.

2.3. **ESF29632**: there is also one event number associated directly with the site, relating to a geophysical survey undertaken by Headland Archaeology (Oasis Ref. Headland1-518558). There are no details of the survey results included in the listing.

2.4. **SXM 076 (LB 1231179; 406250 on SHE)**: Wood Farm is located on the western edge of the site. It was present on the 1st Edition Ordnance Survey map, but only the

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detached farmhouse (the listed element), which is 17th century in date, now remains with the other buildings replaced by modern structures.

2.5. **SNF 001, SNF 027 (LB 406248 on SHE)**: recorded as a large simple rectangular occupied moat at Hill Farm with the farmstead recorded on the 1st Edition Ordnance Survey map with the farmhouse (the listed element) dated as 17th century.

2.6. **SNF 002 (LB 462129 on SHE)**: immediately to the south of the site is a feature described as decoy or flight pond (not part of a moat) and dated to the 19th or 20th century.

2.7. **SNF 025**: immediately to the south-east of the site is an unnamed field barn extant on the 1st Edition Ordnance Survey map but since completely lost.

2.8. **SXM 021 and SXM 077**: some 300m to the west of the site there are two HER listings; the former recorded as a mid-19th century granary and shed, the latter as a farmstead, Hurts Hall, that was extant on the 1st Edition Ordnance Survey map.

2.9. **SXM 075**: approximately 100m to the east of the site another farmstead, Town Farm, is listed which was also present on the 1st Edition Ordnance Survey map.

2.10. **SXM 003**: some 800m to the west of the site a double linear cropmark has been interpreted as representing the former line of the A12.

2.11. **SXM 050**: at a similar distance to the west and incorporating part of SXM 003, is a proposed development site known as 'Saxmundham Southern Gateway' which has been subject to a geophysical survey. The results suggest the presence of a possible trackway, enclosure ditches, structures and areas of burning.

2.12. **SXM 008**: the medieval church of St. John the Baptist lies c.320m to the west of the site.

2.13. **Includes SXM 001, SXM 020, SXM 022, SXM 036, SXM 043, SXM 049, SXM 051, SXM 060**: To the west-northwest there are multiple HER listings associated with various developments on the eastern side of Saxmundham along with the indicative area of the early town itself. While the records for the town relate primarily to medieval and post-medieval archaeology, there is also significant evidence for prehistoric (Neolithic, Bronze Age and Iron Age), Roman and Anglo-Saxon occupation.

2.14. **Historic mapping**: The 1888 and 1903 Ordnance Survey (O.S.) maps of the site show it divided into around twenty-two fields, with Great Wood (SXM 009; see above) near the northern end of the site. Several fields are shown as containing pits or ponds, usually near their boundaries. The parish boundary between Saxmundham and Sternfield is depicted passing east to west through the centre of the site, following field boundaries at the western end of the site. Two of the fields on these maps were extant when the present fieldwork was undertaken, the rest having been amalgamated into one large field in the second half of the 20th century.

3. AIMS AND OBJECTIVES

3.1. The general objectives of the archaeological monitoring, as defined in the WSI, were:

- *"to maintain a continuous archaeological presence during the geotechnical investigations and to identify, investigate and record any archaeological deposits/features thus revealed; NB it may be possible to avoid excavation of archaeological features if test-pits could be re-located once archaeology has been revealed after the initial removal of topsoil;*
- *at the conclusion of the project, to produce a report setting out the monitoring results and the archaeological conclusions that can be drawn from the recorded data;*
- *at the conclusion of the project, to compile a stable, ordered, accessible project archive."*

3.2. *"If significant archaeological remains are identified, reference will be made to the Regional Research Framework for East Anglia (Medlycott 2011 and the updated digital version at https://researchframeworks.org/eoe/) so that the remains can, if possible, be placed within their local and regional context".* (CA 2023)

4. METHODOLOGY

4.1. The archaeological monitoring involved the continuous presence of a competent archaeologist during the geotechnical works, which comprised the excavation of twenty-eight trial pits and six boreholes. The excavation of all trial pits was observed alongside two of the six boreholes. As work on the trial pits and boreholes was undertaken at the same time but in different parts of the site, archaeological observation of the trial pits was prioritised over that of the boreholes, as these were

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more likely to uncover or damage archaeological remains, a strategy outlined in the WSI.

4.2. The trial pits were recorded as TP01 through TP28, following the numbering system employed by the geotechnical contractors to ensure a consistent record for the project. The trial pits were excavated by contractors using a machine fitted with a 0.60m wide toothless grading bucket. The lengths of the pits varied between 2.35 and 4.95m.

4.3. At each trial pit, the topsoil layer was stripped down to the top of the surface geology under archaeological supervision. The resultant stripped surface was examined for features of interest.

4.4. Digital photographs were then taken of the trial pit using a Digital SLR camera, with an appropriate photographic scale included alongside a number board displaying the site code and the trial pit's number. A paper photographic register was kept to record the details of each photograph taken.

4.5. The outline of the trial pit was then surveyed using a Leica GPS, which also recorded height measurements in metres above Ordnance Datum (m AOD).

4.6. Following this, the geotechnical contractors continued the excavation of the trial pit into the underlying geology to a depth of 3.00m, except for TP06, TP17 and TP26, which were excavated to 2.50m. This work was also subject to observation by an archaeologist, and digital photographs were taken of representative examples of the geology encountered.

4.7. The upcast spoil from the trial pits was subject to a non-discriminating metal-detecting survey and was also checked for artefacts. Those artefacts that were found in the topsoil, namely a small quantity of fire-cracked flint and one clay pipe stem, were recorded on site.

4.8. Each trial pit was recorded using a Trench Recording Form, which noted the orientation, width, and length of the trial pit, alongside descriptions of the topsoil and surface geology, the thickness of the topsoil, a measured sketch section of the topsoil, and a description of any artefacts found. As no archaeological features were uncovered, the number of artefacts was limited, and the overburden sequence consisted of just topsoil, the issuing of context numbers was not employed; the

individual trial pit number for each excavation being sufficient to act as a unique identifier.

4.9. The six boreholes, numbered BH01 to BH06, consisted of small pits, around 0.40m in diameter, which were initially hand-excavated by contractors to the top of the surface geology. Following this, a drilling rig was then set up over the pit. Two of the boreholes, BH05 and BH06 were briefly observed by an archaeologist at the hand-excavation phase. As these small excavations did not reveal any archaeological remains, they were recorded with a brief note on topsoil depth.

4.10. Although not directly impacted by the present geotechnical works, the outline of a large former quarry pit, which appears on early O.S. maps of the site and currently survives as a deep hollow in one of the fields, was GPS surveyed and photographed.

4.11. CA will make arrangements with SCCAS for the deposition of the physical archive. A digital archive will also be prepared and deposited with the Archaeology Data Service (ADS). The archives (museum and digital) will be prepared and deposited in accordance with *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (CIfA 2020).

4.12. A summary of information from this project, as set out in Appendix A, has been entered into the OASIS online database of archaeological projects in Britain.

5. RESULTS

5.1. This section provides an overview of the archaeological monitoring results from the twenty-eight trial pits and six boreholes, the locations of which are shown in Figure 2. A tabulated summary of the results is also presented in Appendix B, which includes technical information such as ground level heights in m AOD alongside lengths and widths of excavations. No archaeological features were identified in any of the observed contractors' excavations, although a small quantity of finds from the topsoil was recorded alongside the remains of a quarry pit, which survives as a large earthwork within the site bounds.

Trial pits

5.2. All twenty-eight trial pits, numbered TP01 through TP28, were subject to archaeological monitoring and recording (Fig. 2). The overburden consisted of a layer

of agricultural topsoil, around 0.30m thick, composed of a dark greyish brown sandy clay, containing small and medium sized stones and modern detritus.

5.3. The topsoil lay directly over the surface geology (Figs. 3 and 4). In every trial pit, with the exception of TP13, this consisted of a pale yellow-grey, chalk-flecked clay, with bands and pockets of reddish-brown sandy clay, sometimes filling periglacial features. In places, the reddish-brown sandy clay also appeared to form a thin layer between the topsoil and the chalk-flecked clay, perhaps indicating localised subsoil horizons are present in parts of the site. The excavation of the trial pits revealed that the yellow-grey chalk-flecked clay was present to a depth of around 1.20m below present ground level, after which it usually gave way to a darker grey-blue chalk flecked clay, sometimes containing larger lenses and concentrations of white chalk (Fig. 5). In TP05 there was a very thick deposit of white chalk below the yellow-grey clay.

5.4. In TP13, different surface geology was encountered (Fig. 6). This consisted of a reddish-brown gravelly sand, which became less gravelly and more yellow in colour the deeper the pit was excavated.

5.5. Although no archaeological features were uncovered in the trial pits, a small quantity of finds was retrieved from the topsoil over six of them:

- TP05: six pieces of fire-cracked flint were found in a tight concentration just east of the trial pit.
- TP06: one piece of fire-cracked flint.
- TP10: one piece of fire-cracked flint.
- TP13: one piece of fire-cracked flint.
- TP18: one piece of fire-cracked flint.
- TP21: one segment of white clay tobacco pipe stem, 3cm long with a 6mm diameter and a very narrow bore. It was broken off at both ends.

5.6. The metal-detecting survey of the spoil from the trial pits did not uncover any pre-modern artefacts.

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5.7. In addition to these findings, occasional fragments of post-medieval and modern pottery, brick, and rooftile was observed in the topsoil across the site, alongside isolated pieces of fire-cracked flint. Due to the incidental nature of these observations, it was not possible to note if they formed concentrations.

Boreholes

5.8. Six boreholes, numbered BH01 through BH06, were excavated by contractors. Two of these, BH05 and BH06, were subject to archaeological observation. The hand-excavated element of the pits was around 0.40m in diameter, cutting through 0.30m of topsoil to the top of the surface geology. No archaeological remains were encountered in these two boreholes.

Survey of former quarry earthwork

5.9. The remains of a former quarry pit known from historic mapping, which currently survives as a large depression in the north-eastern part of the site, were GPS surveyed (Fig. 2). The survey recorded the outline of the depression, which was oval shaped and aligned roughly north to south. It measured around 97m long by 72m wide. It was not possible to accurately record its depth, as the base of the feature was flooded with water, although it appeared to be at least 2 to 3m below the surrounding ground level. The geology that the quarry was dug into was exposed where water runoff has eroded gullies in the sides of the feature, showing it to be sand and gravel resembling that in TP13 just north of it (Fig. 6).

6. DISCUSSION

6.1. No archaeological features were encountered within the twenty-eight trial pits or the two boreholes that were subject to observation.

6.2. The pieces of fire-cracked flint, usually associated with prehistoric or Anglo-Saxon remains, and the post-medieval clay pipe stem are typical artefacts expected from the topsoil of most Suffolk fields. That the fire-cracked flint was mostly found at the topographically higher western end of the site, around TP05, TP06, TP10 and TP18, is not necessarily indicative of a meaningful pattern since it was not collected as part of a systematic survey of the whole field. However, the tight concentration of six pieces of fire-cracked flint near TP05 is more noticeable and could suggest it had been dislodged from a nearby archaeological deposit.

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6.3. The former quarry in the north-east corner of the site appears to have been a gravel and/or sand pit, given the nature of the geology it is cut into. The quarry is depicted as much smaller on the 1888 and 1903 maps, being less than 13m in diameter, so owes its current size and shape to 20th century activity. The pattern of the hachuring around the quarry's edges on the 1903 map suggests that the access ramp into the workings led down from the feature's western side at that time. The quarry will obviously have had a severe impact on any earlier archaeological remains that may lie directly within its footprint, and there is also potential that the numerous gullies created by rill erosion around its edges have caused wider damage to any remains that may exist in the near vicinity.

6.4. Given the small size of the geotechnical excavations, the results of this archaeological monitoring should not be taken as an indication of the site's archaeological potential. However, they do prove that *in situ* archaeological remains were not directly disturbed by the present works.

7. CA PROJECT TEAM

7.1. Fieldwork was undertaken by Preston Boyles. The report was written by Preston Boyles and edited by Stuart Boulter. The report illustrations were prepared by Krissy Moore. The project archive has been compiled and prepared for deposition by Zoe Emery. The project was managed for CA by Stuart Boulter.

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APPENDIX A: OASIS Summary

OASIS ID (UID)	cotswold2-519728
Project Name	Field Observation (Monitoring) at Land at Saxmundham
Sitename	Land at Saxmundham
Sitecode	
Project Identifier(s)	SU0679
Activity type	Field Observation (Monitoring)
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	Cotswold Archaeology
Project Dates	21-Nov-2023 - 30-Nov-2023
Location	Land at Saxmundham NGR : TM 39616 62798 LL : 52.21126000055482, 1.505927336133334 12 Fig : 639616,262798
Administrative Areas	Country : England County/Local Authority : Suffolk Local Authority District : East Suffolk Parish : Saxmundham
Project Methodology	Archaeological monitoring of twenty-eight trial pits and six boreholes excavated by geotechnical contractors.
Project Results	In November 2023, Cotswold Archaeology carried out an archaeological monitoring of geotechnical works at Land at Saxmundham (Converter 3 Site), Saxmundham, Suffolk. The excavation of twenty-eight trial pits and six boreholes by geotechnical contractors was observed, revealing no in situ archaeological features or deposits. A small amount of fire-cracked flint was found in the topsoil alongside a fragment of post-medieval clay pipe stem. In addition, a large earthwork representing the remains of a sand or gravel quarry pit, known from late 19th and early 20th century historic mapping, were surveyed.
Keywords	
Funder	Private or public corporation Geotechnics Ltd on behalf of National Grid Ventures
HER	Suffolk HER - unRev - STANDARD
Person Responsible for work	Stuart Boulter
HER Identifiers	
Archives	Physical Archive - to be deposited with Suffolk Archaeological Service; Digital Archive - to be deposited with Archaeology Data Service Archive;

APPENDIX B: SUMMARY OF RESULTS

Geotech. pit no.	Orientation	Ground level (m AOD)	Length (m)	Width (m)	Overburden depth (m)	General description	Archaeological remains
TP01	ENE - WSW	26.40	4.48	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP02	E - W	30.58	3.85	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP03	NE - SW	28.50	4.95	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP04	NW - SE	24.50	3.16	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP05	NW - SE	29.70	3.45	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	Six pieces of fire-cracked flint in a tight group just east of the trial pit.
TP06	E - W	26.70	2.75	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	One piece of fire-cracked flint in topsoil.
TP07	NW - SE	23.70	3.00	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP08	WNW - ESE	21.10	3.20	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP09	WNW - ESE	30.50	3.15	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP10	E - W	28.40	3.45	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	One piece of fire-cracked flint in topsoil.
TP11	E - W	24.80	2.95	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA

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APPENDIX B: SUMMARY OF RESULTS

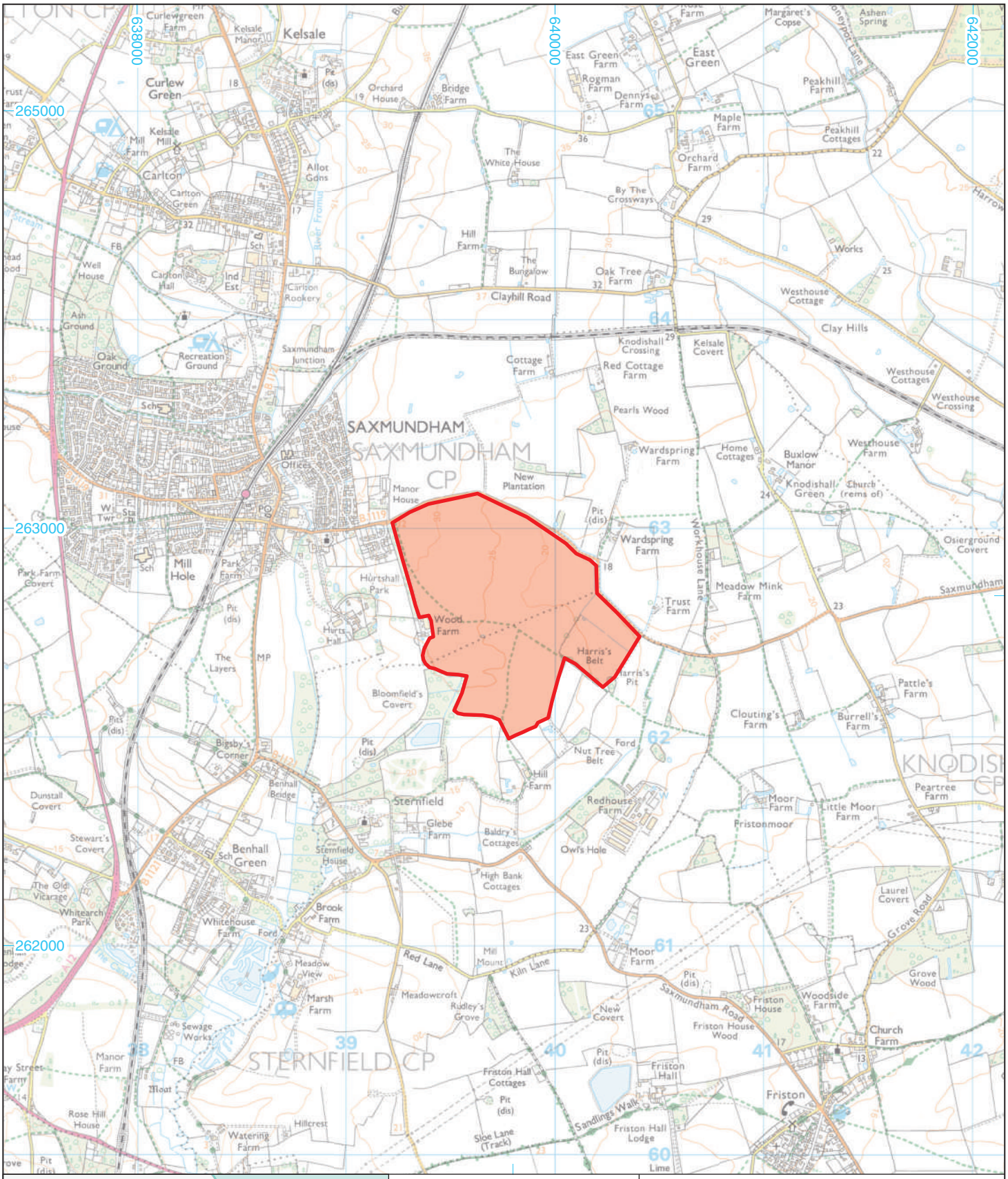
Geotech. pit no.	Orientation	Ground level (m AOD)	Length (m)	Width (m)	Overburden depth (m)	General description	Archaeological remains
TP12	ENE - WSW	20.70	3.25	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP13	E - W	17.70	2.98	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a red-brown gravelly sand.	One piece of fire-cracked flint in topsoil.
TP14	E - W	28.80	2.93	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP15	WNW - ESE	26.10	3.48	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP16	NW - SE	22.30	3.25	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP17	NNW - SSE	19.20	3.12	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP18	NW - SE	26.80	3.55	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	One piece of fire-cracked flint in topsoil.
TP19	E - W	23.90	2.90	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP20	NE - SW	21.30	3.10	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP21	NE - SW	19.90	2.57	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	One fragment of white clay pipe stem in topsoil. 3cm long by 0.6cm wide. Narrow bore. Broken off at either end.
TP22	NNW - SSE	26.80	3.25	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA

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APPENDIX B: SUMMARY OF RESULTS

Geotech. pit no.	Orientation	Ground level (m AOD)	Length (m)	Width (m)	Overburden depth (m)	General description	Archaeological remains
TP23	NNE - SSW	25.70	3.25	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP24	NE - SW	23.00	3.15	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP25	NE - SW	22.30	3.40	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP26	NE - SW	16.35	2.35	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP27	NW - SE	21.85	2.80	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
TP28	NW - SE	19.15	2.90	0.60	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
BH01	*Not observed*						
BH02	*Not observed*						
BH03	*Not observed*						
BH04	*Not observed*						
BH05	NA	NA	0.40	0.40	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA
BH06	NA	NA	0.40	0.40	0.30	Topsoil, 0.30m thick, over surface geology. Surface geology a grey-yellow chalk flecked clay.	NA

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Ordnance Survey 0100031673

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PROJECT TITLE

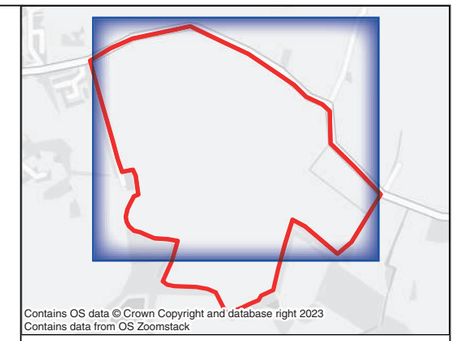
Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE

Site location plan

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**1**
APPROVED BY	**PB**	*SCALE@A4*	**1:25,000**	

639500
640000
263000
262500
B1119
King's Belt
Wardspring Farm
Coltsclose Pickle
Wood Farm
Colts Close
Bloomfield's Covert
Harris's Belt
Harris's Pit (dis.)
remains of former quarry pit
BH01
BH02
BH03
BH04
BH05
BH06
TP01
TP02
TP03
TP04
TP05
TP06
TP07
TP08
TP09
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
TP23
TP24
TP25
TP26
TP27
TP28



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N

Site boundary
Trial pit
Bore hole
Archaeological feature

0 150m

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PROJECT TITLE
Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE
Site plan

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**2**
APPROVED BY	**PB**	*SCALE@A3*	**1:3500**	



Trial Pit 01, looking south-west (1m scale)



Trial Pit 03, looking south-west (1m scale)



Trial Pit 04, looking north-west (1m scale)



Trial Pit 09, looking south-west (1m scale)



Trial Pit 11, looking north-west (1m scale)



Trial Pit 23, looking south (1m scale)

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PROJECT TITLE

Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE

Trial pits, main field: photographs

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**3**
APPROVED BY	**PB**	*SCALE@A3*	**NA**	



Trial Pit 13, looking north-west (1m scale)



Trial Pit 21, looking south-west (1m scale)



Trial Pit 24, looking south-west (1m scale)



Trial Pit 27, looking north-east (1m scale)

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Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE

Trial pits, eastern end of site: photographs

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**4**
APPROVED BY	**PB**	*SCALE@A3*	**NA**	



Trial Pit 04 geology, looking north



Trial Pit 05 geology, looking north-west



Trial Pit 06 geology, looking north-west



Trial Pit 07 geology, looking north

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Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE

Geology in trial pits: photographs

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**5**
APPROVED BY	**PB**	*SCALE@A3*	**NA**	



Trial Pit 13 geology, looking north-west



Former quarry just south of Trial Pit 13, looking south-east

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PROJECT TITLE

Land at Saxmundham (Converter Station Site 3), Suffolk

FIGURE TITLE

Geology in Trial Pit 13: photographs

DRAWN BY	**KM**	*PROJECT NO.*	**SU0679**	*FIGURE NO.*
CHECKED BY	**LZS**	*DATE*	**03/01/2024**	**6**
APPROVED BY	**PB**	*SCALE@A4*	**NA**	

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APPENDIX 10

Exploratory Hole Location Plan

APPENDIX 10



N

Legend

- Locations By Type - Empty
- Locations By Type - CP
- Locations By Type - TP

GEOTECHNICS

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Engineer:
BAKERHICKS

Client:
BAKERHICKS

Project:
LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3

Drawing Title:
Exploratory Hole Location Plan

Scale:	Date:
1:5000 at A3	**01/02/2024**
Project No.: **PC238661**	**Exploratory Hole Location Plan**

APPENDIX 11

Monitoring

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH01 (P1)

Sheet No. 1

Installation Details	Type	SP (53mm)					
	Depth to Base (m)	14.00					
	Ground Level (mOD)	30.23					
	Filter Zone (m)	5.00 - 14.00					
	Date Installed	22/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	14.27	DRY	14.26	DRY	13.52	13.59
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	0.0	0.0	0.1	0.2	0.3	0.2
Carbon Dioxide (Steady)	% VOL	0.0	0.0	0.0	0.0	0.0	0.2
Oxygen (Peak)	% VOL	20.0	19.4	18.3	19.1	19.1	16.5
Oxygen (Steady)	% VOL	20.0	19.4	18.3	18.9	18.0	16.4
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1012	1029	1015	1002	1018	1010
Differential Pressure	Pa	0	0	0	0	0	0
Flow Rate (Peak)	l/hr	-0.1	0.0	0.0	0.0	0.0	0.0
Flow Rate (Steady)	l/hr	0.0	0.0	0.0	0.0	0.0	0.0
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH01 (P1)

Sheet No. 2

Installation Details	Type	SP (53mm)					
	Depth to Base (m)	14.00					
	Ground Level (mOD)	30.23					
	Filter Zone (m)	5.00 - 14.00					
	Date Installed	22/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	DRY	14.23	14.20	14.33		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	0.3	0.5	0.3	<0.1		
Carbon Dioxide (Steady)	% VOL	<0.1	0.3	0.1	<0.1		
Oxygen (Peak)	% VOL	19.1	19.3	19.7	18.4		
Oxygen (Steady)	% VOL	19.1	20.0	19.8	18.8		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	1	<1		
Barometric Pressure	mbar	1016	1010	1008	1026		
Differential Pressure	Pa	0	0	<1	<1		
Flow Rate (Peak)	l/hr	0.1	0.0	<0.1	<0.1		
Flow Rate (Steady)	l/hr	0.0	0.0	<0.1	<0.1		
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - In Situ Gas Monitoring - Hole Record

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH02 (P1)

Sheet No. 1

Installation Details	Type	SP (50mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	28.11					
	Filter Zone (m)	12.00 - 15.00					
	Date Installed	23/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY	DRY	DRY
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	1.7	0.0	0.0	3.3	0.0	0.0
Carbon Dioxide (Steady)	% VOL	1.7	0.0	0.0	3.3	0.0	0.0
Oxygen (Peak)	% VOL	15.3	19.5	18.4	11.9	19.3	16.7
Oxygen (Steady)	% VOL	15.3	19.5	18.4	11.9	19.3	16.7
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1013	1029	1012	1002	1017	1007
Differential Pressure	Pa	886	-1198	-184	88	-7	-634
Flow Rate (Peak)	l/hr	52.5	-71.8	-13.8	52.3	4.6	-35.4
Flow Rate (Steady)	l/hr	52.2	-71.8	-13.8	52.0	0.0	-35.4
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH02 (P1)

Sheet No. 2

Installation Details	Type	SP (50mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	28.11					
	Filter Zone (m)	12.00 - 15.00					
	Date Installed	23/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	DRY		DRY	14.83		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Steady)	% VOL	<0.1	0.0	<0.1	<0.1		
Oxygen (Peak)	% VOL	20.5	20.7	19.9	19.9		
Oxygen (Steady)	% VOL	20.7	20.7	19.9	20.1		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	<1	<1		
Barometric Pressure	mbar	1015	1011	1009	1027		
Differential Pressure	Pa	0	0	<1	<1		
Flow Rate (Peak)	l/hr	0.0	0.0	<0.1	<0.1		
Flow Rate (Steady)	l/hr	0.0	0.0	<0.1	<0.1		
PID Reading	ppm						
Remarks		Bung Removed, blockage at 2.02m bgl	Bung absent on arrival and pipe blocked				

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH03 (P1)

Sheet No. 1

Installation Details	Type	SP (54mm)					
	Depth to Base (m)	10.00					
	Ground Level (mOD)	19.35					
	Filter Zone (m)	2.00 - 10.00					
	Date Installed	28/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY	DRY	DRY
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	1.6	0.0	0.5	1.6	0.0	0.0
Carbon Dioxide (Steady)	% VOL	1.6	0.0	0.5	1.6	0.0	0.0
Oxygen (Peak)	% VOL	18.7	19.5	18.1	18.2	19.2	16.7
Oxygen (Steady)	% VOL	18.7	19.5	18.1	18.2	19.2	16.7
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1013	1031	1014	1002	1017	1008
Differential Pressure	Pa	0	-478	295	158	129	-92
Flow Rate (Peak)	l/hr	0.0	-40.3	20.2	15.0	13.0	-7.7
Flow Rate (Steady)	l/hr	0.0	-40.3	0.0	15.0	13.0	-7.0
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH03 (P1)

Sheet No. 2

Installation Details	Type	SP (54mm)					
	Depth to Base (m)	10.00					
	Ground Level (mOD)	19.35					
	Filter Zone (m)	2.00 - 10.00					
	Date Installed	28/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	0.0	0.5	1.4	<0.1		
Carbon Dioxide (Steady)	% VOL	<0.1	0.5	1.4	<0.1		
Oxygen (Peak)	% VOL	18.2	20.3	18.8	18.6		
Oxygen (Steady)	% VOL	18.2	20.3	18.8	18.9		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	<1	<1		
Barometric Pressure	mbar	1015	1011	1009	1028		
Differential Pressure	Pa	38	-43	<1	-38		
Flow Rate (Peak)	l/hr	0.4	-57.0	<0.1	-5.5		
Flow Rate (Steady)	l/hr	0.0	-5.5	<0.1	-5.0		
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH04 (P1)

Sheet No. 1

Installation Details	Type	SP (54mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	23.34					
	Filter Zone (m)	8.00 - 15.00					
	Date Installed	27/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY	DRY	DRY
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	2.3	0.0	0.0	2.8	0.0	0.0
Carbon Dioxide (Steady)	% VOL	2.3	0.0	0.0	2.8	0.0	0.0
Oxygen (Peak)	% VOL	14.7	19.5	18.3	145.0	19.3	16.7
Oxygen (Steady)	% VOL	14.7	19.5	18.3	14.5	19.3	16.7
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1012	1029	1012	1002	1018	1009
Differential Pressure	Pa	1004	-1198	-338	1522	0	<1250
Flow Rate (Peak)	l/hr	57.7	-71.6	-23.7	72.8	0.0	-55.8
Flow Rate (Steady)	l/hr	57.7	-71.6	-23.7	72.7	0.0	-56.1
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH04 (P1)

Sheet No. 2

Installation Details	Type	SP (54mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	23.34					
	Filter Zone (m)	8.00 - 15.00					
	Date Installed	27/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	0.1	0.0	0.9	0.9		
Carbon Dioxide (Steady)	% VOL	<0.1	0.0	0.9	0.9		
Oxygen (Peak)	% VOL	20.0	20.7	18.5	18.5		
Oxygen (Steady)	% VOL	20.1	20.7	18.5	18.5		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	1	1		
Barometric Pressure	mbar	1015	1010	1009	1009		
Differential Pressure	Pa	0	0	<1	<1		
Flow Rate (Peak)	l/hr	0.0	0.0	<0.1	<0.1		
Flow Rate (Steady)	l/hr	0.0	0.0	<0.1	<0.1		
PID Reading	ppm						
Remarks		Bung Removed	Bung absent on arrival				

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Location ID BH05 (P1)

Client BAKERHICKS

Sheet No. 1

Installation Details	Type	SP (53mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	16.48					
	Filter Zone (m)	8.00 - 15.00					
	Date Installed	30/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	9.00	9.00	8.93	8.91	8.85	8.88
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	0.2	0.4	0.2	0.3	0.7	0.4
Carbon Dioxide (Steady)	% VOL	0.0	0.0	0.0	0.2	0.2	0.3
Oxygen (Peak)	% VOL	19.9	19.2	18.0	18.9	18.4	16.2
Oxygen (Steady)	% VOL	19.9	19.2	18.0	18.7	16.9	16.1
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1013	1030	1014	1002	1018	1009
Differential Pressure	Pa	0	0	1	0	0	0
Flow Rate (Peak)	l/hr	0.0	0.0	0.2	-3.0	0.0	0.0
Flow Rate (Steady)	l/hr	0.0	0.0	0.0	0.0	0.0	0.0
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH05 (P1)

Sheet No. 2

Installation Details	Type	SP (53mm)					
	Depth to Base (m)	15.00					
	Ground Level (mOD)	16.48					
	Filter Zone (m)	8.00 - 15.00					
	Date Installed	30/11/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	8.75	9.08	9.10	9.92		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	0.2	0.0	0.9	2.0		
Carbon Dioxide (Steady)	% VOL	0.1	0.0	0.9	2.0		
Oxygen (Peak)	% VOL	16.8	20.6	19.9	13.3		
Oxygen (Steady)	% VOL	16.8	20.6	19.9	14.0		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	<1	<1		
Barometric Pressure	mbar	1014	1011	1008	1028		
Differential Pressure	Pa	0	-23	-58	166		
Flow Rate (Peak)	l/hr	0.0	-25.3	-7.3	17.8		
Flow Rate (Steady)	l/hr	0.0	-23.7	-6.9	16.4		
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH06 (P1)

Sheet No. 1

Installation Details	Type	SP (50mm)					
	Depth to Base (m)	6.50					
	Ground Level (mOD)	20.15					
	Filter Zone (m)	1.50 - 6.50					
	Date Installed	01/12/2023					
	Cover Type	Upright lockable					
Reading	Date	**19/12/2023**	**08/01/2024**	**23/01/2024**	**06/02/2024**	**20/02/2024**	**04/03/2024**
	Time						
Weather	Wind	Light	Strong	Strong	Moderate	Light	Light
	Precipitation	Heavy	Slight	Heavy	None	None	None
	Cloud Cover	Overcast	Overcast	Overcast	Overcast	Overcast	Slight
Atmospheric Pressure Trend		Steady	Falling	Falling	Falling	Steady	Falling
Site Conditions	Temperature (°C)	11	3	8	12	12	10
	Ground Condition	Wet	Moist	Wet	Dry	Moist	Moist
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436	Gas Data GFM436
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY	6.49	DRY
Methane (Peak) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Methane (Steady) (CH_4)	% VOL	0.0	0.0	0.0	0.0	0.0	0.0
Carbon Dioxide (Peak)	% VOL	1.4	0.0	0.0	0.9	0.5	0.0
Carbon Dioxide (Steady)	% VOL	0.8	0.0	0.0	0.8	0.3	0.0
Oxygen (Peak)	% VOL	17.7	19.5	18.3	17.6	18.8	16.6
Oxygen (Steady)	% VOL	17.7	19.5	18.3	17.1	18.7	16.6
Hydrogen Sulphide (H_2S)	ppm	0	0	0	0	0	0
Carbon Monoxide (CO)	ppm	0	0	0	0	0	0
Barometric Pressure	mbar	1012	1030	1012	1002	1018	1009
Differential Pressure	Pa	0	-7	-15	0	0	0
Flow Rate (Peak)	l/hr	0.0	-1.6	-0.4	0.0	0.0	0.0
Flow Rate (Steady)	l/hr	0.0	0.0	0.0	0.0	0.0	0.0
PID Reading	ppm						
Remarks							

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Hole Record*

Project LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3 **Project No.** PC238661

Client BAKERHICKS **Location ID** BH06 (P1)

Sheet No. 2

Installation Details	Type	SP (50mm)					
	Depth to Base (m)	6.50					
	Ground Level (mOD)	20.15					
	Filter Zone (m)	1.50 - 6.50					
	Date Installed	01/12/2023					
	Cover Type	Upright lockable					
Reading	Date	**01/07/2024**	**02/10/2024**	**18/11/2024**	**12/12/2024**		
	Time						
Weather	Wind	Light	Light	Light	Light		
	Precipitation	None	Heavy	None	None		
	Cloud Cover	Slight	Overcast	Slight	Overcast		
Atmospheric Pressure Trend		Steady	Steady	Rising	Steady		
Site Conditions	Temperature (°C)	18	18	2	7		
	Ground Condition	Dry	Wet	Moist	Moist		
Equipment used		Gas Data GFM436	Gas Data GFM436	Gas Data GFM435	Gas Data GFM435		
Monitored by							
Depth to Water	m bgl	DRY	DRY	DRY	DRY		
Methane (Peak) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Methane (Steady) (CH_4)	% VOL	<0.1	0.0	<0.1	<0.1		
Carbon Dioxide (Peak)	% VOL	1.1	0.1	0.9	0.3		
Carbon Dioxide (Steady)	% VOL	0.7	0.1	0.9	0.2		
Oxygen (Peak)	% VOL	17.2	20.6	17.7	18.4		
Oxygen (Steady)	% VOL	17.9	20.6	17.7	18.6		
Hydrogen Sulphide (H_2S)	ppm	<1	0	<1	<1		
Carbon Monoxide (CO)	ppm	<1	0	1	<1		
Barometric Pressure	mbar	1015	1011	1008	1028		
Differential Pressure	Pa	0	0	<1	<1		
Flow Rate (Peak)	l/hr	-0.2	0.0	<0.1	<0.1		
Flow Rate (Steady)	l/hr	0.0	0.0	<0.1	<0.1		
PID Reading	ppm						
Remarks							

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APPENDIX 12

Geotechnical Laboratory Testing

Laboratory Test Certificate

Issued from:	Geotechnics Ltd The Geotechnical Centre 203 Torrington Avenue Tile Hill Coventry, CV4 9AP	**Date of issue**	01/02/2024
		Issue No.	1
		Client Ref. No.	N/A
		Samples / Material Source	
		Samples Recv'd	15/12/2023
Testing Start Date	09/01/2024	Sample State	As received
Testing Complete	31/01/2024	Sampled by	Geotechnics Limited
Comments			

Project No	PC238661
Project Name	Lionlink NG Onshore HVDC - Converter Station Site 3

Summary of Tests

Standard	Test Description	Test Quantity	UKAS
BS EN ISO 17892-1:2014	Water Content	45	Yes
BS EN ISO 17892-12:2018 Cl. 5.3 & 5.5	Liquid Limit and Plastic Limit (4 Points Method)	44	Yes
BS EN ISO 17892-4:2016 Cl. 5.2	Particle Size Distribution by Sieving Method	25	Yes
BS EN ISO 17892-4:2016 Cl. 5.4	Particle Size Distribution by Pipette Method	15	Yes
ASTM D5334-14	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	24	No
BS 1377-4:1990 Cl. 3.3	2.5 kg Rammer Dry Density/Moisture Content Relationship (Compaction)	9	Yes
BS 1377-2:1990 Cl. 8.2	Particle Density by Gas Jar Method	9	Yes
BS EN ISO 17892-8:2018	Shear Strength by Unconsolidated Undrained Triaxial Test - Single Stage	10	Yes
BS EN ISO 17892-2:2014 Cl. 5.1	Bulk Density by Linear Measurement	3	Yes
BS 1377-4:1990 Cl. 7.2	California Bearing Ratio (CBR)	5	Yes
BS EN ISO 17892-5:2017	Incremental Loading Oedometer	4	Yes
BS EN ISO 17892-5:2017	Determination of Swelling Pressure	4	No

Note: Any descriptions, opinions or interpretations are outside the scope of UKAS accreditation.
The results within this report relate only to the samples tested and received from the client.

UKAS TESTING
1365

Test Results checked and approved for issue.
Signed for and on behalf of Geotechnics Limited

Paul Smart (Laboratory Testing Manager)



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Summary of Classification Test Results

Project Number:
PC238661

Project Name:
LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3

Hole Number	Sample				Specimen Description	*w* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
BH01		1.80	1.90	D	Greenish brown mottled grey slightly gravelly CLAY.	17.4	91	38 4pt	18	20		
BH01		6.00	6.10	D	Grey slightly gravelly CLAY.	16.1	87	38 4pt	17	21		
BH02		3.65	3.70	D	Grey slightly gravelly CLAY.	17.9	84	38 4pt	19	19		
BH02		8.00	8.10	D	Grey slightly gravelly CLAY.	16.2	89	44 4pt	18	26		
BH03		0.80	0.90	D	Brown slightly gravelly CLAY.	22.4	88	55 4pt	20	35		
BH03		3.00	3.10	D	Brown slightly gravelly SAND.	14.1						
BH04		0.90	1.00	D	Light greyish brown slightly gravelly CLAY.	18.0	91	43 4pt	19	24		
BH04		4.90	5.00	D	Grey slightly gravelly CLAY.	19.1	91	43 4pt	19	24		
BH05		0.50	0.60	D	Brown slightly gravelly sandy CLAY.	17.2	71	32 4pt	14	18		
BH05		2.90	3.00	D	Grey slightly gravelly CLAY.	20.0	89	44 4pt	20	24		
BH05		6.00	6.10	D	Brown slightly gravelly slightly sandy CLAY.	16.8	81	25 4pt	11	14		
BH06		2.00	2.10	D	Grey slightly gravelly CLAY.	19.2	84	45 4pt	20	25		
BH06		4.90	5.00	D	Grey slightly gravelly CLAY.	18.5	88	43 4pt	20	23		
BH06		8.40	8.50	D	Brown mottled grey slightly sandy CLAY.	19.6	98	53 4pt	20	33		
TP01		0.70		D	Brown slightly gravelly CLAY.	21.6	91	42 4pt	16	26		
TP01		2.50		D	Brown mottled white slightly gravelly CLAY.	23.6	87	45 4pt	23	22		
TP02		0.60		D	Light brown slightly gravelly sandy CLAY.	19.2	65	27 4pt	13	14		
TP03		1.50		D	Brown mottled grey slightly gravelly CLAY.	18.3	86	37 4pt	15	22		
TP04		2.00		D	Dark grey slightly gravelly CLAY.	20.4	89	47 4pt	20	27		
TP05		2.50		D	White slightly gravelly SILT.	19.8	62	24 4pt	NP			
TP06		1.50		D	Brown slightly gravelly CLAY.	13.9	89	32 4pt	14	18		
TP07		1.50		D	Grey slightly gravelly CLAY.	18.7	91	48 4pt	20	28		
TP08		1.00		D	Grey mottled brown slightly gravelly CLAY.	17.2	90	48 4pt	18	30		
TP08		3.00		D	Brown slightly gravelly CLAY.	20.9	87	45 4pt	18	27		
TP09		1.50		D	Brown mottled grey slightly gravelly CLAY.	16.0	91	39 4pt	17	22		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

Printed
22/02/2024

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Summary of Classification Test Results

Project Number:
PC238661

Project Name:
LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3

Hole Number	Sample				Specimen Description	*w* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
TP10		2.50		D	Brown slightly gravelly CLAY.	17.6	90	40 4pt	18	22		
TP11		0.80		D	Brown slightly gravelly CLAY.	16.6	89	38 4pt	17	21		
TP11		2.50		D	Dark grey slightly gravelly CLAY.	17.0	87	40 4pt	17	23		
TP12		0.30		D	Brown slightly gravelly CLAY.	25.0	86	36 4pt	14	22		
TP12		0.70		D	Brown slightly gravelly CLAY.	19.4	92	47 4pt	19	28		
TP14		1.50		D	Brown mottled grey slightly gravelly CLAY.	17.2	88	36 4pt	19	17		
TP15		0.40		D	Brown slightly gravelly CLAY.	27.5	92	43 4pt	20	23		
TP15		1.50		D	Brown mottled grey slightly gravelly CLAY.	15.1	90	39 4pt	16	23		
TP16		0.80		D	Brown slightly gravelly CLAY.	19.5	90	44 4pt	18	26		
TP17		1.50		D	Brown slightly gravelly CLAY.	15.5	89	42 4pt	18	24		
TP18		2.50		D	Dark grey slightly gravelly CLAY.	20.8	88	43 4pt	20	23		
TP20		0.80		D	Brown slightly gravelly CLAY.	19.1	87	39 4pt	17	22		
TP22		2.00		D	White gravelly CLAY.	21.6	59	31 4pt	18	13		
TP23		1.80		D	Dark grey slightly gravelly CLAY.	20.8	89	43 4pt	21	22		
TP24		0.90		D	Brown mottled grey slightly gravelly CLAY.	17.4	88	40 4pt	17	23		
TP24		2.50		D	Dark grey slightly gravelly CLAY.	19.4	93	44 4pt	19	25		
TP25		0.90		D	Brown mottled grey slightly gravelly CLAY.	15.9	88	39 4pt	16	23		
TP27		0.90		D	Brown mottled grey slightly gravelly CLAY.	19.0	77	35 4pt	16	19		
TP28		0.80		D	Brown slightly gravelly CLAY.	20.1	91	48 4pt	16	32		
TP28		2.00		D	Dark grey slightly gravelly CLAY.	18.9	87	44 4pt	18	26		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit
80g / 30deg fall cone with increasing water content unless specified otherwise
Sample washed through 0.425mm sieve unless specified otherwise
1pt - single point test (including factor)
* BS1377 method

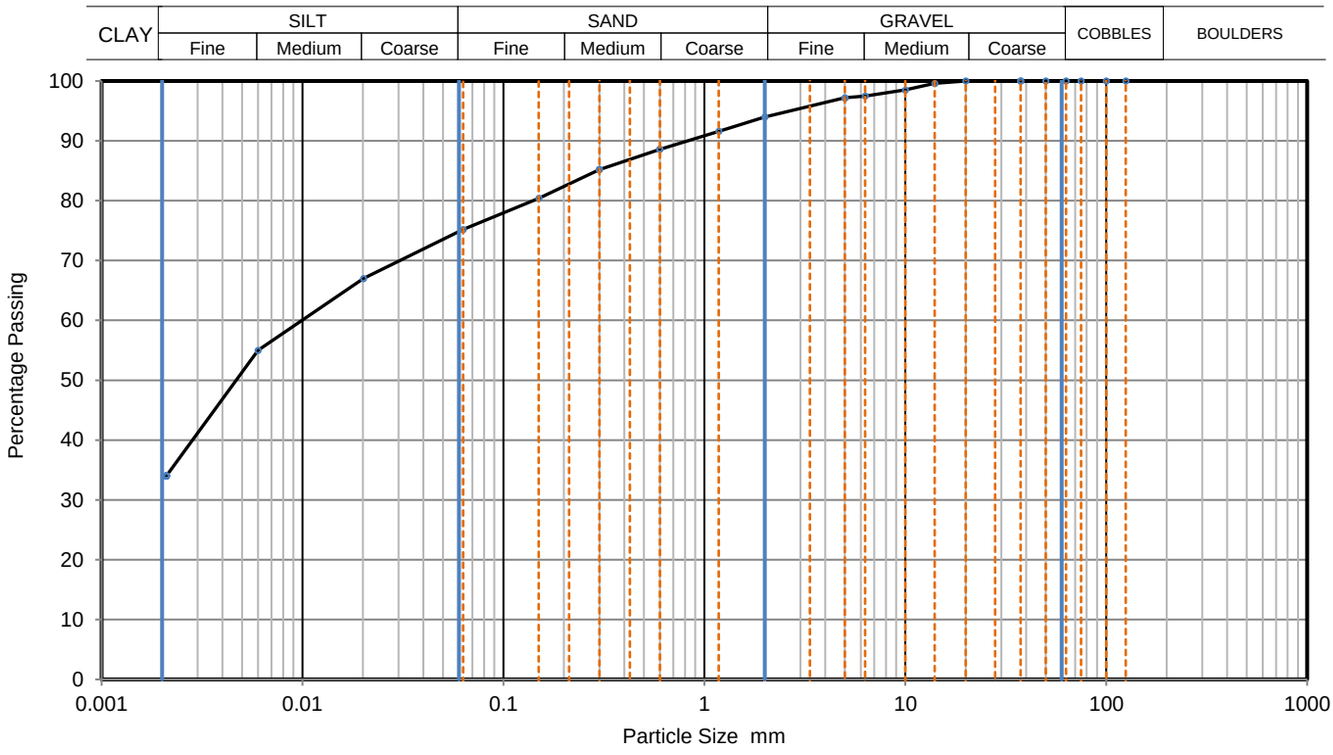
Particle density
sp - small pycno
gj - gas jar BS1377

Plastic Limit
NP - Non Plastic

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH01
		Sample No.	
Project Number:	PC238661	Depth m	3.20 - 3.70
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Grey slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	67
100	100	0.006	55
75	100	0.002	34
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
2	94		
1.18	92		
0.6	89		
0.3	85		
0.15	80	Particle density (assumed)	
0.063	75	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	19
Silt	41
Clay	34

Grading Analysis		
D100	mm	20
D60	mm	0.00985
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

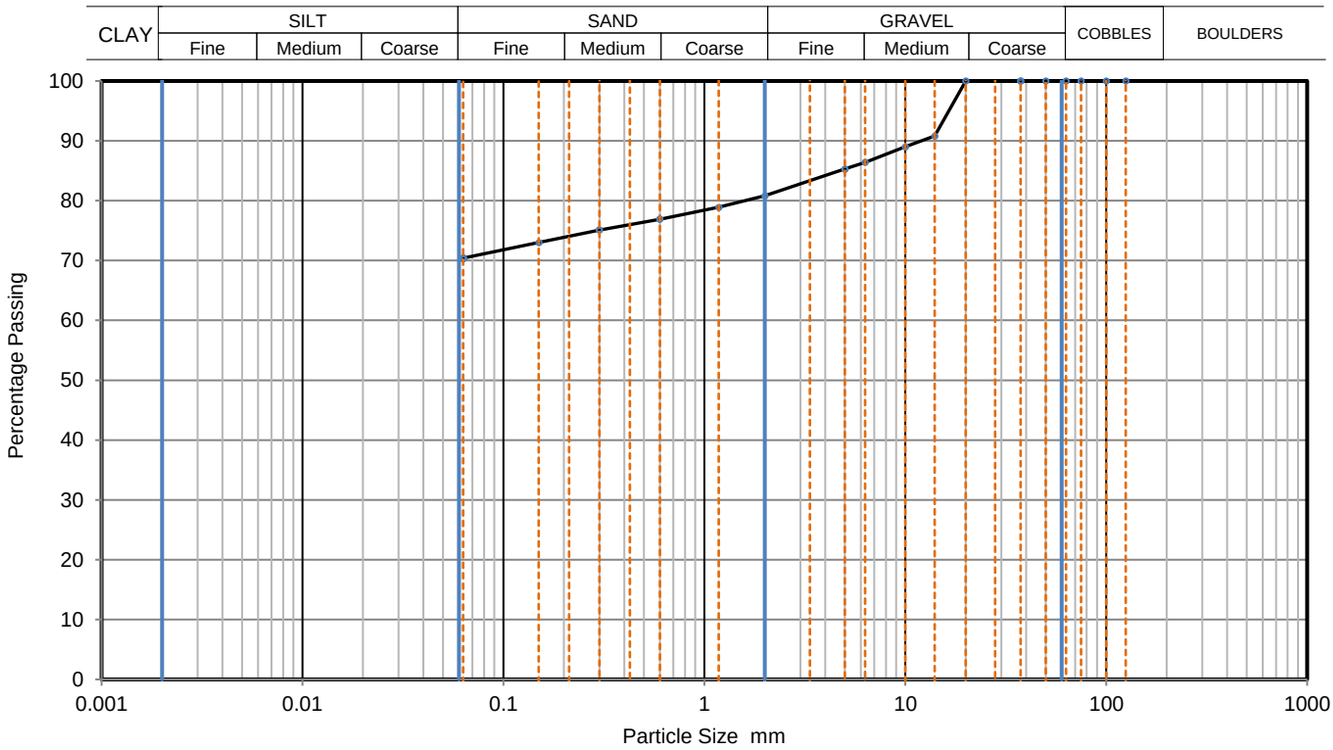
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH02
		Sample No.	
Project Number:	PC238661	Depth m	4.20 - 4.90
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	White mottled grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	91		
10	89		
6.3	86		
5	85		
2	81		
1.18	79		
0.6	77		
0.3	75		
0.15	73		
0.063	70		

Sample Proportions	% dry mass
Cobbles	0
Gravel	20
Sand	10
Fines <0.063mm	70

Grading Analysis		
D100	mm	20
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

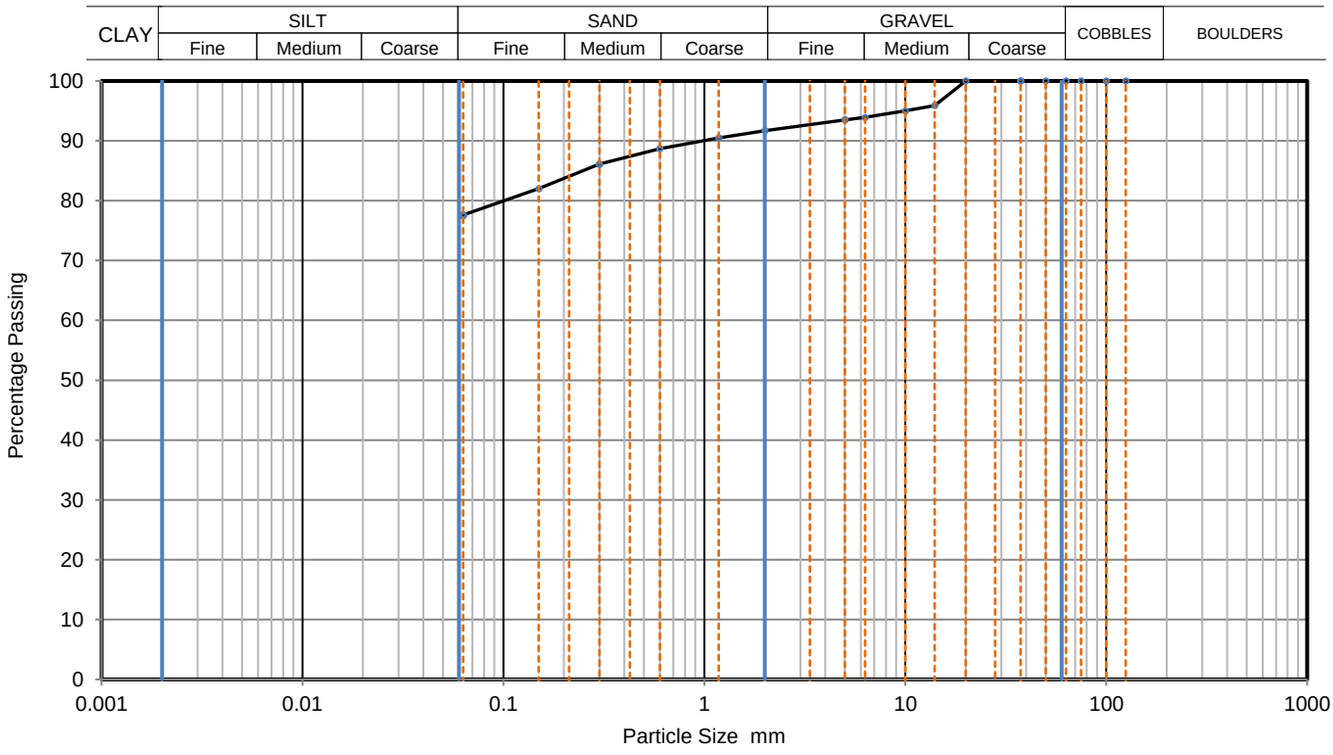
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH02
		Sample No.	
Project Number:	PC238661	Depth m	8.40 - 8.90
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Grey slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	96		
10	95		
6.3	94		
5	94		
2	92		
1.18	91		
0.6	89		
0.3	86		
0.15	82		
0.063	78		

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	14
Fines <0.063mm	78

Grading Analysis		
D100	mm	20
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

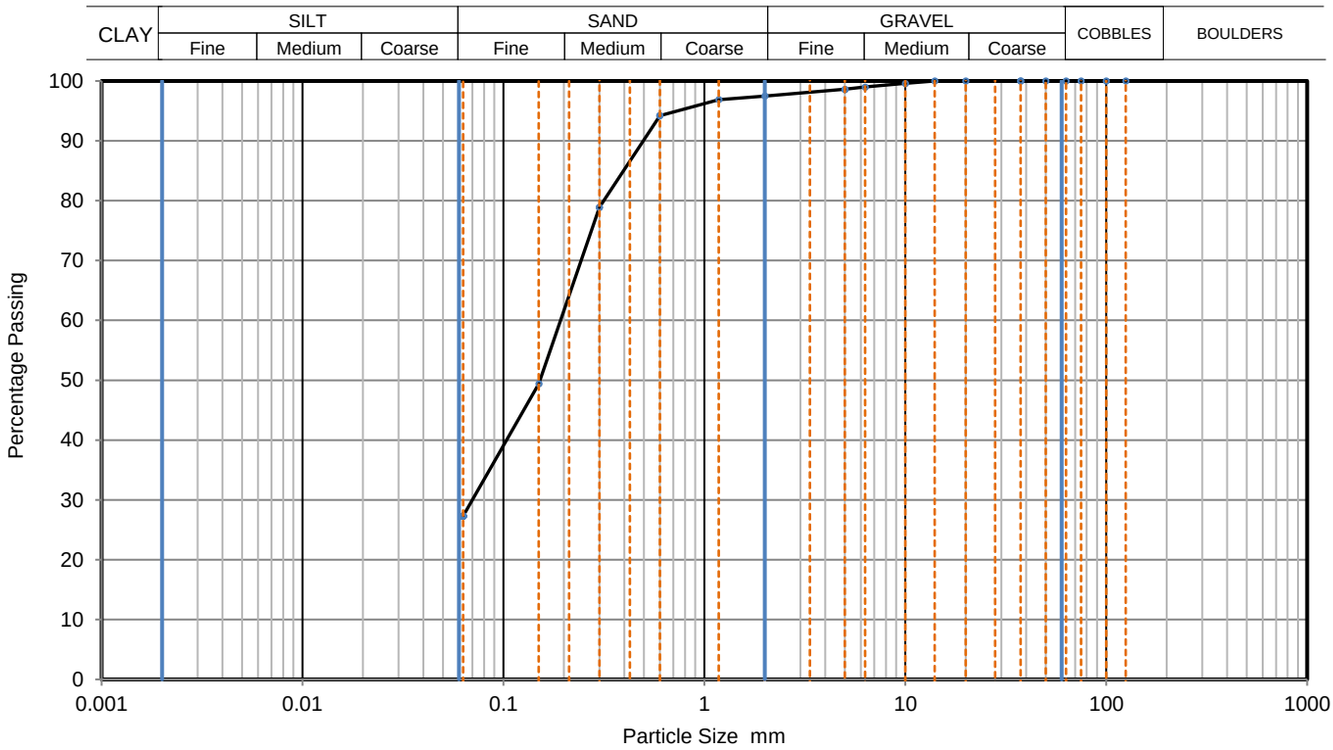
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238661	Depth m	3.20 - 3.70
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	98		
1.18	97		
0.6	94		
0.3	79		
0.15	49		
0.063	27		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	71
Fines <0.063mm	27

Grading Analysis		
D100	mm	14
D60	mm	0.192
D30	mm	0.07
D10	mm	
Uniformity Coefficient		

Remarks

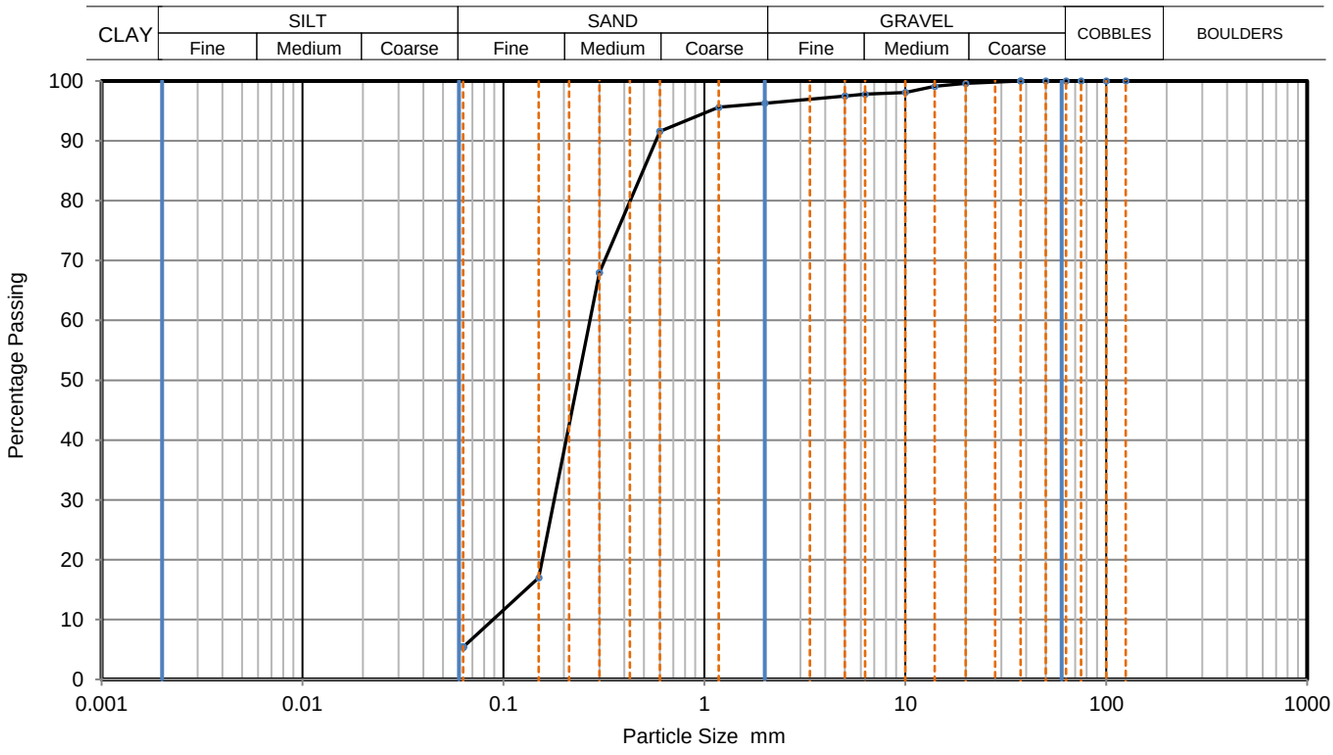
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238661	Depth m	7.60 - 8.10
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	98		
5	98		
2	96		
1.18	96		
0.6	92		
0.3	68		
0.15	17		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	91
Fines <0.063mm	5

Grading Analysis		
D100	mm	37.5
D60	mm	0.269
D30	mm	0.179
D10	mm	0.0891
Uniformity Coefficient		3

Remarks

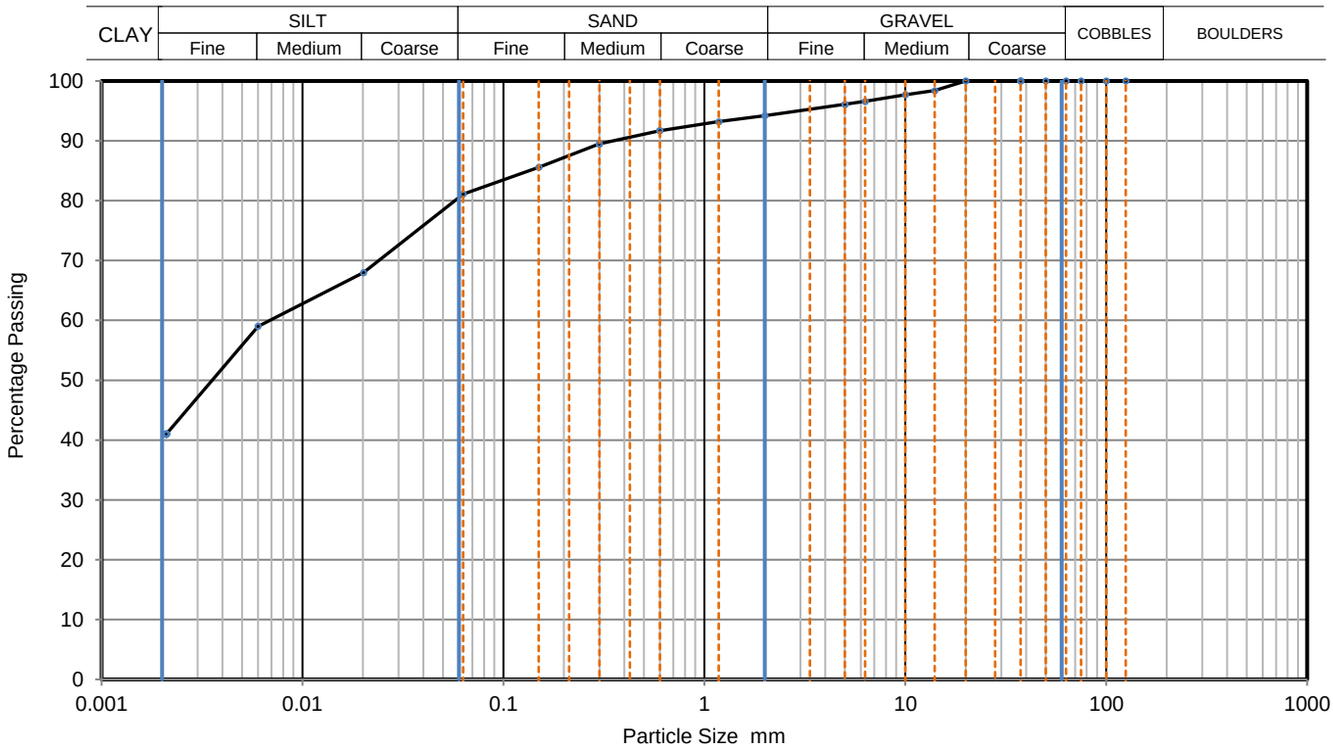
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH04
		Sample No.	
Project Number:	PC238661	Depth m	2.90 - 3.20
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Grey slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	68
100	100	0.006	59
75	100	0.002	41
63	100		
50	100		
37.5	100		
20	100		
14	98		
10	98		
6.3	97		
5	96		
2	94		
1.18	93		
0.6	92		
0.3	90		
0.15	86	Particle density (assumed)	
0.063	81	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	13
Silt	40
Clay	41

Grading Analysis		
D100	mm	20
D60	mm	0.0067
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

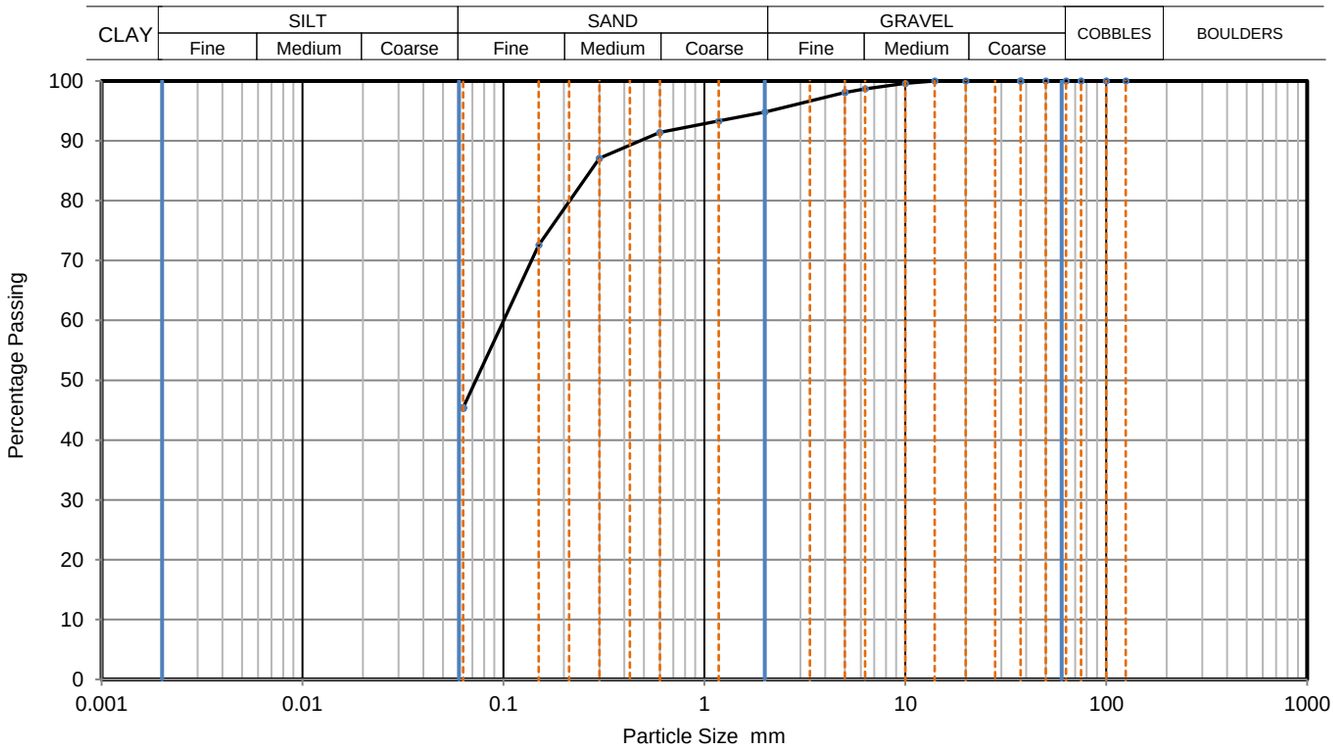
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH04
		Sample No.	
Project Number:	PC238661	Depth m	8.50 - 9.50
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown gravelly very clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
2	95		
1.18	93		
0.6	91		
0.3	87		
0.15	73		
0.063	45		

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	50
Fines <0.063mm	45

Grading Analysis		
D100	mm	14
D60	mm	0.1
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

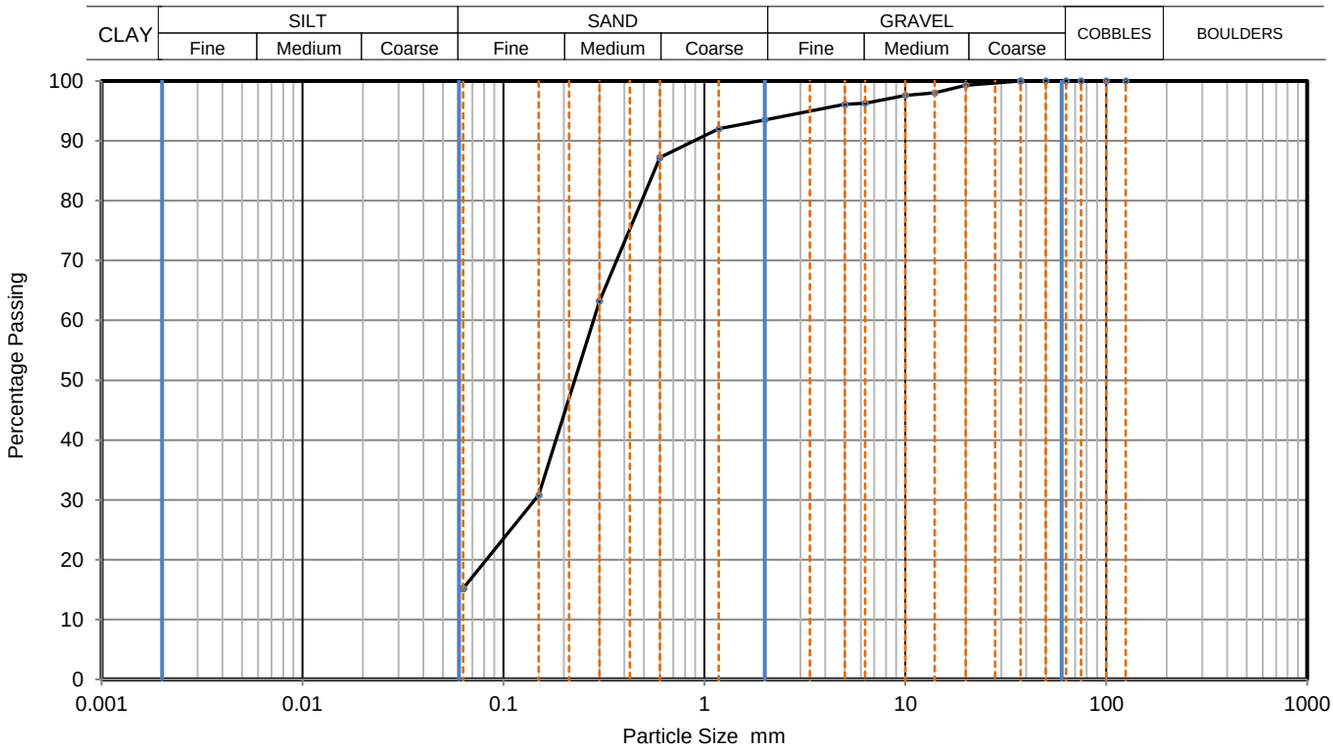
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH05
		Sample No.	
Project Number:	PC238661	Depth m	7.40 - 7.90
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown gravelly clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	99		
14	98		
10	98		
6.3	96		
5	96		
2	94		
1.18	92		
0.6	87		
0.3	63		
0.15	31		
0.063	15		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	79
Fines <0.063mm	15

Grading Analysis		
D100	mm	37.5
D60	mm	0.28
D30	mm	0.143
D10	mm	
Uniformity Coefficient		

Remarks

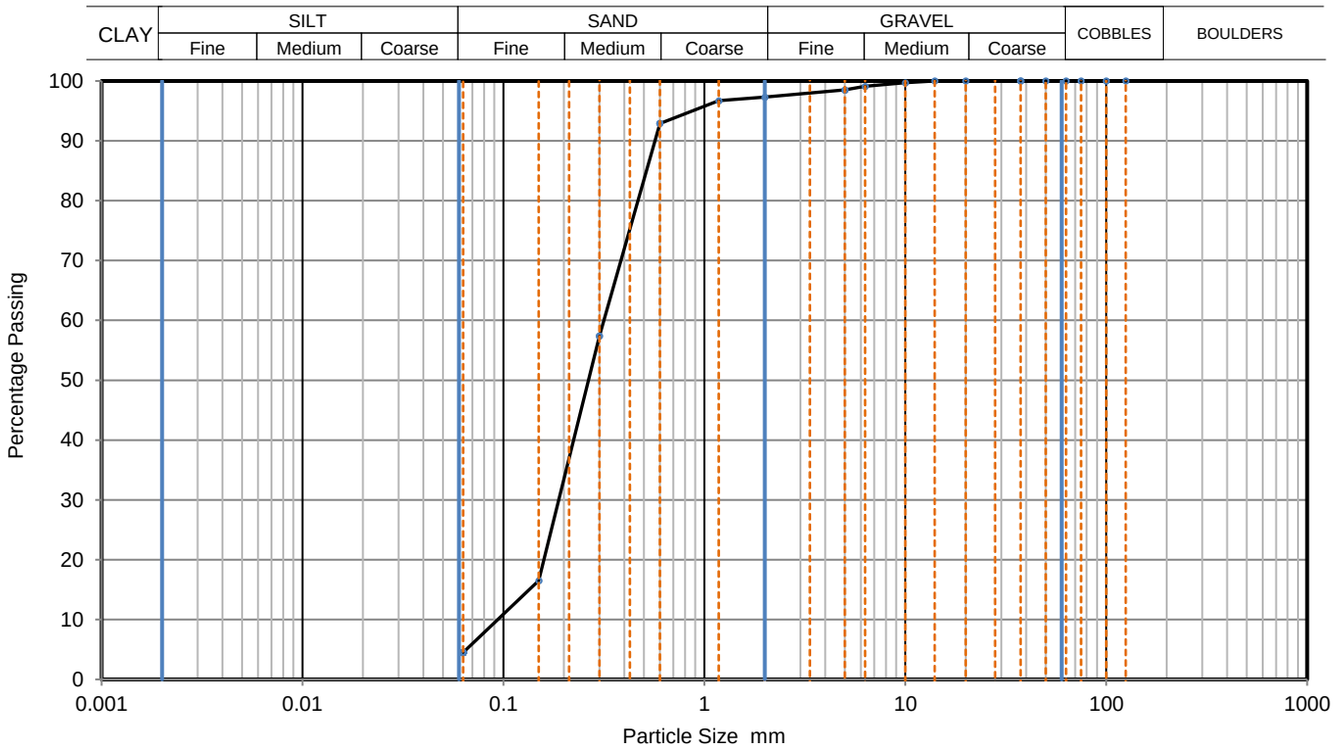
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH05
		Sample No.	
Project Number:	PC238661	Depth m	11.50 - 12.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly gravelly slightly clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	97		
1.18	97		
0.6	93		
0.3	57		
0.15	17		
0.063	5		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	92
Fines <0.063mm	5

Grading Analysis		
D100	mm	14
D60	mm	0.315
D30	mm	0.189
D10	mm	0.0937
Uniformity Coefficient		3.4

Remarks

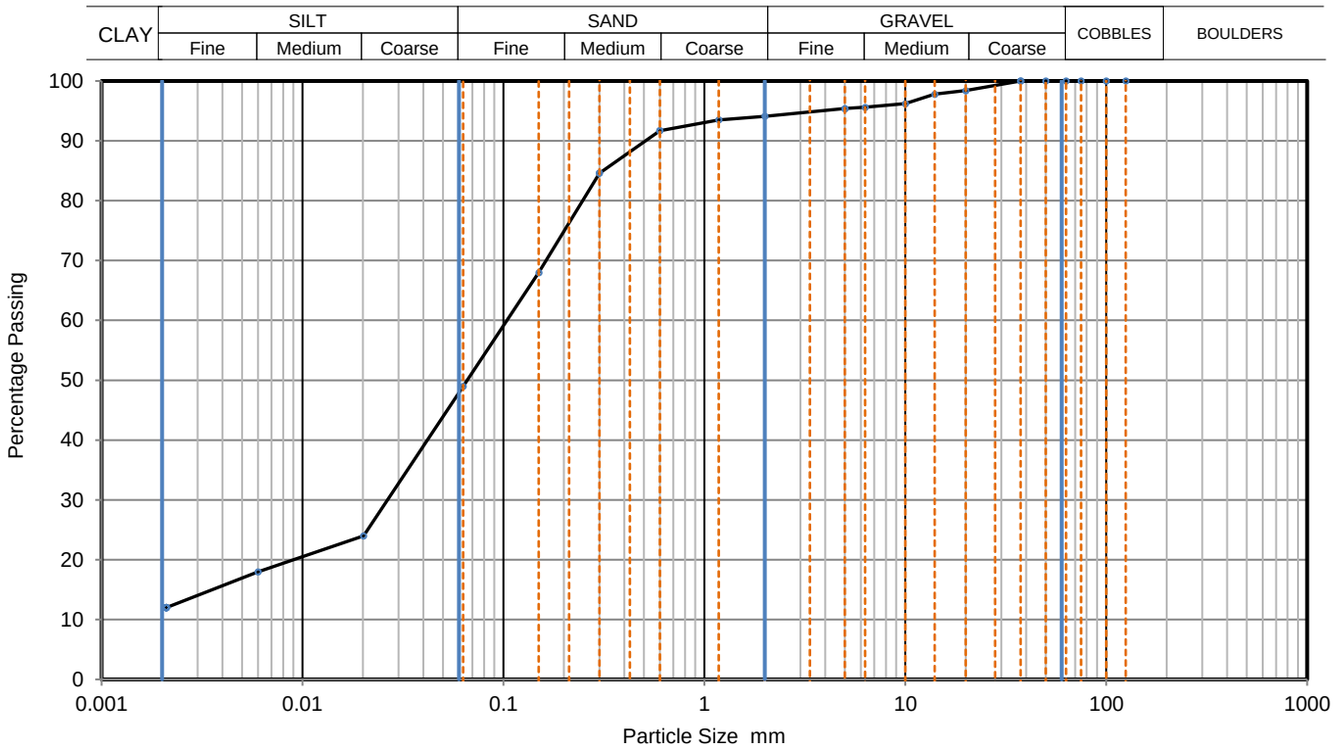
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH06
		Sample No.	
Project Number:	PC238661	Depth m	6.40 - 7.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	24
100	100	0.006	18
75	100	0.002	12
63	100		
50	100		
37.5	100		
20	98		
14	98		
10	96		
6.3	96		
5	95		
2	94		
1.18	94		
0.6	92		
0.3	85		
0.15	68	Particle density (assumed)	
0.063	49	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	45
Silt	37
Clay	12

Grading Analysis		
D100	mm	37.5
D60	mm	0.104
D30	mm	0.0264
D10	mm	
Uniformity Coefficient		

Remarks

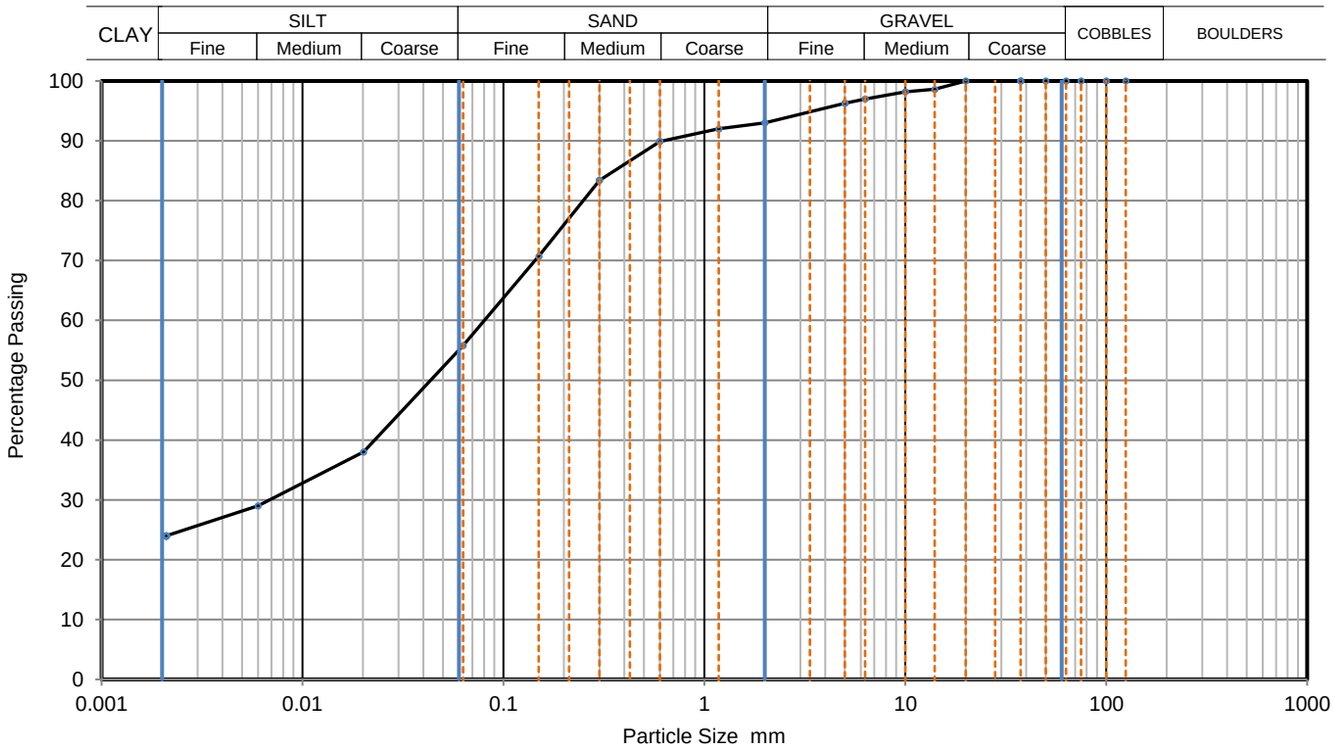
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH06
		Sample No.	
Project Number:	PC238661	Depth m	8.50 - 8.95
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	38
100	100	0.006	29
75	100	0.002	24
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
2	93		
1.18	92		
0.6	90		
0.3	83		
0.15	71	Particle density (assumed)	
0.063	56	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	37
Silt	32
Clay	24

Grading Analysis		
D100	mm	20
D60	mm	0.0804
D30	mm	0.00684
D10	mm	
Uniformity Coefficient		

Remarks

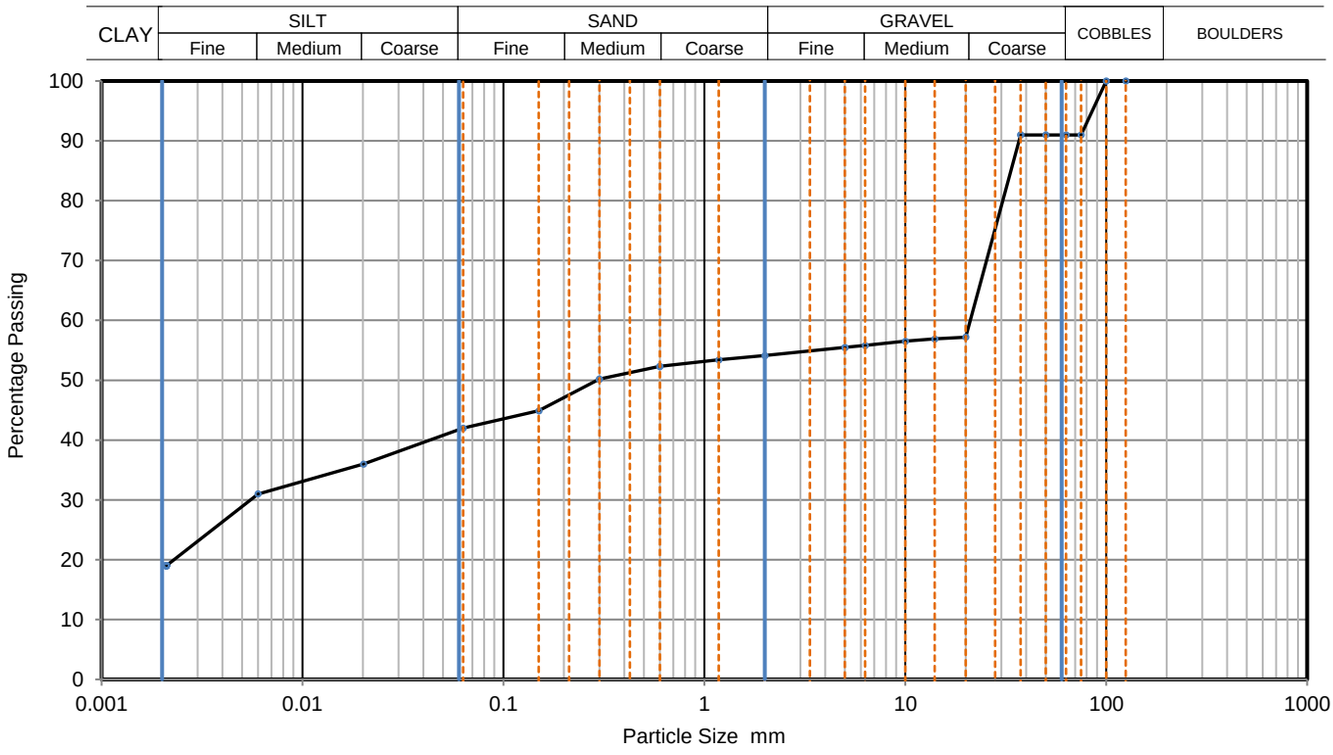
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP03
		Sample No.	
Project Number:	PC238661	Depth m	0.60 - 0.80
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly sandy gravelly CLAY with a medium cobble content.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	36
100	100	0.006	31
75	91	0.002	19
63	91		
50	91		
37.5	91		
20	57		
14	57		
10	57		
6.3	56		
5	56		
2	54		
1.18	53		
0.6	52		
0.3	50		
0.15	45	Particle density (assumed)	
0.063	42	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	9
Gravel	37
Sand	12
Silt	23
Clay	19

Grading Analysis		
D100	mm	100
D60	mm	21.1
D30	mm	0.00565
D10	mm	
Uniformity Coefficient		

Remarks

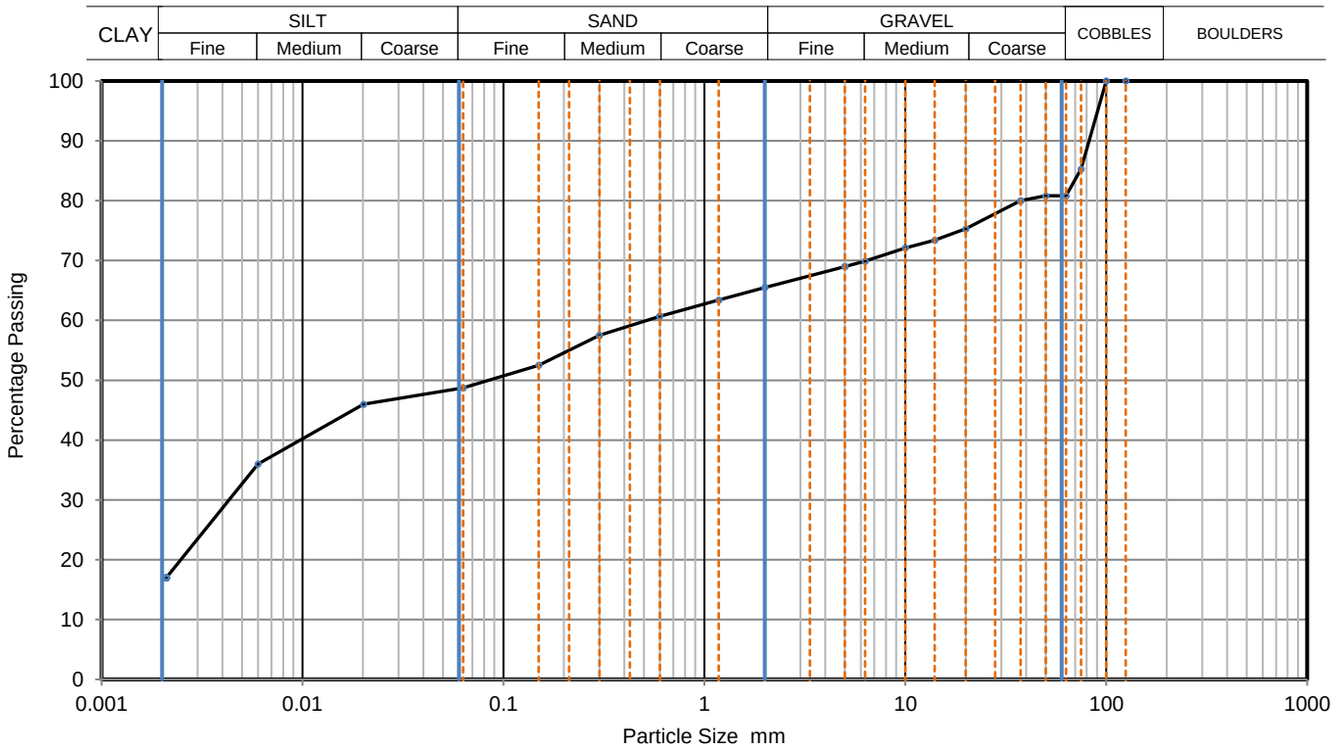
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP05
		Sample No.	
Project Number:	PC238661	Depth m	1.80 - 2.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	White slightly gravelly slightly sandy CLAY with a medium cobble content.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	46
100	100	0.006	36
75	85	0.002	17
63	81		
50	81		
37.5	80		
20	75		
14	73		
10	72		
6.3	70		
5	69		
2	66		
1.18	63		
0.6	61		
0.3	58		
0.15	53	Particle density (assumed)	
0.063	49	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	19
Gravel	15
Sand	17
Silt	32
Clay	17

Grading Analysis		
D100	mm	100
D60	mm	0.519
D30	mm	0.00442
D10	mm	
Uniformity Coefficient		

Initial sample mass less than BS EN ISO 17892 requirements

Remarks

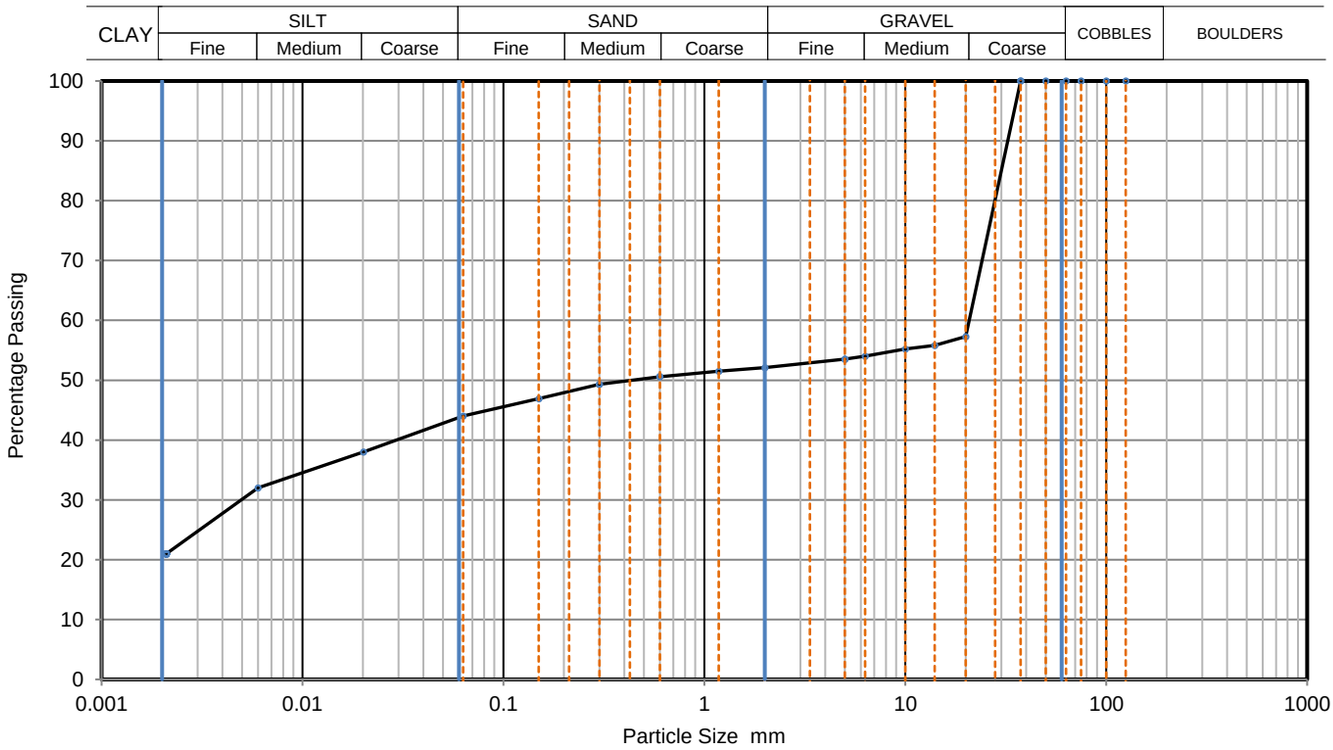
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP06
		Sample No.	
Project Number:	PC238661	Depth m	1.80 - 2.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly sandy gravelly CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	38
100	100	0.006	32
75	100	0.002	21
63	100		
50	100		
37.5	100		
20	57		
14	56		
10	55		
6.3	54		
5	54		
2	52		
1.18	52		
0.6	51		
0.3	49		
0.15	47	Particle density (assumed)	
0.063	44	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	48
Sand	8
Silt	23
Clay	21

Grading Analysis		
D100	mm	37.5
D60	mm	20.8
D30	mm	0.00517
D10	mm	
Uniformity Coefficient		

Remarks

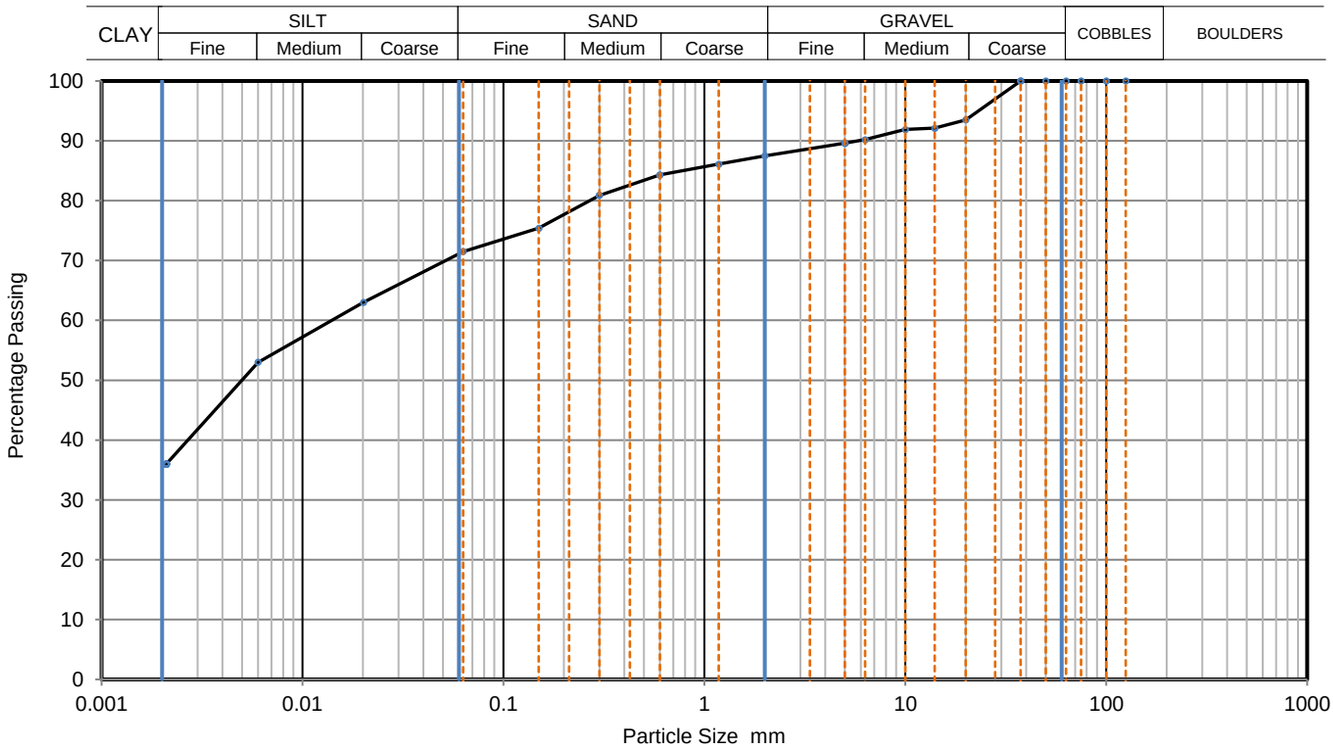
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP08
		Sample No.	
Project Number:	PC238661	Depth m	0.70 - 1.20
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown mottled grey slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	63
100	100	0.006	53
75	100	0.002	36
63	100		
50	100		
37.5	100		
20	94		
14	92		
10	92		
6.3	90		
5	90		
2	88		
1.18	86		
0.6	84		
0.3	81		
0.15	75	Particle density (assumed)	
0.063	72	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	13
Sand	16
Silt	36
Clay	35

Grading Analysis		
D100	mm	37.5
D60	mm	0.0142
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

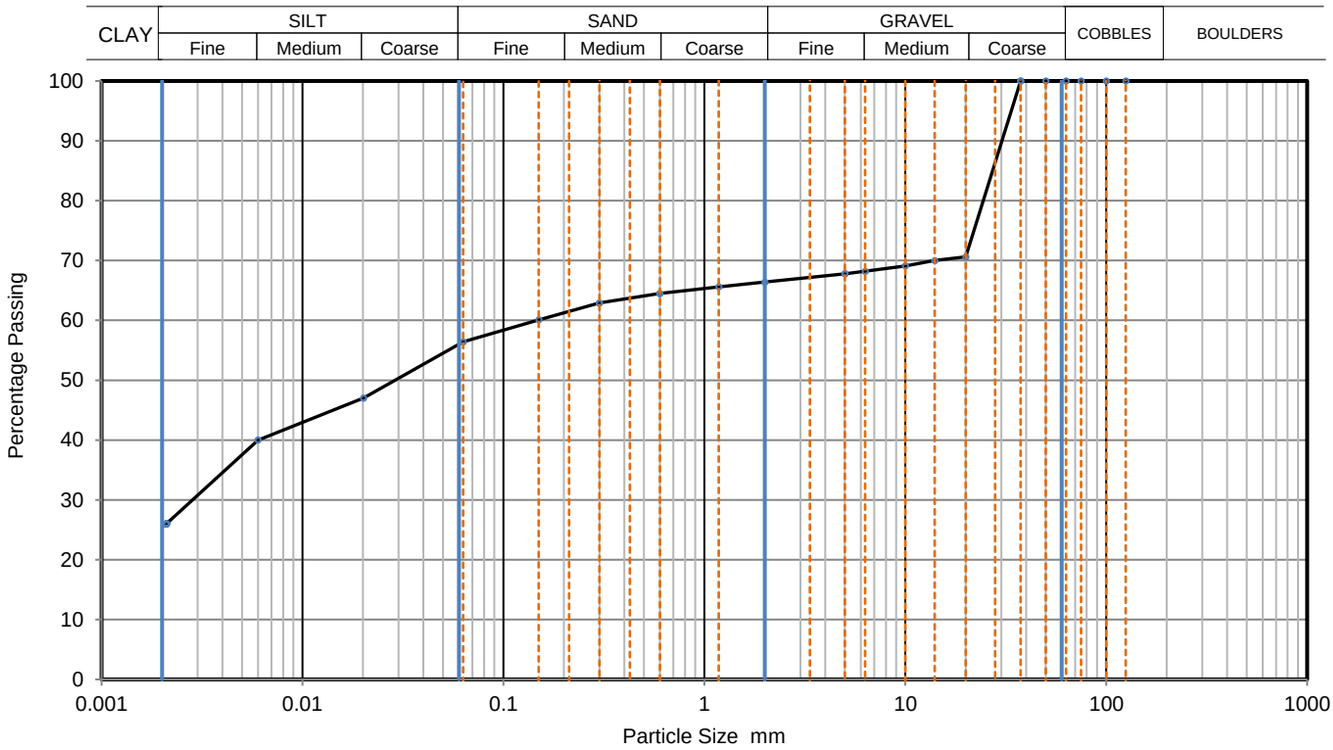
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP11
		Sample No.	
Project Number:	PC238661	Depth m	1.90 - 2.10
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	47
100	100	0.006	40
75	100	0.002	26
63	100		
50	100		
37.5	100		
20	71		
14	70		
10	69		
6.3	68		
5	68		
2	66		
1.18	66		
0.6	65		
0.3	63		
0.15	60	Particle density (assumed)	
0.063	56	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	34
Sand	10
Silt	30
Clay	26

Grading Analysis		
D100	mm	37.5
D60	mm	0.148
D30	mm	0.00283
D10	mm	
Uniformity Coefficient		

Remarks

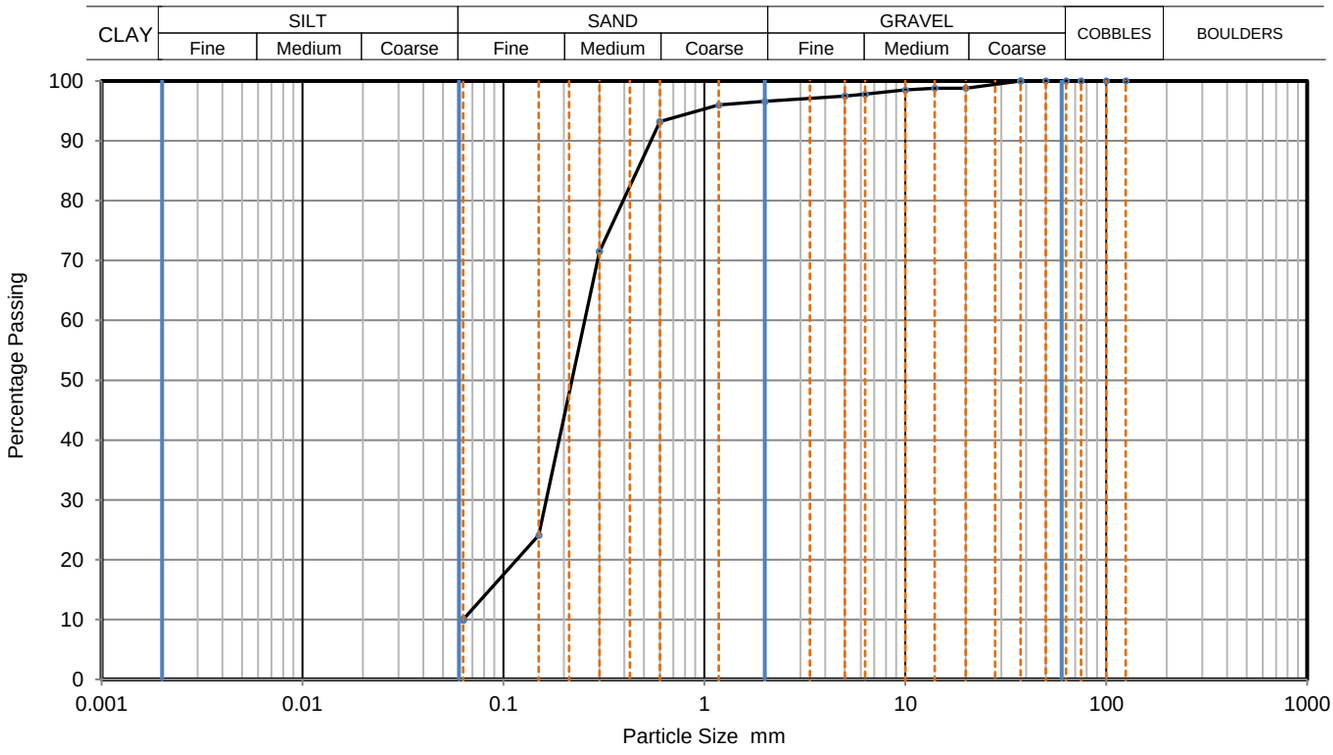
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP13
		Sample No.	
Project Number:	PC238661	Depth m	2.80 - 3.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	99		
14	99		
10	99		
6.3	98		
5	98		
2	97		
1.18	96		
0.6	93		
0.3	72		
0.15	24		
0.063	10		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	87
Fines <0.063mm	10

Grading Analysis		
D100	mm	37.5
D60	mm	0.254
D30	mm	0.164
D10	mm	
Uniformity Coefficient		

Remarks

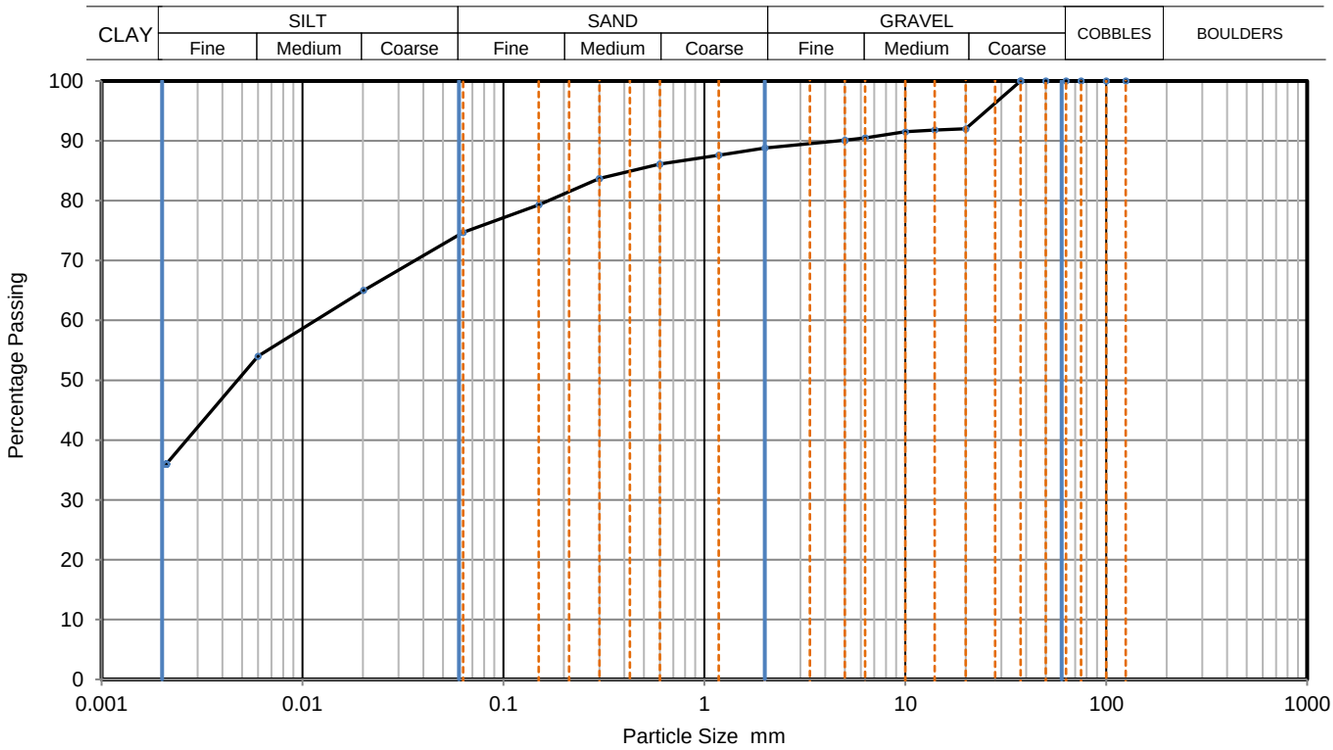
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP14
		Sample No.	
Project Number:	PC238661	Depth m	1.70 - 2.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	65
100	100	0.006	54
75	100	0.002	36
63	100		
50	100		
37.5	100		
20	92		
14	92		
10	92		
6.3	91		
5	90		
2	89		
1.18	88		
0.6	86		
0.3	84		
0.15	79	Particle density (assumed)	
0.063	75	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	11
Sand	14
Silt	39
Clay	36

Grading Analysis		
D100	mm	37.5
D60	mm	0.0116
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

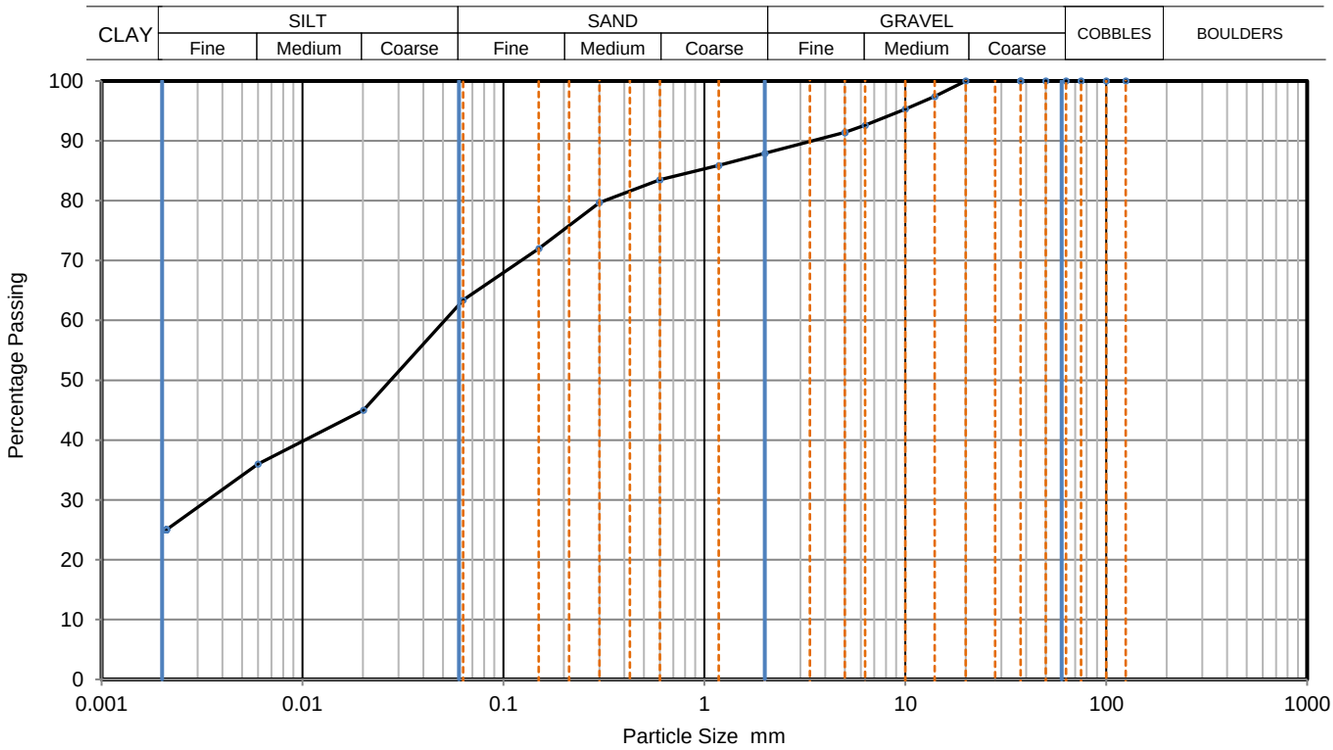
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP20
		Sample No.	
Project Number:	PC238661	Depth m	0.80 - 1.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	45
100	100	0.006	36
75	100	0.002	25
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	95		
6.3	93		
5	91		
2	88		
1.18	86		
0.6	84		
0.3	80		
0.15	72	Particle density (assumed)	
0.063	63	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	12
Sand	25
Silt	38
Clay	25

Grading Analysis		
D100	mm	20
D60	mm	0.051
D30	mm	0.00339
D10	mm	
Uniformity Coefficient		

Remarks

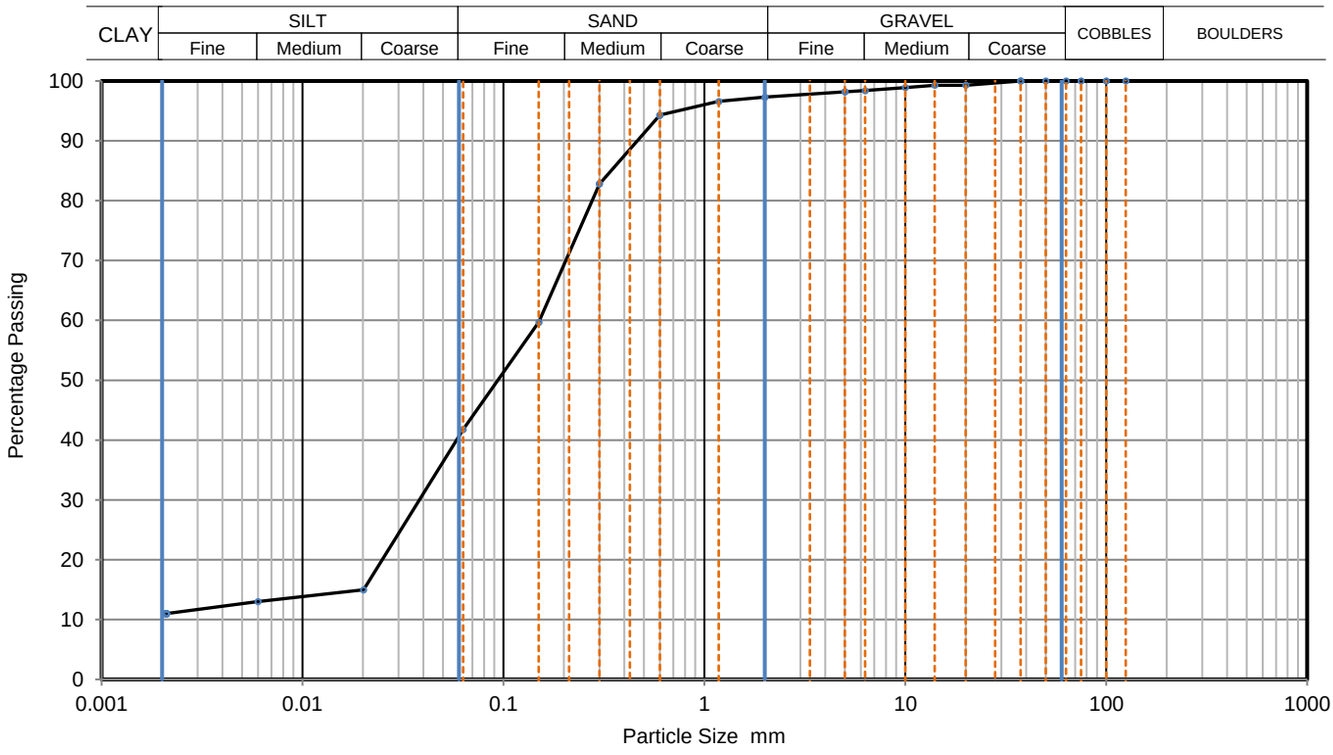
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP21
		Sample No.	
Project Number:	PC238661	Depth m	2.90 - 3.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown slightly gravelly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	15
100	100	0.006	13
75	100	0.002	11
63	100		
50	100		
37.5	100		
20	99		
14	99		
10	99		
6.3	98		
5	98		
2	97		
1.18	97		
0.6	94		
0.3	83		
0.15	60	Particle density (assumed)	
0.063	42	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	56
Silt	30
Clay	11

Grading Analysis		
D100	mm	37.5
D60	mm	0.151
D30	mm	0.0382
D10	mm	
Uniformity Coefficient		

Remarks

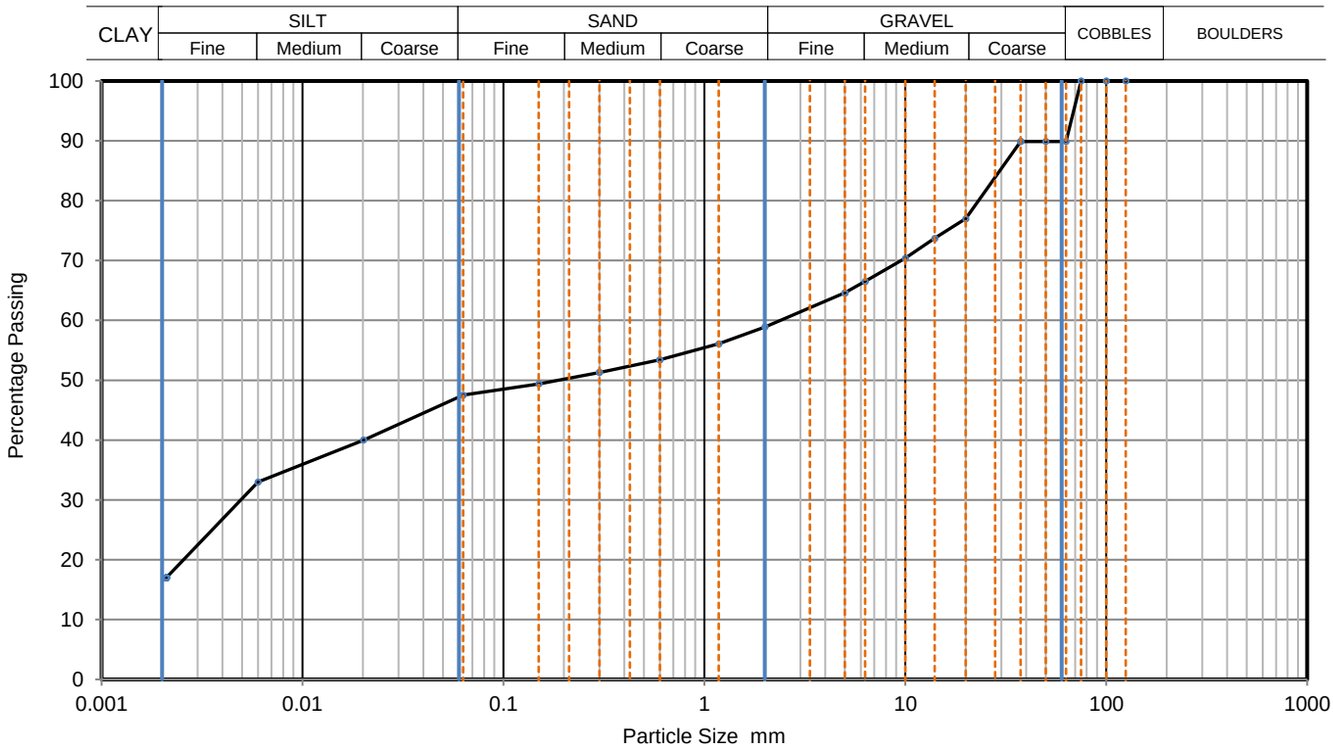
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP22
		Sample No.	
Project Number:	PC238661	Depth m	1.95 - 2.10
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	White mottled dark grey slightly sandy slightly gravelly CHALK with a medium cobble content.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	40
100	100	0.006	33
75	100	0.002	17
63	90		
50	90		
37.5	90		
20	77		
14	74		
10	70		
6.3	67		
5	65		
2	59		
1.18	56		
0.6	53		
0.3	51		
0.15	49	Particle density (assumed)	
0.063	48	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	10
Gravel	31
Sand	11
Silt	31
Clay	17

Grading Analysis		
D100	mm	75
D60	mm	2.39
D30	mm	0.00486
D10	mm	
Uniformity Coefficient		

Initial sample mass less than BS EN ISO 17892 requirements

Remarks

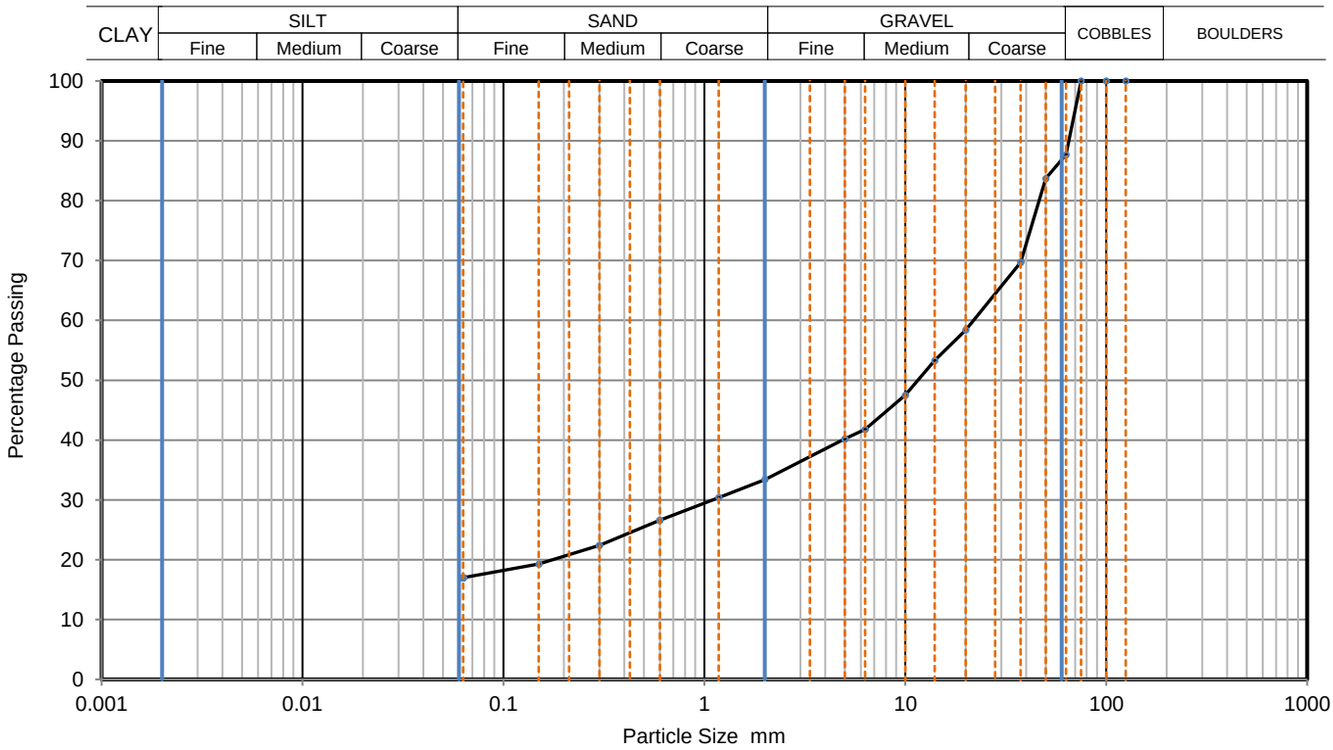
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP23
		Sample No.	
Project Number:	PC238661	Depth m	1.20 - 1.50
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown sandy clayey GRAVEL with a medium cobble content.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	88		
50	84		
37.5	70		
20	58		
14	53		
10	48		
6.3	42		
5	40		
2	33		
1.18	30		
0.6	27		
0.3	22		
0.15	19		
0.063	17		

Sample Proportions	% dry mass
Cobbles	12
Gravel	55
Sand	16
Fines <0.063mm	17

Grading Analysis		
D100	mm	75
D60	mm	21.9
D30	mm	1.09
D10	mm	
Uniformity Coefficient		

Initial sample mass less than BS EN ISO 17892 requirements

Remarks

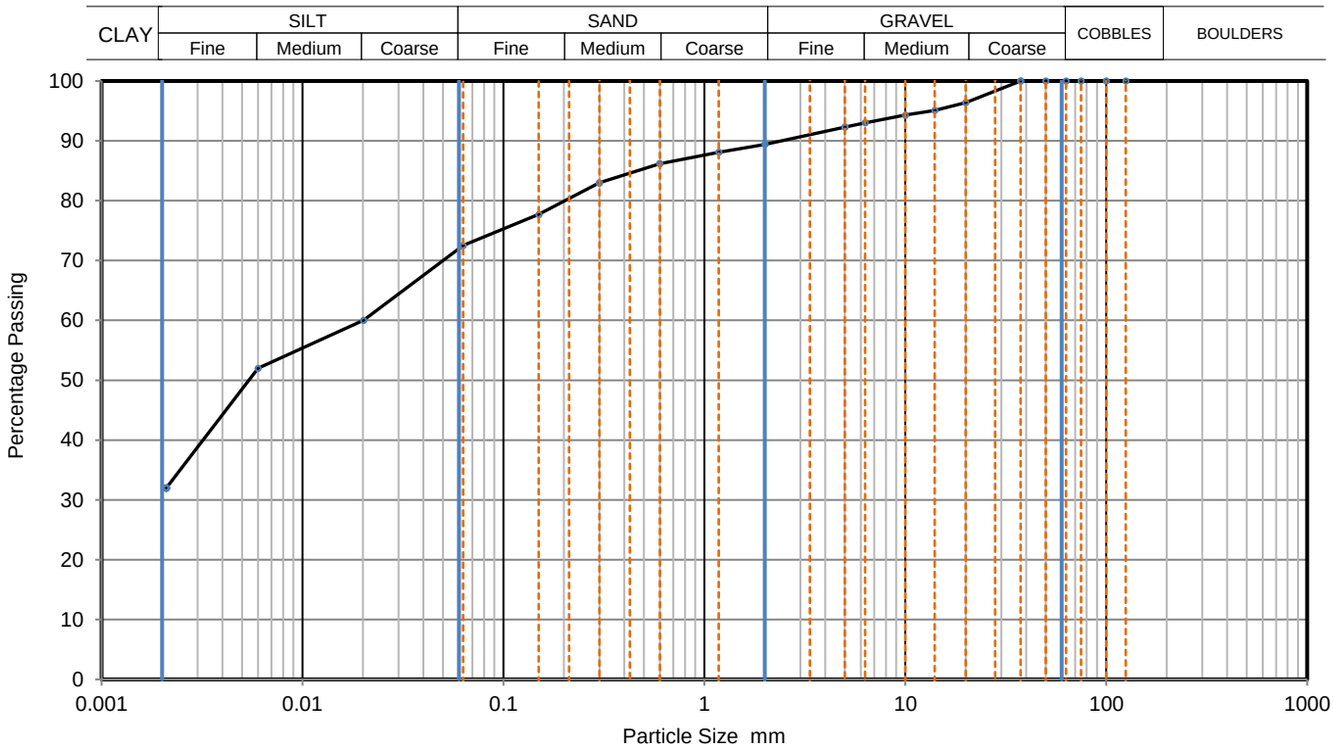
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1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP25
		Sample No.	
Project Number:	PC238661	Depth m	0.80 - 1.00
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Light brown mottled grey slightly gravelly slightly sandy CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	60
100	100	0.006	52
75	100	0.002	32
63	100		
50	100		
37.5	100		
20	96		
14	95		
10	94		
6.3	93		
5	92		
2	89		
1.18	88		
0.6	86		
0.3	83		
0.15	78	Particle density (assumed)	
0.063	73	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	11
Sand	17
Silt	40
Clay	32

Grading Analysis		
D100	mm	37.5
D60	mm	0.0201
D30	mm	
D10	mm	
Uniformity Coefficient		

Remarks

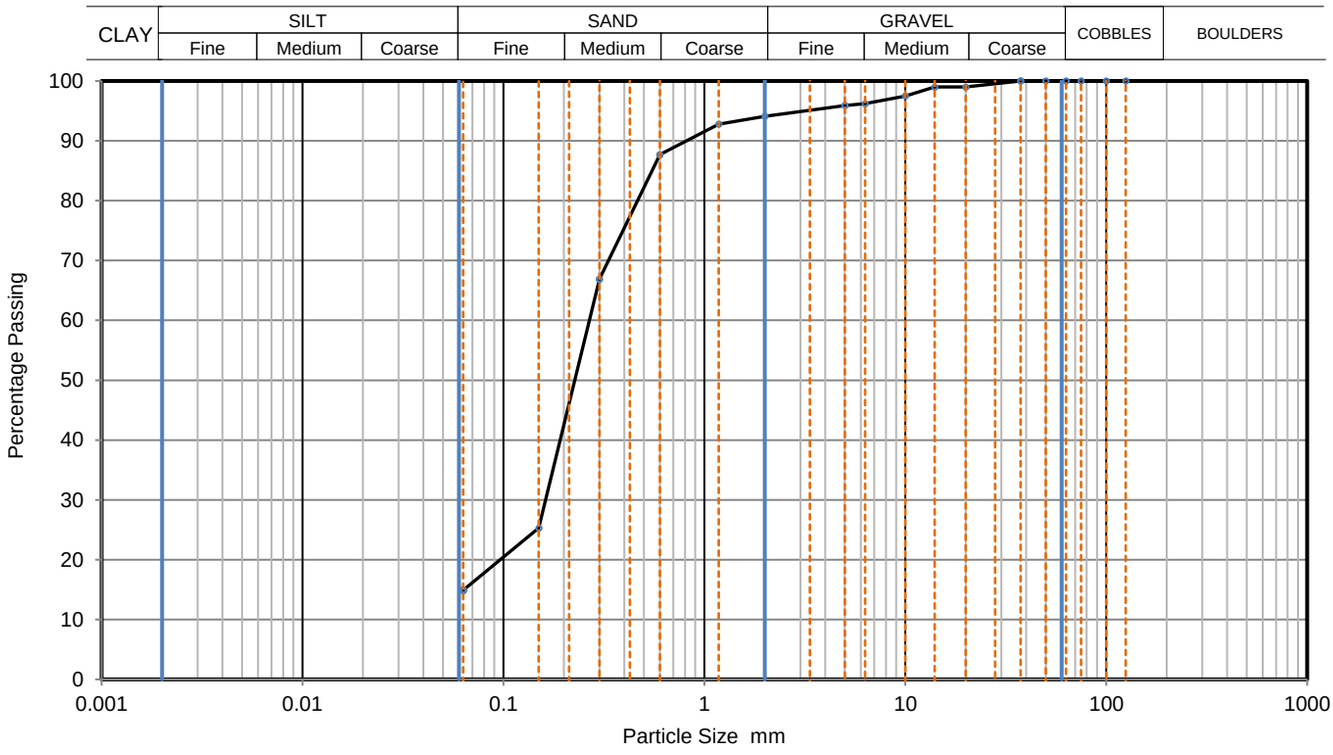
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP26
		Sample No.	
Project Number:	PC238661	Depth m	1.90 - 2.10
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Brown gravelly clayey SAND.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	99		
14	99		
10	98		
6.3	96		
5	96		
2	94		
1.18	93		
0.6	88		
0.3	67		
0.15	25		
0.063	15		

Sample Proportions	% dry mass
Cobbles	0
Gravel	6
Sand	79
Fines <0.063mm	15

Grading Analysis		
D100	mm	37.5
D60	mm	0.267
D30	mm	0.162
D10	mm	
Uniformity Coefficient		

Remarks

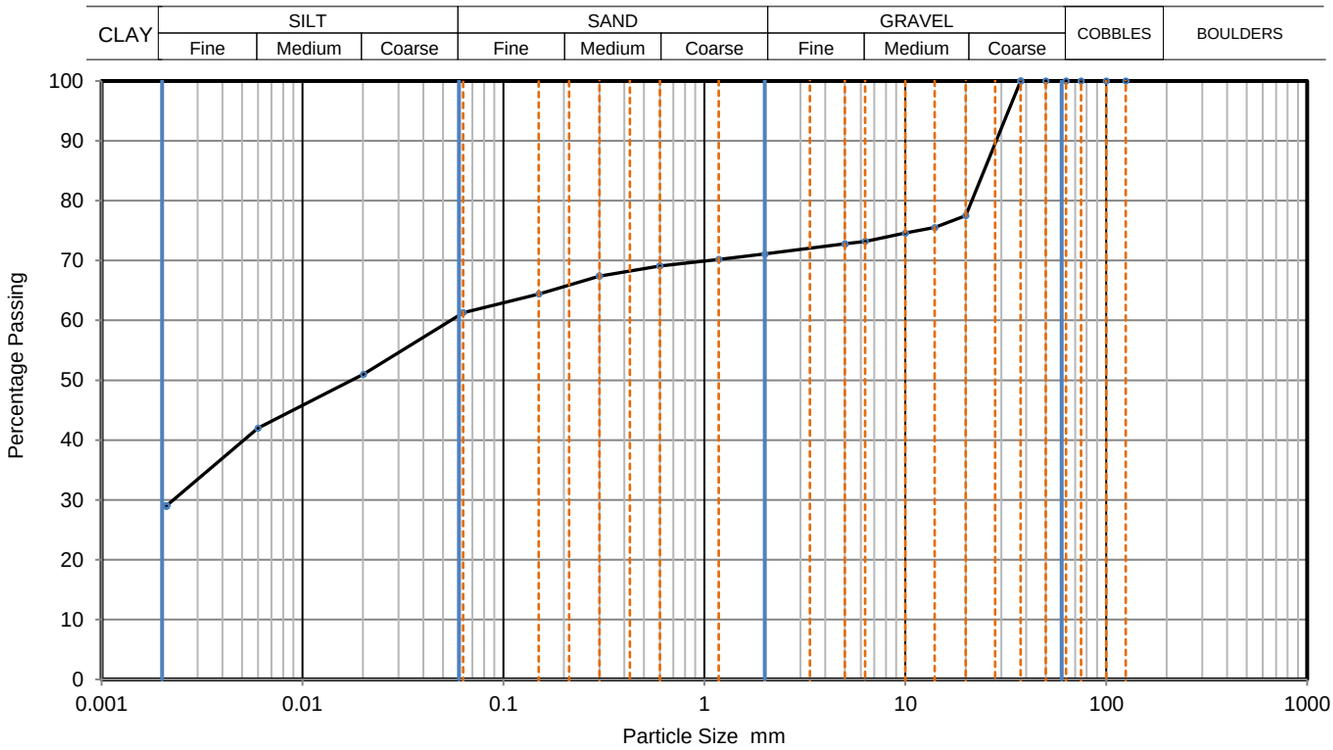
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP28
		Sample No.	
Project Number:	PC238661	Depth m	2.30 - 2.50
Project Name:	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Type	B
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.	Specimen Depth m	
Test Method	ISO 17892 -4, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	51
100	100	0.006	42
75	100	0.002	29
63	100		
50	100		
37.5	100		
20	78		
14	76		
10	75		
6.3	73		
5	73		
2	71		
1.18	70		
0.6	69		
0.3	67		
0.15	64	Particle density (assumed)	
0.063	61	2.65 Mg/m3	

Sample Proportions	% dry mass
Cobbles	0
Gravel	29
Sand	10
Silt	32
Clay	29

Grading Analysis		
D100	mm	37.5
D60	mm	0.0545
D30	mm	0.00219
D10	mm	
Uniformity Coefficient		

Remarks

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GEOTECHNICS

Density Tests - Summary of Results

Project No.	Project Name
PC238661	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3

Hole No.	Sample				Specimen Description	Linear Measurement			* Immersion in fluid			*Fluid displacement			Remarks
	Ref	Top (m)	Base (m)	Type		Bulk density Mg/m³	Dry density Mg/m³	w %	Bulk density Mg/m³	Dry density Mg/m³	w %	Bulk density Mg/m³	Dry density Mg/m³	w %	
BH03		1.20	1.65	UT	Dark brown slightly gravelly CLAY.	2.16	1.85	16.8							
BH05		0.80	1.00	B	Brown sandy gravelly CLAY.	2.14	1.79	19.6							Recored 38mm sample
TP12		0.70	1.00	B	Brown gravelly CLAY.	1.83	1.54	18.9							Recored 38mm sample

Key: w Water Content of the density test specimen

Notes

Tests carried out in accordance with the applicable clauses of BS EN ISO 17892-2:2014 unless specified otherwise

Water content performed to BS EN ISO 17892-1:2014

* Not UKAS accredited

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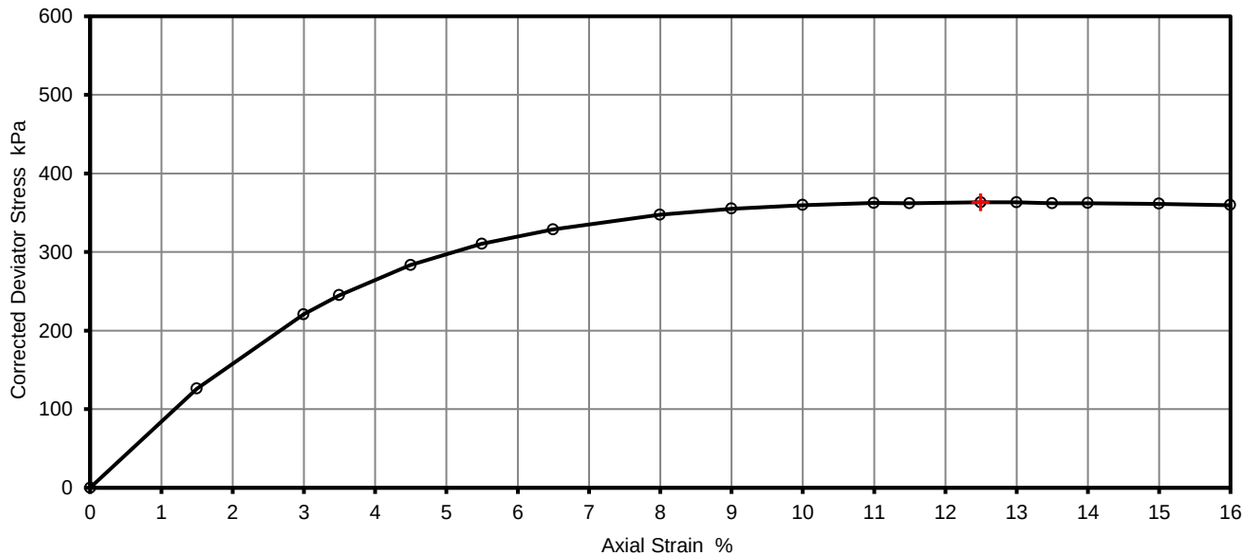
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH01
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	7	Specimen Depth (m)	4.44	Depth m	4.20 - 4.65
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	19/01/2024

Test Number		1	
Length		210.3	mm
Diameter		103.6	mm
Bulk Density		2.11	Mg/m3
Water Content		20.0	%
Dry Density		1.76	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	12.5	%
	Deviator Stress, (σ1 - σ3)f	363	kPa
	Undrained Shear Strength, cu	182	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain





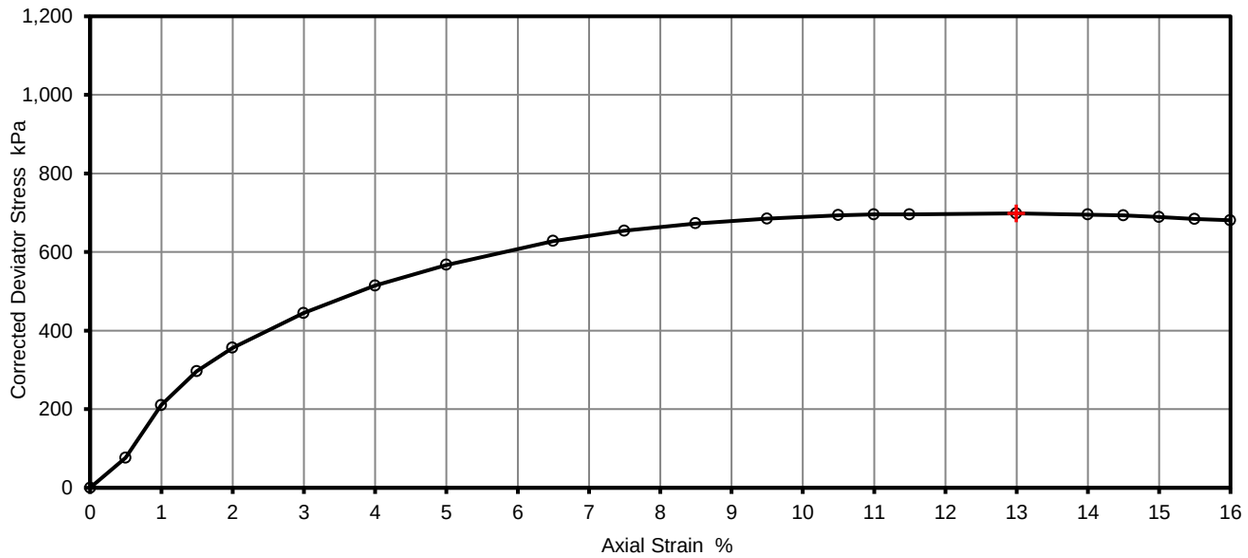


Remarks	Printed	
WC at failure Zone = 19.5%	22/02/2024	UKAS TESTING 1365

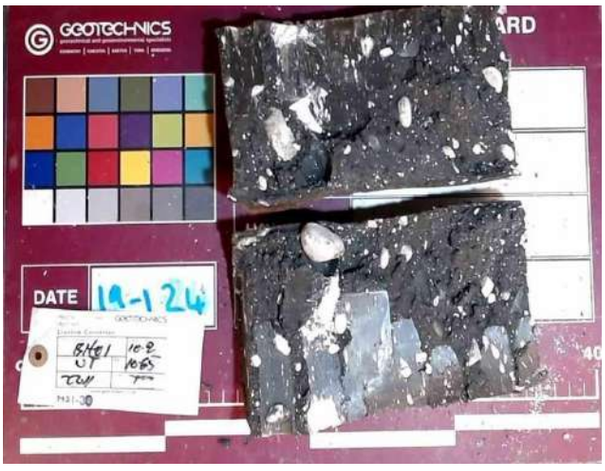
GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH01
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	7	Specimen Depth (m)	10.44	Depth m	10.20 - 10.65
Specimen Description	Dark grey slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	19/01/2024

Test Number		1	
Length		210.0	mm
Diameter		102.6	mm
Bulk Density		2.12	Mg/m3
Water Content		16.1	%
Dry Density		1.82	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		200	kPa
At failure	Axial Strain	13.0	%
	Deviator Stress, (σ1 - σ3)f	698	kPa
	Undrained Shear Strength, cu	349	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.0% Gravel > one sixth of specimen diameter may affect test results.

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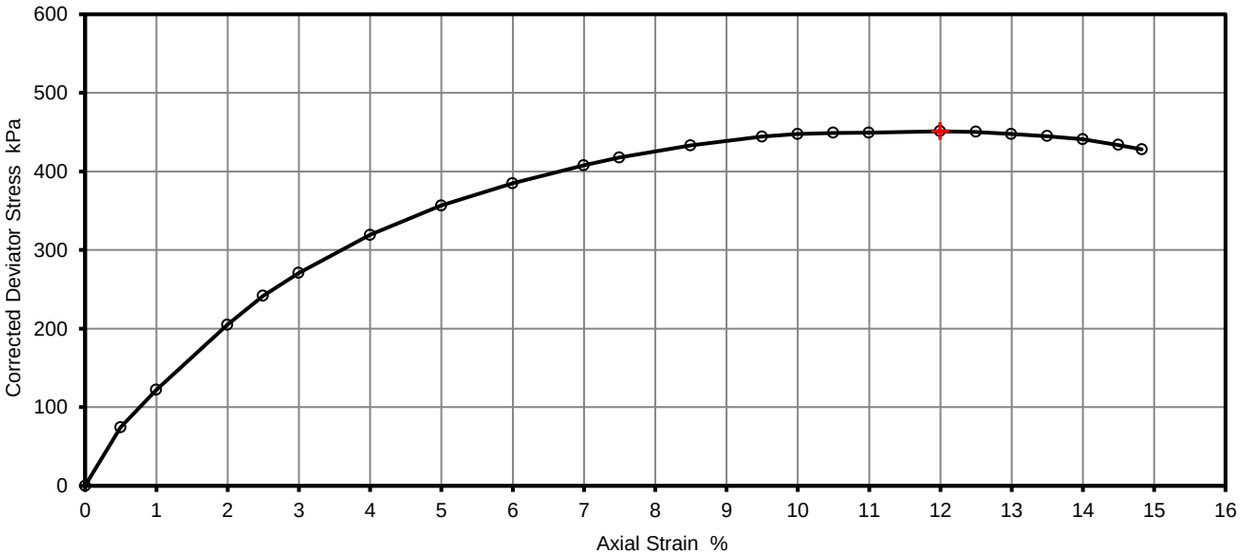
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH02
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	1.44	Depth m	1.20 - 1.65
Specimen Description	Light brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	26/01/2024

Test Number		1	
Length		209.7	mm
Diameter		103.1	mm
Bulk Density		2.16	Mg/m3
Water Content		16.1	%
Dry Density		1.86	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		20	kPa
At failure	Axial Strain	12.0	%
	Deviator Stress, (σ1 - σ3)f	451	kPa
	Undrained Shear Strength, cu	226	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.8% Gravel >one sixth of specimen diameter may affect test results.

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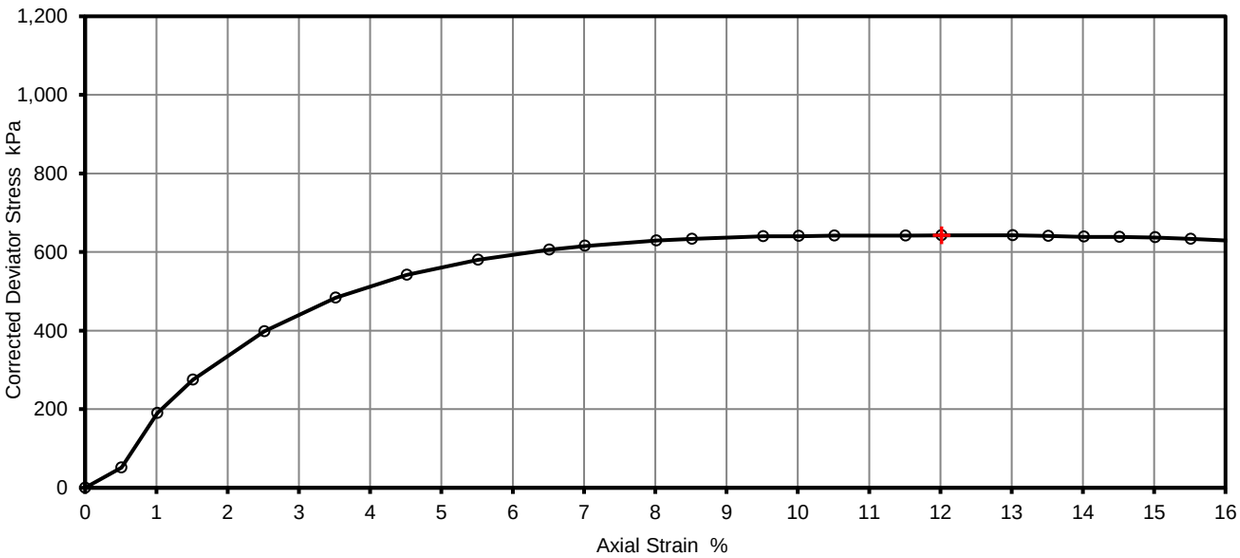
UKAS TESTING

1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH02
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	3	Specimen Depth (m)	7.54	Depth m	7.30 - 7.75
Specimen Description	Brown mottled grey slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	26/01/2024

Test Number		1	
Length		210.0	mm
Diameter		101.7	mm
Bulk Density		2.14	Mg/m3
Water Content		18.7	%
Dry Density		1.80	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		140	kPa
At failure	Axial Strain	12.0	%
	Deviator Stress, (σ1 - σ3)f	643	kPa
	Undrained Shear Strength, cu	321	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.1% Gravel > one sixth of specimen diameter may affect test results.

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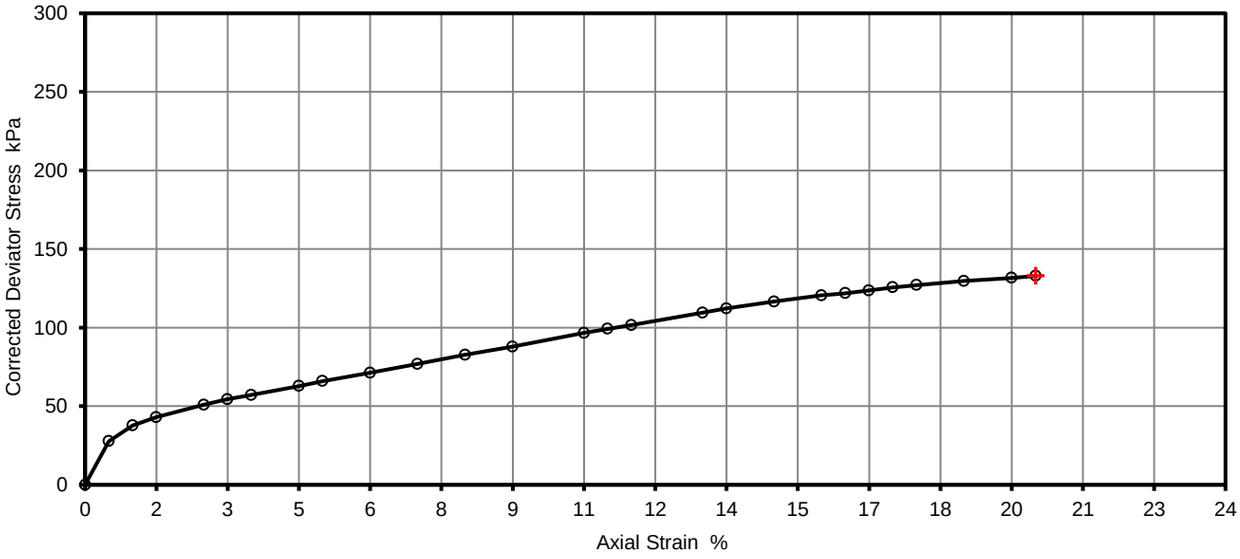
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH03
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	5	Specimen Depth (m)	1.44	Depth m	1.20 - 1.65
Specimen Description	Dark brown slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	19/01/2024

Test Number		1	
Length		209.5	mm
Diameter		97.5	mm
Bulk Density		2.17	Mg/m3
Water Content		16.8	%
Dry Density		1.86	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		20	kPa
At failure	Axial Strain	20.0	%
	Deviator Stress, (σ1 - σ3)f	133	kPa
	Undrained Shear Strength, cu	66	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 17.5%

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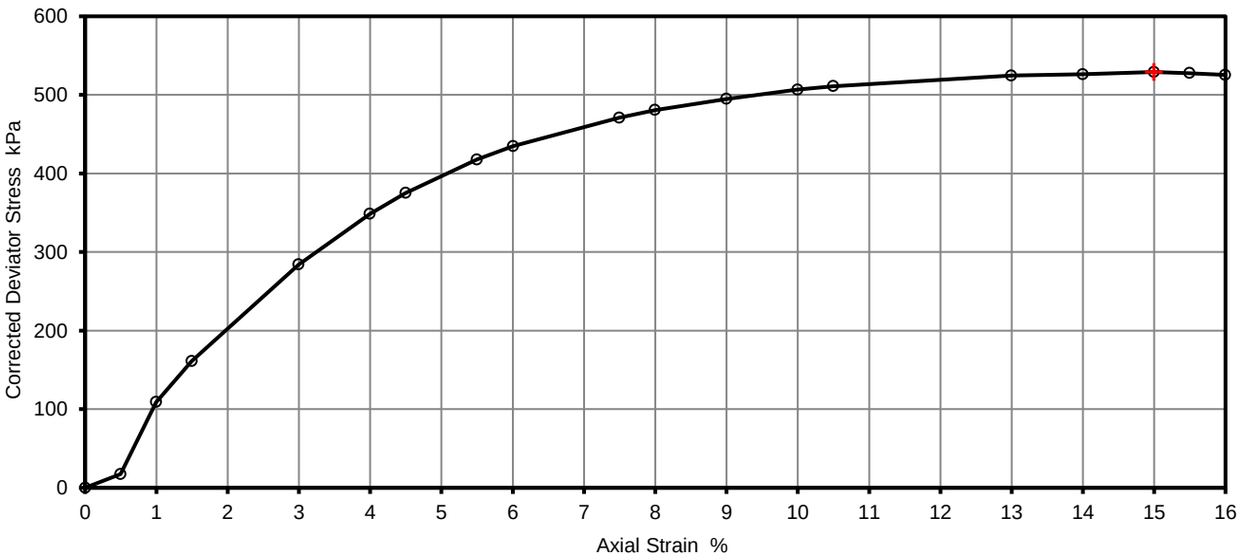
22/02/2024

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GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH04
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	2	Specimen Depth (m)	4.54	Depth m	4.30 - 4.75
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	29/01/2024

Test Number		1	
Length		209.8	mm
Diameter		103.5	mm
Bulk Density		2.10	Mg/m3
Water Content		18.3	%
Dry Density		1.78	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		80	kPa
At failure	Axial Strain	15.0	%
	Deviator Stress, (σ1 - σ3)f	529	kPa
	Undrained Shear Strength, cu	265	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.8% Gravel > one sixth of specimen diameter may affect test results.

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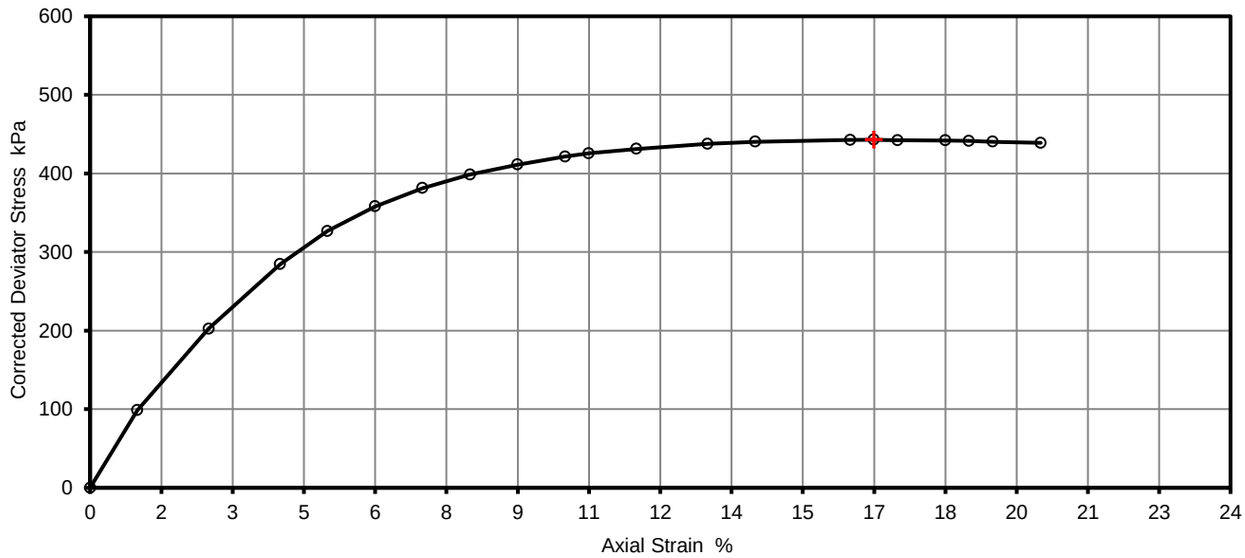
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH04
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	1	Specimen Depth (m)	6.68	Depth m	6.40 - 6.85
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	29/01/2024

Test Number		1	
Length		187.3	mm
Diameter		103.1	mm
Bulk Density		2.12	Mg/m3
Water Content		16.5	%
Dry Density		1.82	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		120	kPa
At failure	Axial Strain	16.5	%
	Deviator Stress, (σ1 - σ3)f	443	kPa
	Undrained Shear Strength, cu	221	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 18.9% Gravel > one sixth of specimen diameter may affect test results.

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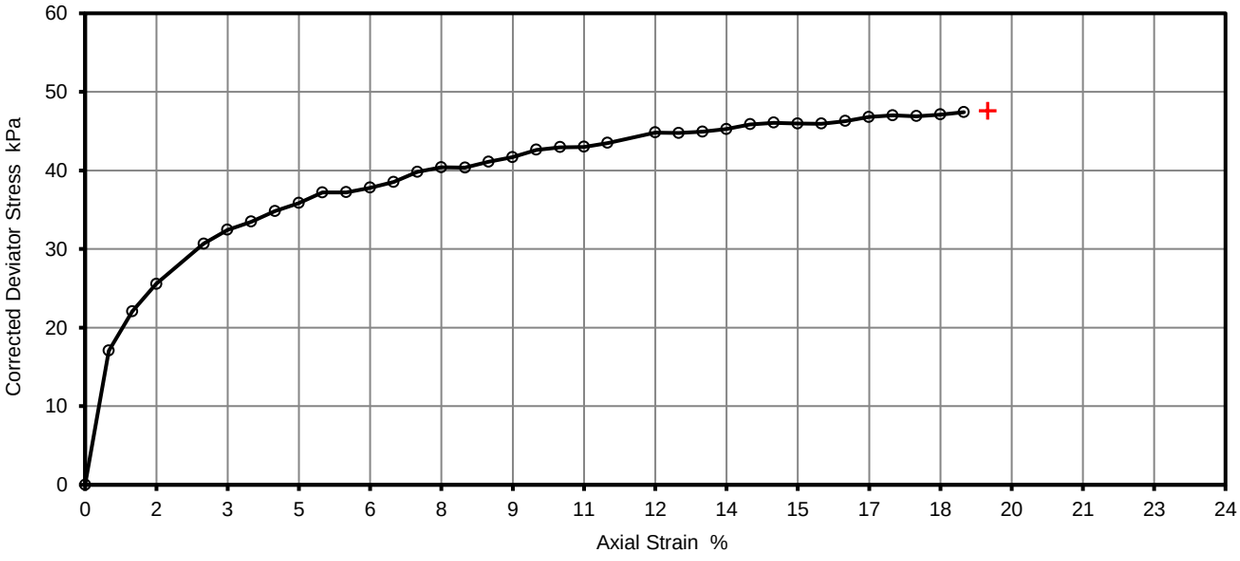
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH05
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	1	Specimen Depth (m)	2.20	Depth m	2.20 - 2.65
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	26/01/2024

Test Number		1	
Length		209.4	mm
Diameter		103.0	mm
Bulk Density		2.00	Mg/m3
Water Content		24.3	%
Dry Density		1.61	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		40	kPa
At failure	Axial Strain	19.0	%
	Deviator Stress, (σ1 - σ3)f	48	kPa
	Undrained Shear Strength, cu	24	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain





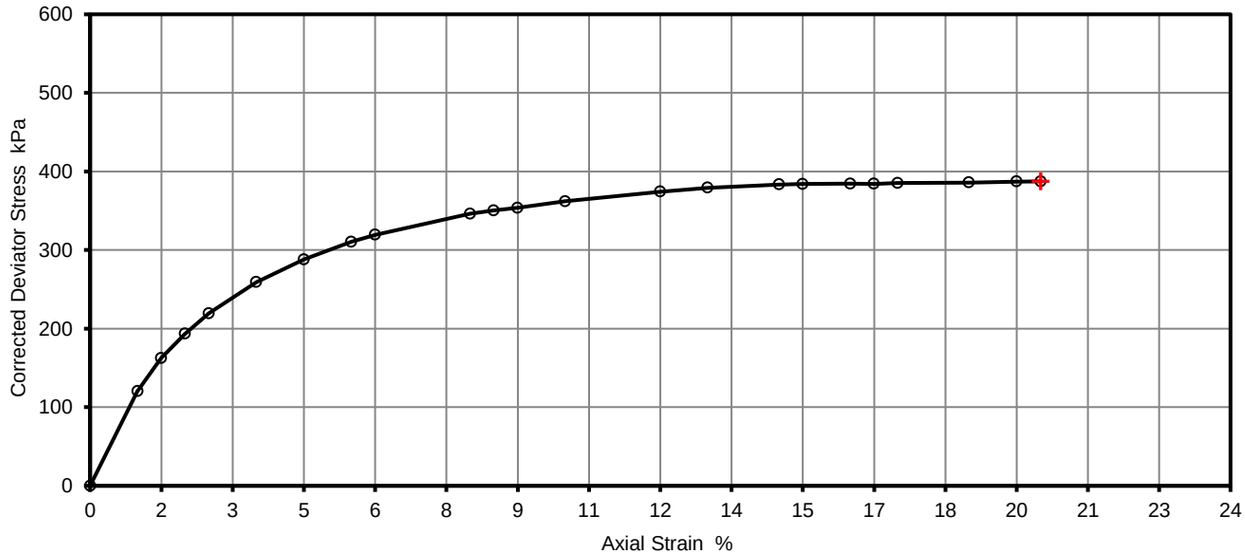


Remarks	Printed	
WC at failure Zone = 24.4% Gravel > one sixth of specimen diameter may affect test results.	22/02/2024	UKAS TESTING 1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH06
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	2	Specimen Depth (m)	3.44	Depth m	3.20 - 3.65
Specimen Description	Brown slightly sandy slightly gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	26/01/2024

Test Number		1	
Length		209.8	mm
Diameter		102.6	mm
Bulk Density		2.08	Mg/m3
Water Content		19.8	%
Dry Density		1.73	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		60	kPa
At failure	Axial Strain	20.0	%
	Deviator Stress, (σ1 - σ3)f	387	kPa
	Undrained Shear Strength, cu	194	kPa ½(σ1 - σ3)f
	Mode of Failure	Plastic	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 19.8%

Printed

22/02/2024

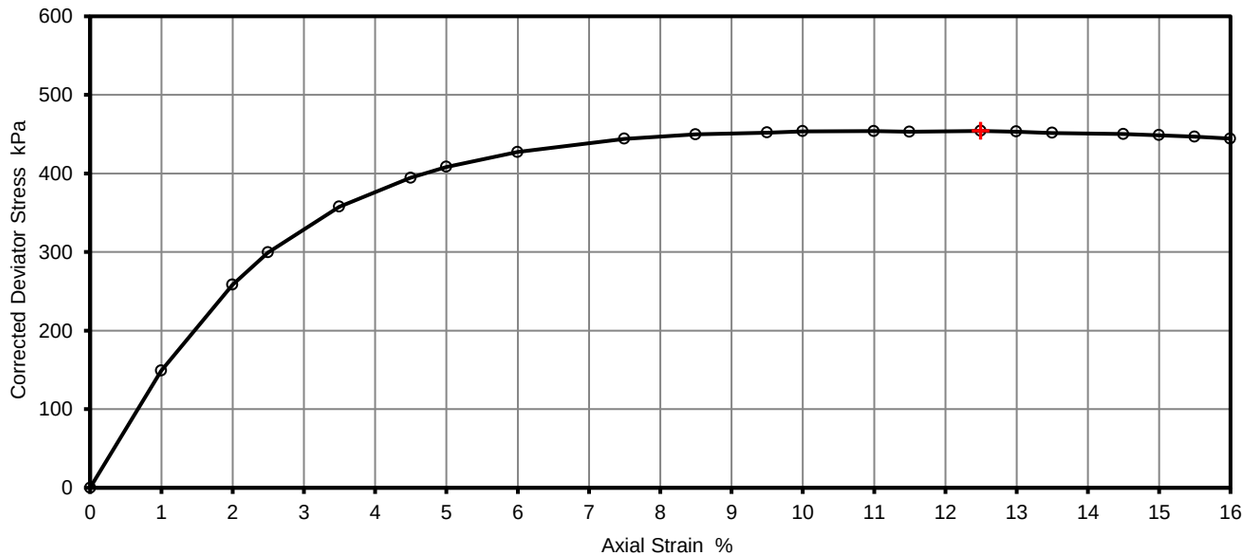
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1365

GEOTECHNICS	Unconsolidated Undrained Triaxial Compression Test - single specimen			Project No.	PC238661
				Hole No.	BH06
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample ID.	
Specimen Reference	1	Specimen Depth (m)	5.69	Depth m	5.45 - 5.85
Specimen Description	Brown gravelly CLAY.			Sample Type	UT
Test Method	BS EN ISO 17892-8			Date of Test	26/01/2024

Test Number		1	
Length		209.7	mm
Diameter		103.5	mm
Bulk Density		2.12	Mg/m3
Water Content		16.8	%
Dry Density		1.82	Mg/m3
Rate of Strain		1.8	%/min
Cell Pressure		100	kPa
At failure	Axial Strain	12.5	%
	Deviator Stress, (σ1 - σ3)f	454	kPa
	Undrained Shear Strength, cu	227	kPa ½(σ1 - σ3)f
	Mode of Failure	Compound	

Deviator Stress v Axial Strain







Remarks

WC at failure Zone = 16.4% Gravel > one sixth of specimen diameter may affect test results.

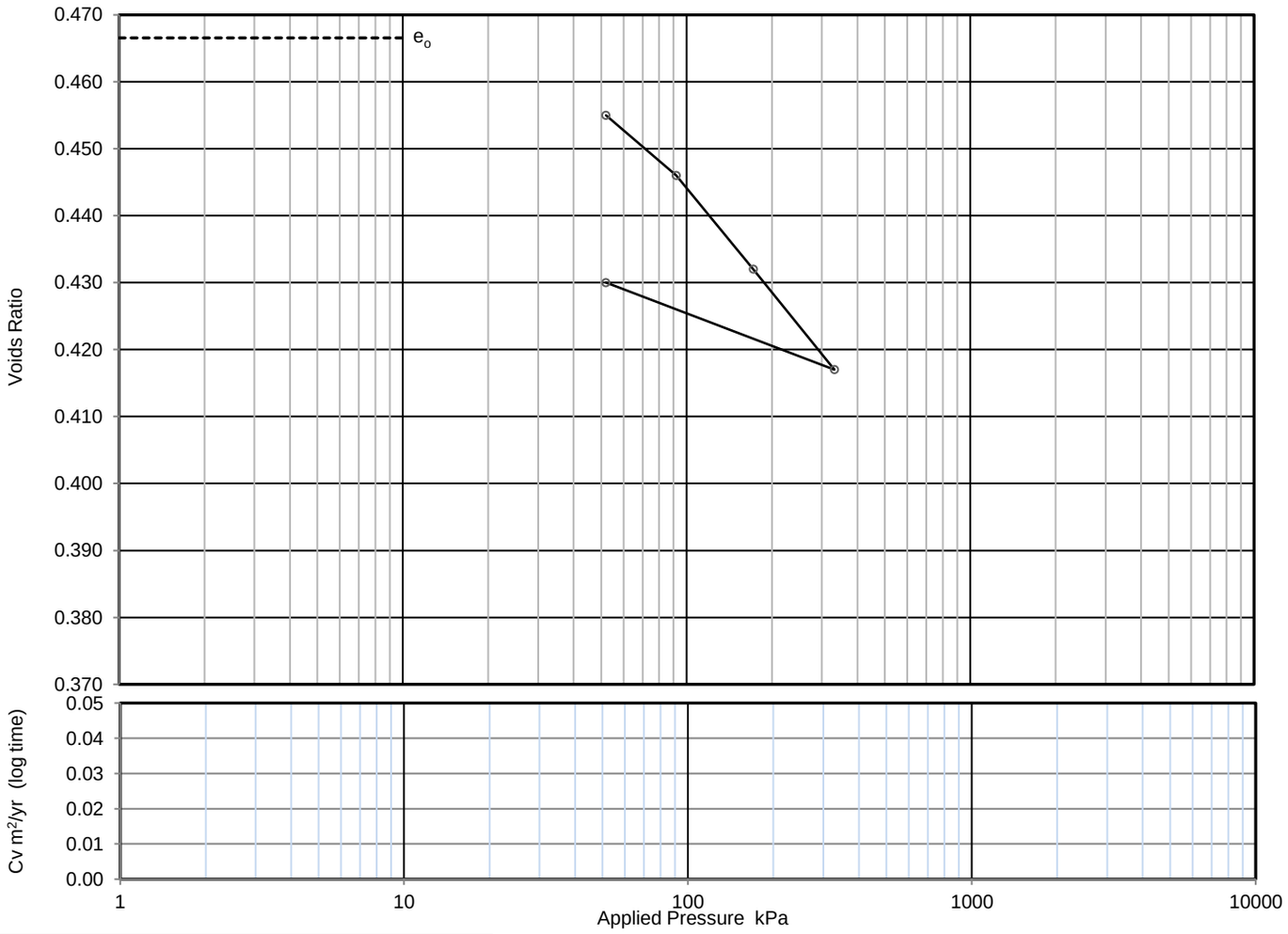
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1365

	ONE DIMENSIONAL CONSOLIDATION TEST BS EN ISO 17892-5			Project No.	PC238661
				Hole No.	BH01
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample No.	
Specimen Description	Grey slightly sandy slightly gravelly CLAY.			Depth (m)	2.20 - 2.65
Specimen Reference	7	Specimen Depth	2.60 m	Sample Type	UT
				Date started	19/01/2024



Applied Pressure kPa	Voids ratio	Mv m²/MN	Cv (t50, log) m²/yr	Cv (t90, root) m²/yr
12	0.467	-	-	-
52	0.455	0.20		5.0
92	0.446	0.16		1.5
172	0.432	0.12		0.6
332	0.417	0.07		1.3
52	0.430	0.03		

Where Cv data is unavailable curve fitting unsuitable

Preparation: Specimen cut vertically from base of sample

Particle density	Assumed	2.65	Mg/m3

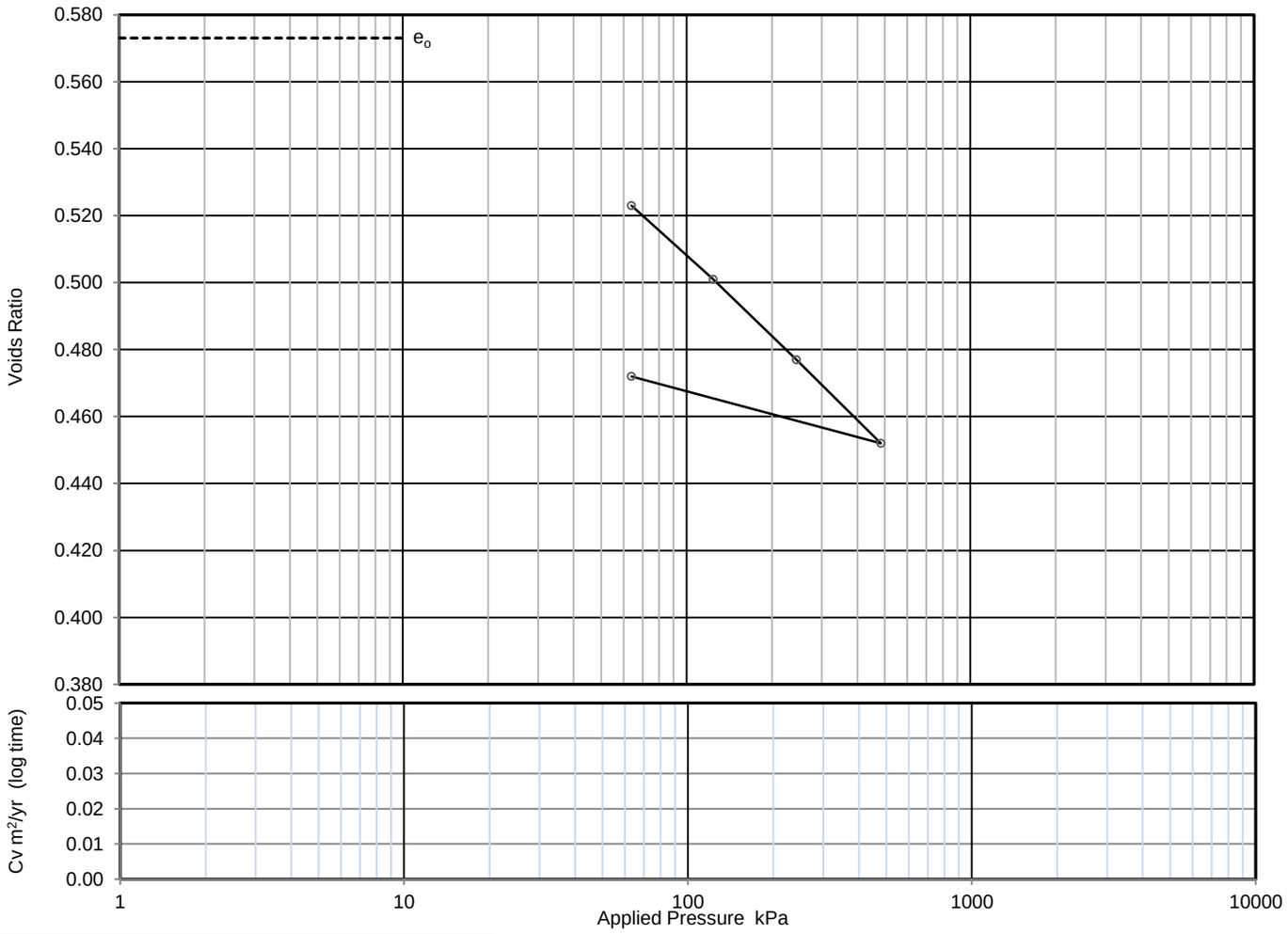
Specimen details	Initial	Final	
Diameter	74.86	-	mm
Height	20.04	19.54	mm
Moisture Content	18.3	18.4	%
Bulk density	2.14		Mg/m3
Dry density	1.81		Mg/m3
Voids Ratio	0.467		
			%
Average temperature for test	20.0		oC
Swelling Pressure	12		kPa
Settlement on saturation			%

Remarks

Settlement adjusted for machine deformation
Cv plotted at mid point of load increments
Cv corrected to 20°C

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	ONE DIMENSIONAL CONSOLIDATION TEST BS EN ISO 17892-5			Project No.	PC238661
				Hole No.	BH02
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample No.	
Specimen Description	Dark grey slightly gravelly CLAY			Depth (m)	3.20 - 3.65
Specimen Reference	3	Specimen Depth	3.60 m	Sample Type	UT
				Date started	24/01/2024



Applied Pressure kPa	Voids ratio	Mv m²/MN	Cv (t50, log) m²/yr	Cv (t90, root) m²/yr
4	0.573	-	-	-
64	0.523	0.53		6.0
124	0.501	0.25		2.4
244	0.477	0.13		1.2
484	0.452	0.07		1.3
64	0.472	0.03		

Where Cv data is unavailable curve fitting unsuitable

Preparation: Specimen cut vertically from base of sample

Particle density	Assumed	2.65	Mg/m3

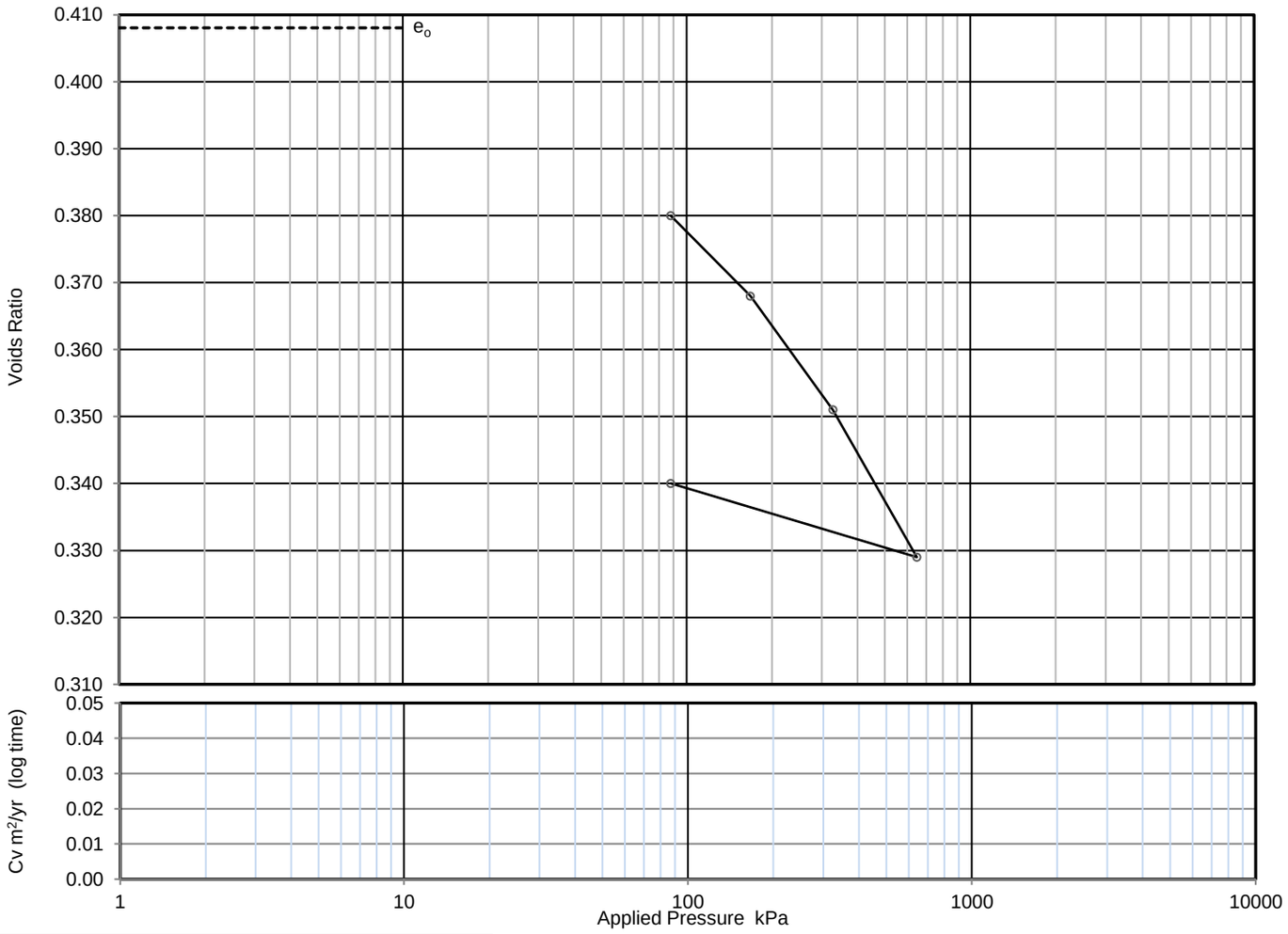
Specimen details	Initial	Final	
Diameter	74.87	-	mm
Height	20.07	18.78	mm
Moisture Content	19.2	20.8	%
Bulk density	2.01		Mg/m3
Dry density	1.68		Mg/m3
Voids Ratio	0.573		
			%
Average temperature for test	20.0		oC
Swelling Pressure	4		kPa
Settlement on saturation			%

Remarks

Settlement adjusted for machine deformation
Cv plotted at mid point of load increments
Cv corrected to 20°C

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	ONE DIMENSIONAL CONSOLIDATION TEST BS EN ISO 17892-5			Project No.	PC238661
				Hole No.	BH05
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample No.	
Specimen Description	Brown slightly sandy slightly gravelly CLAY			Depth (m)	4.20 - 4.65
Specimen Reference	1	Specimen Depth	4.60 m	Sample Type	UT
				Date started	25/01/2024



Applied Pressure kPa	Voids ratio	Mv m²/MN	Cv (t50, log) m²/yr	Cv (t90, root) m²/yr
8	0.408	-	-	-
88	0.380	0.25		3.8
168	0.368	0.11		1.7
328	0.351	0.08		1.4
648	0.329	0.05		1.3
88	0.340	0.02		

Where Cv data is unavailable curve fitting unsuitable

Preparation: Specimen cut vertically from base of sample

Particle density	Assumed	2.65	Mg/m3

Specimen details	Initial	Final	
Diameter	74.91	-	mm
Height	20.20	19.23	mm
Moisture Content	14.4	14.8	%
Bulk density	2.15		Mg/m3
Dry density	1.88		Mg/m3
Voids Ratio	0.408		
			%
Average temperature for test	20.0		oC
Swelling Pressure	8		kPa
Settlement on saturation			%

Remarks

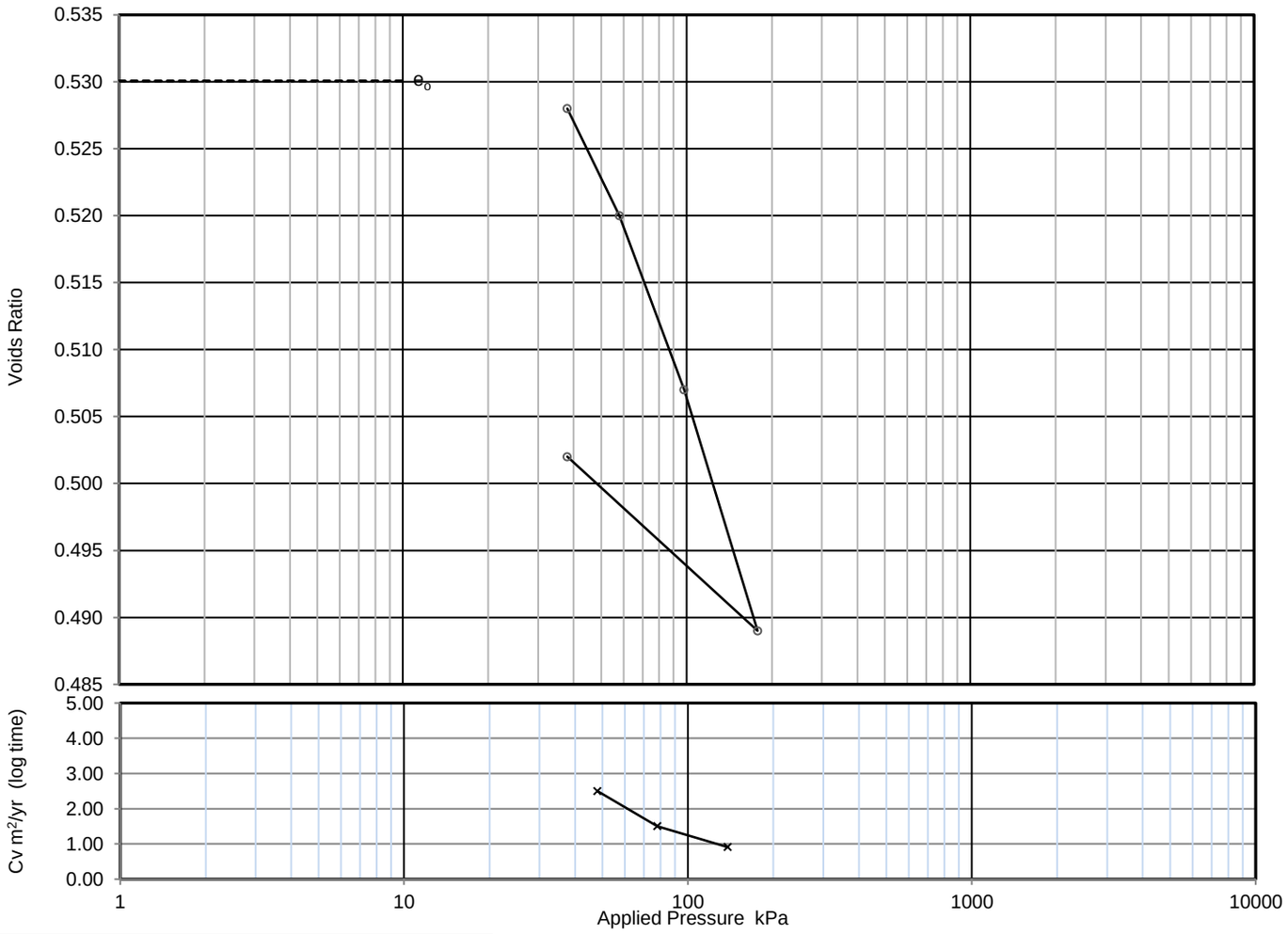
Settlement adjusted for machine deformation
Cv plotted at mid point of load increments
Cv corrected to 20°C

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	ONE DIMENSIONAL CONSOLIDATION TEST BS EN ISO 17892-5			Project No.	PC238661
				Hole No.	BH06
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3			Sample No.	
Specimen Description	Brown gravelly CLAY			Depth (m)	1.20 - 1.65
Specimen Reference	1	Specimen Depth	1.60 m	Sample Type	UT
				Date started	25/01/2024



Applied Pressure kPa	Voids ratio	Mv m²/MN	Cv (t50, log) m²/yr	Cv (t90, root) m²/yr
18	0.530	-	-	-
38	0.528	0.08		3.1
58	0.520	0.25	2.5	2.0
98	0.507	0.22	1.5	1.0
178	0.489	0.15	0.9	0.9
38	0.502	0.06		

Where Cv data is unavailable curve fitting unsuitable

Preparation: Specimen cut vertically from base of sample

Particle density	Assumed	2.65	Mg/m3

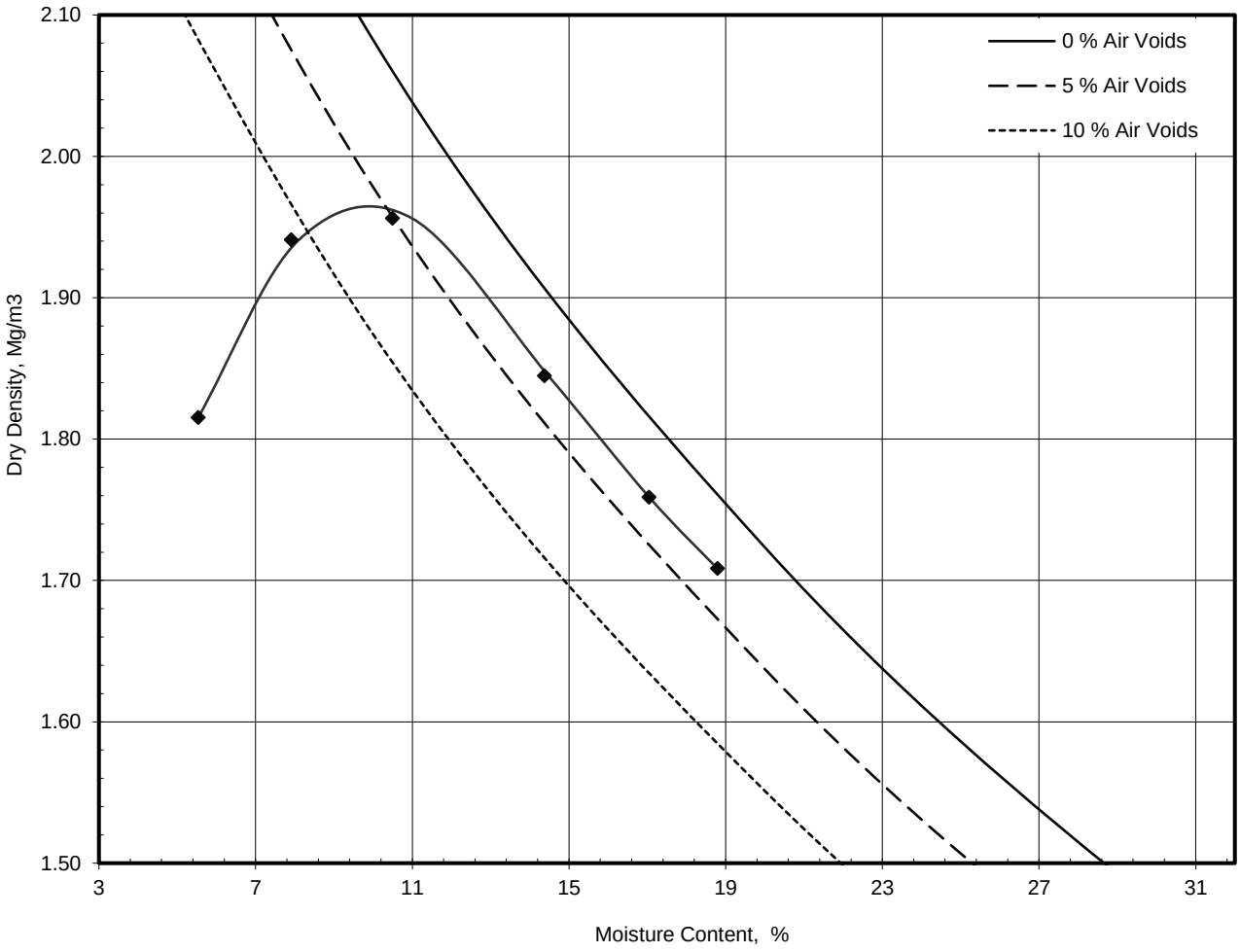
Specimen details	Initial	Final	
Diameter	74.91	-	mm
Height	20.31	19.93	mm
Moisture Content	18.7	20.7	%
Bulk density	2.06		Mg/m3
Dry density	1.73		Mg/m3
Voids Ratio	0.530		
			%
Average temperature for test	20.0		oC
Swelling Pressure	18		kPa
Settlement on saturation			%

Remarks

Settlement adjusted for machine deformation
Cv plotted at mid point of load increments
Cv corrected to 20°C

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GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	BH03
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Light brown slightly gravelly slightly clayey SAND	Depth	2.20 - 2.70 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.97**
Optimum Moisture Content	%	**10**

Remarks

NMC = 14.4%

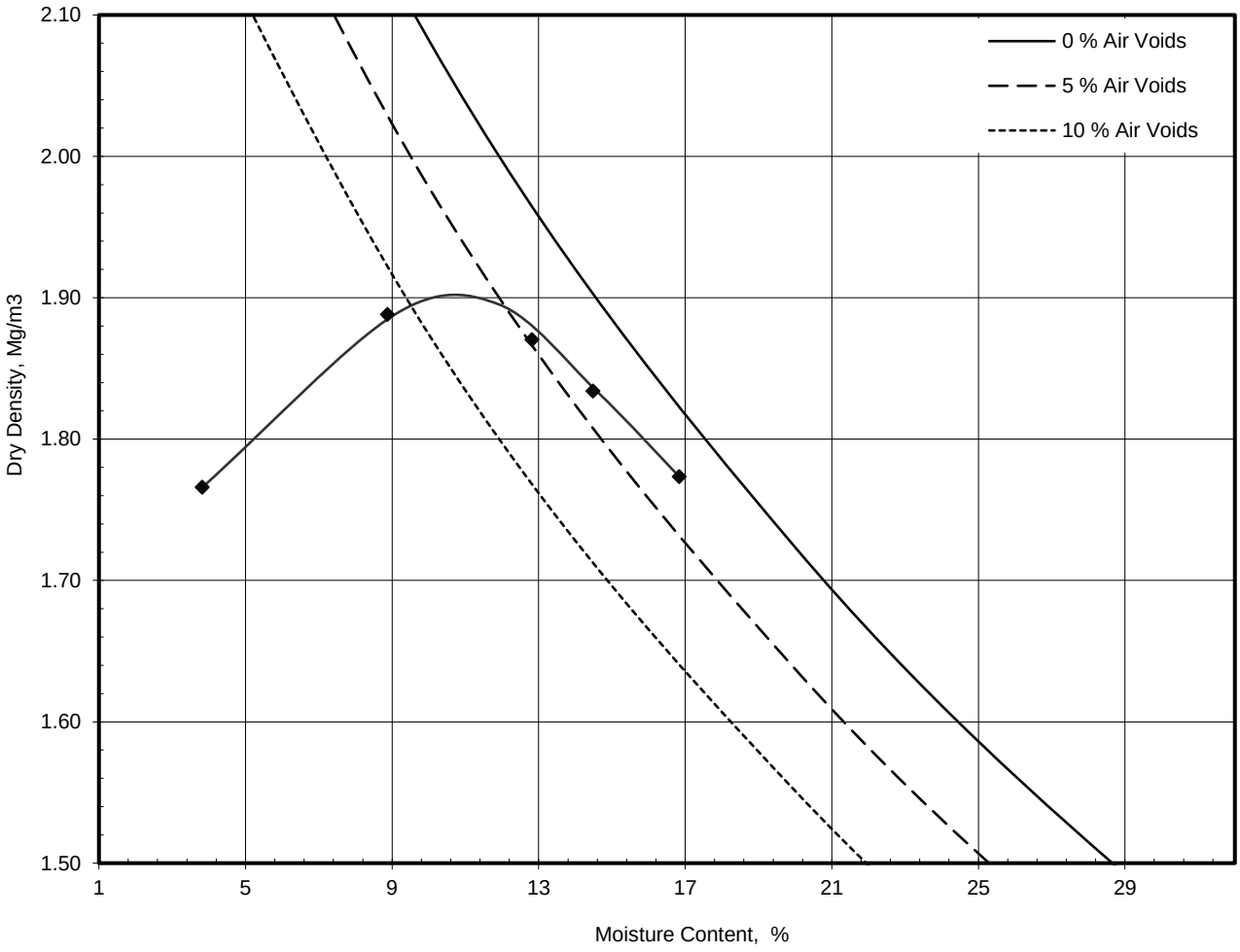
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP02
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Brown slightly sandy slightly gravelly CLAY.	Depth	0.40 - 0.70 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.90**

Optimum Moisture Content	%	**11**

Remarks

NMC = 18.8%

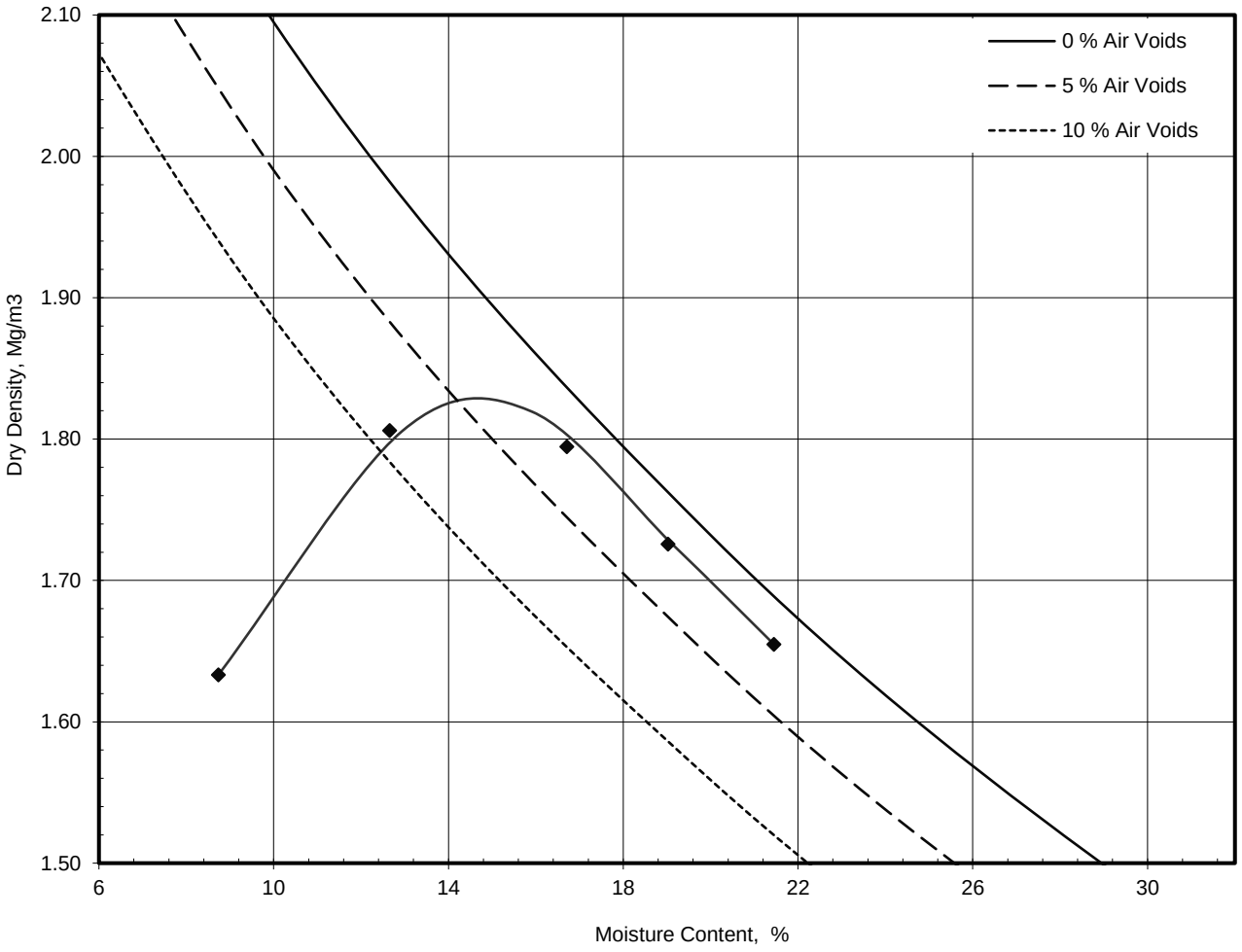
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP09
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Light brown slightly sandy slightly gravelly CLAY.	Depth	0.90 - 1.10 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	3
Material Retained on 20.0 mm Sieve	%	4
Particle Density - Measured using gas jar	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.83**

Optimum Moisture Content	%	**15**

Remarks

NMC = 18.4%

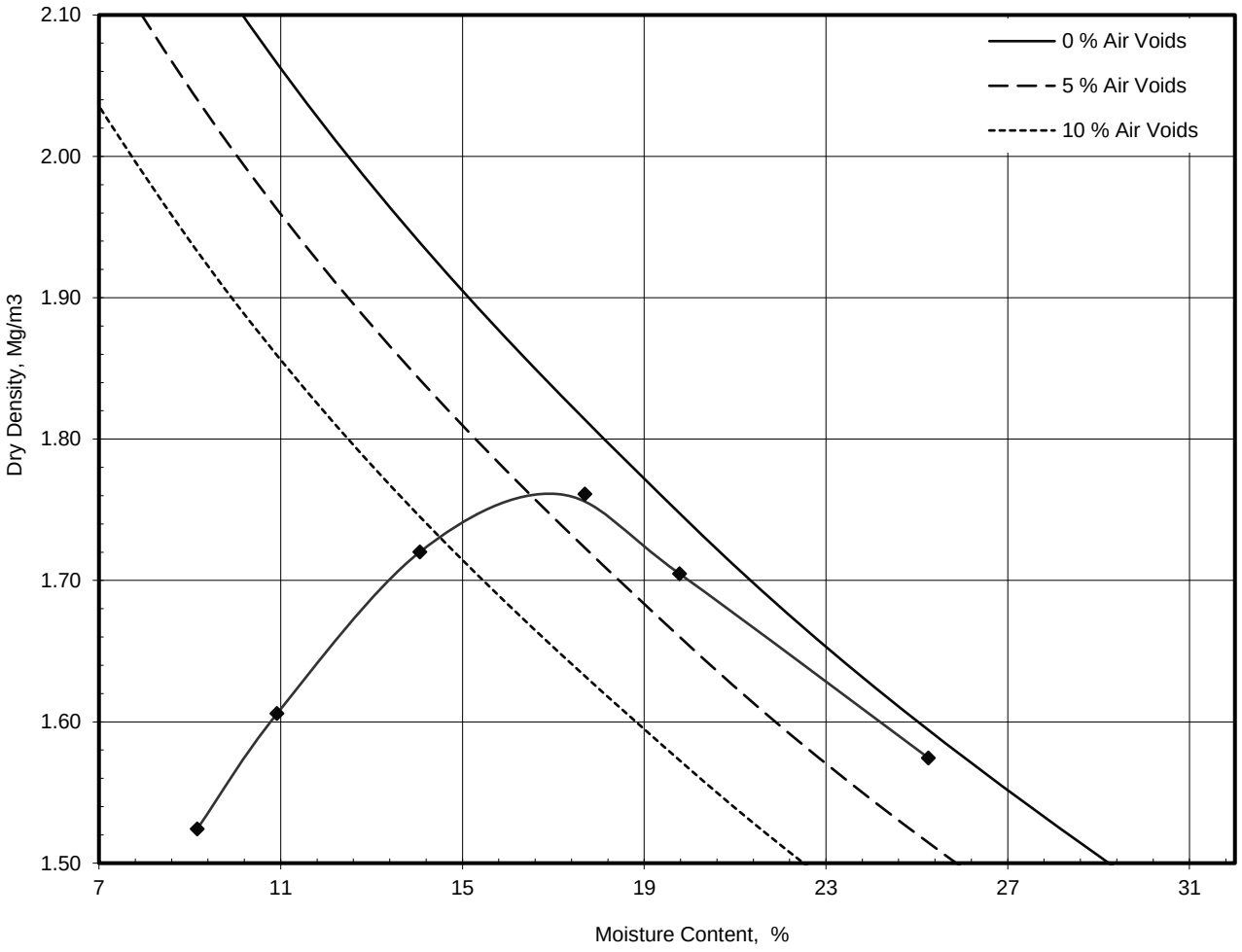
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1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP10
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Brown slightly gravelly CLAY.	Depth	0.60 - 0.80 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using gas jar	Mg/m³	2.67

Maximum Dry Density	Mg/m³	**1.76**

Optimum Moisture Content	%	**17**

Remarks

NMC = 17.7%

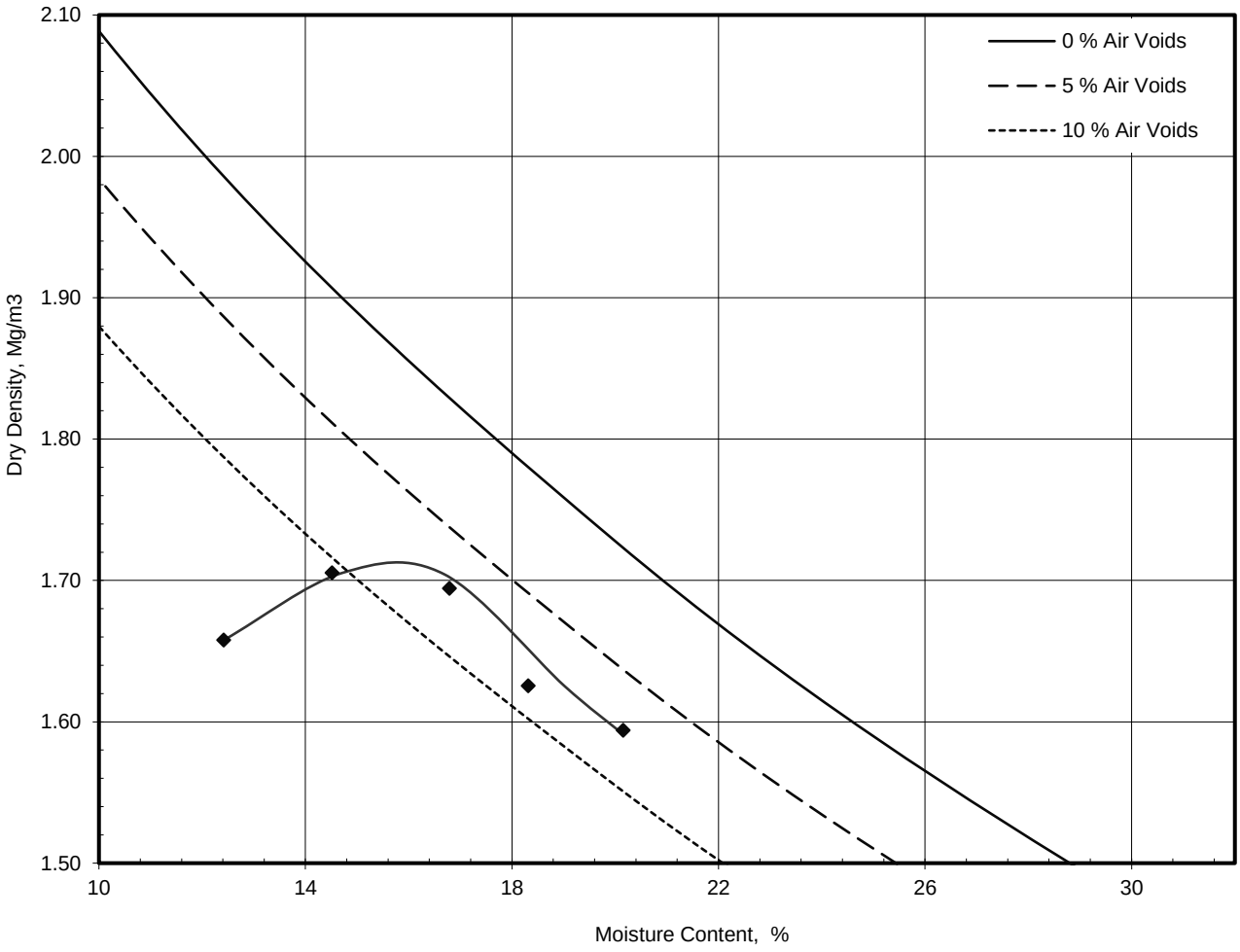
Printed

22/02/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP13
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Brown slightly gravelly clayey SAND.	Depth	1.70 - 2.00 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m³	2.64

Maximum Dry Density	Mg/m³	**1.72**

Optimum Moisture Content	%	**16**

Remarks

NMC = 15.7%

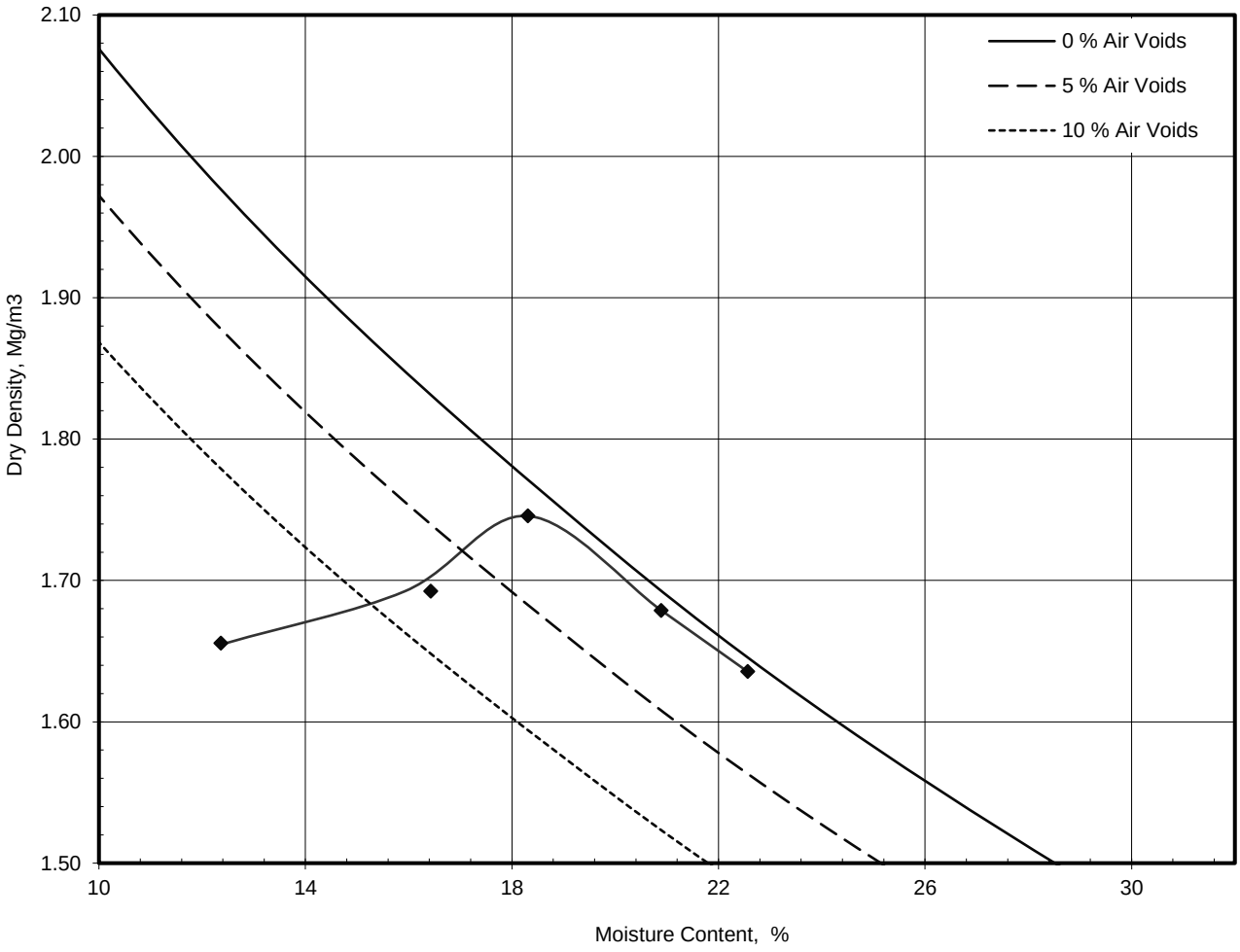
Printed

22/02/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP21
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Brown mottled grey slightly sandy slightly gravelly CLAY.	Depth	1.90 - 2.10 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using gas jar	Mg/m³	2.62

Maximum Dry Density	Mg/m³	**1.75**

Optimum Moisture Content	%	**18**

Remarks

NMC = 17.9%

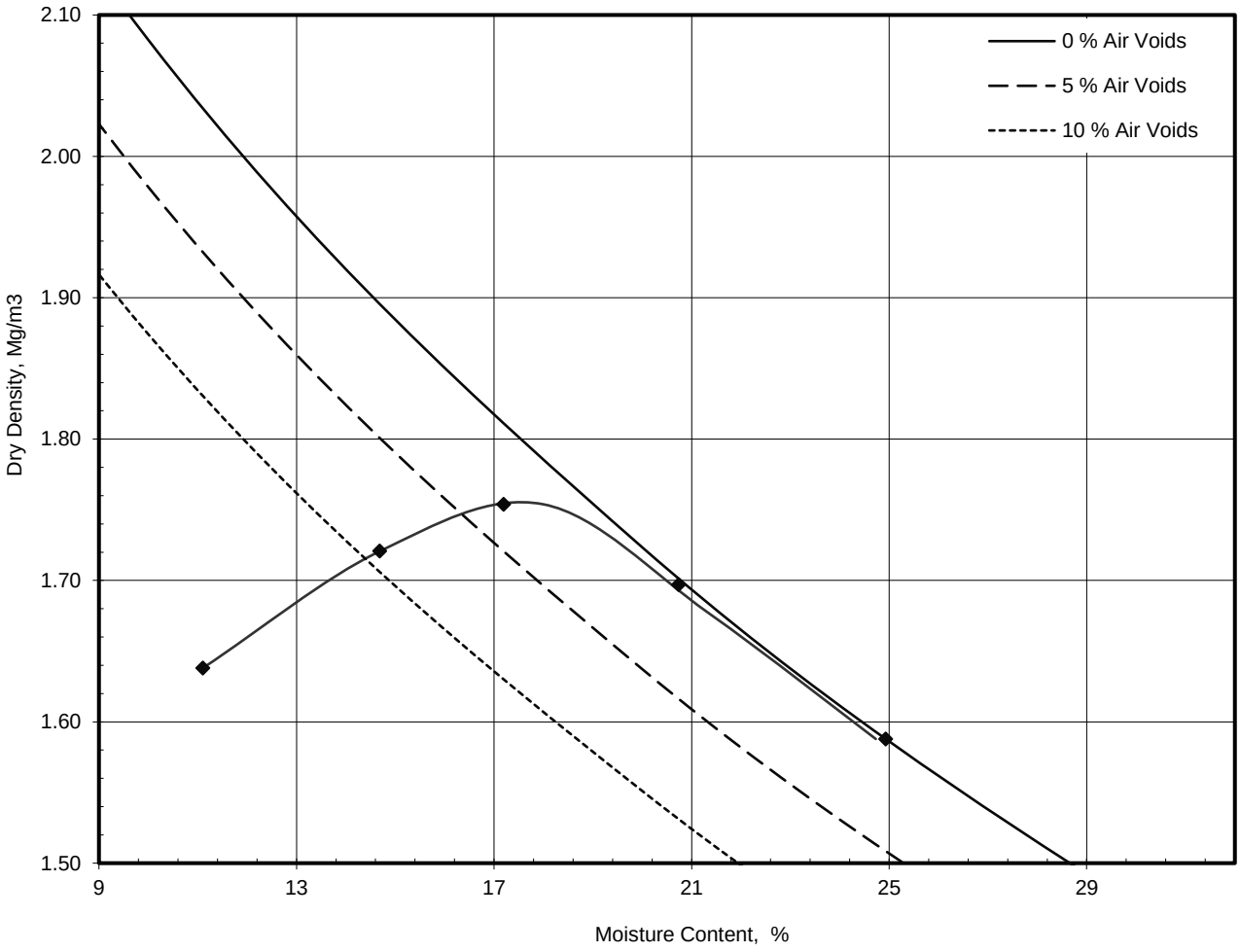
Printed

22/02/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP23
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Grey slightly gravelly CLAY.	Depth	0.80 - 1.00 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using gas jar	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.75**

Optimum Moisture Content	%	**18**

Remarks

NMC = 17.2%

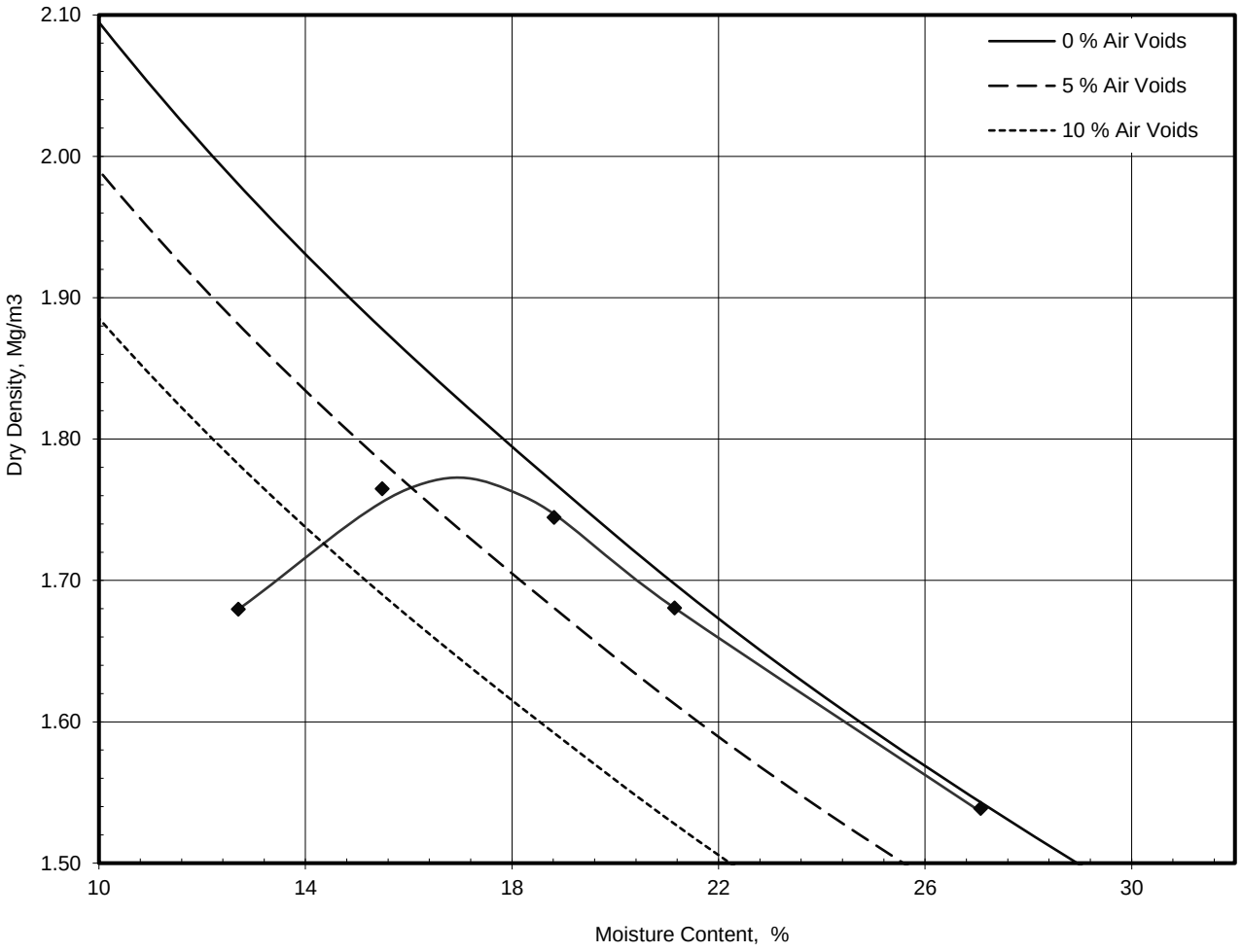
Printed

22/02/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP24
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Grey slightly gravelly CLAY.	Depth	0.80 - 1.00 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Measured using gas jar	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.77**

Optimum Moisture Content	%	**17**

Remarks

NMC = 18.8%

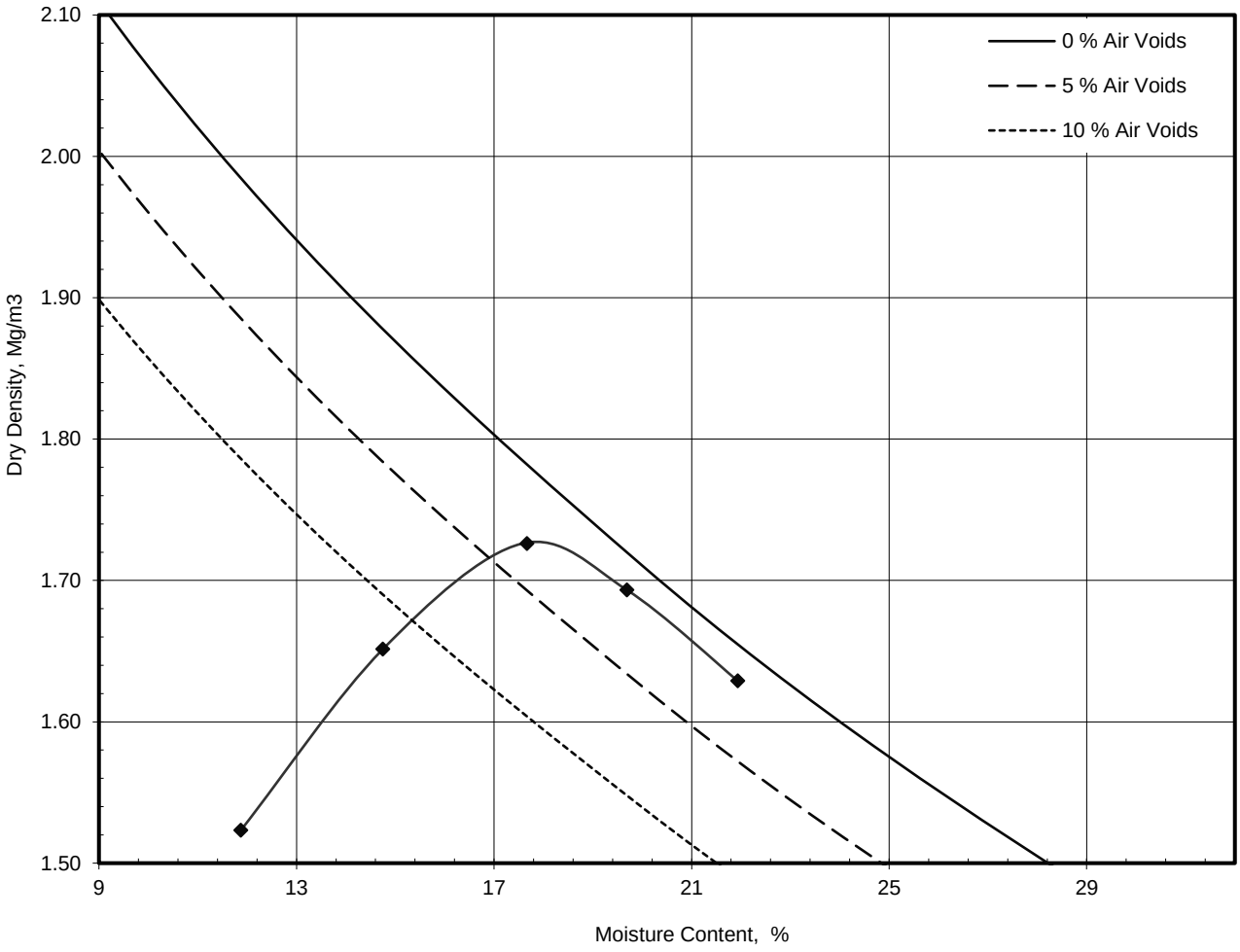
Printed

22/02/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238661
		Hole Number	TP28
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3	Sample Number	
Specimen Description	Brown slightly gravelly CLAY.	Depth	0.80 - 1.00 m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.73**

Optimum Moisture Content	%	**18**

Remarks

NMC = 19.7%

Printed

22/02/2024

UKAS TESTING

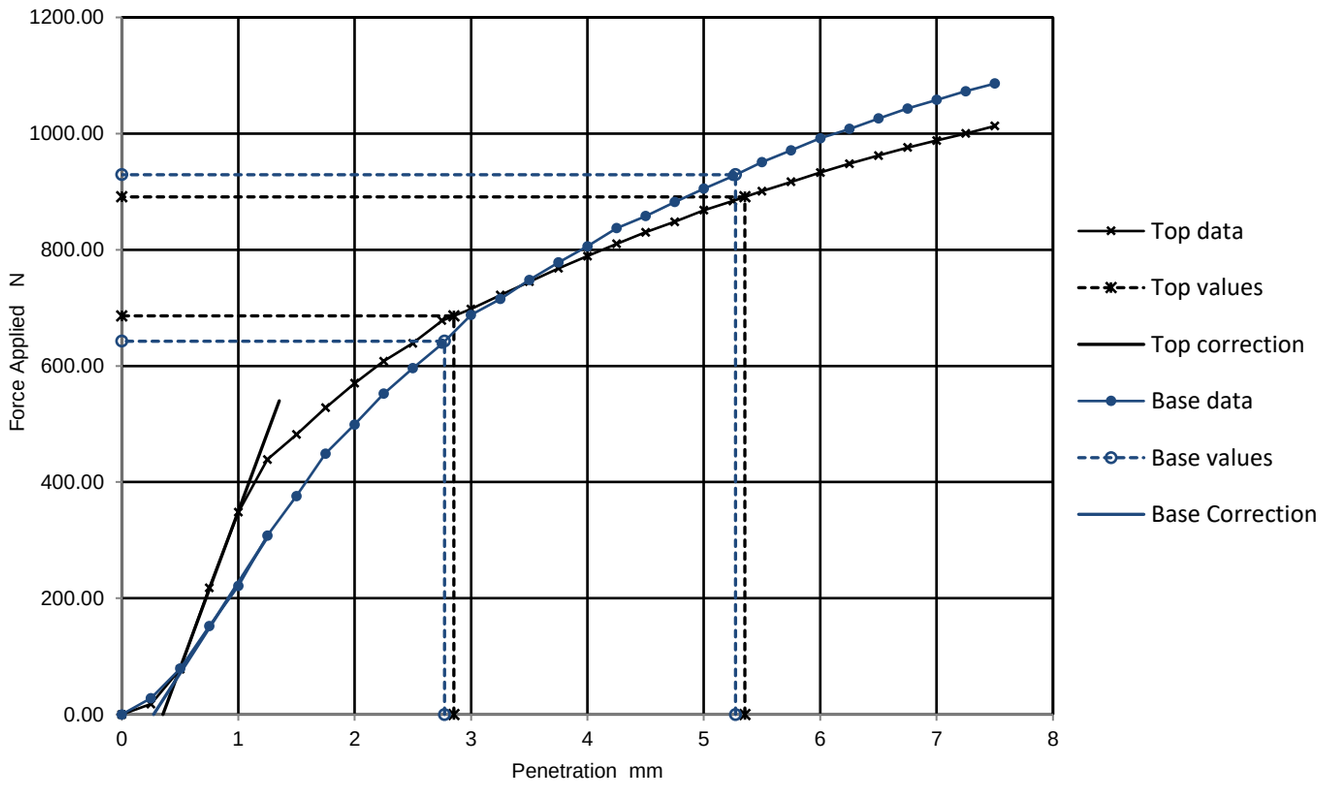
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238661
					Hole Number	TP08
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3				Sample Number	
Specimen Reference	3	Specimen Depth		m	Depth (m)	0.50 - 0.80
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7				CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	8	%	Dry density after soaking	1.80	Mg/m3
Initial Specimen details	Bulk density	2.12	Mg/m3	Surcharge applied	12.3 kg
	Dry density	1.80	Mg/m3	Equivalent Overburden	7 kPa
	Moisture content		%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	Yes	5.2	4.5	5.2	5.0	17.9
BASE	Yes	4.9	4.6	4.9		17.7

Remarks	Test Specific Remarks	Printed
		01/02/2024

*Soaking (if applicable) not UKAS accredited. #Average value reported if Top & Base are ± 10%

UKAS TESTING

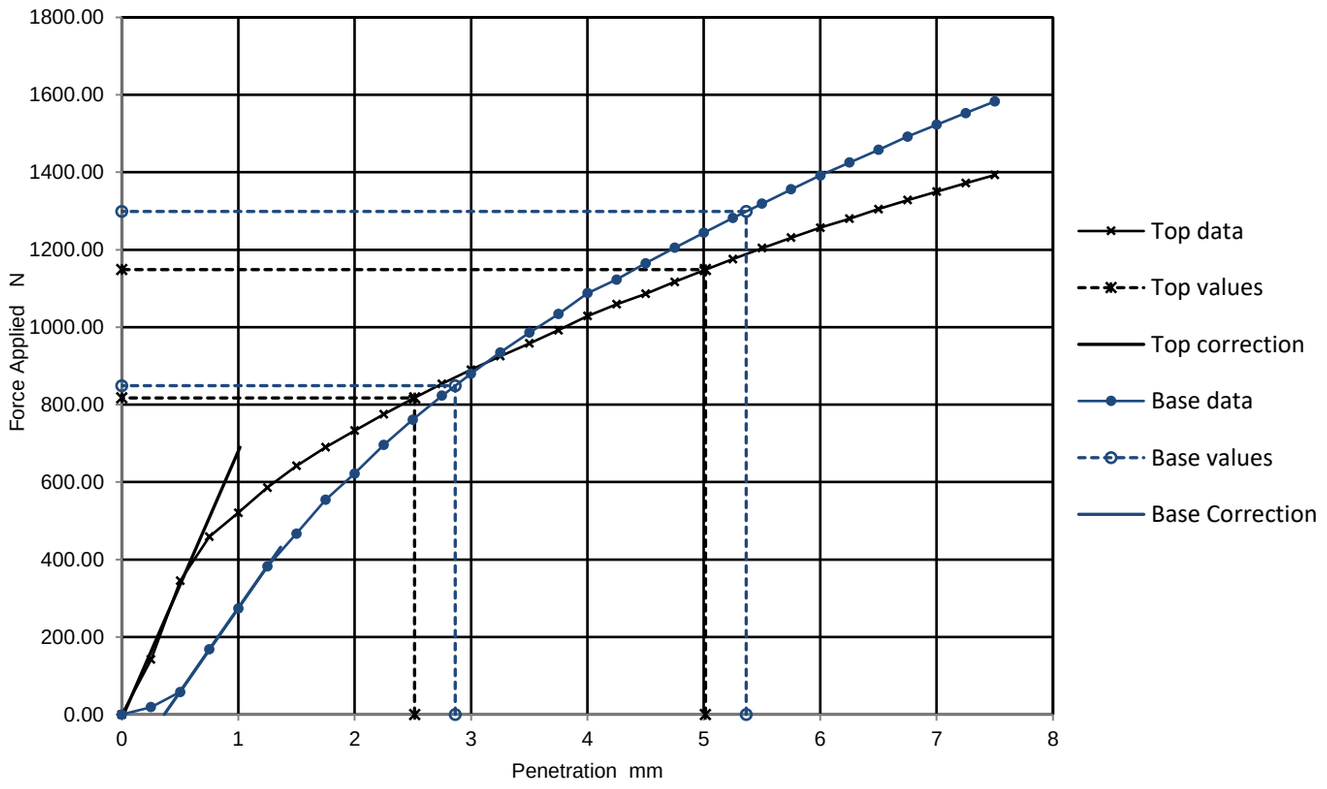
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238661
					Hole Number	TP16
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3				Sample Number	
Specimen Reference	3	Specimen Depth		m	Depth (m)	0.60 - 0.80
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7				CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	1.84	Mg/m3
Initial Specimen details	Bulk density	2.15	Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.84	Mg/m3	Equivalent Overburden	7	kPa
	Moisture content		%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	Yes	6.2	5.7	6.2	6.3	17.0
BASE	Yes	6.4	6.5	6.5		16.8

Remarks	Test Specific Remarks	Printed
		01/02/2024

*Soaking (if applicable) not UKAS accredited. #Average value reported if Top & Base are ± 10%

UKAS TESTING

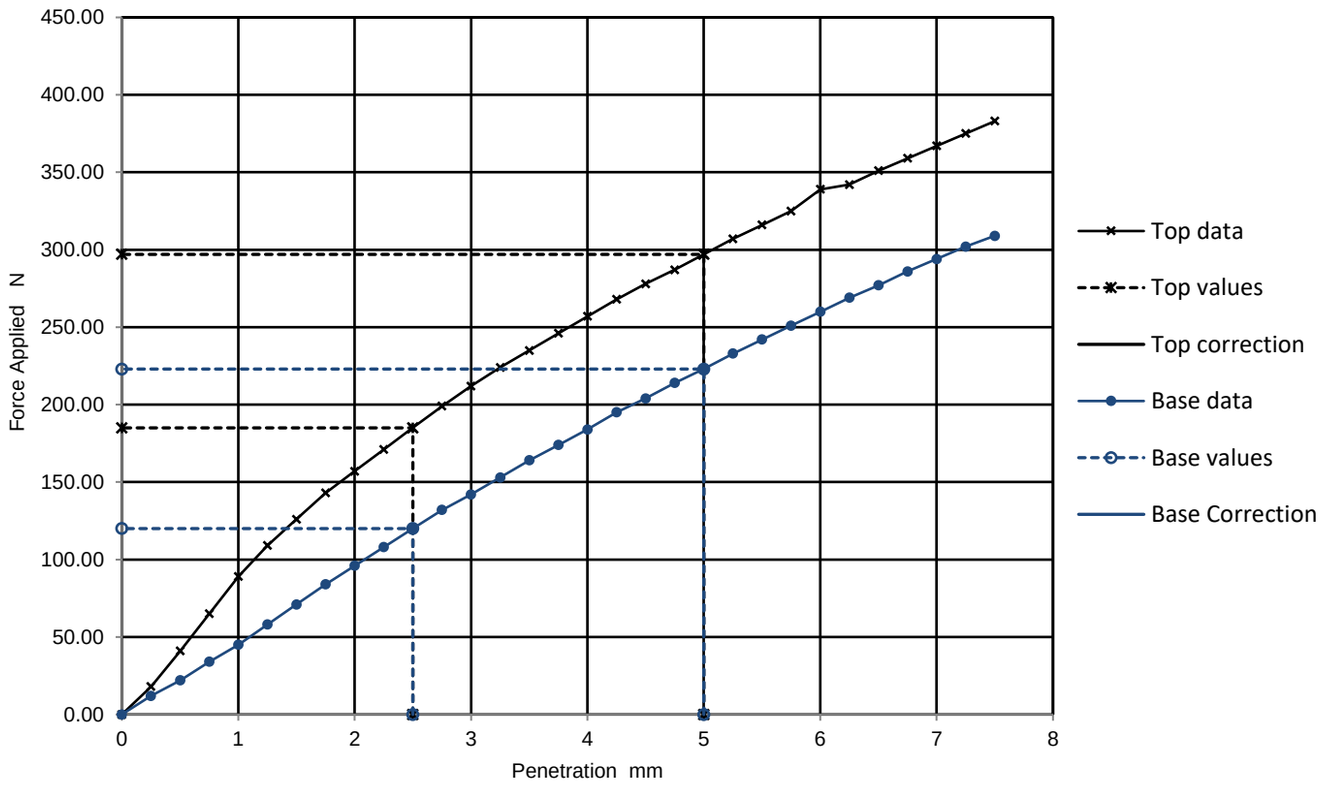
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238661
					Hole Number	TP05
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3				Sample Number	
Specimen Reference	3	Specimen Depth		m	Depth (m)	0.80 - 1.00
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7				CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	5	%	Dry density after soaking	1.93	Mg/m3
Initial Specimen details	Bulk density	2.17	Mg/m3	Surcharge applied	12.3 kg
	Dry density	1.93	Mg/m3	Equivalent Overburden	7 kPa
	Moisture content		%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	1.4	1.5	1.5		11.9
BASE	No	0.9	1.1	1.1		13.5

Remarks	Test Specific Remarks	Printed	
		01/02/2024	UKAS TESTING 1365

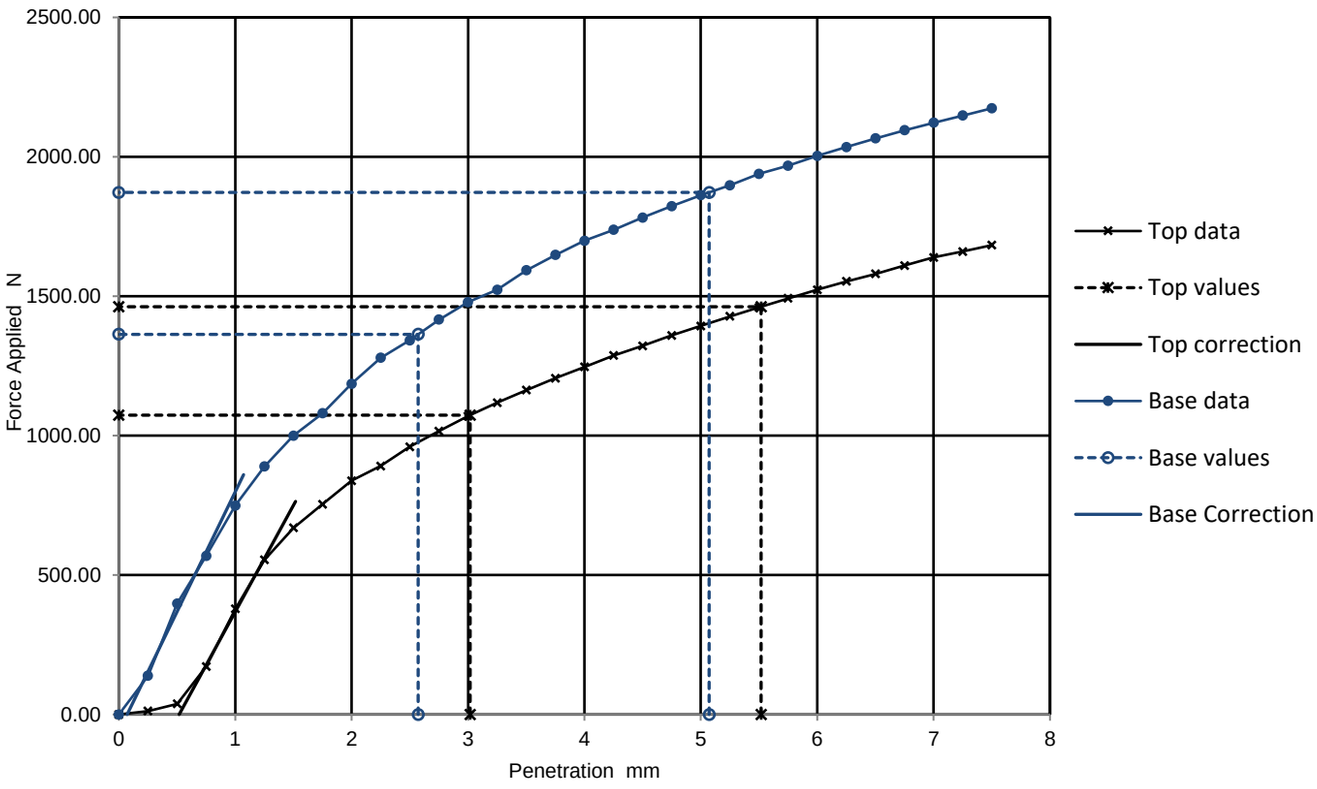
*Soaking (if applicable) not UKAS accredited. #Average value reported if Top & Base are ± 10%

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238661
					Hole Number	TP07
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3				Sample Number	
Specimen Reference	3	Specimen Depth		m	Depth (m)	0.80 - 1.00
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7				CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	3	%	Dry density after soaking	1.81	Mg/m3
Initial Specimen details	Bulk density	2.14	Mg/m3	Surcharge applied	12.3 kg
	Dry density	1.81	Mg/m3	Equivalent Overburden	7 kPa
	Moisture content		%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	Yes	8.1	7.3	8.1		18.3
BASE	Yes	10.0	9.4	10.0		18.1

Remarks	Test Specific Remarks	Printed
		01/02/2024

*Soaking (if applicable) not UKAS accredited. #Average value reported if Top & Base are ± 10%

UKAS TESTING

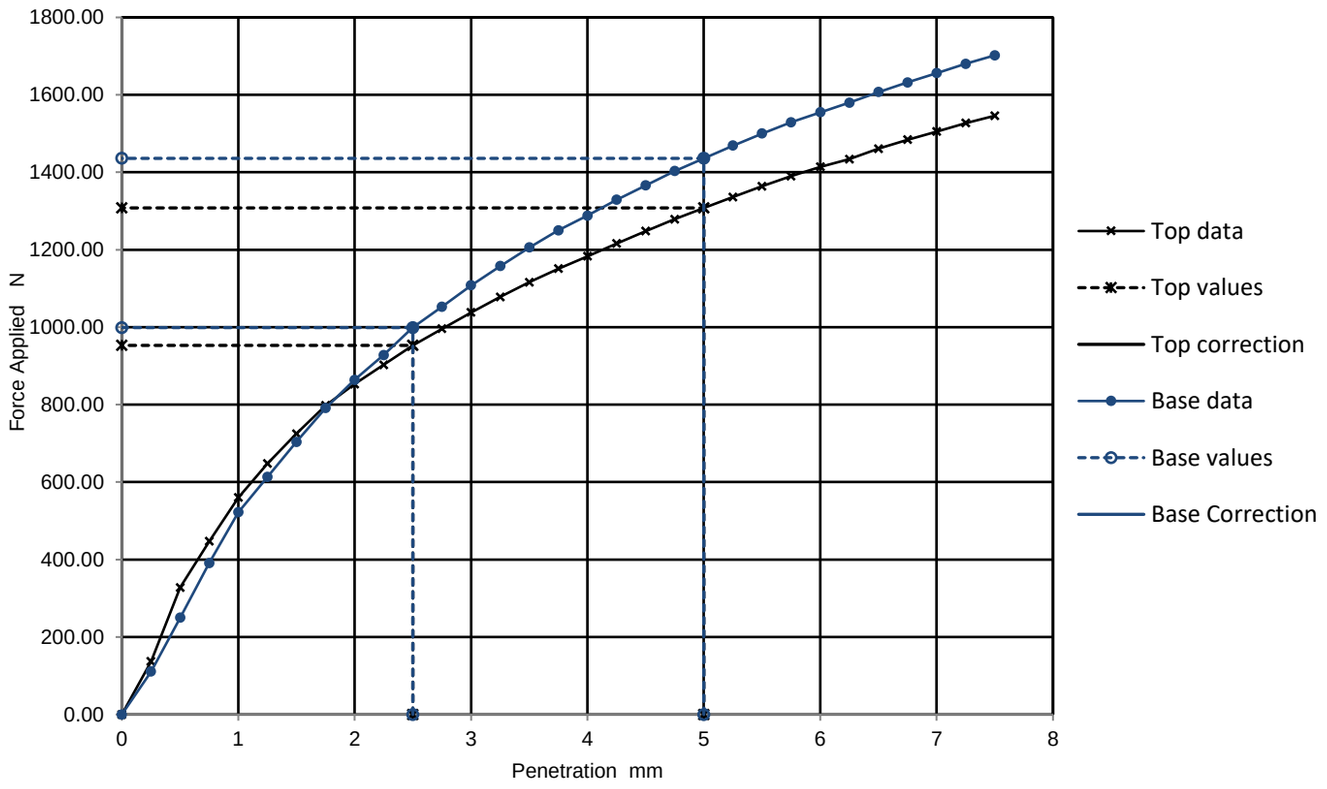
1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238661
					Hole Number	TP22
Project Name	LIONLINK NG ONSHORE HVDC - CONVERTER STATION SITE 3				Sample Number	
Specimen Reference	3	Specimen Depth		m	Depth (m)	0.80 - 1.00
Specimen Description	Brown slightly gravelly CLAY.				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7				CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.79	Mg/m3
Initial Specimen details	Bulk density	2.13	Mg/m3	Surcharge applied	12.3 kg
	Dry density	1.79	Mg/m3	Equivalent Overburden	7 kPa
	Moisture content		%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	#Average	
TOP	No	7.2	6.5	7.2	7.4	18.6
BASE	No	7.6	7.2	7.6		18.8

Remarks	Test Specific Remarks	Printed
		01/02/2024

*Soaking (if applicable) not UKAS accredited. #Average value reported if Top & Base are ± 10%

UKAS TESTING

1365

Certificate of Analysis

Certificate Number	23-30125	*Issued:*	29-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-30125
Client Reference	PC238661
Order No	OC39214
Contract Title	Lionlink Converter C3
Description	19 Soil samples.
Date Received	21-Dec-23
Date Started	21-Dec-23
Date Completed	29-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-30125
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2280992	2280993	2280994	2280995	2280996	2280997	2280998	2280999	2281000	2281001	2281002
			.Sample ID	TP05	TP10	TP13	TP14	TP16	TP20	TP21	TP25	TP28	BH03	TP03
			Depth	0.80	0.70	1.50	1.70-2.00	2.00	0.80	2.00	1.50	0.80	2.20-2.70	0.70
			Other ID											
			Sample Type	D	D	D	D	D	D	D	D	D	D	D
			Sampling Date	22/11/2023	23/11/2023	23/11/2023	30/11/2023	23/11/2023	30/11/2023	29/11/2023	30/11/2023	30/11/2023	30/11/2023	21/09/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	9.7	9.7	8.9	8.3	8.0	8.1	7.9	7.9	8.0	8.3	8.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	840	650	120	94	110	34	29	23	26	15	25

Key: # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-30125
Client Ref PC238661
Contract Title Lionlink Converter C3

				Lab No	2281003	2281004	2281005	2281006	2281007	2281008	2281009	2281010
				.Sample ID	TP01	TP02	TP03	TP04	TP06	TP07	TP08	TP10
				Depth	1.50	1.00	1.20	0.90	0.90	1.50	1.50	1.50
				Other ID								
				Sample Type	D	D	D	D	D	D	D	D
				Sampling Date	21/11/2023	21/11/2023	21/09/2023	22/11/2023	27/11/2023	30/11/2023	23/11/2023	02/11/2023
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**		**LOD**	**Units**								
Inorganics												
pH	DETSC 2008#			pH	7.9	8.1	7.6	8.0	8.0	8.0	7.7	7.9
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#		10	mg/l								

Key: # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 23-30125
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2280992	TP05 0.80 SOIL	22/11/23	PT 1L	pH + Conductivity (7 days)	
2280993	TP10 0.70 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2280994	TP13 1.50 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2280995	TP14 1.70-2.00 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2280996	TP16 2.00 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2280997	TP20 0.80 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2280998	TP21 2.00 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	
2280999	TP25 1.50 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2281000	TP28 0.80 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2281001	BH03 2.20-2.70 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2281002	TP03 0.70 SOIL	21/09/23	PT 1L	Anions 2:1 (30 days), pH + Conductivity (7 days)	
2281003	TP01 1.50 SOIL	21/11/23	PT 1L	pH + Conductivity (7 days)	
2281004	TP02 1.00 SOIL	21/11/23	PT 1L	pH + Conductivity (7 days)	
2281005	TP03 1.20 SOIL	21/09/23	PT 1L	pH + Conductivity (7 days)	
2281006	TP04 0.90 SOIL	22/11/23	PT 1L	pH + Conductivity (7 days)	
2281007	TP06 0.90 SOIL	27/11/23	PT 1L	pH + Conductivity (7 days)	
2281008	TP07 1.50 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2281009	TP08 1.50 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2281010	TP10 1.50 SOIL	02/11/23	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-30126	*Issued:*	29-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-30126
Client Reference	PC238661
Order No	OC39214
Contract Title	Lionlink Converter C3
Description	2 Soil samples.
Date Received	21-Dec-23
Date Started	21-Dec-23
Date Completed	29-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-30126
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2281011	2281012
			.Sample ID	BH05	BH06
			Depth	1.90-2.00	3.65-3.70
			Other ID		
			Sample Type	D	D
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Inorganics					
pH	DETSC 2008#		pH	8.0	8.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	31	110

Information in Support of the Analytical Results

Our Ref 23-30126
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2281011	BH05 1.90-2.00 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	
2281012	BH06 3.65-3.70 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	24-00213	*Issued:*	09-Jan-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-00213
Client Reference	PC238661
Order No	OC39214
Contract Title	Lionlink Converter C3
Description	17 Soil samples.
Date Received	05-Jan-24
Date Started	05-Jan-24
Date Completed	09-Jan-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-00213
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2283263	2283264	2283265	2283266	2283267	2283268	2283269	2283270	2283271	2283272	2283273
			.Sample ID	TP11	TP12	TP13	TP14	TP15	TP16	TP17	TP18	TP19	TP20	TP21
			Depth	0.80	1.50	1.00	1.00	0.90	1.50	1.00	0.90	1.00	1.50	0.80
			Other ID											
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	24/11/2023	27/11/2023	23/11/2023	28/01/2023	27/11/2023	28/11/2023	28/11/2023	29/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#		pH	7.9	8.1	7.8	8.2	8.0	8.2	8.0	8.2	8.2	8.0	8.0

Key: # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 24-00213
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2283274	2283275	2283276	2283277	2283278	2283279
			.Sample ID	TP23	TP24	TP25	TP26	TP27	TP28
			Depth	1.50	1.50	0.90	1.50	0.90	1.50
			Other ID						
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Sampling Date	30/11/2023	30/11/2023	30/11/2023	29/11/2023	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Inorganics									
pH	DETSC 2008#		pH	8.2	8.0	8.2	7.7	8.1	8.0

Information in Support of the Analytical Results

Our Ref 24-00213
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2283263	TP11 0.80 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2283264	TP12 1.50 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2283265	TP13 1.00 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2283266	TP14 1.00 SOIL	24/11/23	PT 1L	pH + Conductivity (7 days)	
2283267	TP15 0.90 SOIL	27/11/23	PT 1L	pH + Conductivity (7 days)	
2283268	TP16 1.50 SOIL	23/11/23	PT 1L	pH + Conductivity (7 days)	
2283269	TP17 1.00 SOIL	28/01/23	PT 1L	pH + Conductivity (7 days)	
2283270	TP18 0.90 SOIL	27/11/23	PT 1L	pH + Conductivity (7 days)	
2283271	TP19 1.00 SOIL	28/11/23	PT 1L	pH + Conductivity (7 days)	
2283272	TP20 1.50 SOIL	28/11/23	PT 1L	pH + Conductivity (7 days)	
2283273	TP21 0.80 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	
2283274	TP23 1.50 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2283275	TP24 1.50 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2283276	TP25 0.90 SOIL	30/11/23	PT 1L	pH + Conductivity (7 days)	
2283277	TP26 1.50 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	
2283278	TP27 0.90 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	
2283279	TP28 1.50 SOIL	29/11/23	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

APPENDIX 13

Chemical Laboratory - Soil

Certificate of Analysis

Certificate Number	23-27712	*Issued:*	07-Dec-23
Client	Geotechnics LTD 203 Torrington Avenue Tile Hill Coventry CV4 9AP		
Our Reference	23-27712		
Client Reference	PC238661		
Order No	OC39054		
Contract Title	Lionlink Converter C3		
Description	6 Soil samples, 2 Leachate prepared by DETS samples.		
Date Received	24-Nov-23		
Date Started	24-Nov-23		
Date Completed	07-Dec-23		
Test Procedures	Identified by prefix DETSn (details on request).		
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.		

Approved By

Kirk Bridgewood
General Manager

ilac-MRA

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267579	2267580	2267581	2267582	2267583	2267584
			.Sample ID	TP01	TP01	TP01	TP02	TP03	TP03
			Depth	0.00-0.30	0.50-0.70	0.90-1.10	0.60	0.30	0.70
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	8.6		7.8	8.0	9.2	8.6
Beryllium	DETSC 2301#	0.2	mg/kg	0.5		0.6	0.3	0.5	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.8		0.5	0.2	0.5	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2		0.2	0.2	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	16		17	10	15	13
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	13		13	5.0	7.8	10
Lead	DETSC 2301#	0.3	mg/kg	24		8.7	5.5	21	6.1
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12		19	12	13	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	30		28	23	29	26
Zinc	DETSC 2301#	1	mg/kg	50		34	20	40	28
Inorganics									
pH	DETSC 2008#		pH	7.5	8.1	8.2	8.3	7.9	8.4
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2		< 0.1	< 0.1	0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	20	14	11	10	11	13
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2		< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4		< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9		< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6		< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4		< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267579	2267580	2267581	2267582	2267583	2267584
			.Sample ID	TP01	TP01	TP01	TP02	TP03	TP03
			Depth	0.00-0.30	0.50-0.70	0.90-1.10	0.60	0.30	0.70
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5		< 0.3	< 0.3	< 0.3	< 0.3
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267579	2267580	2267581	2267582	2267583	2267584
			.Sample ID	TP01	TP01	TP01	TP02	TP03	TP03
			Depth	0.00-0.30	0.50-0.70	0.90-1.10	0.60	0.30	0.70
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267585	2267586
			.Sample ID	TP01	TP02
			Depth	0.50-0.70	1.00
			Other ID		
			Sample Type	ES	ES
			Sampling Date	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.65	0.17
Boron, Dissolved	DETSC 2306*	12	ug/l	15	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	10	12
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.35	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.4	0.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.48	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	1.1	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.7	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.9	< 1.3
Inorganics					
pH	DETSC 2008		pH	8.2	8.1
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2033*	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	0.16
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	< 18	150
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	0.12
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.66	1.5
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	8.5	2.1
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267585	2267586
			.Sample ID	TP01	TP02
			Depth	0.50-0.70	1.00
			Other ID		
			Sample Type	ES	ES
			Sampling Date	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.04
Pyrene	DETSC 3304	0.01	ug/l	0.01	0.03
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	0.21

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267585	2267586
			.Sample ID	TP01	TP02
			Depth	0.50-0.70	1.00
			Other ID		
			Sample Type	ES	ES
			Sampling Date	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 10
Chloromethane	DETSC 3432	1	ug/l	< 1	< 10
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 10
Bromomethane	DETSC 3432	1	ug/l	< 1	< 10
Chloroethane	DETSC 3432	1	ug/l	< 1	< 10
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 10
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 10
Methylene Chloride	DETSC 3432*	27	ug/l	41	< 270
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 10
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 10
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 10
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 20
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 40
Chloroform	DETSC 3432	1	ug/l	< 1	< 10
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 10
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 10
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 10
Benzene	DETSC 3432	1	ug/l	< 1	< 10
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 10
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 10
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 10
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 10
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 40
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 10
Toluene	DETSC 3432	1	ug/l	< 1	< 10
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 10
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 10
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 10
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 10
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 10
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 10
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 10
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 10
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 10
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 20
o-Xylene	DETSC 3432	1	ug/l	< 1	< 10
Styrene	DETSC 3432	1	ug/l	< 1	< 10
Bromoform	DETSC 3432	1	ug/l	< 1	< 10
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 10
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 10

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267585	2267586
			.Sample ID	TP01	TP02
			Depth	0.50-0.70	1.00
			Other ID		
			Sample Type	ES	ES
			Sampling Date	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 10
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 10
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 10
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 10
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 10
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 10
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 10
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 10
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 10
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 10
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 20
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 10
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 10
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 10
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 10
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 10
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 10
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 10
MTBE	DETSC 3432*	1	ug/l	< 1	< 10
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2267585	2267586
			.Sample ID	TP01	TP02
			Depth	0.50-0.70	1.00
			Other ID		
			Sample Type	ES	ES
			Sampling Date	21/11/2023	21/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-27712
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2267579	TP01 0.00-0.30	SOIL	NAD	none	Shannon Hope
2267581	TP01 0.90-1.10	SOIL	NAD	none	Shannon Hope
2267582	TP02 0.60	SOIL	NAD	none	Shannon Hope
2267583	TP03 0.30	SOIL	NAD	none	Shannon Hope
2267584	TP03 0.70	SOIL	NAD	none	Shannon Hope

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-27712
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2267579	TP01 0.00-0.30 SOIL	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267580	TP01 0.50-0.70 SOIL	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267581	TP01 0.90-1.10 SOIL	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267582	TP02 0.60 SOIL	21/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2267583	TP03 0.30 SOIL	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267584	TP03 0.70 SOIL	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267585	TP01 0.50-0.70 LEACHATE	21/11/23	GJ 250ml, GJ 60ml, PT 1L		
2267586	TP02 1.00 LEACHATE	21/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28009	*Issued:*	15-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28009
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	5 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	28-Nov-23
Date Started	28-Nov-23
Date Completed	15-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268943	2268944	2268945	2268946	2268947
			.Sample ID	TP04	TP04A	TP05	TP07	TP09
			Depth	0.90	0.30	0.80	0.90	0.90
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg		14	4.8		8.2
Beryllium	DETSC 2301#	0.2	mg/kg		0.8	0.2		0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg		0.8	0.2		0.3
Cadmium	DETSC 2301#	0.1	mg/kg		0.3	0.1		0.3
Chromium III	DETSC 2301*	0.15	mg/kg		21	7.7		14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg		17	8.2		16
Lead	DETSC 2301#	0.3	mg/kg		86	4.7		7.2
Mercury	DETSC 2325#	0.05	mg/kg		0.06	< 0.05		< 0.05
Nickel	DETSC 2301#	1	mg/kg		22	8.2		18
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		43	15		27
Zinc	DETSC 2301#	1	mg/kg		52	18		34
Inorganics								
pH	DETSC 2008#		pH	8.3	7.9	8.7	8.3	8.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg		< 0.1	< 0.1		< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	26	13	16	20	18
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10		< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg		< 10	< 10		< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268943	2268944	2268945	2268946	2268947
			.Sample ID	TP04	TP04A	TP05	TP07	TP09
			Depth	0.90	0.30	0.80	0.90	0.90
			Other ID					
			Sample Type	ES	ES	ES	ES	ES
			Sampling Date	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10		< 0.10
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		0.4	< 0.3		< 0.3

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268944	2268945	2268947
			.Sample ID	TP04A	TP05	TP09
			Depth	0.30	0.80	0.90
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	22/11/2023	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

	Lab No	2268944	2268945	2268947
	.Sample ID	TP04A	TP05	TP09
	Depth	0.30	0.80	0.90
	Other ID			
	Sample Type	ES	ES	ES
	Sampling Date	22/11/2023	22/11/2023	22/11/2023
	Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268948	2268949
			.Sample ID	TP04	TP09
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.29	0.22
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	8.0	7.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	0.43
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	0.6
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.77	0.76
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	< 1.3
Inorganics					
pH	DETSC 2008		pH	6.7	6.7
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.16	0.05
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	150	45
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.13	0.037
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.56	0.52
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.7	1.6
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	0.15
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	0.08
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268948	2268949
			.Sample ID	TP04	TP09
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.01	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	0.30

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268948	2268949
			.Sample ID	TP04	TP09
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268948	2268949
			.Sample ID	TP04	TP09
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268948	2268949
			.Sample ID	TP04	TP09
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	22/11/2023	22/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28009
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2268944	TP04A 0.30	SOIL	NAD	none	Ben Barsby
2268945	TP05 0.80	SOIL	NAD	none	Ben Barsby
2268947	TP09 0.90	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28009
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2268943	TP04 0.90 SOIL	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268944	TP04A 0.30 SOIL	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268945	TP05 0.80 SOIL	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268946	TP07 0.90 SOIL	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268947	TP09 0.90 SOIL	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268948	TP04 0.90 LEACHATE	22/11/23	GJ 250ml, GJ 60ml, PT 1L		
2268949	TP09 0.90 LEACHATE	22/11/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28010	*Issued:*	15-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28010
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	6 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	28-Nov-23
Date Started	28-Nov-23
Date Completed	15-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268950	2268951	2268952	2268953	2268954	2268955
			.Sample ID	TP08	TP08	TP12	TP12	TP16	TP16
			Depth	0.30	0.70	0.30	0.50	0.30	0.50
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	11	11	10	17		8.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.5	0.5	1.2		0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5	0.3	0.6	0.6		0.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	< 0.1	0.3	0.4		0.2
Chromium III	DETSC 2301*	0.15	mg/kg	17	15	16	32		16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21	9.3	16	28		17
Lead	DETSC 2301#	0.3	mg/kg	28	7.3	22	17		8.1
Mercury	DETSC 2325#	0.05	mg/kg	0.11	< 0.05	< 0.05	< 0.05		< 0.05
Nickel	DETSC 2301#	1	mg/kg	15	16	15	59		21
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35	30	32	53		29
Zinc	DETSC 2301#	1	mg/kg	58	35	54	73		39
Inorganics									
pH	DETSC 2008#		pH	7.5	7.9	8.0	8.3	8.1	8.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1		< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	14	< 10	11	12	22	35
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268950	2268951	2268952	2268953	2268954	2268955
			.Sample ID	TP08	TP08	TP12	TP12	TP16	TP16
			Depth	0.30	0.70	0.30	0.50	0.30	0.50
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	2.5	< 0.3	2.7	2.7		3.0
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2268950	2268951	2268952	2268953	2268954	2268955
			.Sample ID	TP08	TP08	TP12	TP12	TP16	TP16
			Depth	0.30	0.70	0.30	0.50	0.30	0.50
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01

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Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2268956
.Sample ID	TP08
Depth	0.70
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.43
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.6
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	2.0
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	0.82
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	6.5
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	< 18
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.0
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	0.87
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2268956
.Sample ID	TP08
Depth	0.70
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2268956
.Sample ID	TP08
Depth	0.70
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2268956
.Sample ID	TP08
Depth	0.70
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2268956
.Sample ID	TP08
Depth	0.70
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28010
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2268950	TP08 0.30	SOIL	NAD	none	Vicky Convery
2268951	TP08 0.70	SOIL	NAD	none	Vicky Convery
2268952	TP12 0.30	SOIL	NAD	none	Vicky Convery
2268953	TP12 0.50	SOIL	NAD	none	Vicky Convery
2268955	TP16 0.50	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28010
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2268950	TP08 0.30 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2268951	TP08 0.70 SOIL	23/11/23	GJ 250ml, GJ 60ml x2		
2268952	TP12 0.30 SOIL	23/11/23	GJ 250ml, GJ 60ml x2		
2268953	TP12 0.50 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2268954	TP16 0.30 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2268955	TP16 0.50 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2268956	TP08 0.70 LEACHATE	23/11/23	GJ 250ml, GJ 60ml x2		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28239	*Issued:*	18-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28239
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	4 Soil samples, 3 Leachate prepared by DETS samples.
Date Received	30-Nov-23
Date Started	30-Nov-23
Date Completed	18-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270285	2270286	2270287	2270288
			.Sample ID	TP10	TP10	TP11	TP13
			Depth	0.30	0.70	0.80	1.00
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	11	10	5.5	9.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	0.6	0.4	0.4
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7	0.4	0.5	0.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.3	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	17	16	12	13
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15	14	13	11
Lead	DETSC 2301#	0.3	mg/kg	28	7.3	5.5	7.7
Mercury	DETSC 2325#	0.05	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	14	17	14	16
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35	30	23	27
Zinc	DETSC 2301#	1	mg/kg	56	34	30	51
Inorganics							
pH	DETSC 2008#		pH	8.2	8.3	8.2	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	24	11	31	< 10
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270285	2270286	2270287	2270288
			.Sample ID	TP10	TP10	TP11	TP13
			Depth	0.30	0.70	0.80	1.00
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270285	2270286	2270287	2270288
			.Sample ID	TP10	TP10	TP11	TP13
			Depth	0.30	0.70	0.80	1.00
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270289	2270290	2270291
			.Sample ID	TP10	TP11	TP13
			Depth	0.50	0.30	0.35
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Preparation						
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y
Metals						
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.28	0.38	0.43
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	4.8	3.6	3.1
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7	0.9	0.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.20	1.2	0.33
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	0.7	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	3.1	1.6
Inorganics						
pH	DETSC 2008		pH	6.6	6.6	6.5
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	3.8	2.1
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.15	< 0.02	0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	140	< 18	21
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.12	< 0.015	0.017
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.29	0.88	0.54
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.2	0.86	0.86
Petroleum Hydrocarbons						
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0	< 1.0
PAHs						
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270289	2270290	2270291
			.Sample ID	TP10	TP11	TP13
			Depth	0.50	0.30	0.35
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.03	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.02	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270289	2270290	2270291
			.Sample ID	TP10	TP11	TP13
			Depth	0.50	0.30	0.35
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270289	2270290	2270291
			.Sample ID	TP10	TP11	TP13
			Depth	0.50	0.30	0.35
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1
SVOCs						
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2270289	2270290	2270291
			.Sample ID	TP10	TP11	TP13
			Depth	0.50	0.30	0.35
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	23/11/2023	24/11/2023	24/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28239
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2270285	TP10 0.30	SOIL	NAD	none	Ben Rose
2270286	TP10 0.70	SOIL	NAD	none	Ben Rose
2270287	TP11 0.80	SOIL	NAD	none	Ben Rose
2270288	TP13 1.00	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28239
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2270285	TP10 0.30 SOIL	23/11/23	GJ 250ml x2, GJ 60ml x2, PT 1L		
2270286	TP10 0.70 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2270287	TP11 0.80 SOIL	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2270288	TP13 1.00 SOIL	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2270289	TP10 0.50 LEACHATE	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2270290	TP11 0.30 LEACHATE	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2270291	TP13 0.35 LEACHATE	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number 23-28471 *Issued:* 18-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 23-28471

Client Reference PC238661

Order No OC39078

Contract Title Lionlink Converter C3

Description 1 Soil sample, 1 Leachate prepared by DETS sample.

Date Received 04-Dec-23

Date Started 04-Dec-23

Date Completed 18-Dec-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271579
			.Sample ID	TP19
			Depth	0.30
			Other ID	
			Sample Type	ES
			Sampling Date	28/11/2023
			Sampling Time	n/s
Test	**Method**	**LOD**	**Units**	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	12
Beryllium	DETSC 2301#	0.2	mg/kg	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	18
Lead	DETSC 2301#	0.3	mg/kg	23
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	42
Zinc	DETSC 2301#	1	mg/kg	62
Inorganics				
pH	DETSC 2008#		pH	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	13
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271579
			.Sample ID	TP19
			Depth	0.30
			Other ID	
			Sample Type	ES
			Sampling Date	28/11/2023
			Sampling Time	n/s
Test	**Method**	**LOD**	**Units**	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271579
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271580
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.29
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	6.4
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.2
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	6.7
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.7
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	< 18
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.69
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.3
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271580
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.01
Chrysene	DETSC 3304	0.01	ug/l	0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	0.02
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

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Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271580
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271580
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

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Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271580
.Sample ID	TP19
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28471
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2271579	TP19 0.30	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28471
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2271579	TP19 0.30 SOIL	28/11/23	GJ 60ml, PT 1L		
2271580	TP19 0.30 LEACHATE	28/11/23	GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number 23-28473 *Issued:* 18-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 23-28473

Client Reference PC238661

Order No OC39078

Contract Title Lionlink Converter C3

Description 2 Soil samples.

Date Received 04-Dec-23

Date Started 04-Dec-23

Date Completed 18-Dec-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28473
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271582	2271583
			.Sample ID	BH03	BH04
			Depth	0.80-0.90	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	28/11/2023	28/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	18	12
Beryllium	DETSC 2301#	0.2	mg/kg	1.2	0.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	30	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	26	23
Lead	DETSC 2301#	0.3	mg/kg	18	17
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.15
Nickel	DETSC 2301#	1	mg/kg	38	27
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	54	42
Zinc	DETSC 2301#	1	mg/kg	87	79
Inorganics					
pH	DETSC 2008#		pH	7.7	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10	< 10
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28473
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271582	2271583
			.Sample ID	BH03	BH04
			Depth	0.80-0.90	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	28/11/2023	28/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28473
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271582	2271583
			.Sample ID	BH03	BH04
			Depth	0.80-0.90	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	28/11/2023	28/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28473
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2271582	BH03 0.80-0.90	SOIL	NAD	none	Vicky Convery
2271583	BH04 0.40-0.50	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28473
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2271582	BH03 0.80-0.90 SOIL	28/11/23	GJ 60ml, PT 1L		
2271583	BH04 0.40-0.50 SOIL	28/11/23	GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28475	*Issued:*	18-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28475
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	4 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	04-Dec-23
Date Started	04-Dec-23
Date Completed	18-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271585	2271586	2271587	2271588
			.Sample ID	TP21	TP26	TP26	TP28
			Depth	0.30	0.40	0.90	0.30
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	29/11/2023	29/11/2023	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	12	11		11
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.4		0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5	0.4		0.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.4		0.2
Chromium III	DETSC 2301*	0.15	mg/kg	18	13		20
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15	24		14
Lead	DETSC 2301#	0.3	mg/kg	20	24		15
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05		< 0.05
Nickel	DETSC 2301#	1	mg/kg	14	11		17
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35	28		39
Zinc	DETSC 2301#	1	mg/kg	54	52		50
Inorganics							
pH	DETSC 2008#		pH	7.3	7.6	7.8	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2	0.1		< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	15	< 10	< 10	< 10
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10		< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10		< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271585	2271586	2271587	2271588
			.Sample ID	TP21	TP26	TP26	TP28
			Depth	0.30	0.40	0.90	0.30
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	29/11/2023	29/11/2023	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10		< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3		< 0.3

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

	Lab No	2271585	2271586	2271588
	.Sample ID	TP21	TP26	TP28
	Depth	0.30	0.40	0.30
	Other ID			
	Sample Type	ES	ES	ES
	Sampling Date	29/11/2023	29/11/2023	29/11/2023
	Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271585	2271586	2271588
			.Sample ID	TP21	TP26	TP28
			Depth	0.30	0.40	0.30
			Other ID			
			Sample Type	ES	ES	ES
			Sampling Date	29/11/2023	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271589
.Sample ID	TP21
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.95
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.9
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.32
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	6.6
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.5
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.09
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	86
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.071
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.42
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.4
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271589
.Sample ID	TP21
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271589
.Sample ID	TP21
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271589
.Sample ID	TP21
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2271589
.Sample ID	TP21
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28475
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2271585	TP21 0.30	SOIL	NAD	none	Shannon Hope
2271586	TP26 0.40	SOIL	NAD	none	Shannon Hope
2271588	TP28 0.30	SOIL	NAD	none	Shannon Hope

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28475
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2271585	TP21 0.30 SOIL	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2271586	TP26 0.40 SOIL	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2271587	TP26 0.90 SOIL	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2271588	TP28 0.30 SOIL	29/11/23	GJ 60ml, PT 1L		
2271589	TP21 0.30 LEACHATE	29/11/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28476	*Issued:*	18-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28476
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	9 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	04-Dec-23
Date Started	04-Dec-23
Date Completed	18-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271590	2271591	2271592	2271593	2271594	2271595	2271596
			.Sample ID	TP14	TP14	TP22	TP22	TP23	TP23	TP24
			Depth	0.30	1.00	0.40	0.90	0.30	0.80	0.40
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	24/11/2023	24/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	13	8.9	13	7.1	11		11
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	0.6	0.6	0.6	0.7		0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.0	0.2	0.8	0.2	0.8		0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.2	0.2	0.2		0.2
Chromium III	DETSC 2301*	0.15	mg/kg	19	17	18	18	18		19
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	16	16	19	16		14
Lead	DETSC 2301#	0.3	mg/kg	22	7.2	33	8.6	22		28
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		< 0.05
Nickel	DETSC 2301#	1	mg/kg	16	20	16	21	16		15
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	37	33	36	31	36		37
Zinc	DETSC 2301#	1	mg/kg	53	38	53	47	45		47
Inorganics										
pH	DETSC 2008#		pH	7.7	8.3	8.0	8.2	7.8	8.1	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	16	14	12	28	13	18	< 10
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10		< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10		< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271590	2271591	2271592	2271593	2271594	2271595	2271596
			.Sample ID	TP14	TP14	TP22	TP22	TP23	TP23	TP24
			Depth	0.30	1.00	0.40	0.90	0.30	0.80	0.40
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	24/11/2023	24/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10		< 0.10
Phenols										
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3		< 0.3
OCPs										
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
OPPs										
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271590	2271591	2271592	2271593	2271594	2271595	2271596
			.Sample ID	TP14	TP14	TP22	TP22	TP23	TP23	TP24
			Depth	0.30	1.00	0.40	0.90	0.30	0.80	0.40
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	24/11/2023	24/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Triazines										
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Terbuthylazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271597	2271598
			.Sample ID	TP24	TP25
			Depth	0.90	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg		6.8
Beryllium	DETSC 2301#	0.2	mg/kg		0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg		< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg		0.2
Chromium III	DETSC 2301*	0.15	mg/kg		13
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0
Copper	DETSC 2301#	0.2	mg/kg		14
Lead	DETSC 2301#	0.3	mg/kg		6.0
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05
Nickel	DETSC 2301#	1	mg/kg		15
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		25
Zinc	DETSC 2301#	1	mg/kg		31
Inorganics					
pH	DETSC 2008#		pH	8.0	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg		< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	13	11
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg		< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg		< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271597	2271598
			.Sample ID	TP24	TP25
			Depth	0.90	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		
beta-BHC	DETSC 3433*	0.1	mg/kg		
delta-BHC	DETSC 3433*	0.1	mg/kg		
Heptachlor	DETSC 3433*	0.1	mg/kg		
Aldrin	DETSC 3433*	0.1	mg/kg		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		
4,4-DDE	DETSC 3433*	0.1	mg/kg		
Dieldrin	DETSC 3433*	0.1	mg/kg		
Endrin	DETSC 3433*	0.1	mg/kg		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		
4,4-DDT	DETSC 3433*	0.1	mg/kg		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		
Methoxychlor	DETSC 3433*	0.1	mg/kg		
Endrin ketone	DETSC 3433*	0.1	mg/kg		
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg		
Mevinphos	DETSC 3433*	0.1	mg/kg		
Demeton-O	DETSC 3433*	0.1	mg/kg		
Ethoprop	DETSC 3433*	0.1	mg/kg		
Naled	DETSC 3433*	0.1	mg/kg		
Phorate	DETSC 3433*	0.1	mg/kg		
Demeton-S	DETSC 3433*	0.1	mg/kg		
Diazinon	DETSC 3433*	0.1	mg/kg		

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271597	2271598
			.Sample ID	TP24	TP25
			Depth	0.90	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Disulfoton	DETSC 3433*	0.1	mg/kg		
Methylparathion	DETSC 3433*	0.1	mg/kg		
Ronnel	DETSC 3433*	0.1	mg/kg		
Fenthion	DETSC 3433*	0.1	mg/kg		
Chlopyrifos	DETSC 3433*	0.1	mg/kg		
Trichlorinate	DETSC 3433*	0.1	mg/kg		
Merphos	DETSC 3433*	0.1	mg/kg		
Stirofos	DETSC 3433*	0.1	mg/kg		
Tokuthion	DETSC 3433*	0.1	mg/kg		
Fensulfothion	DETSC 3433*	0.1	mg/kg		
Bolstar	DETSC 3433*	0.1	mg/kg		
Azinphos methyl	DETSC 3433*	0.1	mg/kg		
Coumaphos	DETSC 3433*	0.1	mg/kg		
Triazines					
Atraton	DETSC 3433*	0.1	mg/kg		
Prometon	DETSC 3433*	0.1	mg/kg		
Simazine	DETSC 3433*	0.1	mg/kg		
Atrazine	DETSC 3433*	0.1	mg/kg		
Propazine	DETSC 3433*	0.1	mg/kg		
Terbuthylazine	DETSC 3433*	0.1	mg/kg		
Secbumeton	DETSC 3433*	0.1	mg/kg		
Symetryn	DETSC 3433*	0.1	mg/kg		
Ametryn	DETSC 3433*	0.1	mg/kg		
Prometryne	DETSC 3433*	0.1	mg/kg		
Terbutryn	DETSC 3433*	0.1	mg/kg		

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

	Lab No	2271590	2271591	2271592	2271593	2271594	2271596	2271598
	.Sample ID	TP14	TP14	TP22	TP22	TP23	TP24	TP25
	Depth	0.30	1.00	0.40	0.90	0.30	0.40	0.40
	Other ID							
	Sample Type	ES	ES	ES	ES	ES	ES	ES
	Sampling Date	24/11/2023	24/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271590	2271591	2271592	2271593	2271594	2271596	2271598
			.Sample ID	TP14	TP14	TP22	TP22	TP23	TP24	TP25
			Depth	0.30	1.00	0.40	0.90	0.30	0.40	0.40
			Other ID							
			Sample Type	ES	ES	ES	ES	ES	ES	ES
			Sampling Date	24/11/2023	24/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271599	2271600
			.Sample ID	TP22	TP25
			Depth	0.40	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.49	0.30
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	7.2	7.3
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.63	0.68
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.9	0.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.97	0.55
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	2.2	2.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	2.1	1.8
Inorganics					
pH	DETSC 2008		pH	9.0	8.9
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.05	0.04
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	51	38
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.042	0.031
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.14	0.66
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	13	16
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	0.06	0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271599	2271600
			.Sample ID	TP22	TP25
			Depth	0.40	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	0.02
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271599	2271600
			.Sample ID	TP22	TP25
			Depth	0.40	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271599	2271600
			.Sample ID	TP22	TP25
			Depth	0.40	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2271599	2271600
			.Sample ID	TP22	TP25
			Depth	0.40	0.40
			Other ID		
			Sample Type	ES	ES
			Sampling Date	30/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	1.3
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28476
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2271590	TP14 0.30	SOIL	NAD	none	Shannon Hope
2271591	TP14 1.00	SOIL	NAD	none	Shannon Hope
2271592	TP22 0.40	SOIL	NAD	none	Shannon Hope
2271593	TP22 0.90	SOIL	NAD	none	Shannon Hope
2271594	TP23 0.30	SOIL	NAD	none	Shannon Hope
2271596	TP24 0.40	SOIL	NAD	none	Shannon Hope
2271598	TP25 0.40	SOIL	NAD	none	Shannon Hope

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28476
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2271590	TP14 0.30 SOIL	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2271591	TP14 1.00 SOIL	24/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2271592	TP22 0.40 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271593	TP22 0.90 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271594	TP23 0.30 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271595	TP23 0.80 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271596	TP24 0.40 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271597	TP24 0.90 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271598	TP25 0.40 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271599	TP22 0.40 LEACHATE	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2271600	TP25 0.40 LEACHATE	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28621	*Issued:*	19-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28621
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	6 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	05-Dec-23
Date Started	05-Dec-23
Date Completed	19-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

				Lab No	2272232	2272233	2272234	2272235	2272236	2272237
				.Sample ID	TP06	TP06	TP15	TP15	TP18	TP18
				Depth	0.35	0.90	0.40	0.90	0.30	0.90
				Other ID						
				Sample Type	ES	ES	ES	ES	ES	ES
				Sampling Date	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	10		11	7.7	11	8.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.7		0.7	0.5	0.6	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7		0.6	< 0.2	1.1	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.3		0.3	0.3	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	19		22	14	19	14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15		20	17	18	15
Lead	DETSC 2301#	0.3	mg/kg	33		20	5.8	33	6.7
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	14		17	17	13	17
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	37		42	26	35	27
Zinc	DETSC 2301#	1	mg/kg	63		66	37	53	41
Inorganics										
pH	DETSC 2008#		pH	7.8	8.1	7.9	8.1	7.4	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2		0.1	< 0.1	0.2	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	10	26	< 10	22	< 10	27
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.05		< 0.01	0.02	0.06	0.04
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.02		< 0.01	< 0.01	0.02	0.02
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	< 1.5	3.0	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2		< 1.2	< 1.2	13	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	< 1.5	27	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4		< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	44	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9		< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6		< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4		< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10	44	< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272232	2272233	2272234	2272235	2272236	2272237
			.Sample ID	TP06	TP06	TP15	TP15	TP18	TP18
			Depth	0.35	0.90	0.40	0.90	0.30	0.90
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10		< 0.10	< 0.10	< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.5		0.3	< 0.3	0.5	< 0.3
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272232	2272233	2272234	2272235	2272236	2272237
			.Sample ID	TP06	TP06	TP15	TP15	TP18	TP18
			Depth	0.35	0.90	0.40	0.90	0.30	0.90
			Other ID						
			Sample Type	ES	ES	ES	ES	ES	ES
			Sampling Date	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023	27/11/2023
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**						
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01		< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272238	2272239
.Sample ID	TP15	TP18
Depth	0.90	0.90
Other ID		
Sample Type	ES	ES
Sampling Date	27/11/2023	27/11/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.2	0.38
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	9.8	9.8
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.76	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	3.2	1.1
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.16	0.12
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	< 1.3
Inorganics					
pH	DETSC 2008		pH	8.3	8.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.10	0.13
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	99	120
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.081	0.098
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.96	0.72
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.8	5.0
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272238	2272239
			.Sample ID	TP15	TP18
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	27/11/2023	27/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272238	2272239
.Sample ID	TP15	TP18
Depth	0.90	0.90
Other ID		
Sample Type	ES	ES
Sampling Date	27/11/2023	27/11/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272238	2272239
			.Sample ID	TP15	TP18
			Depth	0.90	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	27/11/2023	27/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

	Lab No	2272238	2272239
	.Sample ID	TP15	TP18
	Depth	0.90	0.90
	Other ID		
	Sample Type	ES	ES
	Sampling Date	27/11/2023	27/11/2023
	Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28621
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2272232	TP06 0.35	SOIL	NAD	none	Robertas Ciparis
2272234	TP15 0.40	SOIL	NAD	none	Robertas Ciparis
2272235	TP15 0.90	SOIL	NAD	none	Robertas Ciparis
2272236	TP18 0.30	SOIL	NAD	none	Robertas Ciparis
2272237	TP18 0.90	SOIL	NAD	none	Robertas Ciparis

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28621
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2272232	TP06 0.35 SOIL	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2272233	TP06 0.90 SOIL	27/11/23	GJ 250ml, GJ 60ml x2	pH + Conductivity (7 days)	
2272234	TP15 0.40 SOIL	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2272235	TP15 0.90 SOIL	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2272236	TP18 0.30 SOIL	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2272237	TP18 0.90 SOIL	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2272238	TP15 0.90 LEACHATE	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272239	TP18 0.90 LEACHATE	27/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28623	*Issued:*	19-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28623
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	2 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	05-Dec-23
Date Started	05-Dec-23
Date Completed	19-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).
Notes	Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272250	2272251
			.Sample ID	TP27	TP27
			Depth	0.30	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	9.2	9.8
Beryllium	DETSC 2301#	0.2	mg/kg	0.5	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	16	20
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	12	21
Lead	DETSC 2301#	0.3	mg/kg	14	7.8
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	13	26
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	31	40
Zinc	DETSC 2301#	1	mg/kg	42	50
Inorganics					
pH	DETSC 2008#		pH	7.8	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	12	< 10
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.06	0.06
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.01	0.02
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272250	2272251
			.Sample ID	TP27	TP27
			Depth	0.30	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272250	2272251
			.Sample ID	TP27	TP27
			Depth	0.30	0.90
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	29/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272252
.Sample ID	TP27
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.39
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	6.3
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.21
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	7.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.17
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	160
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.13
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.92
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.4
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272252
.Sample ID	TP27
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272252
.Sample ID	TP27
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272252
.Sample ID	TP27
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272252
.Sample ID	TP27
Depth	0.30
Other ID	
Sample Type	ES
Sampling Date	29/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28623
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2272250	TP27 0.30	SOIL	NAD	none	Barry Kelly
2272251	TP27 0.90	SOIL	NAD	none	Barry Kelly

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28623
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2272250	TP27 0.30 SOIL	29/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272251	TP27 0.90 SOIL	29/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272252	TP27 0.30 LEACHATE	29/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	23-28624	*Issued:*	19-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28624
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	1 Soil sample, 1 Leachate prepared by DETS sample.
Date Received	05-Dec-23
Date Started	05-Dec-23
Date Completed	19-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272253
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Arsenic	DETSC 2301#	0.2	mg/kg	10
Beryllium	DETSC 2301#	0.2	mg/kg	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14
Lead	DETSC 2301#	0.3	mg/kg	9.2
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	33
Zinc	DETSC 2301#	1	mg/kg	52
Inorganics				
pH	DETSC 2008#		pH	7.8
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	16
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.06
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.02
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	550
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	900
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	330
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	1800
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	4.1
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	120
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	160
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	160
Aromatic C5-C35	DETSC 3072*	10	mg/kg	440
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	2200
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272253
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272253
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272254
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.28
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.6
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.89
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.7
Inorganics				
pH	DETSC 2008		pH	9.1
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.16
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	150
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.12
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.3
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.5
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272254
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272254
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272254
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Bromobenzene	DETSC 3432	1	ug/l	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	2272254
.Sample ID	BH03
Depth	0.30-0.40
Other ID	
Sample Type	ES
Sampling Date	28/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28624
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2272253	BH03 0.30-0.40	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28624
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2272253	BH03 0.30-0.40 SOIL	28/11/23	GJ 250ml, GJ 60ml, PT 1L		
2272254	BH03 0.30-0.40 LEACHATE	28/11/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number 23-28625-0 *Issued:* 20-Mar-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 23-28625-0

Client Reference ~ PC238661

Order No ~ OC39078

Contract Title ~ Lionlink Converter C3

Description 4 Soil samples, 1 Leachate prepared by DETS sample.

Date Received 05-Dec-23

Date Started 05-Dec-23

Date Completed 20-Mar-24

Test Procedures Identified by prefix DETSn (details on request).

Notes **This report supersedes 23-28625, amendments made**
Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

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Summary of Chemical Analysis
Soil Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

	Lab No	2272255	2272256	2272257	2272258
	Sample ID ~	TP17	TP17	TP20	TP20
	Depth ~	0.30	1.00	0.30	0.80
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	28/11/2023	28/11/2023	28/11/2023	28/11/2023
	Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	9.3		12	9.2
Beryllium	DETSC 2301#	0.2	mg/kg	0.5		0.7	0.6
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3		0.6	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.3		0.3	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	17		21	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	18		17	16
Lead	DETSC 2301#	0.3	mg/kg	23		26	8.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05		< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	12		17	20
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	32		40	32
Zinc	DETSC 2301#	1	mg/kg	58		55	46
Inorganics							
pH	DETSC 2008#		pH	7.1	8.0	7.6	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2		0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10	13	11	13
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01		0.06	0.07
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	0.09		< 0.01	0.08
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	0.03		0.02	0.02
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2		< 1.2	3.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5		< 1.5	12
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4		< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	15
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01		< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9		< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5		< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6		< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4		< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10		< 10	15
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

			Lab No	2272255	2272256	2272257	2272258
			Sample ID ~	TP17	TP17	TP20	TP20
			Depth ~	0.30	1.00	0.30	0.80
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	28/11/2023	28/11/2023	28/11/2023	28/11/2023
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		0.04	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10		< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3		0.3	< 0.3
OCPs							
alpha-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg			< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg			< 0.1	
OPPs							
Dichlorvos	DETSC 3433*	0.1	mg/kg			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

			Lab No	2272255	2272256	2272257	2272258
			Sample ID ~	TP17	TP17	TP20	TP20
			Depth ~	0.30	1.00	0.30	0.80
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	28/11/2023	28/11/2023	28/11/2023	28/11/2023
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Disulfoton	DETSC 3433*	0.1	mg/kg			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg			< 0.1	
Triazines							
Atraton	DETSC 3433*	0.1	mg/kg			< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg			< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg			< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg			< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg			< 0.1	
Terbuthylazine	DETSC 3433*	0.1	mg/kg			< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg			< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg			< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg			< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg			< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg			< 0.1	

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

	Lab No	2272255	2272257	2272258
	Sample ID ~	TP17	TP20	TP20
	Depth ~	0.30	0.30	0.80
	Other ID ~			
	Sample Type ~	ES	ES	ES
	Sampling Date ~	28/11/2023	28/11/2023	28/11/2023
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil VOC/SVOC Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

			Lab No	2272255	2272257	2272258
			Sample ID ~	TP17	TP20	TP20
			Depth ~	0.30	0.30	0.80
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	28/11/2023	28/11/2023	28/11/2023
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	2272259
Sample ID ~	TP17
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	28/11/2023
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.0
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.7
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.2
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.22
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.0
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	8.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.05
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	46
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.038
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.2
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.9
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	2272259
Sample ID ~	TP17
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	28/11/2023
Sampling Time ~	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	2272259
Sample ID ~	TP17
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	28/11/2023
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	2272259
Sample ID ~	TP17
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	28/11/2023
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	2272259
Sample ID ~	TP17
Depth ~	0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	28/11/2023
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract Title ~ Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2272255	TP17 0.30	SOIL	NAD	none	Ben Barsby
2272257	TP20 0.30	SOIL	NAD	none	Ben Barsby
2272258	TP20 0.80	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28625-0
Client Ref ~ PC238661
Contract ~ Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2272255	TP17 0.30 SOIL	28/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272256	TP17 1.00 SOIL	28/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272257	TP20 0.30 SOIL	28/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272258	TP20 0.80 SOIL	28/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272259	TP17 0.30 LEACHATE	28/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results

***** -not accredited.

-MCERTS (accreditation only applies if report carries the MCERTS logo).

$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	23-28729	*Issued:*	20-Dec-23

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	23-28729
Client Reference	PC238661
Order No	OC39078
Contract Title	Lionlink Converter C3
Description	3 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	06-Dec-23
Date Started	06-Dec-23
Date Completed	20-Dec-23
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

				Lab No	2272933	2272934	2272935
				.Sample ID	BH05	BH05	BH06
				Depth	0.50-0.60	0.80-0.90	0.40-0.50
				Other ID			
				Sample Type	ES	ES	ES
				Sampling Date	29/11/2023	29/11/2023	30/11/2023
				Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	9.0	15	9.4
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	1.0	0.9
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.4	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.7	0.5	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	18	30	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	17	26	20
Lead	DETSC 2301#	0.3	mg/kg	62	32	12
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	18	42	32
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	34	53	44
Zinc	DETSC 2301#	1	mg/kg	97	110	69
Inorganics							
pH	DETSC 2008#		pH	8.3	8.1	8.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	95	73	13
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	0.61	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

				Lab No	2272933	2272934	2272935
				.Sample ID	BH05	BH05	BH06
				Depth	0.50-0.60	0.80-0.90	0.40-0.50
				Other ID			
				Sample Type	ES	ES	ES
				Sampling Date	29/11/2023	29/11/2023	30/11/2023
				Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3	< 0.3	< 0.3
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg		< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

	Lab No	2272933	2272934	2272935
	.Sample ID	BH05	BH05	BH06
	Depth	0.50-0.60	0.80-0.90	0.40-0.50
	Other ID			
	Sample Type	ES	ES	ES
	Sampling Date	29/11/2023	29/11/2023	30/11/2023
	Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272936	2272937
			.Sample ID	BH05	BH06
			Depth	0.50-0.60	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.30	0.23
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	2.7	6.7
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	0.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.25	0.14
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	9.3	2.8
Inorganics					
pH	DETSC 2008		pH	7.2	7.1
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	0.04	0.05
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	40	50
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.033	0.041
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.71	0.31
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.7	0.84
Petroleum Hydrocarbons					
Benzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0	< 1.0
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272936	2272937
			.Sample ID	BH05	BH06
			Depth	0.50-0.60	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272936	2272937
			.Sample ID	BH05	BH06
			Depth	0.50-0.60	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272936	2272937
			.Sample ID	BH05	BH06
			Depth	0.50-0.60	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

			Lab No	2272936	2272937
			.Sample ID	BH05	BH06
			Depth	0.50-0.60	0.40-0.50
			Other ID		
			Sample Type	ES	ES
			Sampling Date	29/11/2023	30/11/2023
			Sampling Time	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 23-28729
Client Ref PC238661
Contract Title Lionlink Converter C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2272933	BH05 0.50-0.60	SOIL	NAD	none	Ben Barsby
2272934	BH05 0.80-0.90	SOIL	NAD	none	Ben Barsby
2272935	BH06 0.40-0.50	SOIL	NAD	none	Ben Barsby

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-28729
Client Ref PC238661
Contract Lionlink Converter C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2272933	BH05 0.50-0.60 SOIL	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2272934	BH05 0.80-0.90 SOIL	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2272935	BH06 0.40-0.50 SOIL	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		
2272936	BH05 0.50-0.60 LEACHATE	29/11/23	GJ 250ml, GJ 60ml, PT 1L		
2272937	BH06 0.40-0.50 LEACHATE	30/11/23	GJ 250ml, GJ 60ml x2, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

Certificate of Analysis

Certificate Number	24-03390	*Issued:*	26-Feb-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-03390
Client Reference	PC238661
Order No	OC39080
Contract Title	LionLInk C3
Description	4 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	19-Feb-24
Date Started	19-Feb-24
Date Completed	26-Feb-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

			Lab No	2301106	2301107	2301108	2301109
			.Sample ID	BH01	BH01	BH02	BH02
			Depth	0.30-0.40	0.80-0.90	0.40-0.50	0.80-0.90
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	9.5	15	10	8.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.6	1.0	0.8	0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	1.0	0.8	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	16	28	23	15
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	18	19	14
Lead	DETSC 2301#	0.3	mg/kg	9.9	14	12	8.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	19	32	27	19
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	28	48	38	26
Zinc	DETSC 2301#	1	mg/kg	37	50	47	37
Inorganics							
pH	DETSC 2008#		pH	8.2	7.9	8.0	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	28	20	18	17
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

			Lab No	2301106	2301107	2301108	2301109
			.Sample ID	BH01	BH01	BH02	BH02
			Depth	0.30-0.40	0.80-0.90	0.40-0.50	0.80-0.90
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Phenols							
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

			Lab No	2301106	2301107	2301108	2301109
			.Sample ID	BH01	BH01	BH02	BH02
			Depth	0.30-0.40	0.80-0.90	0.40-0.50	0.80-0.90
			Other ID				
			Sample Type	ES	ES	ES	ES
			Sampling Date	23/11/2023	23/11/2023	23/11/2023	23/11/2023
			Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2301110
.Sample ID	BH01
Depth	0.80-0.90
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.45
Boron, Dissolved	DETSC 2306*	12	ug/l	13
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	20
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.53
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.64
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.08
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	1.3
Inorganics				
pH	DETSC 2008		pH	8.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	< 18
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.0
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.3
Petroleum Hydrocarbons				
Benzene	DETSC 3322	1	ug/l	< 1.0
Toluene	DETSC 3322	1	ug/l	< 1.0
Ethylbenzene	DETSC 3322	1	ug/l	< 1.0
Xylene	DETSC 3322	1	ug/l	< 1.0
MTBE	DETSC 3322	1	ug/l	< 1.0
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2301110
.Sample ID	BH01
Depth	0.80-0.90
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2301110
.Sample ID	BH01
Depth	0.80-0.90
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2301110
.Sample ID	BH01
Depth	0.80-0.90
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2301110
.Sample ID	BH01
Depth	0.80-0.90
Other ID	
Sample Type	ES
Sampling Date	23/11/2023
Sampling Time	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited. n/s -not supplied.

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-03390
Client Ref PC238661
Contract Title LionLInk C3

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2301106	BH01 0.30-0.40	SOIL	NAD	none	Robertas Ciparis
2301107	BH01 0.80-0.90	SOIL	NAD	none	Robertas Ciparis
2301108	BH02 0.40-0.50	SOIL	NAD	none	Robertas Ciparis
2301109	BH02 0.80-0.90	SOIL	NAD	none	Robertas Ciparis

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-03390
Client Ref PC238661
Contract LionLInk C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2301106	BH01 0.30-0.40 SOIL	23/11/23	GJ 250ml, GJ 60ml, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2301107	BH01 0.80-0.90 SOIL	23/11/23	GJ 250ml, GJ 60ml, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2301108	BH02 0.40-0.50 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2301109	BH02 0.80-0.90 SOIL	23/11/23	GJ 250ml, GJ 60ml x2, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2301110	BH01 0.80-0.90 LEACHATE	23/11/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

APPENDIX 14

Chemical Laboratory - Water

Certificate of Analysis

Certificate Number 23-29495 *Issued:* 04-Jan-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference 23-29495

Client Reference PC238661

Order No OC39213

Contract Title LionLInk C3

Description One Water sample.

Date Received 14-Dec-23

Date Started 14-Dec-23

Date Completed 04-Jan-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Water Samples

Our Ref 23-29495
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2277144
.Sample ID	BH05
Depth	10.00
Other ID	
Sample Type	EW
Sampling Date	08/12/2023
Sampling Time	1000

Test	Method	LOD	Units	
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.58
Boron, Dissolved	DETSC 2306*	12	ug/l	51
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.08
Calcium, Dissolved	DETSC 2306	0.09	mg/l	140
Chromium III, Dissolved	DETSC 2306*	1	ug/l	4.8
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	2.0
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.59
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	2.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	53
Inorganics				
pH	DETSC 2008		pH	7.0
Cyanide, Total	DETSC 2130	40	ug/l	< 40
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	3.9
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	380
Sulphate as SO4	DETSC 2055	0.1	mg/l	46
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	3.8
Aliphatic C12-C16	DETSC 3072*	1	ug/l	26
Aliphatic C16-C21	DETSC 3072*	1	ug/l	28
Aliphatic C21-C35	DETSC 3072*	1	ug/l	1.7
Aliphatic C5-C35	DETSC 3072*	10	ug/l	60
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	10
Aromatic C12-C16	DETSC 3072*	1	ug/l	20
Aromatic C16-C21	DETSC 3072*	1	ug/l	22
Aromatic C21-C35	DETSC 3072*	1	ug/l	11
Aromatic C5-C35	DETSC 3072*	10	ug/l	63
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	120
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.02

Key: * -not accredited.

Summary of Chemical Analysis
Water Samples

Our Ref 23-29495
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2277144
.Sample ID	BH05
Depth	10.00
Other ID	
Sample Type	EW
Sampling Date	08/12/2023
Sampling Time	1000

Test	Method	LOD	Units	
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.02
Pyrene	DETSC 3304	0.01	ug/l	0.02
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Key: * -not accredited.

Summary of Chemical Analysis
Water Samples

Our Ref 23-29495
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2277144
.Sample ID	BH05
Depth	10.00
Other ID	
Sample Type	EW
Sampling Date	08/12/2023
Sampling Time	1000

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Key: * -not accredited.

Summary of Chemical Analysis
Water Samples

Our Ref 23-29495
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2277144
.Sample ID	BH05
Depth	10.00
Other ID	
Sample Type	EW
Sampling Date	08/12/2023
Sampling Time	1000

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited.

Summary of Chemical Analysis
Water Samples

Our Ref 23-29495
Client Ref PC238661
Contract Title LionLInk C3

Lab No	2277144
.Sample ID	BH05
Depth	10.00
Other ID	
Sample Type	EW
Sampling Date	08/12/2023
Sampling Time	1000

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Key: * -not accredited.

Information in Support of the Analytical Results

Our Ref 23-29495
Client Ref PC238661
Contract LionLInk C3

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2277144	BH05 10.00 WATER	08/12/23	GB 1L x2, GV x2	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	

Key: G-Glass B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

4 Geotechnics Ground Investigation Factual Report: Lionlink – Walberswick Landfall

GEOTECHNICS

BUILD ON CONFIDENCE

Ground Investigation

at

Lionlink - Walberswick Landfall

Project No:	PC238663
Client:	National Grid Ventures
Engineer:	BakerHicks
Date:	January 2025

Factual Report



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GEOTECHNICS
BUILD ON CONFIDENCE

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APPENDIX 16	Investigation Techniques and General Notes

1.0 INTRODUCTION

A geotechnical and geoenvironmental investigation was undertaken by Geotechnics Limited at the site of a proposed HVDC cable route and associated new landfall site at Walberswick, Suffolk to form part of a future interconnection between Great Britain and mainland Europe. The investigation was carried out to the instructions of the Engineer, BakerHicks on behalf of the Client, National Grid Ventures. This report describes the work undertaken and presents the data obtained.

2.0 OBJECT AND SCOPE OF THE INVESTIGATION

The object of the investigation was to obtain information on the ground and groundwater conditions relating to the design of the proposed works within the limitations posed by exploratory hole numbers, locations, depths, methods adopted and the scope of approved in situ and laboratory testing. An extract of the Brief for the project is included in Appendix 1. The investigation comprised cable percussive boreholes and trial pits, in situ and laboratory testing and reporting. A Factual Report was also commissioned.

3.0 PRESENTATION

A description of the site and a summary of the procedures followed during the investigation process are presented in Sections 4 to 6. The factual data so obtained are presented in Appendices 2 to 15 of this report. Attention is drawn to the General Notes and Investigation Procedures presented in Appendix 16 to aid an understanding of the procedures followed and the context in which the report should be read.

The report is presented in electronic PDF format with the data presented in electronic format in accordance with "The Electronic Transfer of Geotechnical Data from Ground Investigations" published by the AGS (the AGS Format) presented separately as a digital file.

4.0 THE SITE

4.1 Location

The site is located approximately 12km north of Sizewell on the southern edge of the village of Walberswick about 300m north west of the coast. The approximate Ordnance Survey National Grid Reference for the centre of the site is TM 493 744 and an extract from the relevant 1:50,000 Scale O.S. Map (Sheet No. 156) is included as Appendix 2.

4.2 Description

The site is approximately square in shape and covers an area of about 10.5ha. The site is currently a farmer's field which had been recently harvested at the time of the works, with low stubble crops covering the field. The site is accessed off Stocks Lane on the western side of the site. The northern half of the site is surrounded by residential houses, by more fields to the south west, by marshlands which make up a SSSI to the south with Dunwich River beyond and to the south east by Walberswick Caravan Park, beyond which is the Minsmere-Walberswick SAC, SPA and Ramsar site on Walberswick beach.

Photographs of the site taken during the fieldwork are presented in Appendix 3.

4.3 Site Geology

The British Geological Survey website, https://geologyviewer.bgs.ac.uk/, accessed on 28th November 2024, shows the site to be underlain by the Crag Group comprising of sands of Neogene to Quaternary age. Superficial deposits of the Lowestoft Formation are shown in the north western corner of the site, comprising sand and gravel. To the south of the site boundary are Tidal Flat Deposits, comprising clay and silt.

4.4 Hydrogeology

The MAGIC MAPS website, https://magic.defra.gov.uk/MagicMap.aspx , accessed on 28th December 2024, shows the Crag Group to be a Principal Aquifer. The Lowestoft Formation and Tidal Flat deposits are both shown to be a Secondary A Aquifers.

5.0 PROCEDURE

5.1 Commissioning

The work was awarded following submission of a tender for work designed by the Engineer for a ground investigation of the site in accordance with the Client's requirements (see Appendix 1).

5.2 General

The procedures followed in this site investigation are based on BS 5930: 2015+A1:2020 – Code of Practice for Site Investigations and BS 10175:2011+A2:2017 - Investigation of Potentially Contaminated Sites. The soils and rocks encountered have been described in accordance with BS5930:2015+A1:2020, BS EN ISO 14688-1:2018 and BS EN ISO 14689:2018. The Cable Percussive Borehole and Trial Pit Records are included in Appendices 4 and 5 and their approximate positions are shown on the Exploratory Hole Location Plan in Appendix 6.

The Exploratory Hole locations were specified by the Engineer. The co-ordinates and levels shown on the Exploratory Hole Records were measured using a Leica GPS survey device. The depths quoted on the exploratory hole records are in metres below ground level (bgl).

To prevent activities onsite affecting breeding and non-breeding bird species nesting in the Minsmere-Walberswick SAC, SPA and Ramsar site as outlined in the document, "Lionlink Report to Inform a Habitats Regulations Assessment for Ground Investigation Works", dated July 2024, mitigation measures involved erecting 2m high temporary noise barriers around the works areas, with only one high decibel causing activity, such as SPT testing, to be undertaken at any one time with activities spaced so that the rigs worked at opposite ends of the site to help reduced the combined noise levels.

5.3 Archaeology

Before the works were undertaken, a Written Schemes of Investigation (WSI) was produced by Cotswold Archaeology and approved by Suffolk County Council Archaeological Service (SCCAS) to detail the methodology for geo-archaeological works. During the excavation of the trial pits and inspection pits, a trained archaeologist undertook a watching brief to check for anything of archaeological importance. Any finds were then processed and quantified and are detailed in the Archaeological Report in Appendix 15 and then deposited with SCCAS. Furthermore, a geoarchaeological deposit model has been created from information recovered from the boreholes and trial pits.

5.4 Boreholes

Five (5 No.), 200mm diameter boreholes (numbered BH01 to BH05) were sunk by Cable Percussion Tool techniques to depths varying between 19.95m and 35.00m bgl. The work was carried out between the 21st and 31st October 2024.

At each exploratory hole location an inspection pit was excavated using hand tools to a depth of 1.50m bgl to check for the presence of underground services. Prior to and on completion of the excavation, the location was scanned using a cable avoidance tool (CAT). The inspection pit was expanded around the boreholes to clear a 1.00mx1.00m area of any archaeological finds before a length of casing was inserted and the hole backfilled around the casing to allow drilling to commence. The pits were supervised by a trained Archaeologist.

Representative disturbed (D and B) samples of the soils encountered were obtained at regular intervals. Standard Penetration Tests (SPTs) were undertaken at the depths indicated on the borehole records in accordance with BS EN ISO 22476-3:2005+A1:2011 to obtain a measure of the engineering properties of the proved strata. In addition, environmental soil samples (ES) were recovered at the depths indicated on the Borehole Records.

Within boreholes BH03 and BH04 blowing sands were encountered at depth and it became necessary to install a 1.00m thick bentonite plug at 19.50m bgl in BH03 and 20.00m bgl in BH04 to prevent the sands getting between the casing, prior to reducing to 150mm diameter casing and tools and re-commencing drilling.

No defined groundwater strikes were encountered, most likely due to the addition of water to the borehole as part of the drilling process. Where water was added it has been noted on the Borehole Records. When less water needed to be added to maintain a head of water, a comment has been added to indicate a possible water strike depth.

On completion, standpipes were installed in all the boreholes with a protective fence erected. A submersible hydrostatic pressure datalogger was also installed into Boreholes BH03 and BH04 (see Section 5.10).

5.5 Trial Pits

Thirteen (13 No.) Trial Pits (numbered TP01 to TP11 and TP04A and TP05A) were excavated to depths varying between 0.50m and 3.50m bgl using a tracked excavator between the 24th and 30th October 2024. This work was supervised on site by a geotechnical engineer and trained Archaeologist.

To prevent cross contamination of the topsoil with underlying subsoils, a 3.00x3.00m pit was opened at surface. Topsoil was stored to the side of the pit. Once below the level of the topsoil, the pit was continued at a width of between 0.30m to 0.45m to the allow full depth of trial pit to be achieved. The excavated soil was then stored within the 3.00x3.00m footprint.

Due to the location of an irrigation system which runs under the site, Trial Pit TP04 was moved with agreement from the Engineer, to avoid this underground service. Finds of archaeological interest were located in Trial Pits TP04 and TP05. These pits were terminated at a depth of 0.50m on the advice of the archaeologist and agreement with the Engineer and move to TP04A and TO05A respectively.

The profiles of strata or other features were recorded as excavation proceeded and measurements taken from ground level. Representative samples were taken, where appropriate, for laboratory examination and analysis and in addition, Environmental samples (ES) were recovered at the depths indicated on the Trial Pit Records. Samples were taken directly from excavated materials deposited at the surface. Groundwater observations and trench stability notes are included on the Trial Pit Records. Photographs of the pits are presented in Appendix 5.

5.6 PID Meter Readings

Photo-ionisation detection (PID) tests were undertaken during the drilling of the boreholes and the excavation of the trial pits by testing the headspace of the ES soil samples taken. The tests were carried out using a suitably calibrated MiniRAE 2000 PID Meter fitted with a 10.6eV UV lamp. The results of the PID tests are presented on the Exploratory Hole Records with the readings reported as Volatile Organic Compounds (VOCs) recorded in parts per million.

5.7 Hand Vane Tests

Hand vane tests were carried out to obtain a measure of the undrained shear strength of cohesive soils within the trial pits and borehole inspection pits at the depths indicated on the Exploratory Hole Records. In the trial pits and inspection pits tests were taken in the sides of the pit where it was possible to reach from surface, otherwise they were carried out on intact blocks of the excavated soil deposited at the surface. Typically, each test comprised three measurements of the undrained shear strength with the mean value being reported. The hand vane tests were carried out using an EDECO Pilcon Hand Vane in accordance with the manufacturer's instructions and the results reported in kN/m^2.

5.8 Thermal Resistivity Tests

Thermal Resistivity Testing was undertaken by Geotechnics Ltd within Trial Pits TP01-TP02, TP03A, TP04A, TP05-TP11 at depths of 0.60m in both long faces of the pit and at 1.50m in the base of the pit. Testing was undertaken using a TEMPOS Thermal Properties Meter utilising a TR-3 probe sensor following the method and requirements of IEEE 442-2017 'Guide for Thermal Resistivity Measurements of Soils and Backfill Materials'.

The results of the Thermal Resistivity Tests are presented in Appendix 7.

5.9 Soakaway Tests

Three (3 No.) soakaway tests were carried out in Trial Pits TP02, TP06 and TP08 at a depth of 2.50m bgl in accordance with the method given in BRE Digest 365 "Soakaway Design", 2016. The Digest requires the test to be repeated three times at each location, however, due to the collapse of the sidewalls of the pits it was only possible to carry out a single test at Trial Pits TP06 and TP08 and two tests at TP02. The results of the tests are presented in Appendix 8.

5.10 Instrumentation and Monitoring

Long-term monitoring of the gas and groundwater levels was made possible by the installation of standpipes as follows:

Exploratory Hole	Standpipe Slotted Pipe & Filter Zone (m)
BH01	1.50 to 13.50
BH02	2.00 to 15.00
BH03	23.00 to 35.00
BH04	19.00 to 28.00
BH05	15.00 to 19.00

A submersible hydrostatic pressure datalogger was installed in Boreholes BH03 and BH04, with an additional barometric pressure datalogger installed in BH04. The data from these divers was downloaded on the 21st November and 3rd December 2024 as well as the 15th and 29th January, 13th February, 6th March and 2nd April 2025. On the 21st November it was discovered the datalogger in BH03 was not recording correctly. The datalogger was checked and reset and was found to be recording correctly at the next visit. The data plots are displayed in Appendix 9.

On each of the monitoring visits, a record of the groundwater level in the standpipes was obtained. On the third visit, samples are to be obtained following purging of water in the standpipes. The following parameters will be recorded using a multi-parameter flow cell during purging which continues until such time as the parameters reach a steady level.

- Temperature (°C)
- Electrical Conductivity (µS/cm)
- Dissolved Oxygen Concentration (%)
- pH
- Redox Potential (mV)

In addition to the groundwater levels, the following parameters were measured and recorded in the standpipe of boreholes BH01, BH02 and BH05 using a GFM435 Gas Analyser:-

- Concentrations (% Vol) of CH4, O2, CO2, CH4 and (ppm) H2S, CO
- Flow Rate
- Differential Pressure
- Barometric Pressure
- Air Temperature

The results of the monitoring are presented in Appendix 10.

At the end of the monitoring period all boreholes were decommissioned on the 7th April 2025. For full decommissioning records see Appendix 11.

6.0 LABORATORY TESTING

6.1 Geotechnical

The laboratory testing schedule was specified by the Engineer in order to relate to the proposed development. Unless otherwise stated, the tests were carried out in Geotechnics Limited's UKAS accredited Laboratory (Testing No. 1365) and were undertaken in accordance with the appropriate Standards as indicated below and on the Laboratory Test Certificate in Appendix 12. Any descriptions, opinions and interpretations are outside the scope of UKAS accreditation.

The tests undertaken can be summarised as follows:-

Standard	Test Description	Quantity
BS EN ISO 17892-1:2014	Water Content Determination	1
BS EN ISO 17892-3:2015	Particle Density Determination	9
BS EN ISO 17892-4:2016	Particle Size Distribution Determination – Sieving Method	30
	Particle Size Distribution Determination – Pipette Method	13
BS EN ISO 17892-12:2018	Determination of Liquid and Plastic Limits	1
BS 1377:1990 Part 4: 3.3	Dry Density/Moisture Content relationship determination. Compaction Test - British Standard (2.5 kg Hammer)	9
BS 1377:1990 Part 4: 7	California Bearing Ratio (CBR) Measurement - recompacted	1
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	11

The following testing was carried out at the laboratories of Normec DETS Limited (UKAS Accredited Laboratory, Number 2139).

Test Description	Quantity
BRE Special Digest 1 Suite comprising:- Soluble Sulphate Acid Soluble Sulphate Total Sulphur Soluble Magnesium Nitrate Chloride pH	14
pH	11

6.2 Contamination

Selected samples of soil and groundwater were tested at the laboratories of Normec DETS Limited for a number of determinands in order to check on potential site contamination. The determinands were specified by the Engineer and are detailed on the results sheets in Appendices 13 and 14 together with the test result as well as the test method, accreditation and detection limit.

In addition, a number of leachate samples were also prepared from selected soil samples in accordance with the NRA Leachate Protocol and analysed for the determinants detailed on the results sheets in Appendix 13.

Waste Acceptance Criteria (WAC) analyses were also carried out on selected samples, including tests on solid waste and two stage leaching tests on eluates. The determinands tested for are detailed on the results sheets in Appendix 13.

The tests undertaken can be summarised as follows:-

Test Description	Quantity
Suite E (Soil Samples)	5
Suite G (Soil Derived Leachate)	3
OCP and OCP Pesticides and Herbicides	2
Suite E1 (Soil Samples)	14
Suite E2 (Standard Leachate Analyses)	6
Pesticides and Herbicides	3
Suite J (Inert Waste Landfill)	3

Signed for and on behalf of Geotechnics Limited.

Prepared by:

Lucy Chapman
MGeol
Senior Engineer

Reviewed by:

Trevor Hardie
BSc, MSc, DIC, CEng, MICE
Chief Geotechnical Engineer

APPENDIX 1

The Brief

APPENDIX 1

GROUND INVESTIGATION SPECIFICATION: WALBERSWICK LANDFALL

NG Onshore Civil Design – LionLink

REFERENCE: **30002884-BHK-01-LF-SP-C-0003**

Prepared for:

National Grid Ventures

27 June 2024

BakerHicks.

Schedule 1: Introduction and site-specific requirements

S1.1 Name of Contract

The Contract is called LionLink – Walberswick Landfall.

S1.2 Investigation Supervisor

The Investigation Supervisor and Principal Contractor shall be BakerHicks, 5th Floor, Anchorage 2, Salford Quays, Manchester, M50 3YW.

The Investigation Supervisor is to be consulted before any hole is moved, if unexpected conditions are encountered or if holes are terminated at depths shallower than planned.

S1.3 Description of site

The site is approximately 10.5 hectares acres in size and is located at The Street, Walberswick, Suffolk, IP18 6UG, around approximate Grid Reference TM493744.

The site currently consists of flat land with a gradual slope towards Dunwich River and the coastline. The site can be accessed from Stocks Lane Road to the northwest of the site, with numerous residential buildings surrounding the northern section of the site. The site is an agricultural field. A footpath is located south of the site. Large marshland and waterlogged areas are located southeast and directly south of the site, these water features show an extended boundary around them that may either be wet periodically or has dried permanently.

The site is classified as Green in accordance with British Drilling Association (BDA) classification.

The site location and site details are shown below in Figure 1.1 and Figure 1.2 respectively.

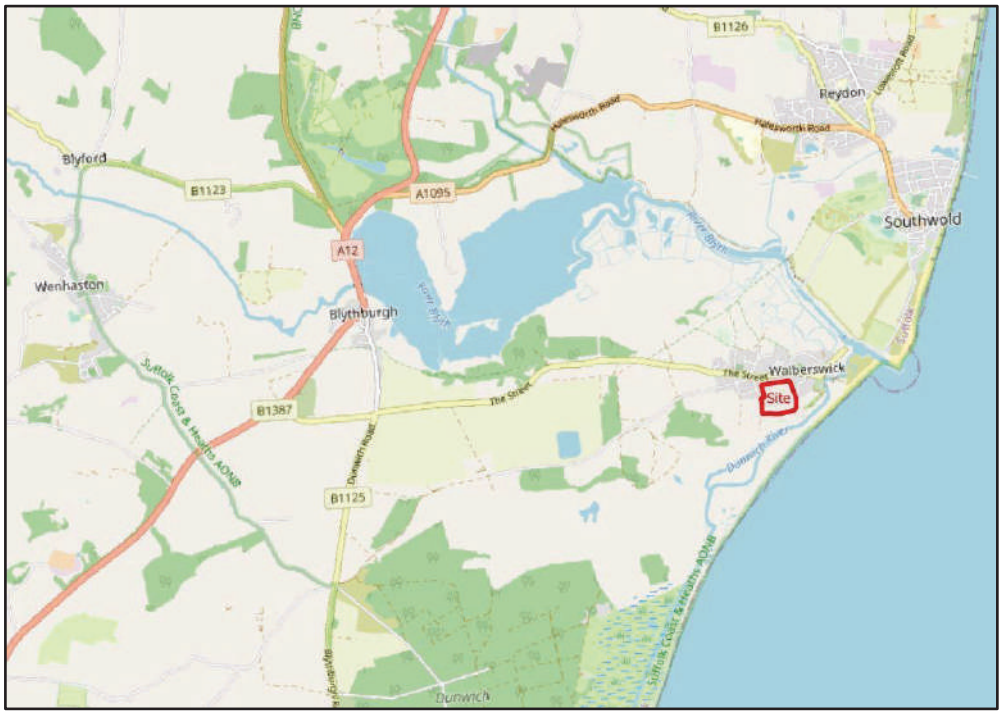


Figure 1.1: Site Location



Figure 1.2: Aerial imagery of the site

S1.4 Main works proposed and purpose of this contract

National Grid Ventures (NGV) has appointed BakerHicks to complete a Front-End Engineering and Design (FEED) study, the aim of which is to consider an HVDC cable route and associated new landfall site. The works form part of a future interconnection between Great Britain and mainland Europe. The onshore development also forms part of National Grid's future electricity network and 2050 net zero carbon goals.

LionLink is a proposed HVDC Offshore Hybrid Asset (OHA) project to connect the GB network with the Netherlands and with a connection agreement in the Sizewell area.

The ground investigation (GI) relates to the onshore development of the site as a potential landfall site for the subsea cable, which is to be installed by Horizontal Directional Drilling (HDD). The offshore work is being undertaken by others. The proposed GI for this scheme is presented in Schedule 2. The Bill of Quantities for the proposed works is included as Annex 1 in this document.

S1.5 Objective and Scope of the Investigation

This investigation has been designed to support a FEED Study to understand the ground risks at the site. It has not been designed to undertake detailed design and is not considered robust enough to undertake such designs. When the scheme design progresses, it is envisaged and recommended that further investigations are undertaken to support such designs.

This specification outlines the geotechnical investigation requirements in support of the continuation of the optioneering and FEED design process.

The aims of this ground investigation are shown below:

- To investigate the nature and depth of any superficial deposits and bedrock geology;
- To collect samples for geotechnical testing to provide material properties of the strata at the site;
- To collect samples for geo-environmental testing to determine the presence and level of contamination at the site;
- To understand the thermal resistivity and pH of the ground;
- To provide information for the HDD design for the landfall part only;
- To provide information on the groundwater conditions of the site;
- To classify materials for reuse in earthworks.

A site plan showing the proposed ground investigation locations is included in Annex 2. The scope of the investigation is as detailed below:

- 5 no. Cable Percussion (CP) boreholes to a maximum depth of 35m below ground level (bgl). Depths may vary on site following discussion with the Investigation Supervisor.
    - Standard Penetration Testing (SPT) and alternate UT100s every metre to 10mbgl and every 1.5m thereafter.
    - Installation of ground gas and groundwater monitoring wells.
- 11 no. machine excavated trial pits to a maximum depth of 3.5mbgl.
    - Including in-situ testing with hand shear vane and thermal resistivity probe.
    - 3 No. Soakaway tests to BRE365 at a maximum depth of 2.5m bgl.
- Geotechnical Sampling and Testing.
- Geo-environmental Sampling and Testing.
- Surveying all exploratory hole locations.
- Groundwater and ground gas monitoring.
- Factual reporting and AGS data.

S1.6 Geology and ground conditions

Geological mapping indicates the following underlying geology:

- Superficial Geology:
    - Lowestoft Formation – Sand and Gravel only shown on the north on the site.
    - Tidal Flat Deposits – Clay and Silt to the south of the site.

The Lowestoft Formation forms an extensive sheet of chalky till, together with outwash sands and gravels, silts and clays. The till is characterised by its chalk and flint content. The Tidal Flat Deposits consists of unconsolidated sediment typically of mud and sand.

- Solid Geology:
    - Crag Group – Sand, Gravels, Silts and Clays.

The Crag Group located across the site is mainly fine-grained, locally shelly, micaceous sands, with local rounded flint gravels.

Ground conditions may be affected from the high risk of groundwater vulnerability and flooding on the site.

S1.7 Schedule of drawing(s) and documents

The following elements are included in this document:

- Bill of Quantities for Ground Investigation located in Annex 1.
- Ground Investigation Plan located in Annex 2.

A Desk Study for Walberswick Landfall was undertaken by BakerHicks. The desk study report includes a review of an Envirocheck report for the area. The Desk Study referred to in this document with the following reference:

- 30002884-BHK-01-LF-RP-C-0006 - Geotechnical Desk Study: Walberswick Landfall (G(B))

S1.8 General requirements (Specification Section 3)

The Contractor is required to attend a pre-start meeting on site, prior to the commencement of site operations, with the Investigation Supervisor and National Grid Ventures Lands Team to agree access locations, exploratory hole locations, position of compounds and any other items that require discussion.

S1.8.1 Data Management Plan (Clause 3.2)

A Data Management Plan shall be developed by the ground investigation contractor in accordance with BS 8574:2014 and provided to the Investigation Supervisor not less than 2 weeks prior to commencing work on site.

Name of contract LionLink – Walberswick Landfall
Anticipated drift geology Lowestoft Formation – Sand & Gravel
Anticipated solid geology Crag Group – Sand
BDA Category of site Green
UXO Risk category Low

Schedule 2

Hole Number	Type	Scheduled Depth (m)	National grid reference		In-situ Testing*	Installations*
			Easting	Northing		
TP01	TP	3.5	649283	274562	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP02	TP	2.5	649385	274520	BRE 365 Soakaway test, Hand Shear Vane, Thermal Resistivity, PID	N/A
TP03	TP	3.5	649449	274577	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP04	TP	3.5	649236	274444	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP05	TP	3.5	649300	274460	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP06	TP	2.5	649363	274429	BRE 365 Soakaway test, Hand Shear Vane, Thermal Resistivity, PID	N/A
TP07	TP	3.5	649400	274481	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP08	TP	2.5	649467	274469	BRE 365 Soakaway test, Hand Shear Vane, Thermal Resistivity, PID	N/A
TP09	TP	3.5	649288	274349	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP10	TP	3.5	649407	274365	Hand Shear Vane, Thermal Resistivity, PID	N/A
TP11	TP	3.5	649474	274400	Hand Shear Vane, Thermal Resistivity, PID	N/A
BH01	CP	20	649296	274514	Hand Shear Vane, SPT, PID	50mm standpipe
BH02	CP	20	649456	274531	Hand Shear Vane, SPT, PID	50mm standpipe
BH03	CP	35	649390	274444	Hand Shear Vane, SPT, PID	50mm standpipe with water diver
BH04	CP	35	649296	274386	Hand Shear Vane, SPT, PID	50mm standpipe
BH05	CP	35	649541	274369	Hand Shear Vane, SPT, PID	50mm standpipe with water diver

*Provisional only. To be confirmed by the Investigation Supervisor during the fieldwork.

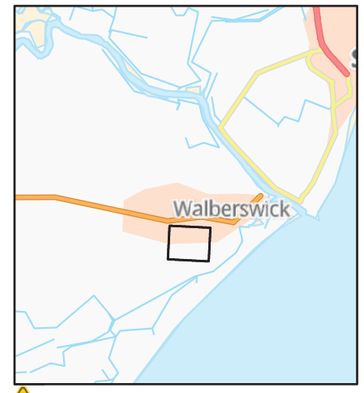


Health & Safety
CDM Regulations 2015

Significant hazards associated with this drawing are identified below.

1. SSSI directly south of Site. Noise mitigation may be required.

2. Public opposition to the scheme. Primarily from local residents.



Walberswick SHE Hazards

Walberswick_Boreholes_20240605

Walberswick_Trial_Pits_20240605

Sites of Special Scientific Interest

Revision	Description	Drawn	Date	Checked	Approved
P04	FOURTH ISSUE: Updated GI locations to include HDD alignment.	NA	25/06/2024	HG	PDH
P03	THIRD ISSUE: GI locations moved out of 100m SSSI buffer, following Client request.	NA	23/10/2023	HG	PDH
P02	SECOND ISSUE: Reduced GI scope as per Clients request.	NA	29/09/2023	HG	PDH
P01	FIRST ISSUE	NA	18/05/2023	HG	PDH

Revisions

FOR INFORMATION

nationalgrid ventures

Project: NG Onshore Civil Design

Title: LIONLINK
WALBERSWICK LANDFALL
GROUND INVESTIGATION LOCATION PLAN

Scale	Drawn	Checked	Approved
AS SHOWN (when plotted @ A3)	NA	HG	PDH
	Date 18/05/2023	Date 18/05/2023	Date 18/05/2023

ArcGIS Ref 30002884 - NG Onshore Civil Design\Lot 1 - Lionlink\GIS\Outputs

BakerHicks.

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One Warwick Technology Park
Gallows Hill
Warwick
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www.bakerhicks.com

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Project number	Drawing number	Revision
30002884	30002884-BHK-01-LF-SP-C-0003	P04

APPENDIX 2

Site Location Plan

APPENDIX 2

GEOTECHNICS
BUILD ON CONFIDENCE

Site Location Plan



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APPENDIX 3

Site Photographs

1. Looking SE from site entrance



2. Looking E from TP05



3. Looking SW towards TP03



4. Looking W across TP10 and TP07



5. Looking N from BH05



APPENDIX 4

Borehole Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



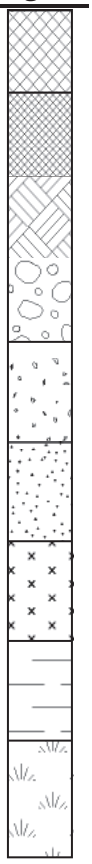
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

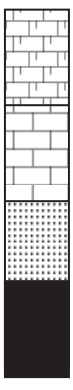
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



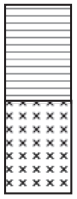
Chalk

Limestone

Sandstone

Coal

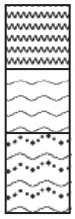
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

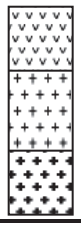


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH01
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274514.0 N	**Ground Level**	9.57 m OD

Scale 1:50

Sampling			Properties		Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B				TOPSOIL: Dark brown slightly gravelly slightly silty sand with rare rootlets. Gravel is subangular to surrounded fine to coarse flint and quartzite.			
0.20	ES							
0.20			PID: <0.1 ppm					
0.30 - 0.40	D					0.50		9.07
0.50 - 1.00	B				Brown mottled dark brown slightly gravelly silty SAND. Gravel is angular to subrounded fine to coarse quartzite.			
0.60	ES							
0.60			PID: <0.1 ppm			1.00		8.57
0.70 - 0.80	D				Yellowish brown slightly silty SAND with occasional pockets (up to 5mm in size) of soft to firm clay.			
1.00 - 1.50	B							
1.20	ES							
1.20 - 1.30	D				Below 1.50m, medium dense.			
1.20			PID: <0.1 ppm					
1.50 - 1.95		(DRY)		S17				
1.50 - 1.95	B							
1.50 - 1.95	D							
2.40 - 2.50	D							
2.50 - 2.95		2.30 (1.50)		S28	Below 2.50m, with rare clay pockets.			
2.50 - 2.95	B							
2.50 - 2.95	D							
3.40 - 3.50	D							
3.50 - 3.95		3.00 (2.00)		S48	Below 3.50m, dense.			
3.50 - 3.95	B							
3.50 - 3.95	D							
4.40 - 4.50	D							
4.50 - 4.88		4.00 (2.00)		S50/ 230mm	At 4.50m, very dense.			
4.50 - 4.88	D							
4.50 - 4.95	B							
5.40 - 5.50	D							
5.50 - 5.95		5.00 (4.00)		S42				
5.50 - 5.95	B							
5.50 - 5.95	D							
6.40 - 6.50	D							
6.50 - 6.95		6.00 (4.00)		S18	At 6.50m, medium dense.			
6.50 - 6.95	B							
6.50 - 6.95	D							
7.40 - 7.50	D							
7.50 - 7.95		7.00 (6.00)		S33				
7.50 - 7.95	B							
7.50 - 7.95	D							
8.40 - 8.50	D							
8.50 - 8.95		8.00 (6.00)		S24	Below 8.50m, medium dense and silty. Clay pockets are absent.			
8.50 - 8.95	B							
8.50 - 8.95	D							
9.40 - 9.50	D							
9.50 - 9.95		9.00 (7.00)		S23	Below 9.40m, slightly silty.			
9.50 - 9.95	B							
9.50 - 9.95	D							

Boring

Depth	Hole Dia.	Technique	Crew
0.50	1.00	Inspection Pit	NH/JT
1.50	0.40	Inspection Pit	NH/JT
20.00	0.15	Cable Percussion	NH/JT

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			24/10/24	08:00
2.50	2.30	2.00	24/10/24	18:00
2.50	2.30	2.00	25/10/24	08:00
9.50	9.00	7.00	25/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
10.00	10.00				Possible strike at 10.00m, obscured by added water to assist drilling.

Remarks

Inspection pit hand excavated to 1.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Unable to obtain Hand Vanes due to granular material present.

Water was added to assist boring below 1.50m.

A 50mm standpipe was installed to 13.50m with a geowrapped slotted section from 1.50m to 13.50m with a up-standing cover and protective fence installed.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by RC
Checked by TNH
Figure Sheet 1 of 2
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH01
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274514.0 N	**Ground Level**	9.57 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.40 - 10.50	D							
10.50 - 10.93		10.00 (8.50)		S50/ 280mm	Between 10.40-13.50m, very dense and slightly gravelly. Gravel is subrounded medium to coarse quartzite.			
10.50 - 10.93	D							
10.50 - 10.95	B							
11.90 - 12.00	D							
12.00 - 12.41		11.50 (9.00)		S50/ 260mm				
12.00 - 12.41	D							
12.00 - 12.95	B							
13.40 - 13.50	D							
13.50 - 13.95		13.00 (9.00)		S34	At 13.50m, dense. Below 13.50m, silty with occasional clay pockets (up to 8mm in size).			
13.50 - 13.95	B							
13.50 - 13.95	D							
14.90 - 15.00	D							
15.00 - 15.45		14.80 (10.00)		S4	At 15.00m, loose with rare clay pockets.			
15.00 - 15.45	B							
15.00 - 15.45	D							
16.40 - 16.50	D							
16.50 - 16.95		16.00 (11.00)		S20	Below 16.50m, medium dense. Clay pockets are absent.			
16.50 - 16.95	B							
16.50 - 16.95	D							
17.90 - 18.00	D							
18.00 - 18.45		17.50 (13.00)		S27				
18.00 - 18.45	B							
18.00 - 18.45	D							
19.40 - 19.50	D							
19.50 - 19.95		19.40 (12.00)		S21	Below 19.50m, with rare pockets (up to 5mm in size) of firm dark brown clay.			
19.50 - 19.95	B							
19.50 - 19.95	D				End of Borehole	20.00		-10.43

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
9.50	9.00	8.20	28/10/24	08:00
20.00	19.40	11.00	28/10/24	18:00
20.00	19.40	8.40	29/10/24	08:00
20.00	19.40	8.24	29/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks Backfill details from base of hole: bentonite seal up to 13.50m, gravel filter up to 1.50m, bentonite seal up to 0.20m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 2 of 2
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH02
Client	National Grid Ventures	**National Grid Coordinates**	649456.0 E 274531.0 N	**Ground Level**	7.57 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B				TOPSOIL: Dark brown slightly gravelly clayey sand with occasional rootlets and rare roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30 - 0.40	D							
0.30 - 0.40	ES							
0.40			PID: <0.1 ppm		Dark yellowish brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	0.50		7.07
0.50 - 1.00	B							
0.70 - 0.80	D							
0.70 - 0.80	ES				Light yellowish brown silty SAND with occasional pockets (up to 50mm in size) of clay.	1.00		6.57
0.80			PID: <0.1 ppm					
1.00 - 1.50	B							
1.20 - 1.30	D				Below 1.50m, medium dense and light orangish brown.			
1.20 - 1.30	ES							
1.40			PID: <0.1 ppm					
1.50 - 1.95		1.40 (1.00)		S24				
1.50 - 1.95	D							
2.40 - 2.50	D				Dense yellowish brown silty SAND with occasional pockets (up to 25mm in size) of soft clay.	2.40		5.17
2.50 - 2.95		2.20 (2.00)		S45				
2.50 - 2.95	B							
2.50 - 2.95	D							
3.40 - 3.50	D							
3.50 - 3.88		3.30 (2.00)		S49/ 234mm	Between 3.50-5.50m, very dense. Clay pockets are absent.			
3.50 - 3.88	D							
3.50 - 3.90	B							
4.40 - 4.50	D							
4.50 - 4.95		4.20 (3.00)		S56				
4.50 - 4.95	B							
4.50 - 4.95	D							
5.40 - 5.50	D							
5.50 - 5.95		5.20 (4.00)		S34	Below 5.50m, with rare clay pockets.			
5.50 - 5.95	B							
5.50 - 5.95	D							
6.40 - 6.50	D				Below 6.40m, clay pockets reduce to 10mm in size.			
6.50 - 6.95		6.20 (3.00)		S35				
6.50 - 6.95	B							
6.50 - 6.95	D							
7.40 - 7.50	D				Below 7.40m, medium dense and slightly silty. Clay pockets are absent.			
7.50 - 7.95		7.30 (4.00)		S24				
7.50 - 7.95	B							
7.50 - 7.95	D							
8.40 - 8.50	D							
8.50 - 8.95		8.30 (6.00)		S27				
8.50 - 8.95	B							
8.50 - 8.95	D							
9.40 - 9.50	D							
9.50 - 9.80		9.30 (6.00)		S50/ 145mm	At 9.50m, very dense.			
9.50 - 9.95	B							

Boring

Depth	Hole Dia.	Technique	Crew
0.50	1.00	Inspection Pit	NH/JT
1.50	0.30	Inspection Pit	NH/JT
20.00	0.15	Cable Percussion	NH/JT

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			21/10/24	08:00
1.50		DRY	21/10/24	18:00
1.50		DRY	22/10/24	08:00
9.50	9.30	6.00	22/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
16.50	16.00				Possible strike at 16.50m, obscured by added water to assist drilling.

Remarks

Inspection pit hand excavated to 1.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Unable to obtain Hand Vanes due to granular material present.

Water was added to assist boring below 1.30m.

A 50mm standpipe was installed to 15.00m with a geowrapped slotted section from 2.00m to 15.00m with a up-standing cover and protective fence installed.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by RC
Checked by TNH
Figure Sheet 1 of 2
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH02
Client	National Grid Ventures	**National Grid Coordinates**	649456.0 E 274531.0 N	**Ground Level**	7.57 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Level (m OD)
10.40 - 10.50	D						
10.50 - 10.95		10.20 (6.00)		S19			
10.50 - 10.95	B						
11.90 - 12.00	D						
12.00 - 12.45		11.90 (7.00)		S9	At 12.00m, loose. Below 12.00m, orangish brown.		
12.00 - 12.45	B						
13.40 - 13.50	D				Between 13.40-16.50m, medium dense and slightly silty.		
13.50 - 13.95		13.00 (8.00)		S20			
13.50 - 13.95	B						
13.50 - 13.95	D						
14.90 - 15.00	D						
15.00 - 15.45		14.50 (9.00)		S18			
15.00 - 15.45	B						
15.00 - 15.45	D						
16.40 - 16.50	D						
16.50 - 16.95		16.00 (9.00)		S31	Below 16.50m, dense.		
16.50 - 16.95	B						
16.50 - 16.95	D						
17.90 - 18.00	D						
18.00 - 18.45		17.50 (6.00)		S30			
18.00 - 18.45	B						
18.00 - 18.95	D						
19.00 - 19.50	B				Medium dense brownish grey very silty SAND with many shell fragments (up to 5mm in size) and rare pockets (up to 15mm in size) of clay.	19.00	-11.43
19.40 - 19.50	D						
19.50 - 19.95		19.00 (7.00)		S24			
19.50 - 19.95	B						
19.50 - 19.95	D				End of Borehole	20.00	-12.43

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
9.50	9.30	6.00	23/10/24	08:00
16.50	16.00	9.87	23/10/24	18:00
16.00	16.00	6.80	24/10/24	08:00
20.00	19.00	6.40	24/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

AGS Backfill details from base of hole: bentonite seal up to 15.00m, gravel filter up to 2.00m, bentonite seal up to 0.20m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 2 of 2
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH03
Client	National Grid Ventures	**National Grid Coordinates**	649390.0 E 274444.0 N	**Ground Level**	8.81 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.55	B				TOPSOIL: Dark brown slightly gravelly silty sand with rare pockets (up to 10mm in size) of soft clay. Gravel is angular to surrounded fine to coarse flint and quartzite			
0.20	D							
0.20	ES							
0.20			PID: <0.1 ppm					
0.55 - 0.90	B				Brown mottled yellowish brown slightly gravelly slightly silty SAND. Gravel is subangular to surrounded quartzite and flint.	0.55		8.26
0.60	D							
0.60	ES				Yellowish brown silty SAND.	0.90		7.91
0.60			PID: <0.1 ppm					
0.90 - 1.50	B							
1.20	D							
1.20	ES				Below 1.50m, medium dense.			
1.20			PID: <0.1 ppm					
1.50 - 1.95		1.40 (DRY)		S10	Between 2.00-3.50m, with rare pockets (up to 7mm in size) of clay.			
1.50 - 1.95	D							
1.50 - 2.00	B							
2.00 - 2.10	D							
2.50 - 2.95		2.40 (2.00)		S23				
2.50 - 2.95	D							
2.50 - 3.00	B							
3.00 - 3.10	D							
3.50 - 3.95		3.40 (2.50)		S21				
3.50 - 3.95	D							
3.50 - 4.00	B							
4.00 - 4.10	D							
4.50 - 4.95		4.40 (4.20)		S30				
4.50 - 4.95	D							
4.50 - 5.00	B							
5.00 - 5.10	D							
5.50 - 5.95		5.40 (5.00)		S30	Below 5.50m, with rare pockets (up to 5mm in size) of soft orangish brown clay.			
5.50 - 5.95	D							
5.50 - 6.00	B							
6.00 - 6.10	D							
6.50 - 6.95		6.40 (DRY)		S21	Between 6.50-7.20m, mottled brownish yellow.			
6.50 - 6.95	D							
6.50 - 7.00	B							
7.00 - 7.10	D							
7.50 - 7.95		7.40 (6.50)		S38	Below 7.50m, dense.			
7.50 - 7.95	D							
7.50 - 8.00	B							
8.00 - 8.10	D							
8.50 - 8.95		8.40 (7.50)		S32	Below 8.50m, clay pockets are reddish brown.			
8.50 - 8.95	D							
8.50 - 9.00	B							
9.00 - 9.10	D							
9.50 - 9.95		9.40 (8.50)		S25	Below 9.50m, medium dense.			
9.50 - 10.00	B							
9.50 - 9.95	D							
10.00 - 10.10	D							

Boring

Depth	Hole Dia.	Technique	Crew
0.50	1.00	Inspection Pit	JM/MD
1.50	0.40	Inspection Pit	JM/MD
20.00	0.20	Cable Percussion	JM/MD
35.00	0.15	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			25/10/24	08:00
4.00	4.00	3.00	25/10/24	18:00
4.00	4.00	2.30	28/10/24	08:00
20.00	19.50	13.50	28/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
10.00	10.00				Possible strike at 10.00m, obscured by added water to assist drilling.

Remarks

Inspection pit hand excavated to 1.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Unable to obtain Hand Vanes due to granular material present.

Water was added to assist boring between 1.50-10.00m.

Reduced to 150mm casing below 20.00m to allow continuation of drilling.

Sands were blowing up during SPT test undertaken between 20.00m and 31.00m, resulting in 2.00m of material needing to be redrilled

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by RC
Checked by TNH
Figure Sheet 1 of 4
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH03
Client	National Grid Ventures	**National Grid Coordinates**	649390.0 E 274444.0 N	**Ground Level**	8.81 m OD

Sampling			Properties	Strata				Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.50 - 10.95		10.40		S16				
		(8.50)						
10.50 - 10.95	D							
10.50 - 11.00	B							
11.00 - 11.10	D							
11.90 - 12.00	D							
12.00 - 12.45		11.90		S15				
		(9.00)						
12.00 - 12.45	D							
12.00 - 12.50	B							
12.90 - 13.00	D							
13.50 - 13.95		13.40		S16				
		(10.00)						
13.50 - 13.95	D							
13.50 - 14.00	B							
14.00 - 14.10	D							
14.90 - 15.00	D							
15.00 - 15.45		14.90		S16	Below 15.00m, clay pockets are absent.			
		(11.00)						
15.00 - 15.45	D							
15.00 - 15.50	B							
15.90 - 16.00	D							
16.50 - 16.95		16.40		S23				
		(11.50)						
16.50 - 16.95	D							
16.50 - 17.00	B							
17.00 - 17.10	D							
17.90 - 18.00	D							
18.00 - 18.45		17.90		S25	Between 18.00-18.90m, with rare pockets (up to 4mm in size) of orangish brown clay.			
		(12.00)						
18.00 - 18.45	D							
18.00 - 18.50	B							
18.90 - 19.00	D							
19.50 - 19.95		19.40		S16	Below 19.50m, brown.			
		(13.00)						
19.50 - 19.95	D							
19.50 - 20.00	B							
20.00 - 20.10	D							

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
20.00	19.50	8.00	29/10/24	08:00
31.00	31.00	13.50	29/10/24	18:00
28.00	31.00	9.00	30/10/24	08:00
35.00	35.00	13.50	30/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

after each test. SPT N values possibly affected.
SPT at 25.50 and 27.00 missed due to slipping casing caused by blowing sands.
Sand blown from 31.00m to 28.00m overnight between the 29th and 30th.
No SPT's possible below 30.00m due to blowing sands moving casing and pushing sands each time stopped drilling.
A 50mm standpipe was installed to 35.00m with a geowrapped slotted section from 23.00m to 35.00m with a up-standing cover and protective fencing installed.
Backfill details from base of hole: gravel filter up to 23.00m, bentonite seal up to 0.20m, concrete up to ground level.
Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 2 of 4
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH03
Client	National Grid Ventures	**National Grid Coordinates**	649390.0 E 274444.0 N	**Ground Level**	8.81 m OD

Scale 1:50

Sampling			Properties	Strata				
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
					Below 20.00m, driller notes blowing sands.			
20.90 - 21.00	D							
21.00 - 21.45		20.90 (9.00)		S43	Below 21.00m, dense.			
21.00 - 21.45	D							
21.00 - 21.50	B							
21.90 - 22.00	D							
22.50 - 22.95		22.40 (10.00)		S37				
22.50 - 22.95	D							
22.50 - 23.00	B							
23.00 - 23.10	D				Reddish brown silty SAND with many shell fragments (up to 3mm in size). (Driller notes blowing sand.)	23.00		-14.19
23.90 - 24.00	D							
24.00 - 24.30		23.90 (11.00)		S50/ 150mm	Below 24.00m, very dense.			
24.00 - 24.30	D							
24.00 - 24.50	B							
24.90 - 25.00	D							
25.50 - 26.00	B							
26.00 - 26.10	D							
26.90 - 27.00	D							
27.00 - 27.50	B							
27.90 - 28.00	D							
28.50 - 28.76		28.40 (10.50)		S50/ 105mm	Below 28.50m, light brown.			
28.50 - 28.76	D							
28.50 - 29.00	B							
29.00 - 29.10	D							
29.90 - 30.00	D							
30.00 - 30.50	B							

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
35.00	35.00	9.00	31/10/24	08:00
35.00	35.00	9.00	31/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 3 of 4
06/01/2025

GEOTECHNICS

BOREHOLE RECORD **-** *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH03
Client	National Grid Ventures	**National Grid Coordinates**	649390.0 E 274444.0 N	**Ground Level**	8.81 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
30.90 - 31.00	D							
31.50 - 32.00	B				Greenish grey silty SAND with many shell fragments (up to 5mm in size). (Driller notes blowing sand.)	31.50		-22.69
32.00 - 32.10	D							
32.90 - 33.00	D							
33.00 - 33.50	B							
33.90 - 34.00	D							
34.50 - 35.00	B				End of Borehole	35.00		-26.19

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure Sheet 4 of 4
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH04
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274386.0 N	**Ground Level**	5.71 m OD

Sampling			Properties		Strata			Scale 1:50
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B				TOPSOIL: Dark brown slightly gravelly clayey sand with occasional rootlets and rare roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30 - 0.40	D							
0.30 - 0.40	ES					0.50		5.21
0.40			PID: <0.1 ppm		Dark yellowish brown silty SAND with rare pockets (up to 20mm in size) of clay.			
0.50 - 1.00	B							
0.80 - 0.90	D					1.00		4.71
0.80 - 0.90	ES				Light yellowish brown silty SAND with occasional pockets (up to 50mm in size) of clay.			
0.80			PID: <0.1 ppm					
1.00 - 1.50	B							
1.30 - 1.40	D				Below 1.50m, medium dense.			
1.30 - 1.40	ES							
1.30			PID: <0.1 ppm					
1.50 - 1.95		1.40 (DRY)		S19				
1.50 - 1.95	D				Below 2.10m, clay pockets are absent.			
1.50 - 2.00	B							
2.00 - 2.10	D					2.50		3.21
2.50 - 2.95		2.40 (2.20)		S28	Medium dense yellowish brown slightly gravelly silty SAND. Gravel is subangular fine flint.			
2.50 - 2.95	D							
2.50 - 3.00	B							
3.00 - 3.10	D							
3.50 - 3.95		3.40 (3.40)		S21				
3.50 - 3.95	D							
3.50 - 4.00	B							
4.00 - 4.10	D				Below 4.00m, with occasional pockets (up to 40mm in size) of clay.			
4.50 - 4.95		4.40 (3.00)		S16				
4.50 - 4.95	D							
4.50 - 5.00	B							
5.00 - 5.10	D							
5.50 - 5.95		5.40 (5.00)		S17				
5.50 - 5.95	D							
5.50 - 6.00	B							
6.00 - 6.10	D							
6.50 - 6.95		6.40 (5.70)		S27	Below 6.50m, gravel is absent.			
6.50 - 6.95	D							
6.50 - 7.00	B							
7.00 - 7.10	D							
7.50 - 7.95		7.40 (6.20)		S48	Between 7.50-9.50m, dense.			
7.50 - 7.95	D							
7.50 - 8.00	B							
8.00 - 8.10	D							
8.50 - 8.95		8.40 (6.50)		S38				
8.50 - 8.95	D							
8.50 - 9.00	B							
9.00 - 9.10	D							
9.50 - 9.95		9.40 (6.50)		S27				
9.50 - 10.00	B							
9.50 - 9.95	D							
10.00 - 10.10	D							

Boring

Depth	Hole Dia.	Technique	Crew
0.60	1.00	Inspection Pit	JM/MD
1.50	0.40	Inspection Pit	JM/MD
20.00	0.20	Cable Percussion	JM/MD
35.00	0.15	Cable Percussion	JM/MD

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			21/10/24	08:00
1.50	1.50	DRY	21/10/24	18:00
1.50	1.50	DRY	22/10/24	08:00
15.00	15.00	9.50	22/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
6.50	6.50				Possible strike at 6.50m, obscured by added water to assist drilling.

Remarks

Inspection pit hand excavated to 1.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Water was added to assist boring below 1.20m.

Reduced to 150mm casing below 20.00m to allow continuation of drilling.

A 50mm standpipe was installed to 28.00m with a geowrapped slotted section from 19.00m to 28.00m with a up-standing cover and protective fence installed.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by CS
Checked by TNH
Figure Sheet 1 of 4
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH04
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274386.0 N	**Ground Level**	5.71 m OD

Sampling | Properties | Strata | Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.50 - 10.95		10.40 (7.50)		S12				
10.50 - 11.00	B							
11.00 - 11.10	D							
11.90 - 12.00	D							
12.00 - 12.45		11.90 (8.00)		S11				
12.00 - 12.45	D							
12.00 - 12.50	B							
12.90 - 13.00	D							
13.50 - 13.95		13.40 (9.00)		S18				
13.50 - 13.95	D							
13.50 - 14.00	B							
14.00 - 14.10	D							
14.90 - 15.00	D							
15.00 - 15.45		14.90 (9.50)		S11	Below 15.00m, very silty.			
15.00 - 15.45	D							
15.00 - 15.50	B							
15.90 - 16.00	D							
16.50 - 16.95		16.40 (9.50)		S14	Below 16.50m, dark yellowish brown.			
16.50 - 16.95	D							
16.50 - 17.00	B							
17.00 - 17.10	D							
17.90 - 18.00	D							
18.00 - 18.45		17.90 (10.00)		S13	Medium dense light orangish brown slightly gravelly silty SAND with many shell fragments (up to 20mm in size) and rare pockets (up to 20mm in size) of clay. Gravel is subangular to subrounded fine to coarse sandstone.	18.00		-12.29
18.00 - 18.45	D							
18.00 - 18.50	B							
18.90 - 19.00	D							
19.50 - 19.88		19.40 (10.00)		S50/ 225mm	Below 19.50m, very dense and orangish brown.			
19.50 - 19.88	D							
19.50 - 20.00	B							
20.00 - 20.10	D							

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
15.00	15.00	8.00	23/10/24	08:00
26.10	26.10	9.00	23/10/24	18:00
26.10	26.10	7.50	24/10/24	08:00
35.00	35.00	10.50	24/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Backfill details from base of hole: bentonite seal up to 28.00m, gravel filter up to 19.00m, bentonite seal up to 0.2m, concrete up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure

06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH04
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274386.0 N	**Ground Level**	5.71 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
20.90 - 21.00	D							
21.00 - 21.33		20.90 (6.00)		S50/ 180mm				
21.00 - 21.33	D							
21.00 - 21.50	B							
21.90 - 22.00	D							
22.50 - 22.95		22.40 (7.50)		S37	At 22.50m, dense and dark yellowish brown.			
22.50 - 22.95	D							
22.50 - 23.00	B							
23.00 - 23.10	D							
23.90 - 24.00	D							
24.00 - 24.26		23.90 (9.00)		S50/ 110mm	Below 24.00m, very dense. Gravel is absent.			
24.00 - 24.26	D							
24.00 - 24.50	B							
24.90 - 25.00	D							
25.50 - 25.73		25.40 (9.00)		S50/ 80mm	Below 25.50m, brownish grey.			
25.50 - 25.73	D							
25.50 - 26.00	B							
26.00 - 26.10	D							
26.90 - 27.00	D							
27.00 - 27.30		26.90 (8.50)		S50/ 150mm				
27.00 - 27.30	D							
27.00 - 27.50	B							
27.90 - 28.00	D							
28.50 - 28.74		28.40 (9.00)		S50/ 90mm	Very dense greenish grey slightly gravelly silty SAND with many shell fragments (up to 15mm in size). Gravel is subangular to subrounded fine to medium sandstone. Below 28.95m, gravel is absent.	28.50		-22.79
28.50 - 28.74	D							
28.50 - 29.00	B							
29.00 - 29.10	D							
29.90 - 30.00	D							
30.00 - 30.45		29.90 (9.00)		S32				

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
35.00	35.00	10.50	25/10/24	08:00
35.00	35.00	10.50	25/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure

06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH04
Client	National Grid Ventures	**National Grid Coordinates**	649296.0 E 274386.0 N	**Ground Level**	5.71 m OD

Sampling | Properties | Strata — Scale 1:50

Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
30.00 - 30.45	D				At 30.00m, dense.			
30.00 - 30.50	B							
30.90 - 31.00	D				Below 30.90m, with occasional pockets (up to 20mm in size) of clay.			
31.50 - 31.95		31.40 (9.70)		S24	At 31.50m, medium dense.			
31.50 - 31.95	D							
31.50 - 32.00	B							
32.00 - 32.10	D							
32.90 - 33.00	D							
33.00 - 33.33		32.90 (10.50)		S50/ 180mm				
33.00 - 33.33	D							
33.00 - 33.50	B							
33.90 - 34.00	D							
34.50 - 34.88		34.40 (10.50)		S50/ 230mm				
34.50 - 34.88	D							
34.50 - 35.00	B				End of Borehole	35.00		-29.29

Boring

Depth	Hole Dia.	Technique	Crew

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure

06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH05
Client	National Grid Ventures	**National Grid Coordinates**	649541.0 E 274369.1 N	**Ground Level**	4.30 m OD

Scale 1:50

Sampling Depth	Sample Type	Depth Cased & (to Water)	Properties Results	SPT N	Strata Description	Depth	Legend	Level (m OD)
0.00 - 0.20	B				TOPSOIL: Dark brown slightly gravelly slightly clayey silty sand with rare rootlets. Gravel is angular to subangular fine to coarse flint and quartzite.	0.20		4.10
0.10 - 0.20	D							
0.15	ES				Dark reddish brown slightly gravelly silty SAND. Gravel is angular to subangular fine to coarse flint and quartzite.	0.50		3.80
0.15			PID: <0.1 ppm					
0.20 - 0.50	B				Dark orangish brown slightly gravelly silty SAND with occasional pockets (up to 10mm in size) of firm clay. Gravel is surrounded to rounded fine to coarse flint.	1.00		3.30
0.40 - 0.50	D							
0.50 - 1.00	B							
0.70	ES				Medium dense yellowish brown slightly gravelly silty SAND with occasional pockets (up to 6mm in size) of firm clay. Gravel is subangular fine to medium flint.			
0.70			PID: <0.1 ppm					
0.90 - 1.00	D							
1.00 - 1.50	B							
1.20	ES							
1.20 - 1.30	D							
1.20			PID: <0.1 ppm					
1.50 - 1.95		(DRY)		S11				
1.50 - 1.95	B							
1.50 - 1.95	D							
2.40 - 2.50	D				Below 2.50m, slightly silty.			
2.50 - 2.95		2.40 (1.00)		S17				
2.50 - 2.95	B							
2.50 - 2.95	D							
3.40 - 3.50	D							
3.50 - 3.95		3.00 (2.00)		S12	Between 3.50-5.50m, with rare clay pockets.			
3.50 - 3.95	B							
3.50 - 3.95	D							
4.40 - 4.50	D							
4.50 - 4.95		4.20 (3.00)		S9	At 4.50m, loose.			
4.50 - 4.95	B							
4.50 - 4.95	D							
5.40 - 5.50	D							
5.50 - 5.95		5.40 (2.50)		S11				
5.50 - 5.95	B							
5.50 - 5.95	D							
6.40 - 6.50	D							
6.50 - 6.95		6.00 (2.00)		S7	At 6.50m, loose. Between 6.50-8.95m, silty.			
6.50 - 6.95	B							
6.50 - 6.95	D							
7.40 - 7.50	D							
7.50 - 7.95		7.40 (3.50)		S16				
7.50 - 7.95	B							
7.50 - 7.95	D							
8.40 - 8.50	D							
8.50 - 8.95		8.40 (5.00)		S33	At 8.50m, dense.			
8.50 - 8.95	B							
8.50 - 8.95	D							
9.40 - 9.50	D							
9.50 - 9.95		9.40 (5.00)		S23	Below 9.50m, clay pockets are absent.			
9.50 - 9.95	B							
9.50 - 9.95	D							

Boring

Depth	Hole Dia.	Technique	Crew
0.50	1.00	Inspection Pit	NH/JT
1.50	0.30	Inspection Pit	NH/JT
19.95	0.15	Cable Percussion	NH/JT

Progress

Depth of Hole	Depth Cased	Depth to Water	Date	Time
0.00			29/10/24	08:00
5.50	5.40	3.00	29/10/24	18:00
5.40	5.40	2.90	30/10/24	08:00
19.50	18.00	9.24	30/10/24	18:00

Groundwater

Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
5.50	5.40				Possible strike at 5.50m, obscured by added water to assist drilling.

Remarks

Inspection pit hand excavated to 1.50m depth with a surface footprint of 1x1m to clear for any archaeological finds. No services were found.

ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.

Unable to obtain Hand Vanes due to granular material present.

Water was added to assist boring between 1.50m and 5.50m.

Driller notes blowing sands between 16.00-19.50m.

Sand blown from 19.50m to 16.00m overnight between the 30th and 31st.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged by RC
Checked by TNH
Figure Sheet 1 of 2
06/01/2025

GEOTECHNICS

BOREHOLE RECORD - *Cable Percussion*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Borehole	BH05
Client	National Grid Ventures	**National Grid Coordinates**	649541.0 E 274369.1 N	**Ground Level**	4.30 m OD

Scale 1:50

Sampling			Properties	Strata			
Depth	Sample Type	Depth Cased & (to Water)	Results	SPT N	Description	Depth	Legend	Level (m OD)
10.40 - 10.50	D							
10.50 - 10.95		10.40 (5.50)		S13				
10.50 - 10.95	B							
10.50 - 10.95	D							
11.90 - 12.00	D							
12.00 - 12.45		11.90 (5.50)		S16				
12.00 - 12.45	B							
12.00 - 12.45	D							
13.40 - 13.50	D							
13.50 - 13.95		13.40 (6.00)		S9	At 3.40m, loose with a pocket (20mm in size) of soft orangish brown mottled grey clay.			
13.50 - 13.95	B							
13.50 - 13.95	D							
14.90 - 15.00	D							
15.00 - 15.45		14.90 (6.00)		S24	Medium dense brown to orangish brown silty SAND with many shell fragments (up to 5mm in size) and rare pockets (up to 3mm in size) of firm orangish brown clay.	15.00		-10.70
15.00 - 15.45	B							
15.00 - 15.45	D				Between 16.00-19.50m, driller notes blowing sands.			
16.40 - 16.50	D							
16.50 - 16.95		16.40 (6.00)		S32	Below 16.50m, dense.			
16.50 - 16.95	B							
16.50 - 16.95	D							
17.90 - 18.00	D							
18.00 - 18.45		17.80 (8.00)		S41	Below 18.00m, dark reddish brown. Clay pockets are absent.			
18.00 - 18.45	B							
18.00 - 18.45	D							
19.40 - 19.50	D							
19.50 - 19.95		19.40 (9.00)		S18	At 19.50m, medium dense.			
19.50 - 19.95	B							
19.50 - 19.95	D				End of Borehole	19.95		-15.65

Boring				Progress					Groundwater					
Depth	Hole Dia.	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
				16.00	18.00	5.87	31/10/24	08:00						
				19.95	19.50	3.55	31/10/24	18:00						

Remarks

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Borehole terminated at 19.95m depth on the instruction of the Engineer due to lack of time remaining on license to get to full depth. A 50mm standpipe was installed to 19.00m with a geowrapped slotted section from 15.00m to 19.00m with a up-standing cover and protective fence installed.
Backfill details from base of hole: bentonite seal up to 19.00m, gravel filter up to 15.00m, bentonite seal up to 0.2m, concrete up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Logged by RC
Checked by TNH
Figure

06/01/2025

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Walberswick Landfall **Engineer** BakerHicks **Project No.** PC238663

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH01	1.50	8.07	S		3	3	3	4	5	5	17	
BH01	2.50	7.07	S		2	3	5	6	8	9	28	
BH01	3.50	6.07	S		3	5	8	13	14	13	48	
BH01	4.50	5.07	S		3	3	7	12	25	6/5	50/230	
BH01	5.50	4.07	S		3	4	7	10	13	12	42	
BH01	6.50	3.07	S		2	1	3	4	6	5	18	
BH01	7.50	2.07	S		1	2	4	7	10	12	33	
BH01	8.50	1.07	S		2	2	3	4	8	9	24	
BH01	9.50	0.07	S		3	3	4	6	6	7	23	
BH01	10.50	-0.93	S		1	2	4	13	17	16/55	50/280	
BH01	12.00	-2.43	S		3	6	11	16	15	8/35	50/260	
BH01	13.50	-3.93	S		1	2	4	8	10	12	34	
BH01	15.00	-5.43	S		1	1	1	1	1	1	4	
BH01	16.50	-6.93	S		2	2	3	7	5	5	20	
BH01	18.00	-8.43	S		2	2	3	7	7	10	27	
BH01	19.50	-9.93	S		1	2	4	6	5	6	21	

Hammer No.:	BHDS08	**Remarks**
Energy Ratio, Er (%):	74	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Walberswick Landfall **Engineer** BakerHicks **Project No.** PC238663

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH02	1.50	6.07	S		2	2	4	7	7	6	24	
BH02	2.50	5.07	S		3	4	9	12	14	10	45	
BH02	3.50	4.07	S		3	5	6	18	18	7/9	49/234	
BH02	4.50	3.07	S		3	7	13	13	12	18	56	
BH02	5.50	2.07	S		2	3	4	8	10	12	34	
BH02	6.50	1.07	S		3	3	4	9	11	11	35	
BH02	7.50	0.07	S		2	3	5	8	5	6	24	
BH02	8.50	-0.93	S		3	3	5	6	7	9	27	
BH02	9.50	-1.93	S		4	7	20	30/70			50/145	
BH02	10.50	-2.93	S		2	3	3	5	6	5	19	
BH02	12.00	-4.43	S		1	2	3	2	1	3	9	
BH02	13.50	-5.93	S		2	2	3	5	5	7	20	
BH02	15.00	-7.43	S		2	2	3	5	5	5	18	
BH02	16.50	-8.93	S		3	3	4	7	8	12	31	
BH02	18.00	-10.43	S		3	3	6	7	8	9	30	
BH02	19.50	-11.93	S		3	4	3	5	7	9	24	

Hammer No.:	BHDS08	**Remarks**
Energy Ratio, Er (%):	74	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

AGS *Printed: 06/01/2025*

GEOTECHNICS

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Walberswick Landfall **Engineer** BakerHicks **Project No.** PC238663

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH03	1.50	7.31	S		1	2	3	2	2	3	10	
BH03	2.50	6.31	S		2	3	4	6	7	6	23	
BH03	3.50	5.31	S		1	3	3	4	5	9	21	
BH03	4.50	4.31	S		2	3	6	6	8	10	30	
BH03	5.50	3.31	S		2	3	5	5	6	14	30	
BH03	6.50	2.31	S		1	1	2	4	7	8	21	
BH03	7.50	1.31	S		2	3	6	8	10	14	38	
BH03	8.50	0.31	S		2	4	5	7	10	10	32	
BH03	9.50	-0.69	S		2	1	3	5	8	9	25	
BH03	10.50	-1.69	S		1	2	2	4	4	6	16	
BH03	12.00	-3.19	S		2	2	3	4	4	4	15	
BH03	13.50	-4.69	S		1	2	3	3	4	6	16	
BH03	15.00	-6.19	S		2	1	2	4	5	5	16	
BH03	16.50	-7.69	S		2	3	3	4	6	10	23	
BH03	18.00	-9.19	S		1	2	4	5	7	9	25	
BH03	19.50	-10.69	S		2	1	3	3	4	6	16	
BH03	21.00	-12.19	S		2	3	6	10	12	15	43	
BH03	22.50	-13.69	S		2	3	5	8	11	13	37	
BH03	24.00	-15.19	S		2	3	15	35			50/150	
BH03	28.50	-19.69	S		8	13	34	16/30			50/105	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Walberswick Landfall **Engineer** BakerHicks **Project No.** PC238663

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N*
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		10 20 30 40 50
BH04	1.50	4.21	S		2	3	4	5	6	4	19	
BH04	2.50	3.21	S		1	3	5	7	7	9	28	
BH04	3.50	2.21	S		1	1	3	5	5	8	21	
BH04	4.50	1.21	S		2	1	3	4	4	5	16	
BH04	5.50	0.21	S		1	2	2	4	5	6	17	
BH04	6.50	-0.79	S		3	4	4	6	7	10	27	
BH04	7.50	-1.79	S		3	5	7	11	12	18	48	
BH04	8.50	-2.79	S		3	5	7	1	16	14	38	
BH04	9.50	-3.79	S		2	3	4	6	8	9	27	
BH04	10.50	-4.79	S		2	2	2	2	4	4	12	
BH04	12.00	-6.29	S		1	1	2	3	3	3	11	
BH04	13.50	-7.79	S		1	2	3	3	5	7	18	
BH04	15.00	-9.29	S		2	1	3	2	3	3	11	
BH04	16.50	-10.79	S		2	1	2	3	4	5	14	
BH04	18.00	-12.29	S		2	2	2	3	3	5	13	
BH04	19.50	-13.79	S		8	11	13	17	20		50/225	
BH04	21.00	-15.29	S		2	6	16	24	10/30		50/180	
BH04	22.50	-16.79	S		3	2	5	7	9	16	37	
BH04	24.00	-18.29	S		6	14	30	20/35			50/110	
BH04	25.50	-19.79	S		5	17	44	6/5			50/80	
BH04	27.00	-21.29	S		3	7	18	32			50/150	
BH04	28.50	-22.79	S		5	13	39	11/15			50/90	
BH04	30.00	-24.29	S		2	4	4	7	8	13	32	
BH04	31.50	-25.79	S		2	2	4	5	5	10	24	
BH04	33.00	-27.29	S		6	9	17	23	10/30		50/180	
BH04	34.50	-28.79	S		5	7	10	13	22	5/5	50/230	

Hammer No.:	BHDS04	**Remarks**
Energy Ratio, Er (%):	67	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

FIELDWORK RESULTS - *SPT Results Summary*

Project Lionlink - Walberswick Landfall **Engineer** BakerHicks **Project No.** PC238663

Client National Grid Ventures

Borehole	Depth (m bgl)	Level (m OD)	SPT Type	SWP (mm)	Seating Drive		Test Drive				SPT *N* -value	Uncorrected SPT *N* 10 20 30 40 50
					0 - 75 (mm)	75 - 150 (mm)	0 - 75 (mm)	75 - 150 (mm)	150 - 225 (mm)	225 - 300 (mm)		
BH05	1.50	2.80	S		1	3	1	2	3	5	11	
BH05	2.50	1.80	S		1	2	4	4	5	4	17	
BH05	3.50	0.80	S		2	2	2	2	4	4	12	
BH05	4.50	-0.20	S		1	1	2	2	2	3	9	
BH05	5.50	-1.20	S		1	2	2	2	4	3	11	
BH05	6.50	-2.20	S		1	2	1	1	2	3	7	
BH05	7.50	-3.20	S		2	1	3	3	5	5	16	
BH05	8.50	-4.20	S		2	3	3	13	8	9	33	
BH05	9.50	-5.20	S		2	3	3	5	7	8	23	
BH05	10.50	-6.20	S		2	1	3	3	3	4	13	
BH05	12.00	-7.70	S		1	1	2	3	4	7	16	
BH05	13.50	-9.20	S		1	2	1	2	2	4	9	
BH05	15.00	-10.70	S		2	3	4	7	6	7	24	
BH05	16.50	-12.20	S		2	2	4	7	10	11	32	
BH05	18.00	-13.70	S		2	1	4	7	11	19	41	
BH05	19.50	-15.20	S		3	4	3	3	4	8	18	

Hammer No.:	BHDS08	**Remarks**
Energy Ratio, Er (%):	74	

-/- Blows / penetration (mm) -*/- Total blows / total penetration (mm) SWP Penetration under own weight (mm)

S - SPT with split spoon sampler C - SPT with cone L - Split Spoon liner used

1. BH01



2. BH01 Base



3. BH02



4. BH02 Base



5. BH03



6. BH03 Base



7. BH04



8. BH04 Base



9. BH05



10. BH05 Base



APPENDIX 5

Trial Pit Records

DATA SHEET - Symbols and Abbreviations used on Records

Sample Types

B	Bulk disturbed sample
BLK	Block sample
C	Core sample
D	Small disturbed sample (tub/jar)
E	Environmental test sample
ES	Environmental soil sample
EW	Environmental water sample
G	Gas sample
L	Liner sample
LB	Large bulk disturbed sample
P	Piston sample (PF - failed P sample)
TW	Thin walled push in sample
U	Open Tube - 102mm diameter with blows to take sample. (UF - failed U sample)
UT	Thin wall open drive tube sampler - 102mm diameter with blows to take sample. (UTF - failed UT sample)
V	Vial sample
W	Water sample
#	Sample Not Recovered

Insitu Testing / Properties

CBRP	CBR using TRL probe
CHP	Constant Head Permeability Test
COND	Electrical conductivity
TC	Thermal Conductivity
TR	Thermal Resistivity
HV	Strength from Hand Vane
ICBR	CBR Test
IDEN	Density Test
IRES	Resistivity Test
MEX	CBR using Mexecone Probe Test
PID	Photo Ionisation Detection (ppm)
PKR	Packer Permeability Test
PLT	Plate Load Test
PP	Strength from Pocket Penetrometer
Temp	Temperature
VHP	Variable Head Permeability Test
VN	Strength from Insitu Vane
w%	Water content

(All other strengths from undrained triaxial testing)

S	Standard Penetration Test (SPT)
C	SPT with cone
N	SPT Result
-/-	Blows/penetration (mm) after seating drive
-*/- (mm)	Total blows/penetration
( )	Extrapolated value

Groundwater

Water Strike

Depth Water Rose To

Instrumentation



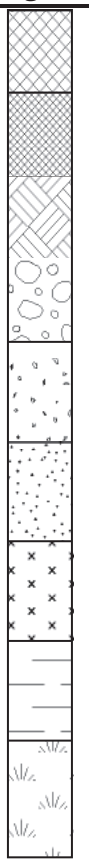
Seal

Filter

Seal

Strata

Legend



Made Ground Granular

Made Ground Cohesive

Topsoil

Cobbles and Boulders

Gravel

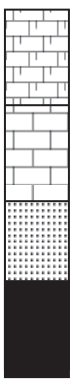
Sand

Silt

Clay

Peat

Note: Composite soil types shown by combined symbols



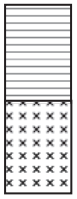
Chalk

Limestone

Sandstone

Coal

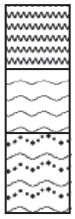
Strata, Continued



Mudstone

Siltstone

Metamorphic Rock

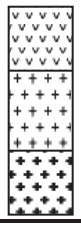


Fine Grained

Medium Grained

Coarse Grained

Igneous Rock



Fine Grained

Medium Grained

Coarse Grained

Backfill Materials



Arisings

Bentonite Seal

Concrete

Fine Gravel Filter

General Fill

Gravel Filter

Grout

Sand Filter

Tarmacadam

Rotary Core

RQD	Rock Quality Designation (% of intact core >100mm)
FRACTURE INDEX	Fractures/metre
FRACTURE SPACING (m)	Maximum Minimum
NA	Non-applicable
NI	Non-intact core
NR	No core recovery
AZCL	Assumed zone of core loss

(where core recovery is unknown it is assumed to be at the base of the run)

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP01
Client	National Grid Ventures	**National Grid Coordinates**	649283.0 E 274562.0 N	**Ground Level**	10.49 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown slightly gravelly clayey sand with occasional rootlets and rare roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.20 - 0.30	D						
0.20 - 0.30	ES						
0.20			PID: <0.1 ppm				
0.50 - 0.95	B			Yellowish brown silty SAND.	0.50		9.99
0.80 - 0.90	D						
0.80 - 0.90	ES			Light yellowish brown slightly gravelly silty SAND with rare pockets (up to 150mm in size) of clay. Gravel is subangular fine to medium flint.	0.95		9.54
0.80			PID: <0.1 ppm				
0.95 - 1.50	B						
1.00	D						
1.50	D			Between 1.50-2.50m, clay pockets are absent.			
1.50 - 2.50	B						
1.90	D						
2.40	D						
2.50 - 3.50	B			Below 2.50m, clay pockets (up to 250mm in size).			
2.80	D						
3.30	D						
				End of Excavation	3.50		6.99

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.45
Date	24/10/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	190
		Date Backfilled	24/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP02
Client	National Grid Ventures	**National Grid Coordinates**	649385.0 E 274520.0 N	**Ground Level**	8.36 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and root (up to 10mm in diameter). Gravel is subangular to rounded fine to coarse flint and quartzite.			
0.30	D				0.40		7.96
0.30	ES			Brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30			PID: <0.1 ppm				
0.40 - 0.80	B			Yellowish brown silty SAND with occasional pockets (up to 320mm in size) of clay.	0.80		7.56
0.60	D						
0.60	ES						
0.60			PID: <0.1 ppm				
0.80 - 1.40	B						
1.10	D			Below 1.40m, slightly gravelly with rare pockets (up to 80mm in size) of clay. Gravel is subangular fine to medium flint.			
1.40 - 2.50	B						
1.60	D						
2.00	D						
2.50	D			End of Excavation	2.50		5.86

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	29/10/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	068
		Date Backfilled	29/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
A Soakaway Test was carried out in the base of the pit. Pit collapsed during test back to 1.55m.
Backfill details from base of hole: arisings up to ground level.

Logged in accordance with BS5930:2015 + A1:2020

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP03
Client	National Grid Ventures	**National Grid Coordinates**	649449.0 E 274576.9 N	**Ground Level**	7.62 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D						
0.30	ES						
0.30			PID: <0.1 ppm		0.50		7.12
0.50 - 0.70	B			Brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.	0.70		6.92
0.60	D			Yellowish brown slightly gravelly very silty SAND. Gravel is subangular fine to medium flint.			
0.60	ES						
0.60			PID: <0.1 ppm				
0.70 - 1.80	B						
1.10	D						
1.10	ES						
1.10			PID: <0.1 ppm	Below 1.80m, with occasional pockets (up to 350mm in size) of clay.			
1.60	D						
1.80 - 2.30	B						
2.10	D						
				End of Excavation	2.30		5.32

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	29/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	023
		Date Backfilled	29/10/2024
Stability	Unstable below 1.40m.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Trial pit was terminated at 2.30m due to southern and northern walls collapsing back to 1.40m bgl.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP04
Client	National Grid Ventures	**National Grid Coordinates**	649242.6 E 274439.3 N	**Ground Level**	7.92 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare to occasional rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D				0.40		7.52
0.40 - 0.50	B			Brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint. At 0.50m, pottery fragments and a historical ring found.	0.50		7.42
0.45	D			End of Excavation			

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	3.00
Date	30/10/2024	**Length (C)**	3.00
Shoring	None.	**Orientation (degrees)**	218
		Date Backfilled	30/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint.

Trial Pit terminated at 0.50m depth on the instruction of the Archeologist due to the presence of archeological finds. The excavator was moved to TP04A.

Backfill details from base of hole: arisings up to ground level.

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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP04A
Client	National Grid Ventures	**National Grid Coordinates**	649242.9 E 274433.1 N	**Ground Level**	7.71 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D				0.40		7.31
0.30	ES			Brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	0.60		7.11
0.30			PID: <0.1 ppm	Yellowish brown slightly gravelly silty SAND with rare pockets (up to 100mm in size) of clay. Gravel is subangular fine to medium flint.			
0.40 - 0.60	B						
0.45	D						
0.45	ES						
0.45			PID: <0.1 ppm				
0.60 - 1.50	B						
1.00	D						
1.00	ES						
1.00			PID: <0.1 ppm				
1.50	D						
1.50 - 2.10	B			Below 2.10m, with occasional pockets (up to 450mm in size) of clay.			
2.00	D						
2.10 - 3.00	B						
2.50	D						
3.00	D						
3.00 - 3.50	B						
3.50	D			End of Excavation	3.50		4.21

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	30/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	279
		Date Backfilled	30/10/2024
Stability	Unstable below 2.10m		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Partial collapse on southern pit wall from 0.60-2.10m.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP05
Client	National Grid Ventures	**National Grid Coordinates**	649300.1 E 274460.0 N	**Ground Level**	8.29 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30 - 0.40	D						
				End of Excavation	0.50		7.79

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	3.00
Date	25/10/2024	**Length (C)**	3.00
Shoring	None.	**Orientation (degrees)**	035
		Date Backfilled	25/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint.

Trial Pit terminated at 0.50m depth on the instruction of the Archeologist due to the presence of archeological finds. The excavator was moved to TP05A.

Backfill details from base of hole: arisings up to ground level.

Logged by CS
Checked by TNH
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Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP05A
Client	National Grid Ventures	**National Grid Coordinates**	649298.3 E 274448.8 N	**Ground Level**	7.98 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in size). Gravel is subangular to subrounded fine to coarse flint and quartzite.	0.40		7.58
0.20 - 0.30	D						
0.20 - 0.30	ES						
0.20			PID: <0.1 ppm	Yellowish brown slightly gravelly silty SAND. Gravel is subangular fine flint.			
0.50 - 1.50	B						
0.70 - 0.80	D						
0.70 - 0.80	ES						
0.70			PID: <0.1 ppm				
1.20	D						
1.50 - 2.20	B						
1.80	D						
2.20	D			Below 2.20m, light yellowish brown with occasional pockets (up to 230mm in size) of clay.			
2.30 - 3.50	B						
2.50	D						
3.00	D						
3.40	D						
				End of Excavation	3.50		4.48

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.45
Date	25/10/2024	**Length (C)**	2.40
Shoring	None.	**Orientation (degrees)**	037
		Date Backfilled	25/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP06
Client	National Grid Ventures	**National Grid Coordinates**	649363.0 E 274429.0 N	**Ground Level**	8.82 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D						
0.30	ES				0.40		8.42
0.30			PID: 0.1 ppm	Brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint.	0.60		8.22
0.40 - 0.60	B			Yellowish brown silty SAND with occasional pockets (up to 300mm in size) of clay.			
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm				
0.60 - 1.50	B						
1.00	D						
1.00			PID: <0.1 ppm	Below 1.60m, slightly gravelly very silty with rare pockets (up to 60mm in size) of reddish brown clayey sand. Gravel is subangular fine flint.			
1.50	D						
1.60 - 2.50	B						
2.00	D						
2.50	D			End of Excavation	2.50		6.32

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	28/10/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	347
		Date Backfilled	28/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
A Soakaway Test was carried out in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
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GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP07
Client	National Grid Ventures	**National Grid Coordinates**	649399.9 E 274481.0 N	**Ground Level**	8.24 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.20 - 0.30	D						
0.20 - 0.30	ES						
0.20			PID: <0.1 ppm		0.50		7.74
0.50 - 1.10	B			Dark yellowish brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.80 - 0.90	D						
0.80 - 0.90	ES						
0.80			PID: <0.1 ppm		1.10		7.14
1.10 - 1.80	B			Light yellowish brown slightly gravelly very silty SAND. Gravel is subangular fine to medium flint.			
1.20	D						
1.70	D						
1.80 - 2.60	B			Below 1.80m, yellowish brown with occasional pockets (up to 250mm in size) of clay.			
1.90	D						
2.30	D						
2.60 - 3.50	B			Below 2.60m, with rare pockets (up to 50mm in size) of reddish brown silty sand.			
2.80	D						
3.30	D						
				End of Excavation	3.50		4.74

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.45
Date	25/10/2024	**Length (C)**	2.40
Shoring	None.	**Orientation (degrees)**	347
		Date Backfilled	25/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 1 of 1
19/12/2024

GEOTECHNICS

TRIAL PIT RECORD - Trial Pit

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP08
Client	National Grid Ventures	**National Grid Coordinates**	649467.0 E 274469.0 N	**Ground Level**	8.18 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.45	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D						
0.30	ES				0.45		7.73
0.30			PID: <0.1 ppm	Brown gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.45 - 0.90	B						
0.70	D				0.90		7.28
0.70	ES			Dark yellowish brown very silty SAND with occasional pockets (up to 400mm in size) of clay.			
0.70			PID: 0.1 ppm				
0.90 - 1.60	B						
1.30	D						
1.60 - 2.50	B			Below 1.60m, light yellowish brown with rare pockets (up to 250mm in size) of clay.			
1.70	D						
2.10	D						
2.50	D				2.50		5.68
				End of Excavation			

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	29/10/2024	**Length (C)**	2.00
Shoring	None.	**Orientation (degrees)**	037
		Date Backfilled	29/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
A Soakaway Test was carried out in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 1 of 1
19/12/2024

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP09
Client	National Grid Ventures	**National Grid Coordinates**	649288.0 E 274349.0 N	**Ground Level**	4.17 m OD

Samples and Tests | Strata | Scale 1:50

Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.50	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.			
0.30	D						
0.30	ES						
0.30			PID: 0.7 ppm		0.50		3.67
0.50 - 0.70	B			Brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and quartzite.	0.70		3.47
0.60	D			Yellowish brown very silty SAND.			
0.60	ES						
0.60			PID: 0.3 ppm				
0.70 - 1.60	B						
1.00	D						
1.00	ES			Below 1.60m, with occasional pockets (up to 350mm in size) of clay.			
1.00			PID: <0.1 ppm				
1.50	D						
1.60 - 2.50	B						
2.00	D						
2.50	D			Below 2.50m, with rare pockets (up to 100mm in size) of dark grey clay.			
2.50 - 3.50	B						
3.00	D						
3.50	D			End of Excavation	3.50		0.67

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	30/10/2024	**Length (C)**	2.10
Shoring	None.	**Orientation (degrees)**	149
		Date Backfilled	30/10/2024
Stability	Unstable below 1.60m		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				Slow water ingress below 3.40m.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Partial collapse of north-eastern and south-western walls between 0.70-1.60m.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 1 of 1
19/12/2024

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP10
Client	National Grid Ventures	**National Grid Coordinates**	649406.9 E 274364.9 N	**Ground Level**	6.07 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter). Gravel is subangular to subrounded fine to coarse flint and quartzite.	0.40		5.67
0.30	D			Brown gravelly silty SAND with a low cobble content of subrounded flint. Gravel is subangular to rounded flint and quartzite.	0.60		5.47
0.30	ES			Dark yellowish brown and brown slightly gravelly very silty SAND with occasional pockets (up to 200mm in size) of clay. Gravel is subangular to subrounded fine to coarse flint.	0.90		5.17
0.30			PID: <0.1 ppm	Stiff grey mottled yellowish brown slightly sandy CLAY with occasional lenses (up to 80mm in size) of yellowish brown silty sand. Below 1.20m, with occasional pockets (up to 150mm in size) of organic matter.	1.40		4.67
0.40 - 0.60	B			Yellowish brown slightly gravelly very silty SAND with occasional pockets (up to 300mm in size) of clay. Gravel is subangular fine to medium flint.			
0.50	D						
0.50	ES						
0.50			PID: <0.1 ppm				
0.60 - 0.90	B						
0.80	D						
0.80	ES						
0.80			PID: <0.1 ppm				
0.90 - 1.20	B						
1.00	D		w: 25 %				
1.00	HV		82/88/77 kPa R: 28/32/30 kPa				
1.20 - 1.40	B						
1.30	D						
1.40 - 2.50	B						
1.50	D						
2.00	D						
2.50	D						
2.50 - 3.50	B			End of Excavation	3.50		2.57
3.00	D						
3.50	D						

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	28/10/2024	**Length (C)**	2.20
Shoring	None.	**Orientation (degrees)**	342
		Date Backfilled	28/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 1 of 1
19/12/2024

GEOTECHNICS

TRIAL PIT RECORD - *Trial Pit*

Project	Lionlink - Walberswick Landfall	**Engineer**	BakerHicks	**Project No.**	PC238663
				Location ID	TP11
Client	National Grid Ventures	**National Grid Coordinates**	649474.0 E 274400.0 N	**Ground Level**	8.43 m OD

Scale 1:50

Samples and Tests				Strata			
Depth	Sample Type	Stratum No.	Results	Description	Depth	Legend	Level (m OD)
0.00 - 0.40	B			TOPSOIL: Dark brown slightly gravelly clayey sand with rare rootlets and roots (up to 10mm in diameter) with a low cobble content of subrounded flint. Gravel is subangular to subrounded fine to coarse flint and quartzite.	0.40		8.03
0.30	D			Yellowish brown slightly gravelly silty SAND. Gravel is subangular to subrounded fine to coarse flint and sandstone.			
0.30	ES						
0.30			PID: <0.1 ppm				
0.40 - 1.10	B						
0.90	D						
0.90	ES						
0.90			PID: <0.1 ppm	Yellowish brown gravelly very silty SAND. Gravel is subangualr fine to medium quartzite and flint.	1.10		7.33
1.10	D			Below 1.10m, with occasional pockets (up to 350mm in size) of clay. Gravel absent.			
1.10 - 2.10	B						
1.60	D						
2.10	D						
2.10 - 2.80	B						
2.60	D						
2.80 - 3.50	B			Below 2.80m, light yellowish brown with occasional laminations (up to 15mm in thickness) and pockets (up to 90mm in size) of dark brown to black organic material and pockets of dark yellowish brown clayey sand.			
3.10	D						
3.50	D			End of Excavation	3.50		4.93

Excavation

Plant	KOMATSU PC80MR	**Width (B)**	0.30
Date	28/10/2024	**Length (C)**	2.30
Shoring	None.	**Orientation (degrees)**	261
		Date Backfilled	28/10/2024
Stability	Stable during excavation.		

Groundwater

Depth Observed	Depth of Pit	Rose to	in Mins	Remarks
				None encountered during excavation.

Remarks

To prevent topsoil contamination a 3.00x3.00m footprint was excavated at surface, with topsoil placed on topsoil to the side of the footprint and subsoil placed on subsoil within this footprint.
ES sample = 2 x 60ml glass vial, 1 x 258ml amber glass jars and 1 x 1 litre plastic tub.
In situ Resistivity Tests were carried out at depths of 0.60m in both sides of the pit and 1.50m in the base of the pit.
Backfill details from base of hole: arisings up to ground level.

Symbols and abbrevations are explained on the accompanying key sheets.
All dimensions are in metres.

Logged in accordance with BS5930:2015 + A1:2020

Logged by CS
Checked by TNH
Figure Sheet 1 of 1
19/12/2024

GEOTECHNICS

1. TP01



2. TP01 Side



3. TP01 Topsoil



4. TP01 Spoil



5. TP02



6. TP02 Side



7. TP02 Topsoil



8. TP02 Spoil



9. TP02 after side collapse



10. TP03



11. TP03 Side Collapse



12. TP03 Topsoil



13. TP03 Spoil



14. TP04



15. TP04 Finds



16. TP04 Topsoil



17. TP04A



18. TP04A Side



19. TP04A Topsoil



20. TP04A Spoil



21. TP05



22. TP05 Topsoil



23. TP05 Finds



24. TP05A



25. TP05A Side



26. TP05A Topsoil



27. TP05A Spoil



28. TP06



29. TP06 Side



30. TP06 Topsoil



31. TP06 Spoil



32. TP07



33. TP07 Side



34. TP07 Topsoil



35. TP07 Spoil



36. TP08



37. TP08 Side



38. TP08 Topsoil



39. TP08 Spoil



40. TP08 after collapse



41. TP09



42. TP09 Side



43. TP09 Topsoil



44. TP09 Spoil



45. TP10



46. TP10 Side



47. TP10 Topsoil



48. TP10 Spoil



49. TP11



50. TP11 Side



51. TP11 Topsoil

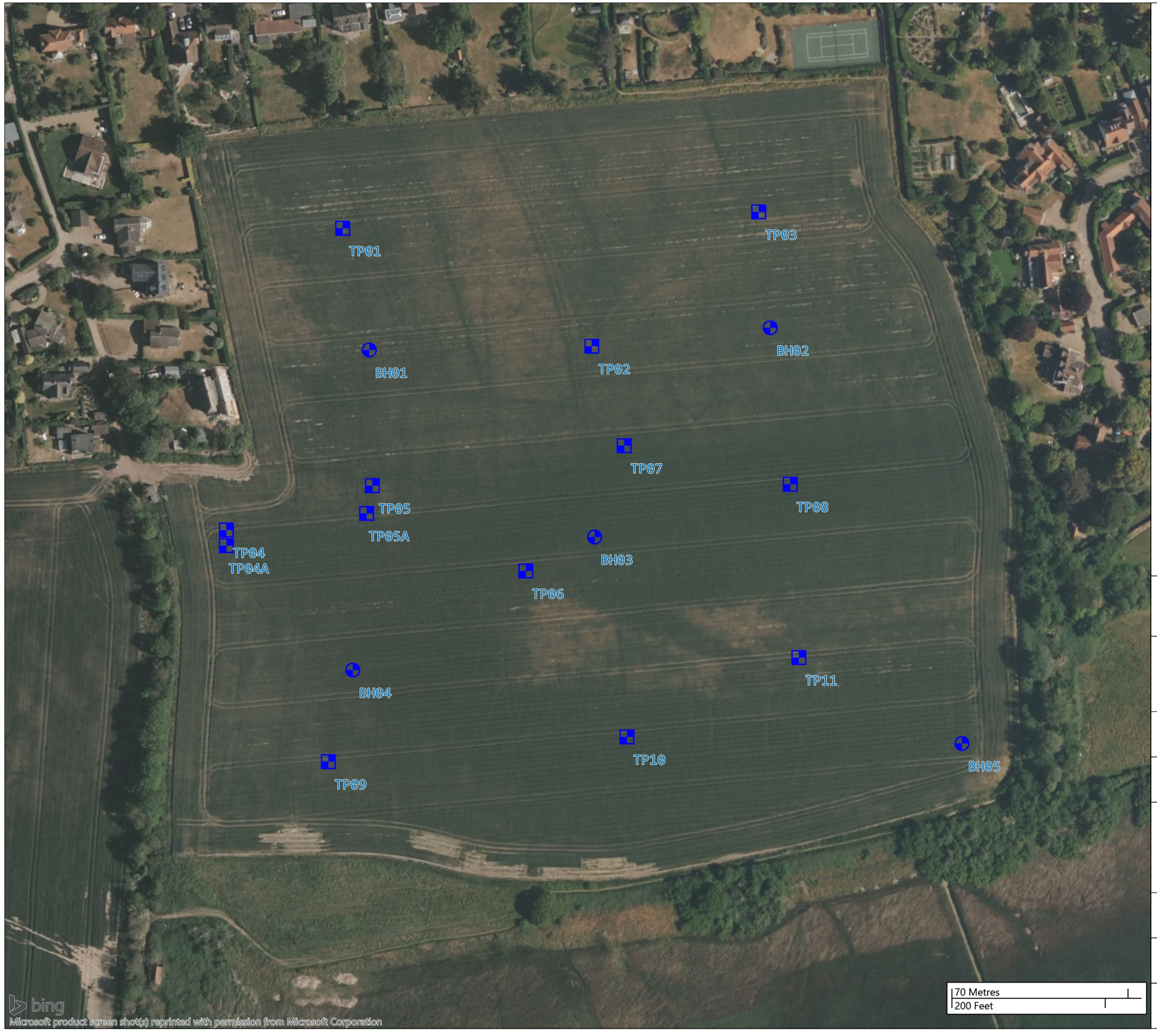


52. TP11 Spoil



APPENDIX 6

Exploratory Hole Location Plan



N

Legend

- Cable Percussion Boreholes
- Trial Pits

GEOTECHNICS

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Engineer:
BakerHicks

Client:
National Grid Ventures

Project:
Lionlink - Walberswick Landfall

Drawing Title:
Exploratory Hole Location Plan

Scale:	Date:
1:1500 at A3	**02/12/2024**
Project No.: **PC238663**	**Exploratory Hole Location Plan**

APPENDIX 7

Thermal Resistivity Test Results

INSITU TESTING - Thermal Conductivity ASTM D5334-22a^{e1}

Project: Lionlink - Walberswick Landfall

Project Number: PC238663

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22a^{e1}, the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TP01	0.60	24/10/2024	CS	Silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.6	**1.46**	**0.68**
	0.60	24/10/2024	CS	Silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.8	**1.39**	**0.72**
	1.50	24/10/2024	CS	Slightly gravelly silty SAND	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.7	**1.87**	**0.53**
TP02	0.60	29/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**0.88**	**1.14**
	0.60	29/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**0.87**	**1.14**
	1.50	29/10/2024	CS	Slightly gravelly silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.6	**1.02**	**0.98**
TP03	0.60	29/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.13**	**0.88**
	0.60	29/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.8	**1.21**	**0.83**
	1.50	29/10/2024	CS	Slightly gravelly very silty SAND	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.7	**0.60**	**1.67**
TP04A	0.60	30/10/2024	CS	Slightly gravelly silty SAND with clay pockets	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.1	**1.71**	**0.58**
	0.60	30/10/2024	CS	Slightly gravelly silty SAND with clay pockets	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.2	**1.02**	**0.99**
	1.50	30/10/2024	CS	Slightly gravelly silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.6	**1.05**	**0.95**
TP05A	0.60	25/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.14**	**0.88**
	0.60	25/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.56**	**0.64**
	1.50	25/10/2024	CS	Slightly gravelly silty SAND	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.6	**1.16**	**0.86**
TP06	0.60	28/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.4	**1.31**	**0.77**
	0.60	28/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.4	**1.04**	**0.96**
	1.50	28/10/2024	CS	Silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.4	**0.30**	**3.33**
TP07	0.60	25/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.34**	**0.75**
	0.60	25/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.7	**0.52**	**1.91**
	1.50	25/10/2024	CS	Slightly gravelly very silty SAND	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.6	**1.22**	**0.82**
TP08	0.60	29/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.30**	**0.77**
	0.60	29/10/2024	CS	Gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.7	**1.02**	**0.98**
	1.50	29/10/2024	CS	Very silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.6	**1.43**	**0.70**

GEOTECHNICS
BUILD ON CONFIDENCE

INSITU TESTING - Thermal Conductivity ASTM D5334-22a[e1]

Project: Lionlink - Walberswick Landfall

Project Number: PC238663

Client: National Grid Ventures

Notes: TR-3 probe is a single 2.4mm diameter, 100mm length needle designed for soil and other granular or porus materials. Sensor verified and tests undertaken in accordance with IEEE 442-2017 and ASTM D5334-22a[e1], the internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Hole ID	Depth (mbgl)	Test Date	Operative	Material Description	Probe Type	Probe Serial Number	Specimen Type	Needle Insertion	Thermal Compound Used	Water Content (%)	Dry Density (Mg/m^3)	Specimen Diameter (mm)	Specimen Length (mm)	Specimen Mass (g)	Initial Temperature (°C)	Thermal Conductivity (W/m.k)	Thermal Resistivity (m.k/W)
TP09	0.60	30/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.1	**1.22**	**0.82**
	0.60	30/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.0	**1.04**	**0.97**
	1.50	30/10/2024	CS	Very silty SAND	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.3	**0.88**	**1.14**
TP10	0.60	28/10/2024	CS	Slightly gravelly very silty SAND with clay pockets	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	13.0	**1.98**	**0.51**
	0.60	28/10/2024	CS	Slightly gravelly very silty SAND with clay pockets	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.30**	**0.77**
	1.50	28/10/2024	CS	Slightly gravelly very silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.9	**1.16**	**0.86**
TP11	0.60	28/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**1.15**	**0.87**
	0.60	28/10/2024	CS	Slightly gravelly silty SAND	TR-3	03995	In-Situ	Pushed	None	-	-	-	-	-	12.9	**0.97**	**1.03**
	1.50	28/10/2024	CS	Slightly gravelly very silty SAND with clay pockets	TR-3	04011	In-Situ	Pushed	None	-	-	-	-	-	13.8	**1.44**	**0.70**

GEOTECHNICS
BUILD ON CONFIDENCE

APPENDIX 8

Soakaway Test Results

APPENDIX 8

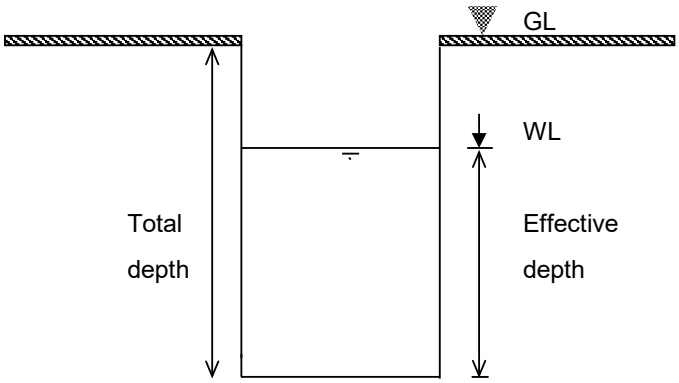
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP02
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00			
1.00			
2.00			
3.00			
4.00			
5.00			
10.00			
15.00			
20.00			
30.00			
45.00			
60.00			

TRIAL PIT SOAKAWAY



Trial pit length	=	2.20	m
Trial pit width	=	0.30	m
Trial pit depth	=	2.50	m
Effective depth (Head of Water)	=	1.35	m

Initial depth from GL	=	0.000m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	1.013	1.488	
25%	0.338	2.163	
Vp75-25	=	m3	
ap50	=	m2	
tp75-25	=	min	
Soil Infiltration, f	=	*	m/sec

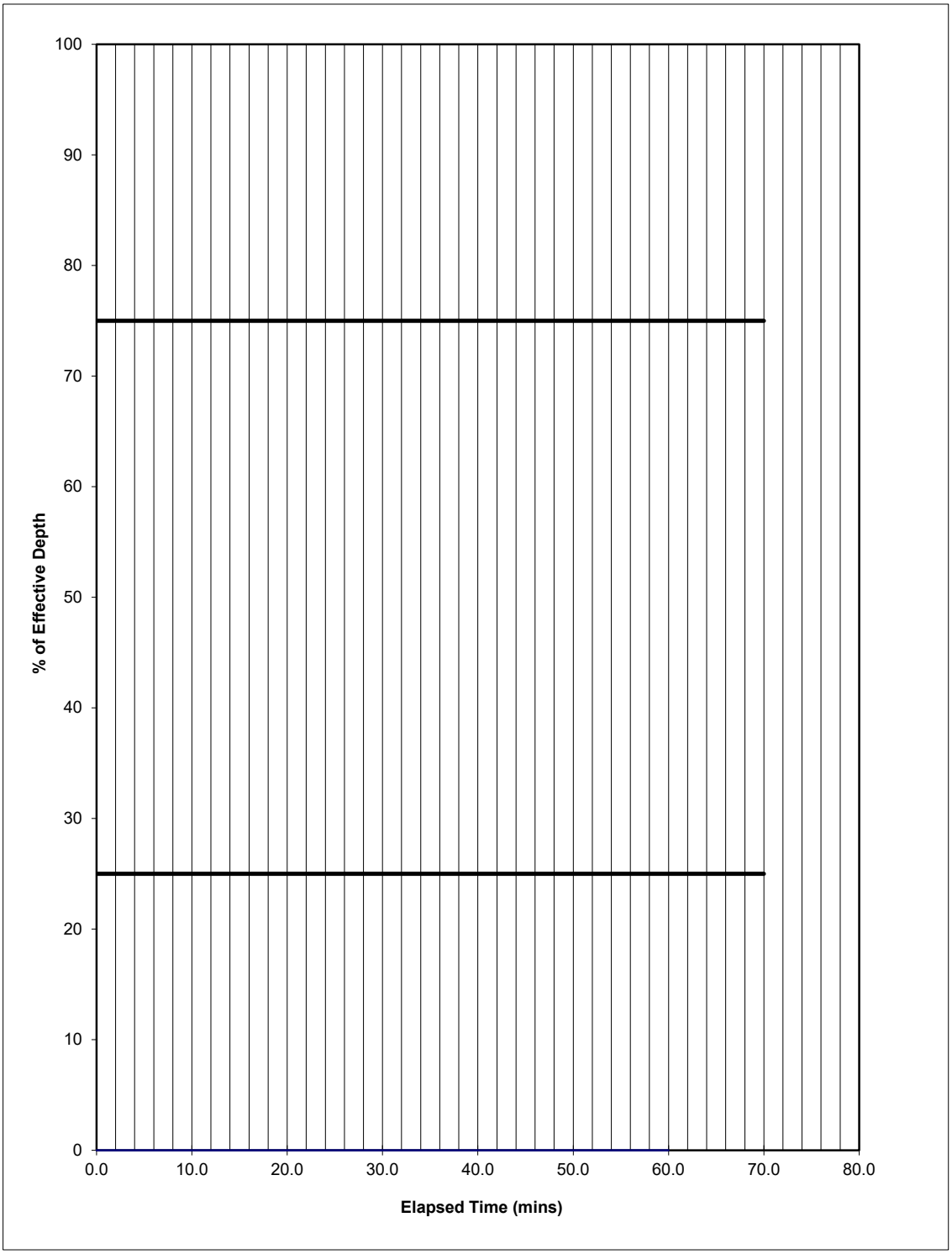
Remarks *Unable to raise head of water. 1000 liters added over 5 minutes.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP02
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024



tp75	=	
tp25	=	

Remarks *Unable to raise head of water. 1000 liters added over 5 minutes.

GEOTECHNICS

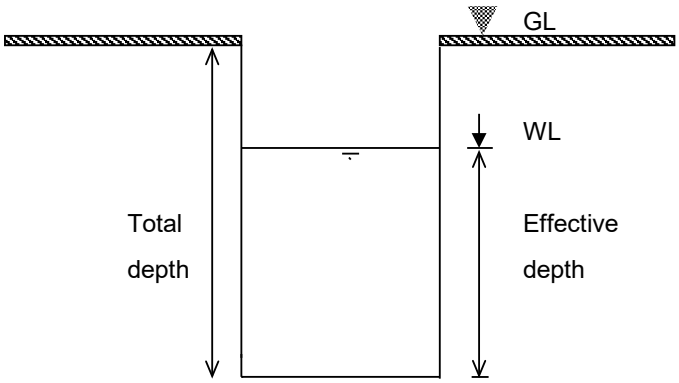
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP02
		Test No	2
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.15	1.35	100.00
1.00	1.15	1.35	100.00
2.00	1.20	1.30	96.30
3.00	1.24	1.26	93.33
4.00	1.30	1.20	88.89
5.00	1.36	1.14	84.44
10.00	1.43	1.07	79.26
15.00	1.47	1.03	76.30
20.00	1.50	1.00	74.07
30.00	1.51	0.99	73.33
45.00	1.51	0.99	73.33
60.00	1.51	0.99	73.33

TRIAL PIT SOAKAWAY



Trial pit length	=	2.20	m
Trial pit width	=	0.30	m
Trial pit depth	=	2.50	m
Effective depth (Head of Water)	=	1.35	m

Initial depth from GL	=	1.150m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	1.013	1.488	
25%	0.338	2.163	
Vp75-25	=		m3
ap50	=		m2
tp75-25	=		min
Soil Infiltration, f	=	*	m/sec

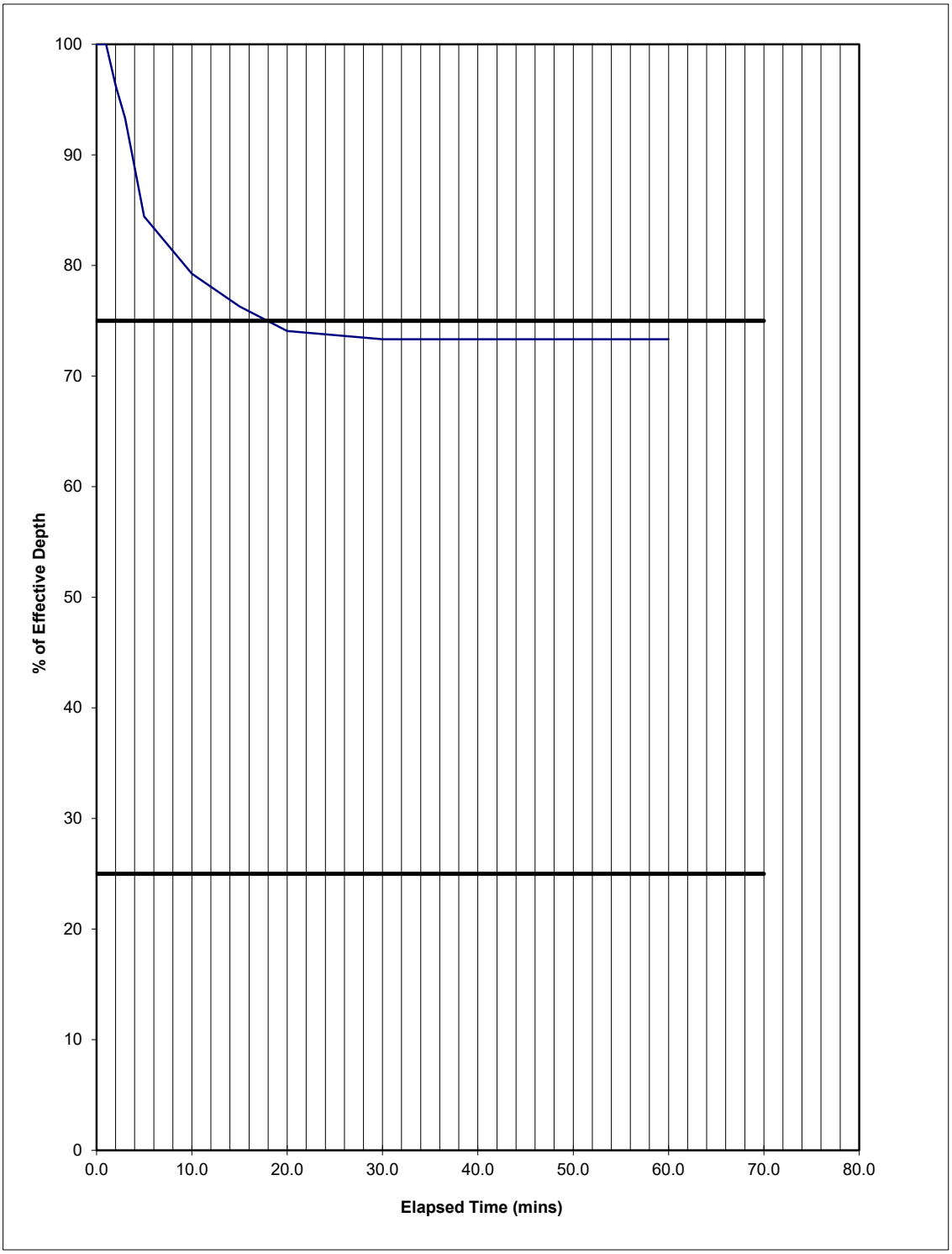
Remarks *Test cancelled after 60 minutes on the instruction of the Engineer due to pit wall collapse back to 1.55m changing the volume of the pit.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP02
		Test No	2
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024



tp75	=
tp25	=

Remarks *Test cancelled after 60 minutes on the instruction of the Engineer due to pit wall collapse back to 1.55m changing the volume of the pit.

GEOTECHNICS

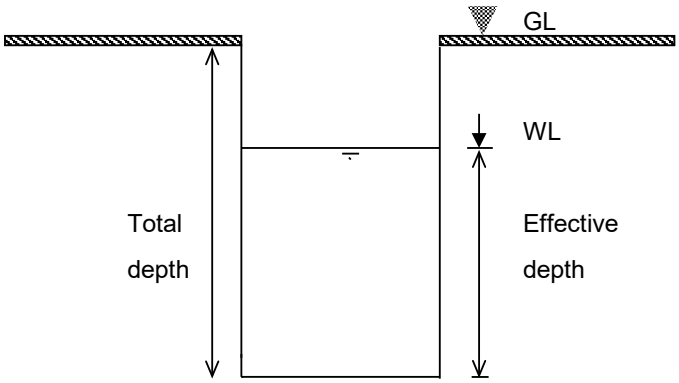
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP06
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	28/10/2024

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	1.16	1.34	100.00
1.00	1.16	1.34	100.00
2.00	1.18	1.32	98.51
3.00	1.18	1.32	98.51
4.00	1.19	1.31	97.76
5.00	1.21	1.29	96.27
10.00	1.23	1.27	94.78
15.00	1.26	1.24	92.54
20.00	1.27	1.23	91.79
30.00	1.30	1.20	89.55
45.00	1.33	1.17	87.31
60.00	1.37	1.13	84.33
90.00	1.45	1.05	78.36
120.00	1.54	0.96	71.64

TRIAL PIT SOAKAWAY



Trial pit length	=	2.20	m
Trial pit width	=	0.30	m
Trial pit depth	=	2.50	m
Effective depth (Head of Water)	=	1.34	m

Initial depth from GL	=	1.160m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	1.005	1.495	
25%	0.335	2.165	
Vp75-25	=		m3
ap50	=		m2
tp75-25	=		min
Soil Infiltration, f	=	*	m/sec

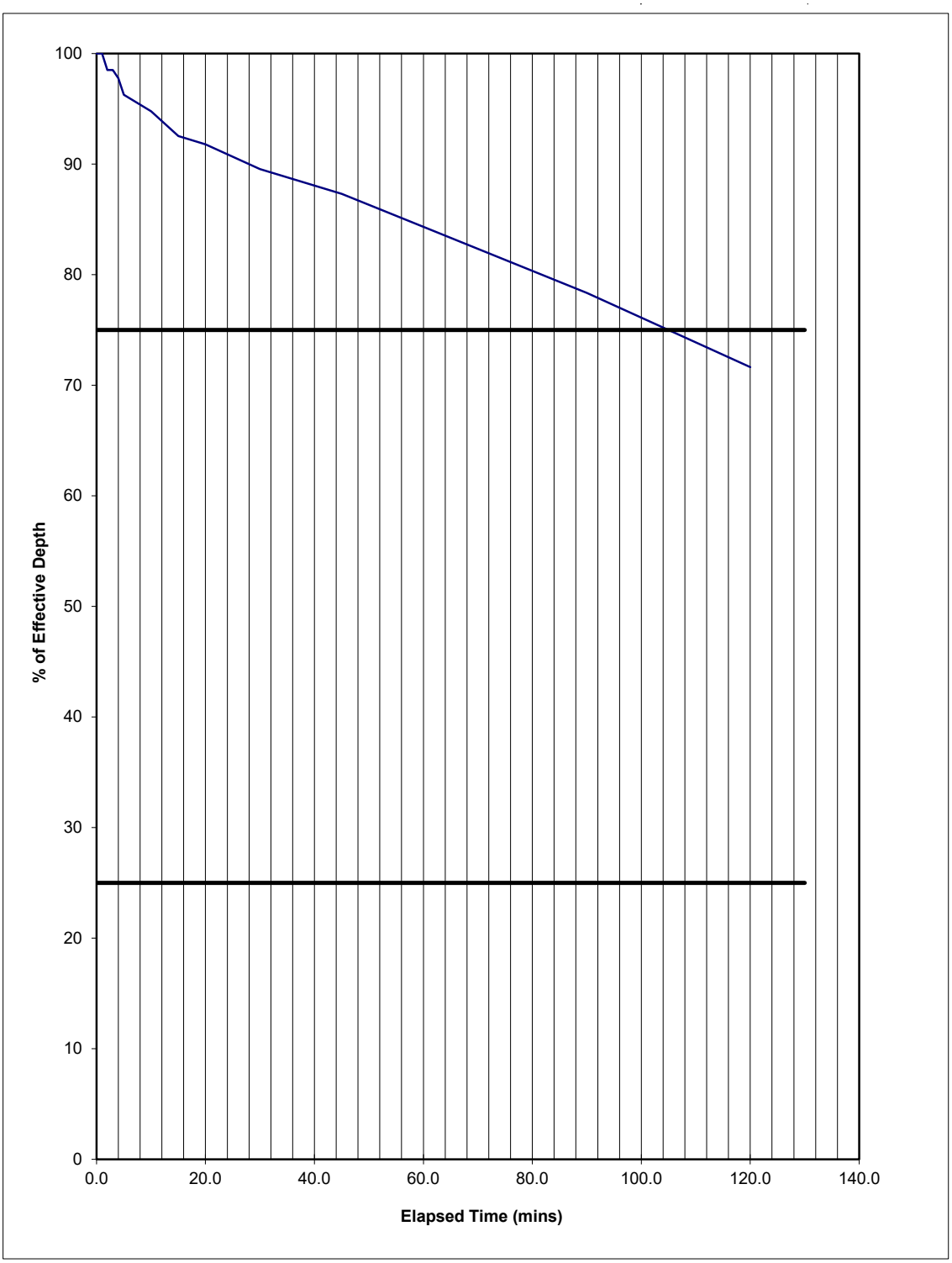
Remarks *Test cancelled after 120 minutes on the instruction of the Engineer due to insufficient reduction in head.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP06
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	28/10/2024



tp75	=	104.00
tp25	=	

Remarks *Test cancelled after 120 minutes on the instruction of the Engineer due to insufficient reduction in head.

GEOTECHNICS

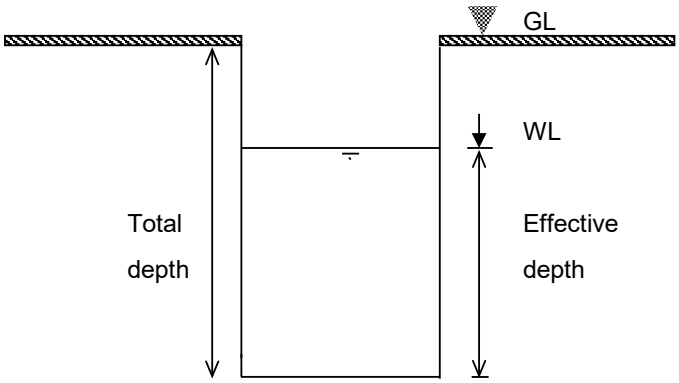
INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP08
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024

ELAPSED TIME (mins)	DEPTH of water below ground level (m)	HEAD (m)	HEAD (%)
0.00	0.90	1.60	100.00
1.00	0.94	1.56	97.50
2.00	1.00	1.50	93.75
3.00	1.05	1.45	90.63
4.00	1.07	1.43	89.38
5.00	1.09	1.41	88.13
10.00	1.11	1.39	86.88
15.00	1.15	1.35	84.38
20.00	1.17	1.33	83.13
30.00	1.21	1.29	80.63
45.00	1.28	1.22	76.25
60.00	1.30	1.20	75.00
90.00	1.64	0.86	53.75

TRIAL PIT SOAKAWAY



Trial pit length	=	2.00	m
Trial pit width	=	0.30	m
Trial pit depth	=	2.50	m
Effective depth (Head of Water)	=	1.60	m

Initial depth from GL	=	0.900m	
% of effective depth	Head (m)	Depth from GL (m)	Time (mins)
75%	1.200	1.300	
25%	0.400	2.100	
Vp75-25	=		m3
ap50	=		m2
tp75-25	=		min
Soil Infiltration, f	=	*	m/sec

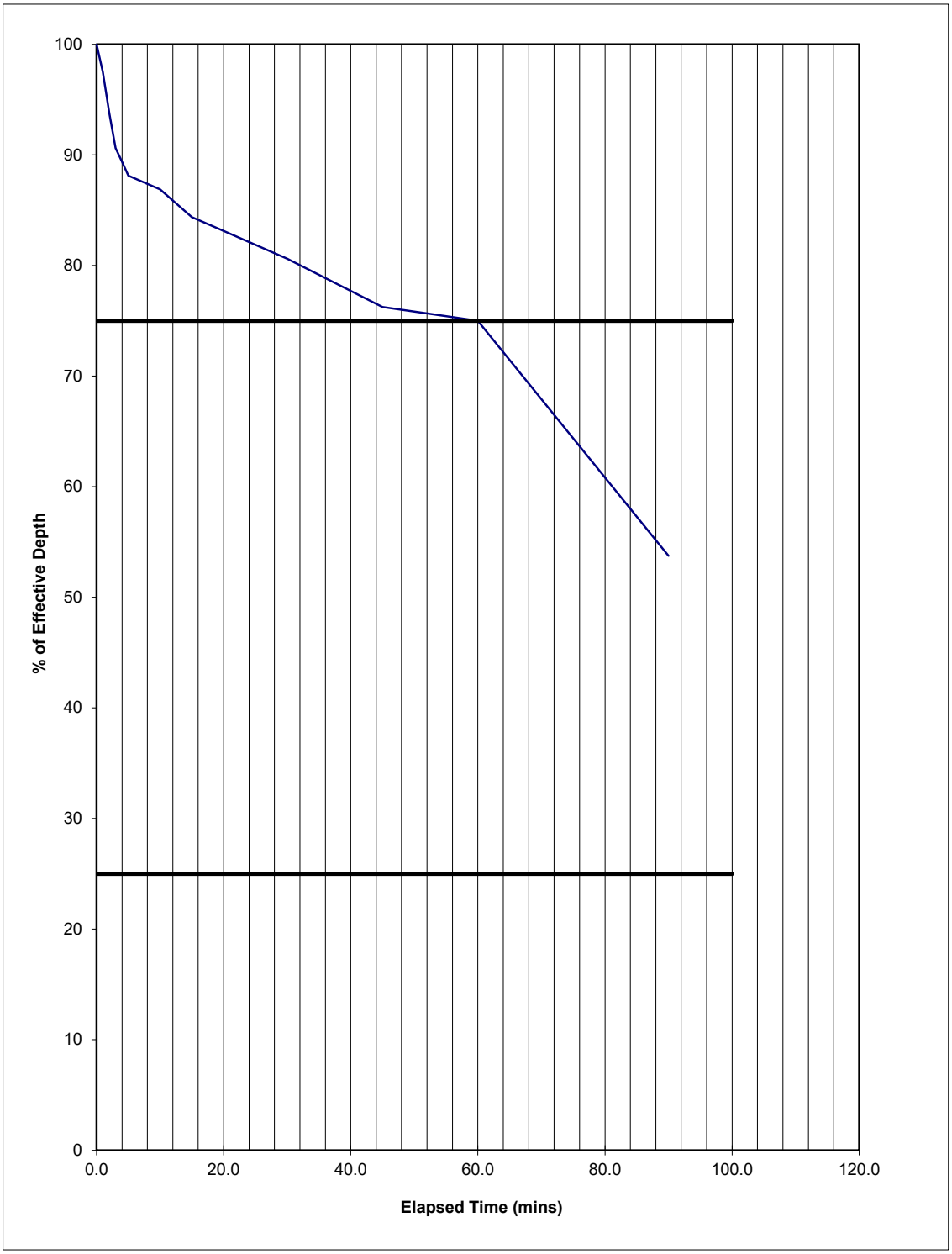
Remarks *Test cancelled after 90 minutes on the instruction of the Engineer due to pit wall collapse changing the volume of the pit.

GEOTECHNICS

INSITU TESTING - Soakaway Test

Form INS009 Rev 7

Project	Lionlink - Walberswick Landfall	Trial Pit	TP08
		Test No	1
		Project No	PC238663
Client	National Grid Ventures	Date	29/10/2024



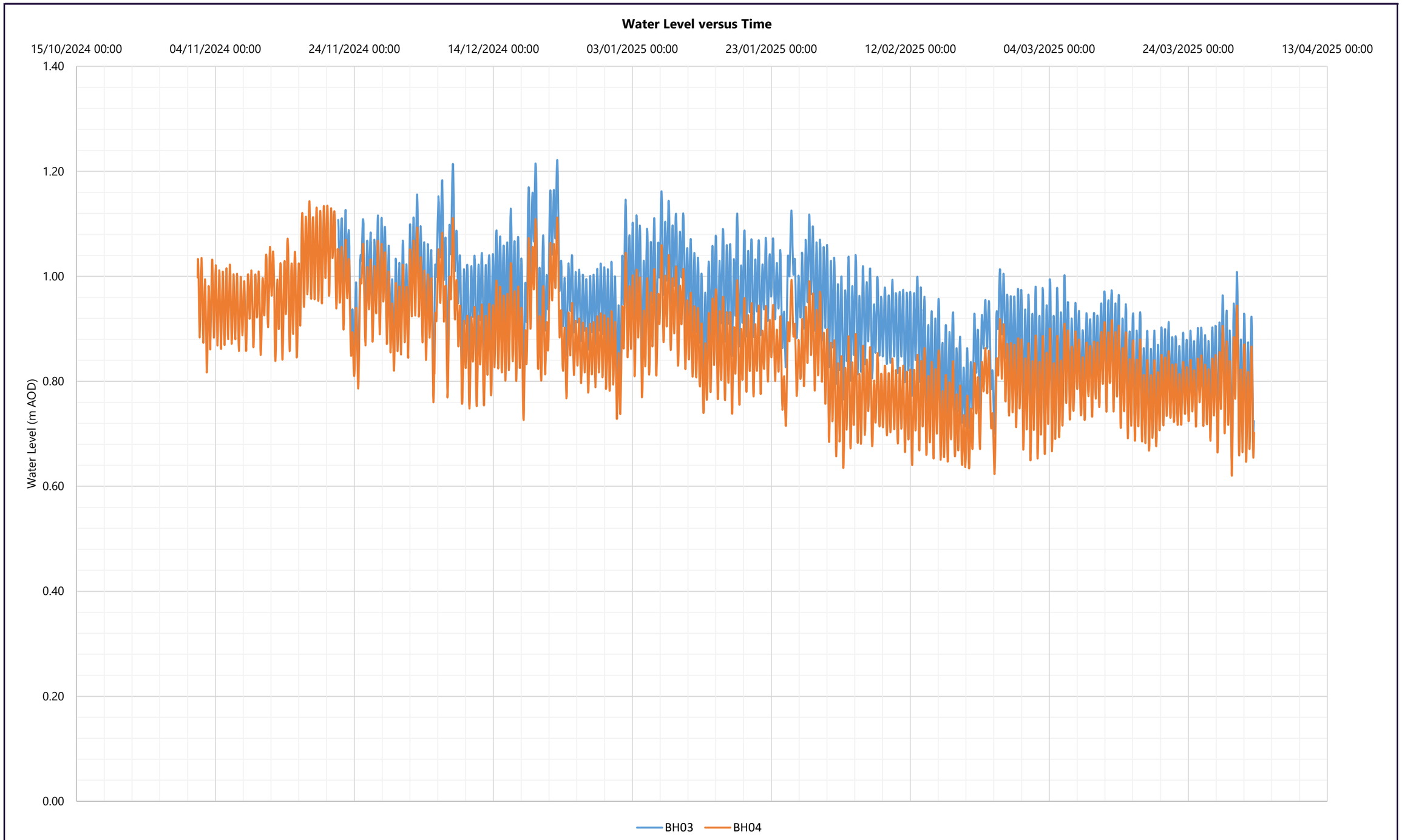
tp75	=
tp25	=

Remarks *Test cancelled after 90 minutes on the instruction of the Engineer due to pit wall collapse changing the volume of the pit.

GEOTECHNICS

APPENDIX 9

Diver Plots

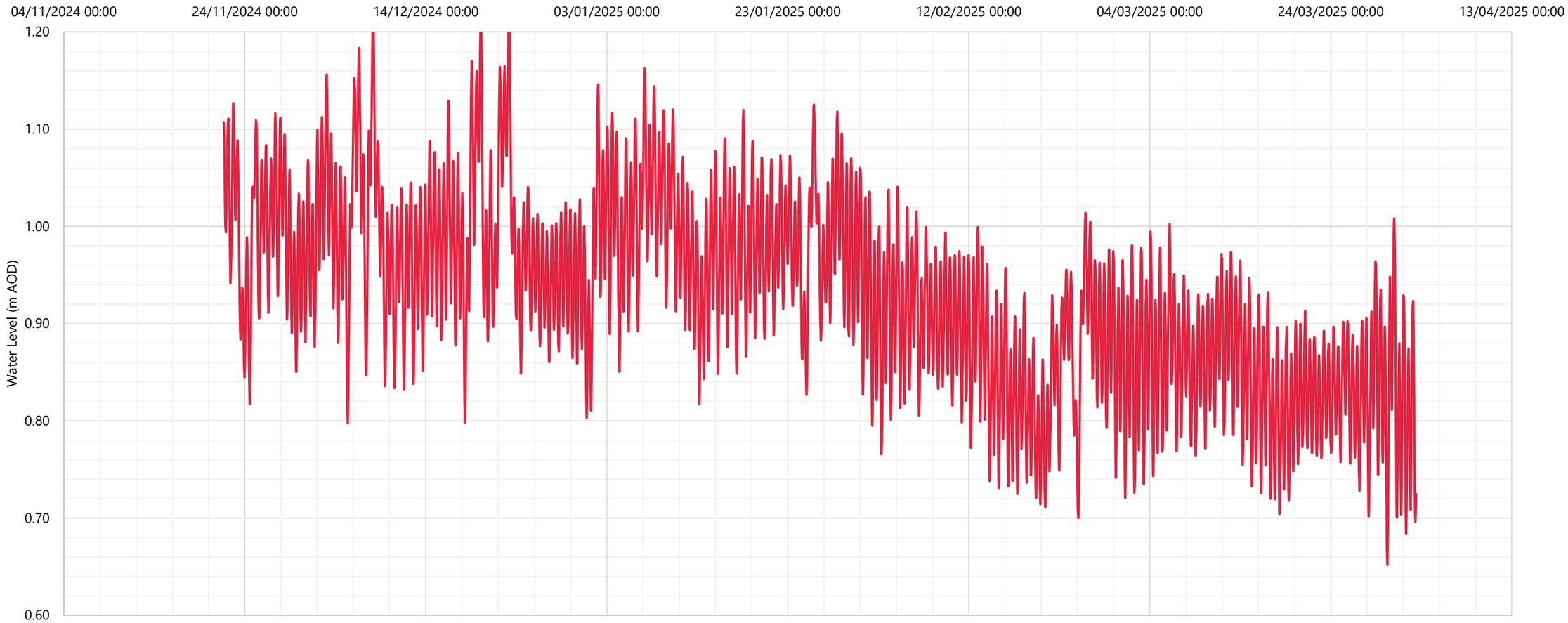


Project Number: PC238663
Project Name: Lionlink - Walberswick Landfall
Location ID: All Locations

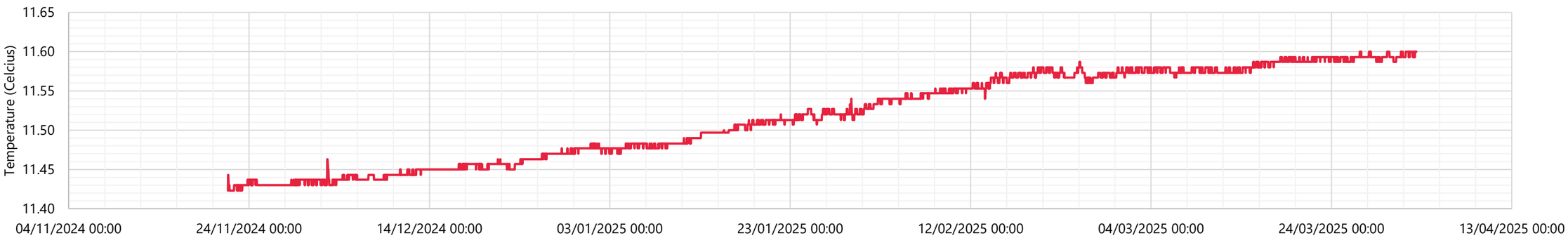
Diver Water Level Loggers
Plot of Water Level versus Time

GEOTECHNICS
BUILD ON CONFIDENCE

Water Level versus Time



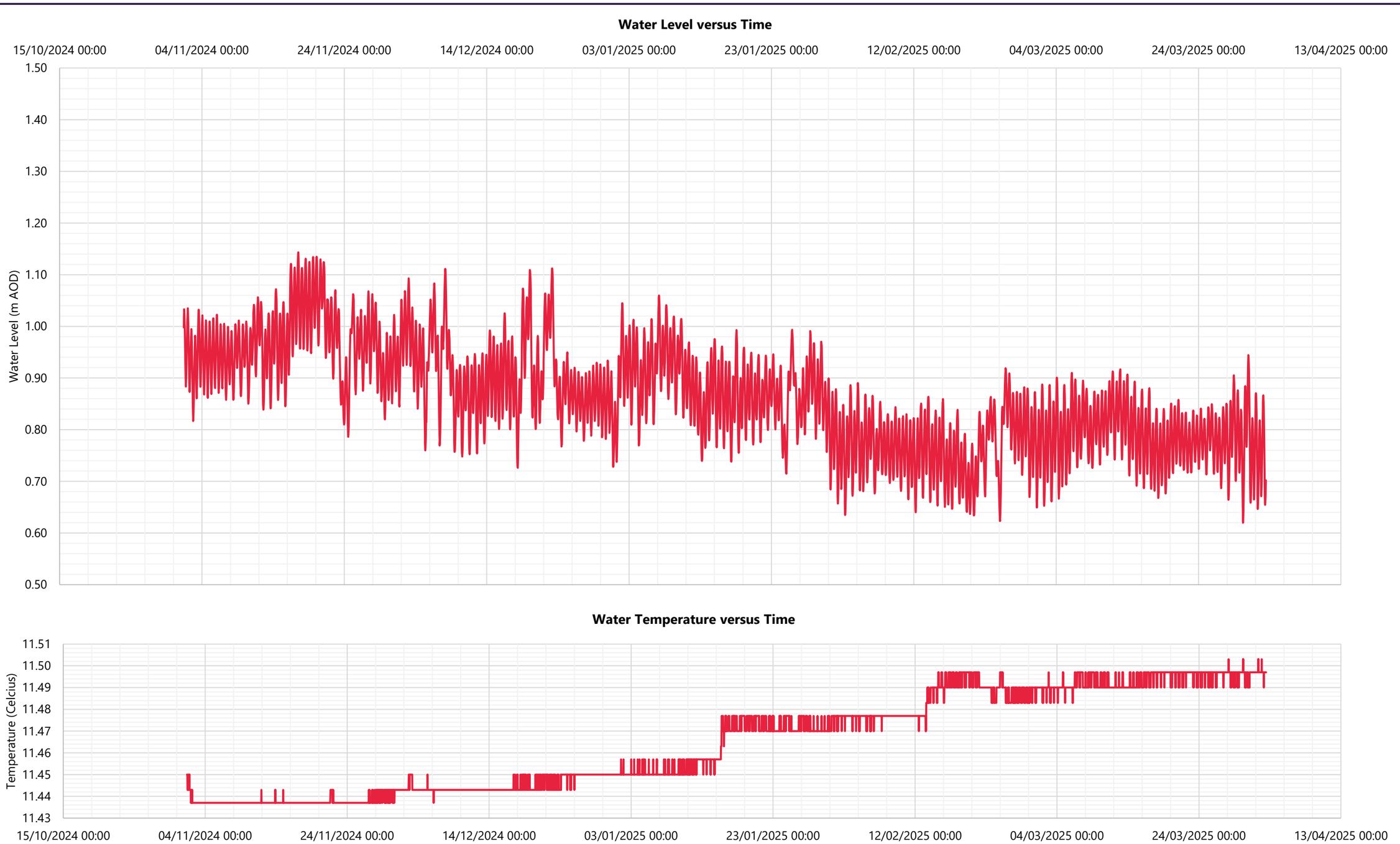
Water Temperature versus Time



Project Number: PC238663
Project Name: Lionlink - Walberswick Landfall
Location ID: BH03
Response Zone: 23.00-35.00m below ground level.

Diver Water Level Logger
Plots of Water Level versus Time and Water Temperature versus Time

GEOTECHNICS
BUILD ON CONFIDENCE



Project Number: PC238663
Project Name: Lionlink - Walberswick Landfall
Location ID: BH04
Response Zone: 19.00-28.00m below ground level.

Diver Water Level Logger
Plots of Water Level versus Time and Water Temperature versus Time

GEOTECHNICS
BUILD ON CONFIDENCE

APPENDIX 10

Monitoring Results

APPENDIX 10

FIELDWORK - *Water Level Monitoring*

Project Lionlink - Walberswick Landfall **Project No.** PC238663

Client National Grid Ventures **Sheet No.** 1

Location ID		**BH01**		**BH02**		**BH03**		**BH04**		**BH05**			
Instrument diameter		50 mm		50 mm		50 mm		50 mm		50 mm			
Depth to base (m bgl)		13.50		15.00		35.00		28.00		19.00			
Filter zone (m bgl)		1.50 - 13.50		2.00 - 15.00		23.00 - 35.00		19.00 - 28.00		15.00 - 19.00			
Level (m OD)		9.57		7.57		8.81		5.71		4.30			
Date	Time	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)	Depth (m)	Level (m OD)		
21 Nov 2024		8.23	1.34	6.45	1.12	7.70	1.11	4.58	1.13	3.83	0.47		
02 Dec 2024		8.24	1.33	6.48	1.09	7.76	1.05	4.65	1.06	3.37	0.93		
15 Jan 2025		8.30	1.27	6.49	1.08	7.76	1.05	4.63	1.08	3.28	1.02		
29 Jan 2025		8.35	1.22	6.54	1.03	7.88	0.93						
30 Jan 2025								4.74	0.97	3.32	0.98		
13 Feb 2025		8.35	1.22	6.52	1.05	7.86	0.95	4.68	1.03	3.33	0.97		
06 Mar 2025		8.35	1.22	6.53	1.04	7.86	0.95	4.74	0.97	3.36	0.94		

Symbols and abbrevations are explained on the accompanying key sheets.

GEOTECHNICS

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Walberswick Landfall	**Project No.**	PC238663
Client	National Grid Ventures		

Installation Details

Location ID	BH01	**Installation Type**	Standpipe
Depth to Base (m bgl)	13.50	**Diameter**	50mm
Filter Zone	1.50 - 13.50	**Cover Type**	Upright lockable
Date Installed	29/10/2024	**Ground Level (m OD)**	9.57

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		<0.1	<0.1	3.7	<0.1	1.6	1.6	18.7	18.7	1	<1		1.0	995	<1	Gas Data GFM435	Moist	Still	Cloudy	None	Steady	8.23	13.44	
02/12/2024		<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.2	20.2	<1	<1		7.0	1009	<1	Gas Data GFM435	Moist	Light	Cloudy	None	Steady	8.24	13.43	
15/01/2025		<0.1	<0.1	<0.1	<0.1	0.3	0.3	18.9	18.9	<1	<1		6.0	1031	<1	Gas Data GFM436	Dry	Light	Overcast	None	Steady	8.30	13.37	
29/01/2025		-0.3	-0.3	<0.1	<0.1	<0.1	<0.1	18.9	18.9	<1	<1		7.0	1000	-1	Gas Data GFM436	Moist	Moderate	Overcast	Slight	Rising	8.35	13.41	
13/02/2025		<0.1	<0.1	<0.1	<0.1	0.1	0.1	18.6	18.6	<1	<1		5.0	1022	<1	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	8.35	13.33	
06/03/2025		<0.1	<0.1	<0.1	<0.1	1.0	1.0	18.1	18.1	<1	<1		12.0	1014	<1	Gas Data GFM435	Dry	Moderate	None	None	Steady	8.35	13.37	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project	Lionlink - Walberswick Landfall	**Project No.**	PC238663
Client	National Grid Ventures		

Installation Details

Location ID	BH02	**Installation Type**	Standpipe
Depth to Base (m bgl)	15.00	**Diameter**	50mm
Filter Zone	2.00 - 15.00	**Cover Type**	Upright lockable
Date Installed	24/10/2024	**Ground Level (m OD)**	7.57

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		0.3	<0.1	<0.1	<0.1	1.8	1.7	18.2	18.2	1	<1		1.0	995	1	Gas Data GFM435	Moist	Still	Cloudy	None	Steady	6.45	14.85	
02/12/2024		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	<1	<1		7.0	1009	<1	Gas Data GFM435	Moist	Light	Cloudy	None	Steady	6.48	14.86	
15/01/2025		1.0	0.2	<0.1	<0.1	0.2	0.2	19.3	19.3	<1	<1		6.0	1031	4	Gas Data GFM436	Dry	Light	Overcast	None	Steady	6.49	14.47	
29/01/2025		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.1	19.1	<1	<1		7.0	1000	<1	Gas Data GFM436	Moist	Moderate	Overcast	Slight	Rising	6.54	14.32	
13/02/2025		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18.7	18.7	<1	<1		5.0	1022	<1	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	6.52	14.11	
06/03/2025		1.6	<0.1	<0.1	<0.1	1.6	1.6	17.5	17.5	<1	<1		12.0	1013	4	Gas Data GFM435	Dry	Moderate	None	None	Steady	6.53	14.20	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project Lionlink - Walberswick Landfall **Project No.** PC238663

Client National Grid Ventures

Installation Details

Location ID	BH03	**Installation Type**	Standpipe
Depth to Base (m bgl)	35.00	**Diameter**	50mm
Filter Zone	23.00 - 35.00	**Cover Type**	Upright lockable
Date Installed	31/10/2024	**Ground Level (m OD)**	8.81

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024																Water Level Meter	Moist	Still	Cloudy	None	Steady	7.70	34.60	Diver installed so unable to gas
02/12/2024																Water Level Meter	Moist	Light	Cloudy	None	Steady	7.76	34.61	
15/01/2025																Water Level Meter	Dry	Light	Overcast	None	Steady	7.76	34.57	
29/01/2025																Water Level Meter	Moist	Moderate	Overcast	Slight	Rising	7.88	34.42	
13/02/2025																Water Level Meter	Moist	Moderate	Overcast	None	Rising	7.86	32.54	
06/03/2025																Water Level Meter	Dry	Moderate	None	None	Steady	7.86	32.50	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project Lionlink - Walberswick Landfall **Project No.** PC238663

Client National Grid Ventures

Installation Details

Location ID	BH04	**Installation Type**	Standpipe
Depth to Base (m bgl)	28.00	**Diameter**	50mm
Filter Zone	19.00 - 28.00	**Cover Type**	Upright lockable
Date Installed	24/10/2024	**Ground Level (m OD)**	5.71

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024																Water Level Meter	Moist	Still	Cloudy	None	Steady	4.58	26.93	Diver installed so unable to gas
02/12/2024																Water Level Meter	Moist	Light	Cloudy	None	Steady	4.65	26.96	
15/01/2025																Water Level Meter	Dry	Light	Overcast	None	Steady	4.63	26.46	
30/01/2025																Water Level Meter	Moist	Moderate	Overcast	Slight	Rising	4.74	26.48	
13/02/2025																Water Level Meter	Moist	Moderate	Overcast	None	Rising	4.68	26.32	
06/03/2025																Water Level Meter	Dry	Moderate	None	None	Steady	4.74	26.30	

FIELDWORK - *In Situ Gas Monitoring - Instrument Record*

Project Lionlink - Walberswick Landfall **Project No.** PC238663

Client National Grid Ventures

Installation Details

Location ID	BH05	**Installation Type**	Standpipe
Depth to Base (m bgl)	19.00	**Diameter**	50mm
Filter Zone	15.00 - 19.00	**Cover Type**	Upright lockable
Date Installed	31/10/2024	**Ground Level (m OD)**	4.30

Date of Reading	Time of Reading	Flow (Peak) (l/hr)	Flow (Steady) (l/hr)	Methane (Peak) (% v/v)	Methane (Steady) (% v/v)	Carbon Dioxide (Peak) (% v/v)	Carbon Dioxide (Steady) (% v/v)	Oxygen (Peak) (% v/v)	Oxygen (Steady) (% v/v)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	PID (ppm)	Air Temperature (°C)	Atmospheric Pressure (mb)	Diff. Pressure (Pa)	Equipment used	Ground Conditions	Wind	Cloud Cover	Precipitation	Atmospheric Pressure Trend	Depth to Water (m bgl)	Depth to Base (m)	Remarks
21/11/2024		<0.1	<0.1	<0.1	<0.1	0.7	0.7	19.0	19.0	1	<1		2.0	995	<1	Gas Data GFM435	Moist	Still	Cloudy	None	Steady	3.83	16.93	
02/12/2024		<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.2	20.2	<1	<1		7.0	1010	<1	Gas Data GFM435	Moist	Light	Cloudy	None	Steady	3.37	17.39	
15/01/2025		<0.1	<0.1	<0.1	<0.1	0.1	0.1	19.1	19.2	<1	<1		6.0	1031	<1	Gas Data GFM436	Dry	Light	Overcast	None	Steady	3.28	16.79	
30/01/2025		<0.1	<0.1	<0.1	<0.1	0.2	0.2	18.7	18.7	<1	<1		7.0	1016	<1	Gas Data GFM436	Moist	Moderate	Overcast	Slight	Rising	3.32	14.30	
13/02/2025		<0.1	<0.1	<0.1	<0.1	0.5	0.3	18.3	18.5	<1	<1		5.0	1022	<1	Gas Data GFM435	Moist	Moderate	Overcast	None	Rising	3.33	14.25	
06/03/2025		<0.1	<0.1	<0.1	<0.1	0.5	0.3	18.5	18.7	<1	<1		12.0	1014	<1	Gas Data GFM435	Dry	Moderate	None	None	Steady	3.36	14.26	

APPENDIX 11

Decommissioning Record

DECOMMISSIONING RECORD

Project: Lionlink - Walberswick Landfall

Project Number: PC238663

Client: National Grid Ventures

Hole ID	Date	Depth to Water (m bgl)	Depth to Base (m bgl)	Response Zone (m bgl)	Cover Type	Pipe Diameter (mm)	Volume of Bentonite pelets used to fill instalation (Litres)	Pit Dimensions (m)	Pit Depth (m)	Level Pipe Cut (m)	Backfill details	Cover and fencing removed	Remarks	Operatives Name
BH01	07/04/2025	8.41	13.45	1.50-13.50	Raised	50	12	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BH02	07/04/2025	6.58	14.21	2.00-15.00	Raised	50	17	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BH03	07/04/2025	7.86	32.50	23.00-35.00	Raised	50	40	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BH04	07/04/2025	4.77	26.28	19.00-28.00	Raised	50	30	0.40x0.40	1.20	1.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE
BH05	07/04/2025	3.39	14.39	15.00-19.00	Raised	50	18	0.40x0.40	1.20	2.00	Topsoil to 1.00m, bentonite to depth	Yes	-	DE

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APPENDIX 12

Laboratory Test Results - Geotechnical

APPENDIX 12

DATA SHEET - Laboratory Test Symbols

Classification and Strength

Symbol	**C - Clay** **M - Silt** (0 - containing organic matter)
	Plasticity L - Low I - Intermediate H - High V - Very High E - Extremely High
Ip	Plasticity Index
%	% retained on 425 µm sieve, shown under Ip value
w_L	Liquid Limit
w_P	Plastic Limit
NP	Non-Plastic
NAT	Sample tested in natural state
w	Water Content
P_d	Particle Density
Test	**Quick undrained triaxial tests** SS Single stage - 102mm diameter. S3 Single stage - set of 3 38mm diameter. MS Multistage - 102mm diameter. D Drained Test HV Hand Vane PP Pocket Penetrometer (kg/cm²) NST Not suitable for test
γ_b	Bulk Density
σ_3	Triaxial Cell Pressure
$\sigma_1 - \sigma_3$	Deviator Stress
##	Excessive Strain
c_u	Undrained Cohesion
c	Cohesion Intercept
ϕ	Angle of Shearing Resistance
Linear Shrink	Linear Shrinkage
Stab add-	Stabiliser which is added

Consolidation

m_v	Coefficient of Volume Compressibility
c_{v50}	Coefficient of Consolidation - Log t
c_{v90}	Coefficient of Consolidation - $\sqrt{t}$

Rock

UF	Unacceptable Failure

Chemical Analysis

Acid Soluble	Total sulphate in specimen, expressed as SO_3 %, value in brackets expressed as SO_4 %
Water Soluble	Soluble sulphate in 2:1 water : soil extract, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
In Water	Sulphate content of groundwater, expressed as SO_3 g/l, value in brackets expressed as SO_4 g/l
pH	pH value
Organic content	Organic content expressed as a percentage of dry weight
Chloride	Chloride Ion content expressed as a percentage of dry weight

MCV, Compaction, CBR

MCV	Moisture Condition Value at natural water content
MCC	Moisture Condition Calibration
CCV	Chalk Crushing Value
Compaction	
Type	2.5 = 2.5 kg Rammer 4.5 = 4.5 kg Rammer V = Vibrating Hammer
γ_b	Bulk Density
γ_d	Dry Density
CBR California Bearing Ratio	
Type	2.5 = Test on Specimen Recompacted using 2.5 kg Rammer 4.5 = As above but using 4.5 kg Rammer V = As above but using Vibrating Hammer M = Test on open drive mould specimen cut in field S = Soaked Specimen
Top	CBR at top of mould
Bottom	CBR at bottom of mould
ND	None Detected
*	In the Sample Description denotes a laboratory only description

Laboratory Test Certificate

Issued from:	Geotechnics Ltd The Geotechnical Centre 203 Torrington Avenue Tile Hill Coventry, CV4 9AP	**Date of issue**	18/12/2024
		Issue No.	1
		Client Ref. No.	N/A
		Samples / Material Source	
		Samples Recv'd	07/11/2024
Testing Start Date	26/11/2024	Sample State	As received
Testing Complete	17/12/2024	Sampled by	Geotechnics Limited
Comments	*Specimen descriptions, opinions or interpretations are outside the scope of UKAS accreditation.* *The results within this report(s) relate only to the samples tested as received from the customer.* *The reports shall not be reproduced, except in full, without approval of the laboratory.*		
Project No	PC238663		
Project Name	LionLink - Walberswick Landfall		

Summary of Tests

Standard	Test Description	Test Quantity	UKAS
BS EN ISO 17892-1:2014	Water Content	1	Yes
BS EN ISO 17892-12:2018 Cl. 5.3 & 5.5	Liquid Limit and Plastic Limit (4 Points Method)	1	Yes
BS 1377-4:1990 Cl. 7.2	California Bearing Ratio (CBR) 4.5kg	1	Yes
BS EN ISO 17892-4:2016 Cl. 5.2	Particle Size Distribution by Sieving Method	30	Yes
BS EN ISO 17892-4:2016 Cl. 5.4	Particle Size Distribution by Pipette Method	13	Yes
BS 1377-4:1990 Cl. 3.3	2.5 kg Rammer Dry Density/Moisture Content Relationship (Compaction)	9	Yes
BS EN ISO 17892-3:2015 Cl. 5.1	Particle Density by Fluid Pycnometer	9	Yes
ASTM D5334-22a e1	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe - Single Point at NWC	11	No

UKAS TESTING

1365

Test Results checked and approved for issue.
Signed for, and on behalf of Geotechnics Limited

Paul Smart (Laboratory Manager)

LAB AWARDS
Laboratory of the year
Geotechnics Ltd

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Summary of Classification Test Results

Project Number: PC238663

Project Name: Lionlink - Walberswick Landfall

Hole Number	Sample				Specimen Description	*W* Water Content %	Passing 425µm %	LL Liquid Limit %	PL Plastic Limit %	PI Plasticity Index %	Particle Density Mg/m³	Remarks
	Sample ID	Top (m)	Base (m)	Type								
TP10		1.00		D	Brown mottled grey slightly sandy CLAY.	24.9	99	90 4pt	33	57		

All tests performed in accordance with BS EN ISO 17892 unless specified otherwise.

Key:

Liquid Limit

80g / 30deg fall cone with increasing water content unless specified otherwise

Sample washed through 0.425mm sieve unless specified otherwise

1pt - single point test (including factor)

* BS1377 method

Particle density

sp - small pycno

gj - gas jar BS1377

Plastic Limit

NP - Non Plastic

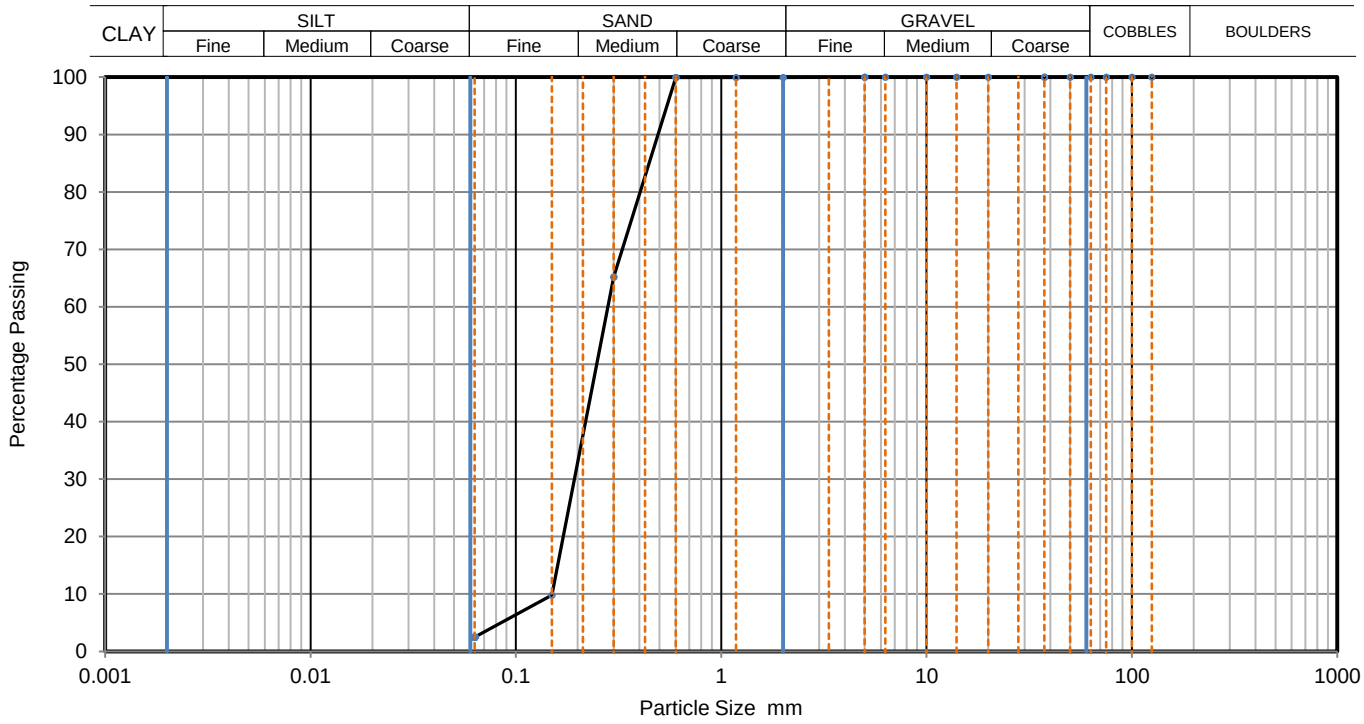
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH01
		Sample No.	
Project Number:	PC238663	Depth m	5.50 - 5.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	65		
0.15	10		
0.063	3		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	97
Fines <0.063mm	3

Grading Analysis		
D100	mm	5
D60	mm	0.281
D30	mm	0.193
D10	mm	0.15
Uniformity Coefficient		1.9

Remarks

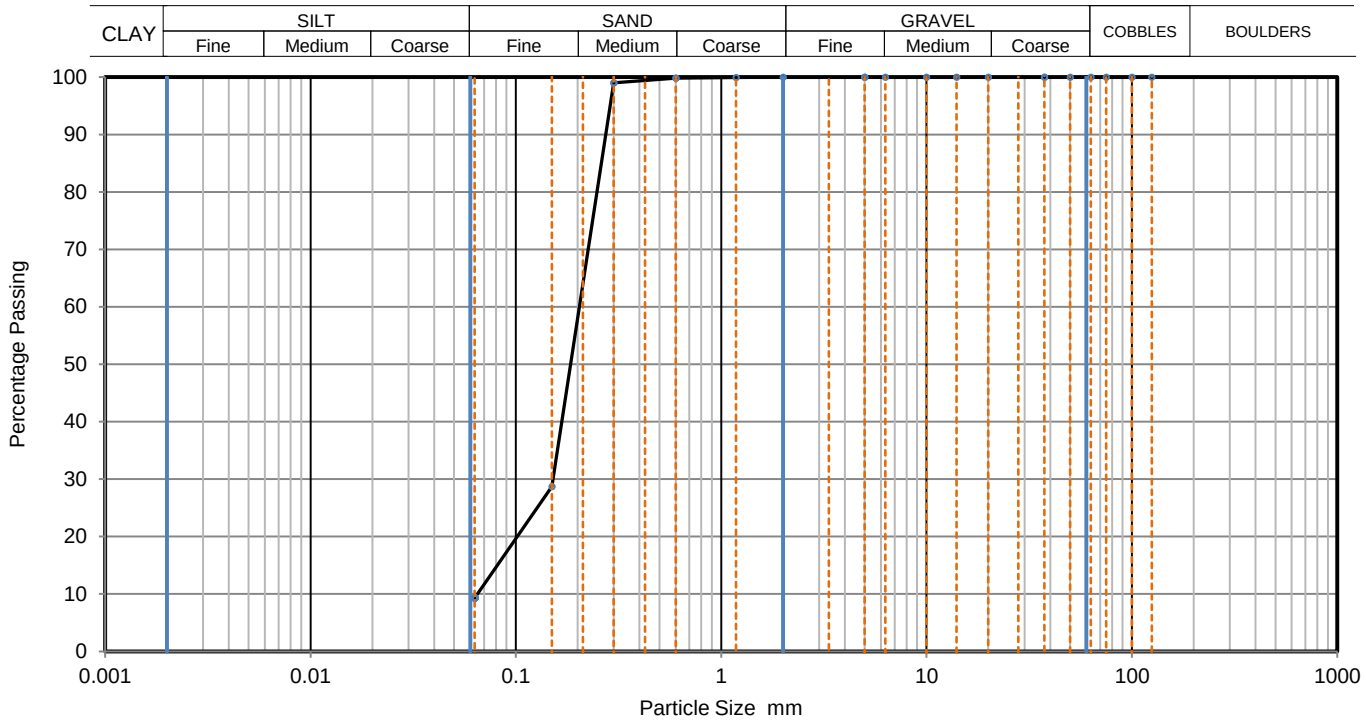
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH01
		Sample No.	
Project Number:	PC238663	Depth m	15.00 - 15.45
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	99		
0.15	29		
0.063	9		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	91
Fines <0.063mm	9

Grading Analysis		
D100	mm	5
D60	mm	0.204
D30	mm	0.152
D10	mm	0.0651
Uniformity Coefficient		3.1

Remarks

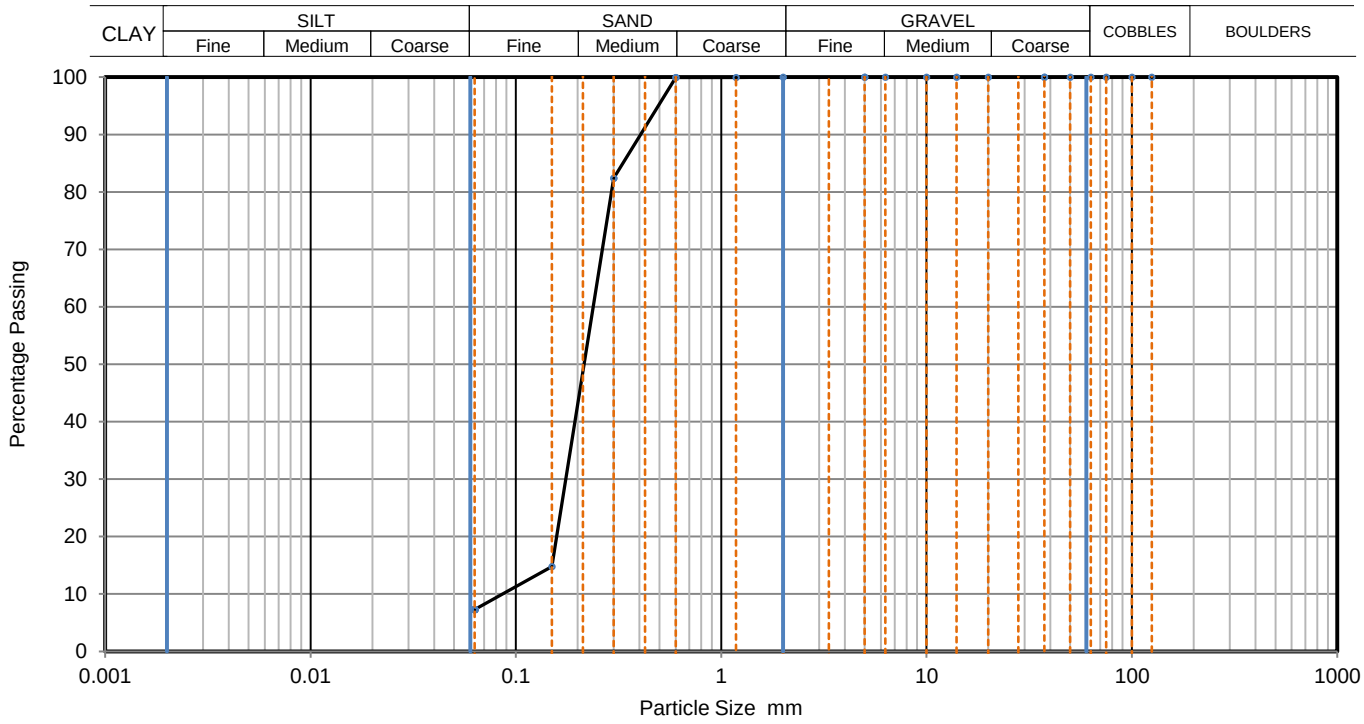
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH02
		Sample No.	
Project Number:	PC238663	Depth m	6.50 - 6.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	82		
0.15	15		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	5
D60	mm	0.238
D30	mm	0.175
D10	mm	0.0858
Uniformity Coefficient		2.8

Remarks

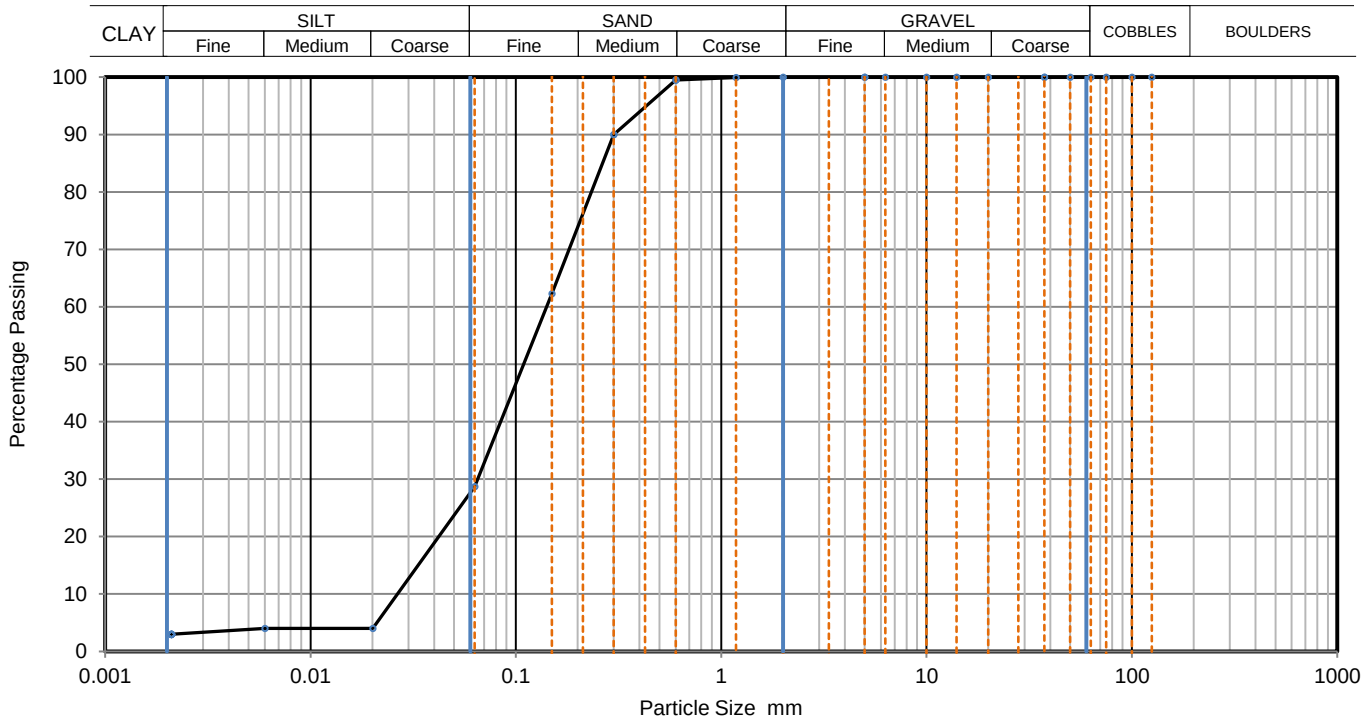
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UKAS TESTING

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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH02
		Sample No.	
Project Number:	PC238663	Depth m	13.50 - 13.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	4
100	100	0.006	4
75	100	0.002	3
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	90		
0.15	62	Particle density	(assumed)
0.063	29	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	71
Silt	26
Clay	3

Grading Analysis		
D100	mm	5
D60	mm	0.141
D30	mm	0.0651
D10	mm	0.0264
Uniformity Coefficient		5.4

Remarks

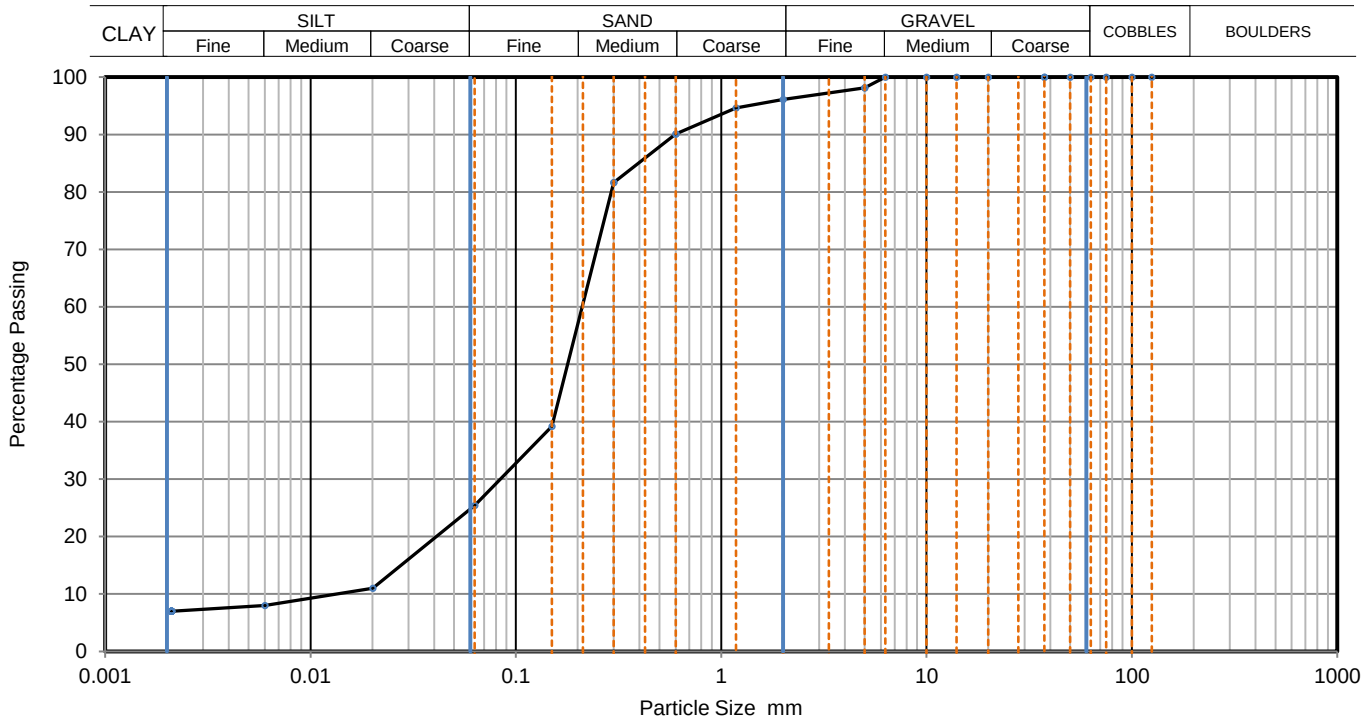
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH02
		Sample No.	
Project Number:	PC238663	Depth m	19.50 - 19.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown mottled grey slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	11
100	100	0.006	8
75	100	0.002	7
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	98		
2	96		
1.18	95		
0.6	90		
0.3	82		
0.15	39	Particle density	(assumed)
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	71
Silt	18
Clay	7

Grading Analysis		
D100	mm	6.3
D60	mm	0.211
D30	mm	0.0841
D10	mm	0.012
Uniformity Coefficient		18

Remarks

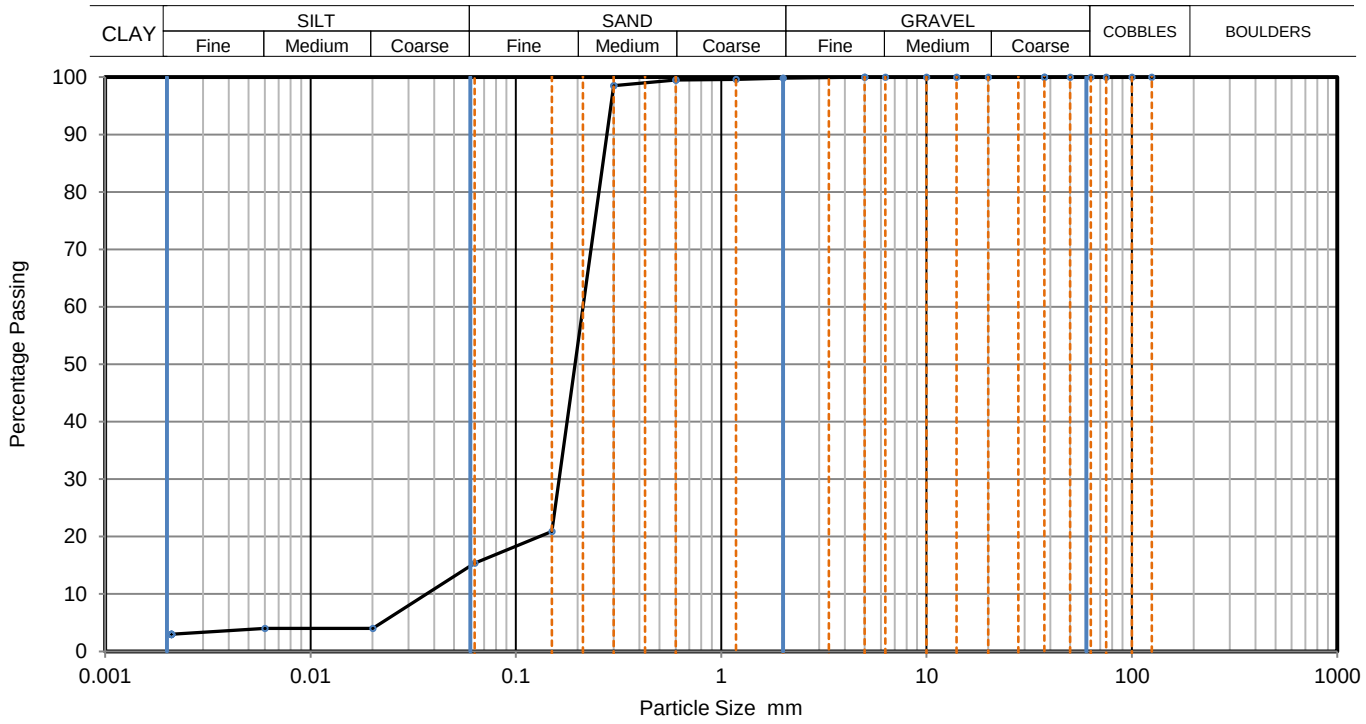
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238663	Depth m	6.50 - 7.00
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	4
100	100	0.006	4
75	100	0.002	3
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	99		
0.15	21	Particle density	(assumed)
0.063	15	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	85
Silt	12
Clay	3

Grading Analysis		
D100	mm	6.3
D60	mm	0.213
D30	mm	0.163
D10	mm	0.0365
Uniformity Coefficient		5.8

Remarks

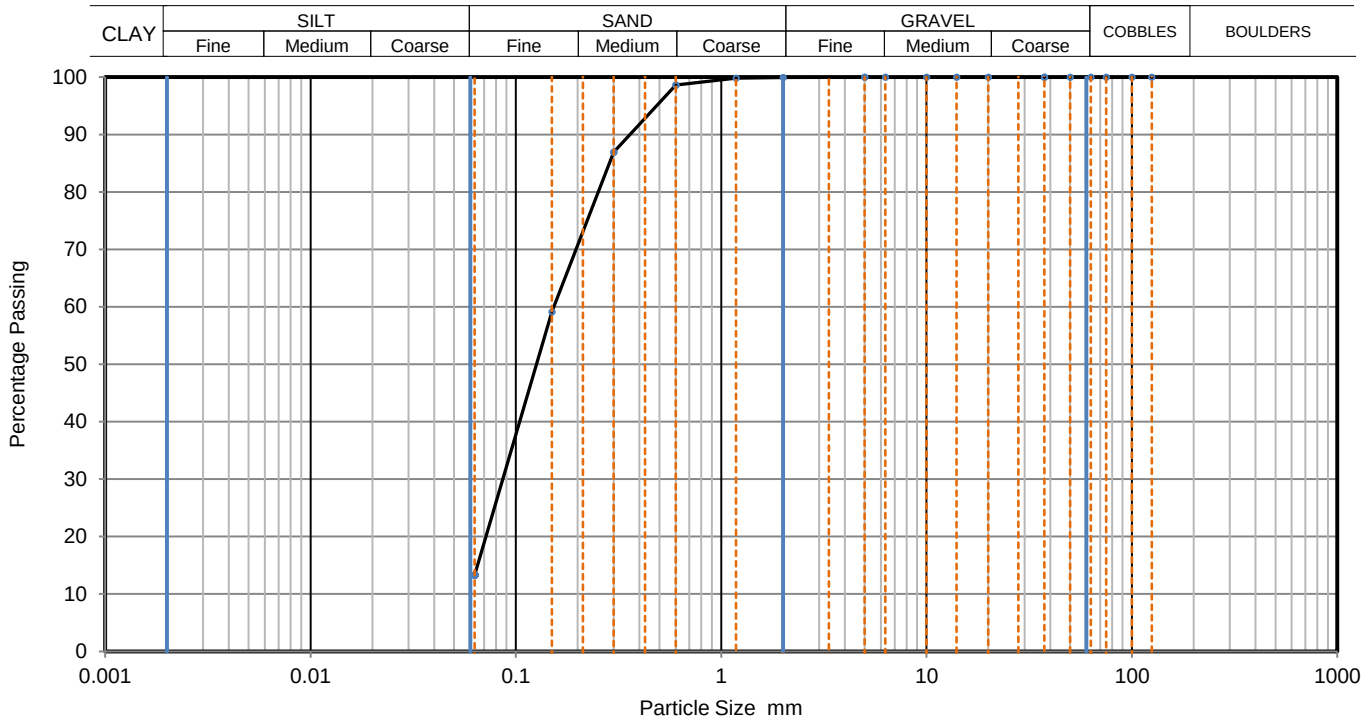
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238663	Depth m	15.00 - 15.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	87		
0.15	59		
0.063	13		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	87
Fines <0.063mm	13

Grading Analysis		
D100	mm	5
D60	mm	0.153
D30	mm	0.0864
D10	mm	
Uniformity Coefficient		

Remarks

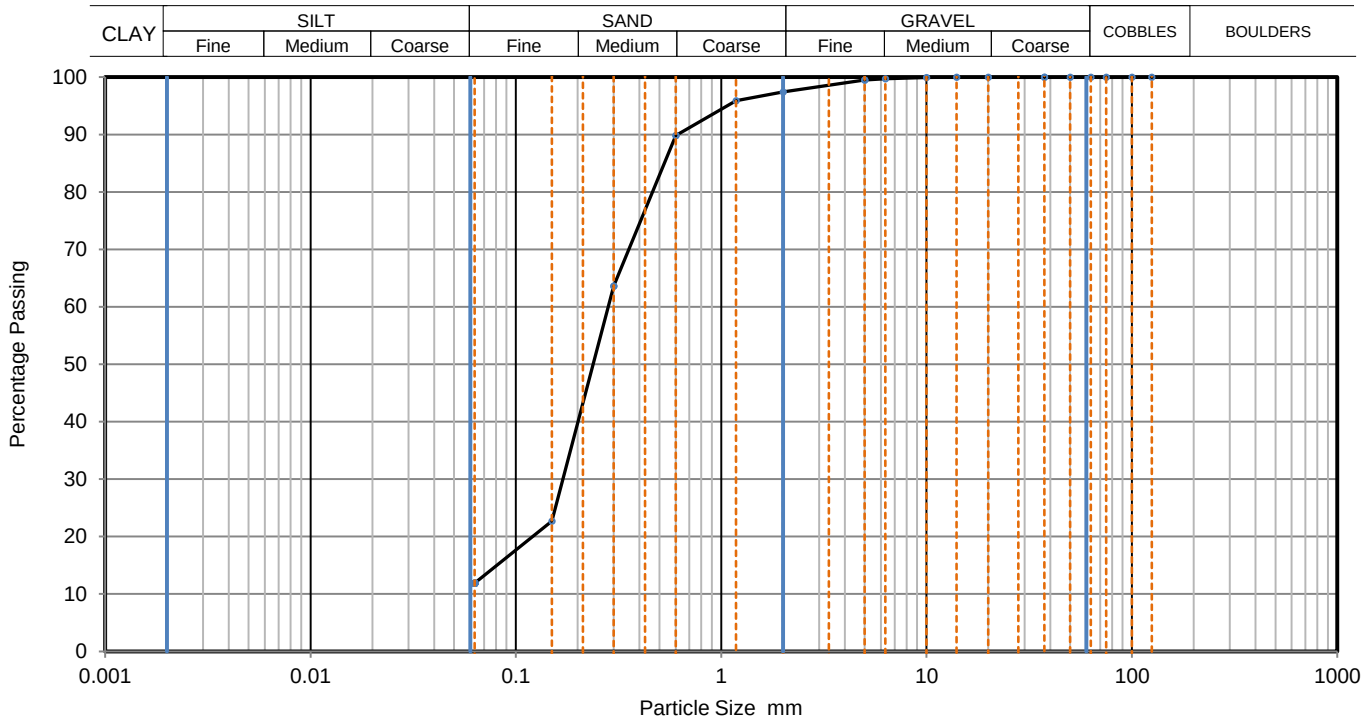
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238663	Depth m	24.00 - 24.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Reddish brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	97		
1.18	96		
0.6	90		
0.3	64		
0.15	23		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	85
Fines <0.063mm	12

Grading Analysis		
D100	mm	14
D60	mm	0.282
D30	mm	0.17
D10	mm	
Uniformity Coefficient		

Remarks

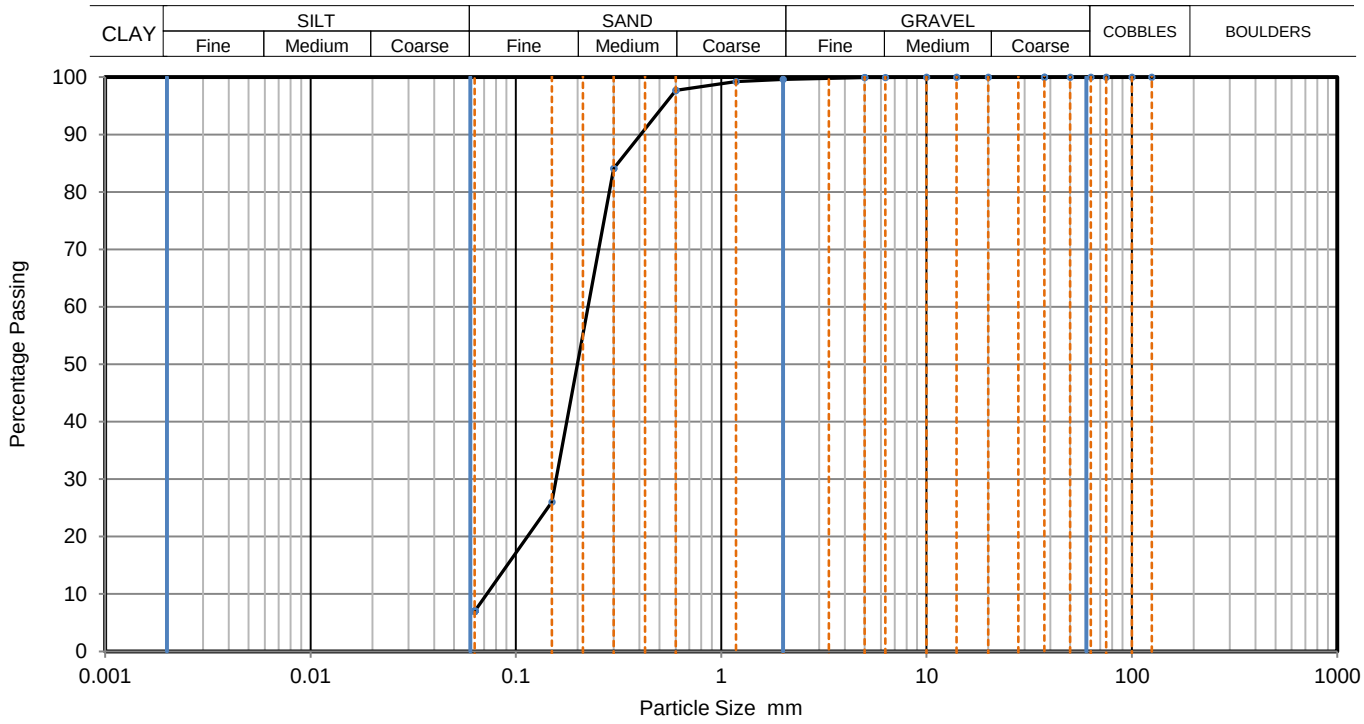
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH03
		Sample No.	
Project Number:	PC238663	Depth m	33.00 - 33.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Grey silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	98		
0.3	84		
0.15	26		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	93
Fines <0.063mm	7

Grading Analysis		
D100	mm	10
D60	mm	0.225
D30	mm	0.157
D10	mm	0.0724
Uniformity Coefficient		3.1

Remarks

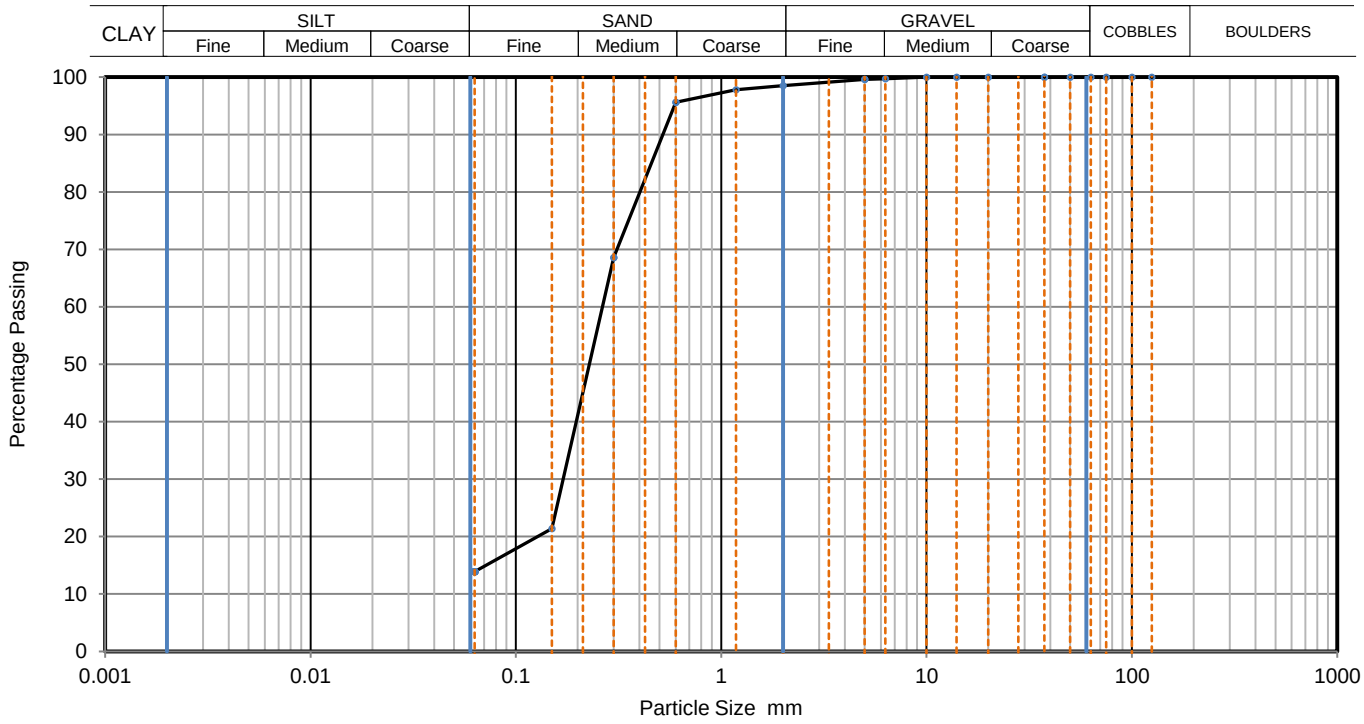
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH04
		Sample No.	
Project Number:	PC238663	Depth m	4.50 - 5.00
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	98		
0.6	96		
0.3	69		
0.15	21		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	85
Fines <0.063mm	14

Grading Analysis		
D100	mm	10
D60	mm	0.265
D30	mm	0.17
D10	mm	
Uniformity Coefficient		

Remarks

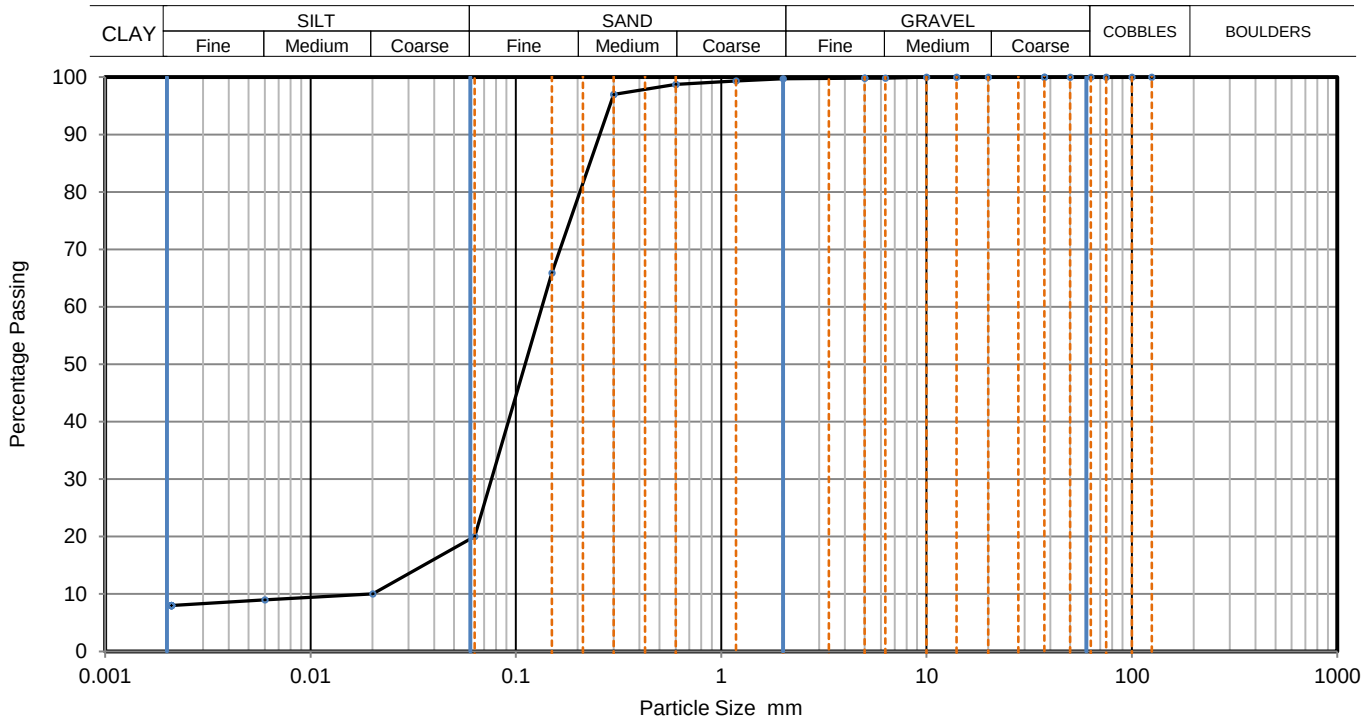
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GEOTECHNICS	**PARTICLE SIZE DISTRIBUTION**	Hole No.	BH04
		Sample No.	
Project Number:	PC238663	Depth m	15.00 - 15.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	9
75	100	0.002	8
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	99		
0.3	97		
0.15	66	Particle density	(assumed)
0.063	20	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	80
Silt	12
Clay	8

Grading Analysis		
D100	mm	10
D60	mm	0.134
D30	mm	0.0761
D10	mm	0.0154
Uniformity Coefficient		8.7

Remarks

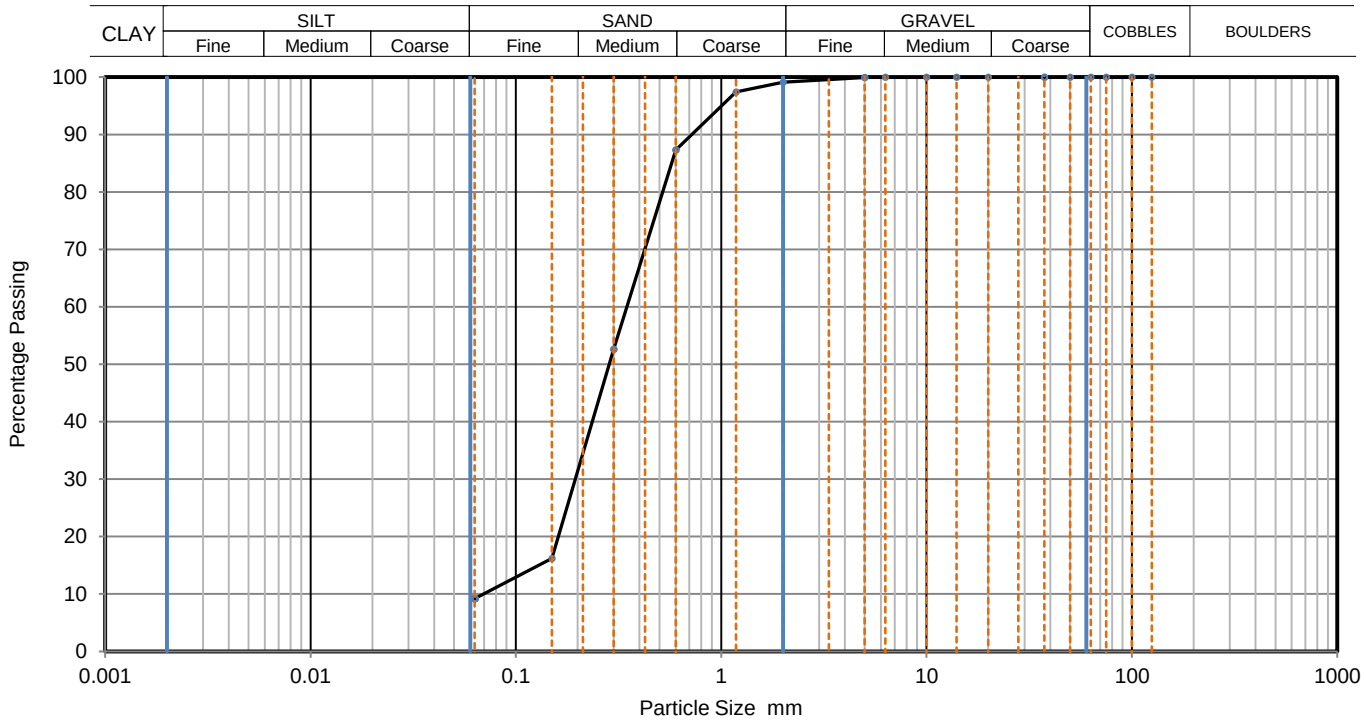
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH04
		Sample No.	
Project Number:	PC238663	Depth m	25.50 - 26.00
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Dark brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	97		
0.6	87		
0.3	53		
0.15	16		
0.063	9		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	90
Fines <0.063mm	9

Grading Analysis		
D100	mm	10
D60	mm	0.348
D30	mm	0.195
D10	mm	0.0697
Uniformity Coefficient		5

Remarks

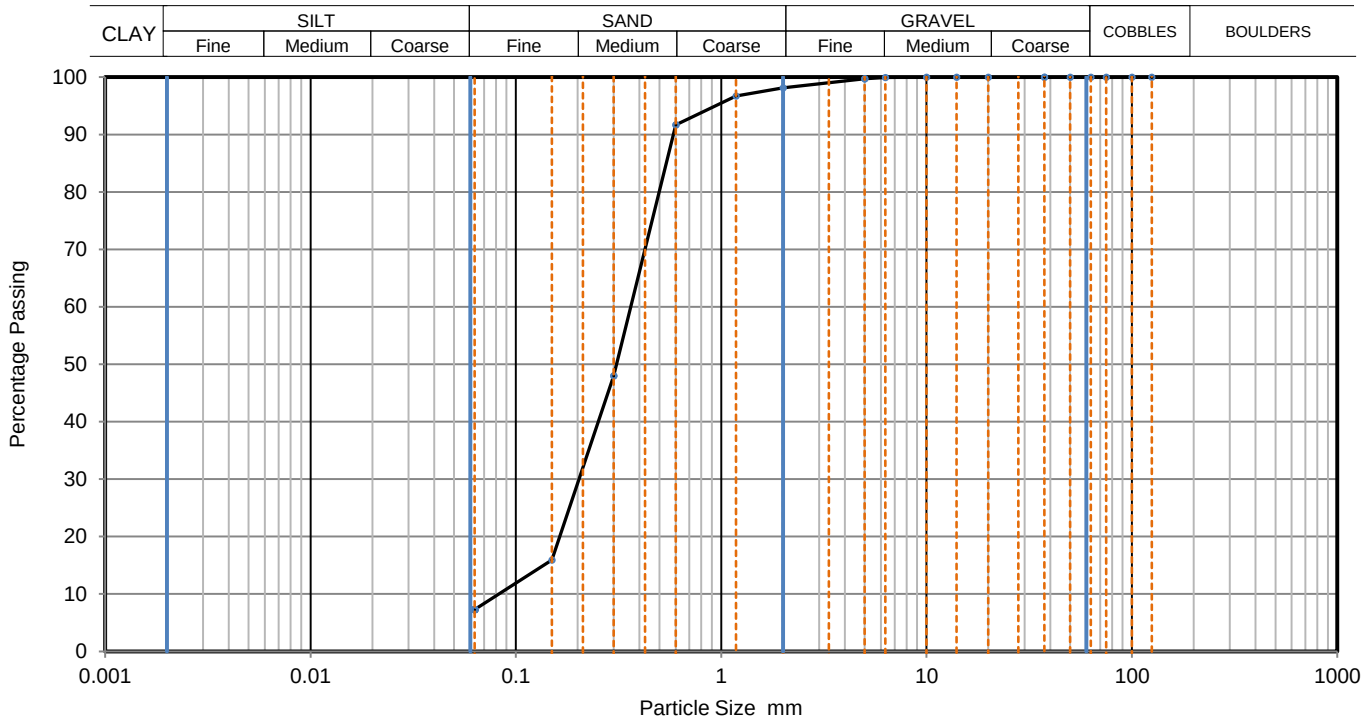
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH04
		Sample No.	
Project Number:	PC238663	Depth m	33.00 - 33.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown mottled grey slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	98		
1.18	97		
0.6	92		
0.3	48		
0.15	16		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	91
Fines <0.063mm	7

Grading Analysis		
D100	mm	10
D60	mm	0.363
D30	mm	0.204
D10	mm	0.0827
Uniformity Coefficient		4.4

Remarks

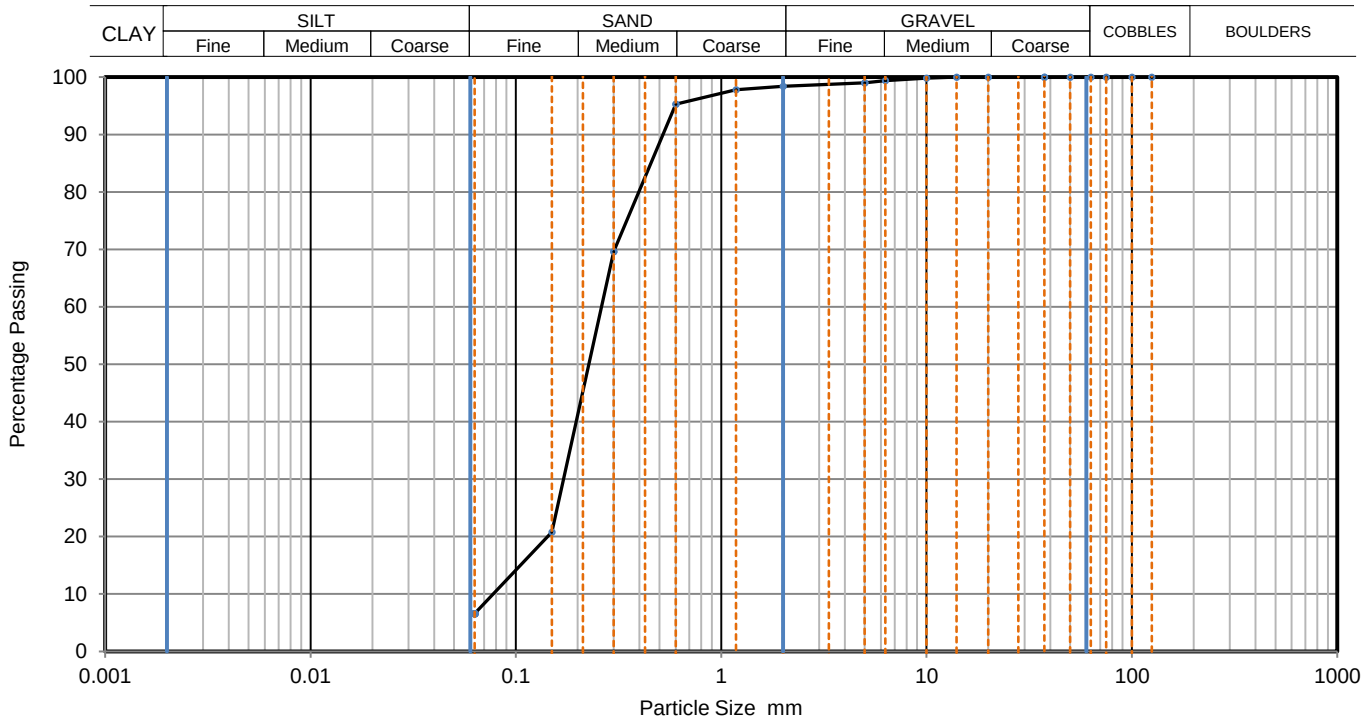
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH05
		Sample No.	
Project Number:	PC238663	Depth m	7.50 - 7.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	98		
1.18	98		
0.6	95		
0.3	70		
0.15	21		
0.063	7		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	91
Fines <0.063mm	7

Grading Analysis		
D100	mm	14
D60	mm	0.262
D30	mm	0.171
D10	mm	0.0776
Uniformity Coefficient		3.4

Remarks

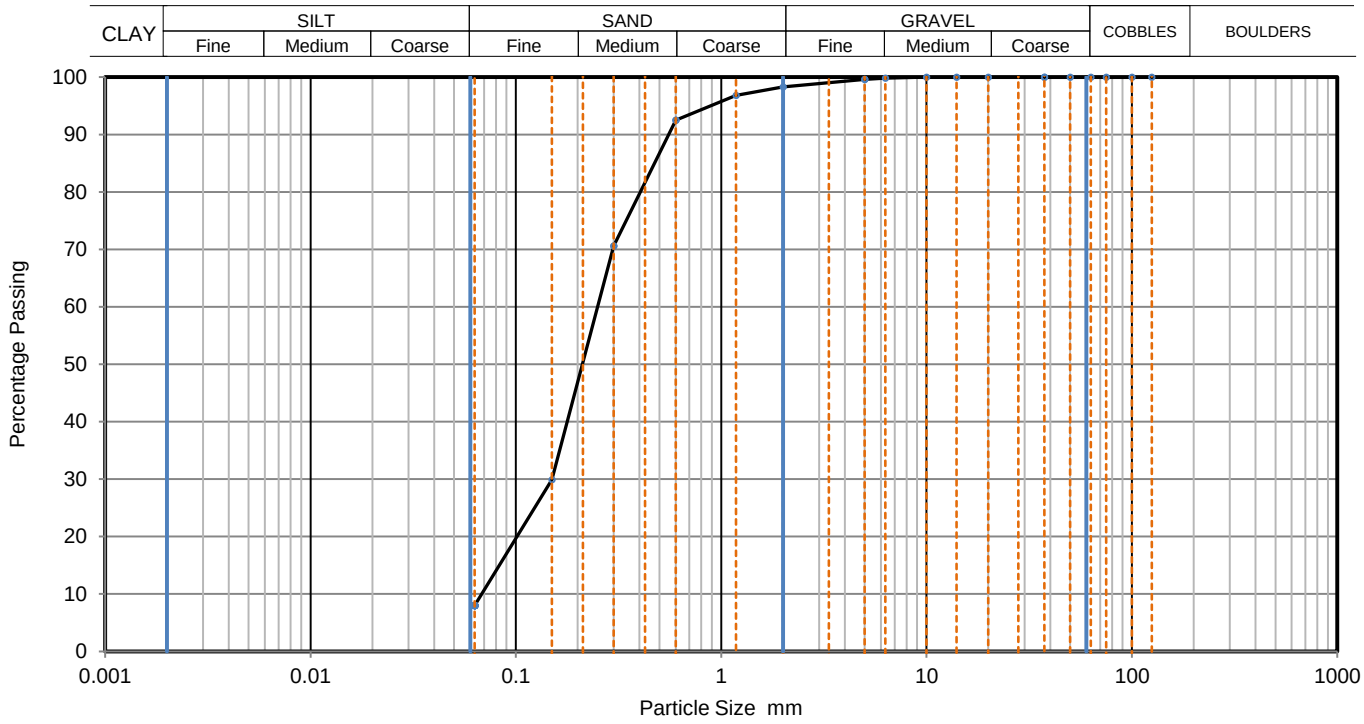
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	BH05
		Sample No.	
Project Number:	PC238663	Depth m	16.50 - 16.95
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	98		
1.18	97		
0.6	93		
0.3	71		
0.15	30		
0.063	8		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	90
Fines <0.063mm	8

Grading Analysis		
D100	mm	10
D60	mm	0.25
D30	mm	0.15
D10	mm	0.0681
Uniformity Coefficient		3.7

Remarks

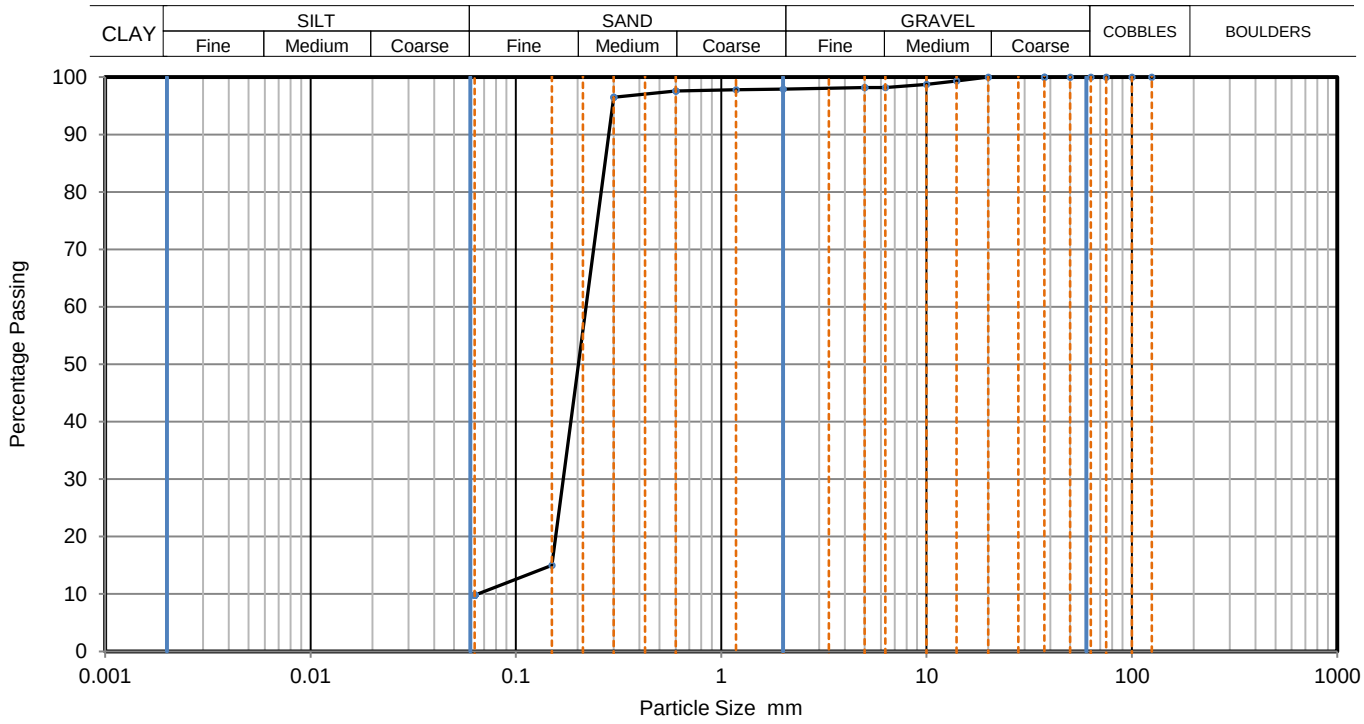
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP01
		Sample No.	
Project Number:	PC238663	Depth m	2.50 - 3.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
2	98		
1.18	98		
0.6	98		
0.3	97		
0.15	15		
0.063	10		

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	88
Fines <0.063mm	10

Grading Analysis		
D100	mm	20
D60	mm	0.22
D30	mm	0.17
D10	mm	0.0652
Uniformity Coefficient		3.4

Remarks

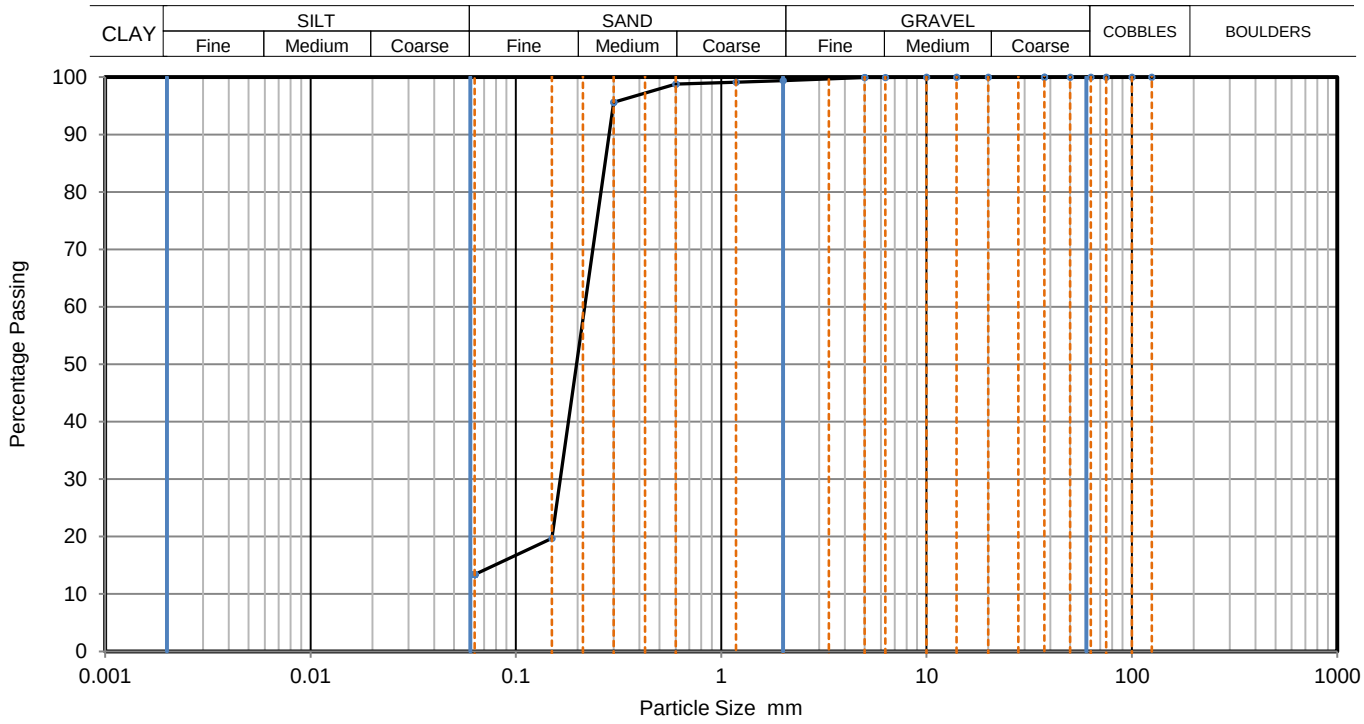
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP02
		Sample No.	
Project Number:	PC238663	Depth m	1.40 - 2.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	99		
0.3	96		
0.15	20		
0.063	13		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	86
Fines <0.063mm	13

Grading Analysis		
D100	mm	10
D60	mm	0.217
D30	mm	0.165
D10	mm	
Uniformity Coefficient		

Remarks

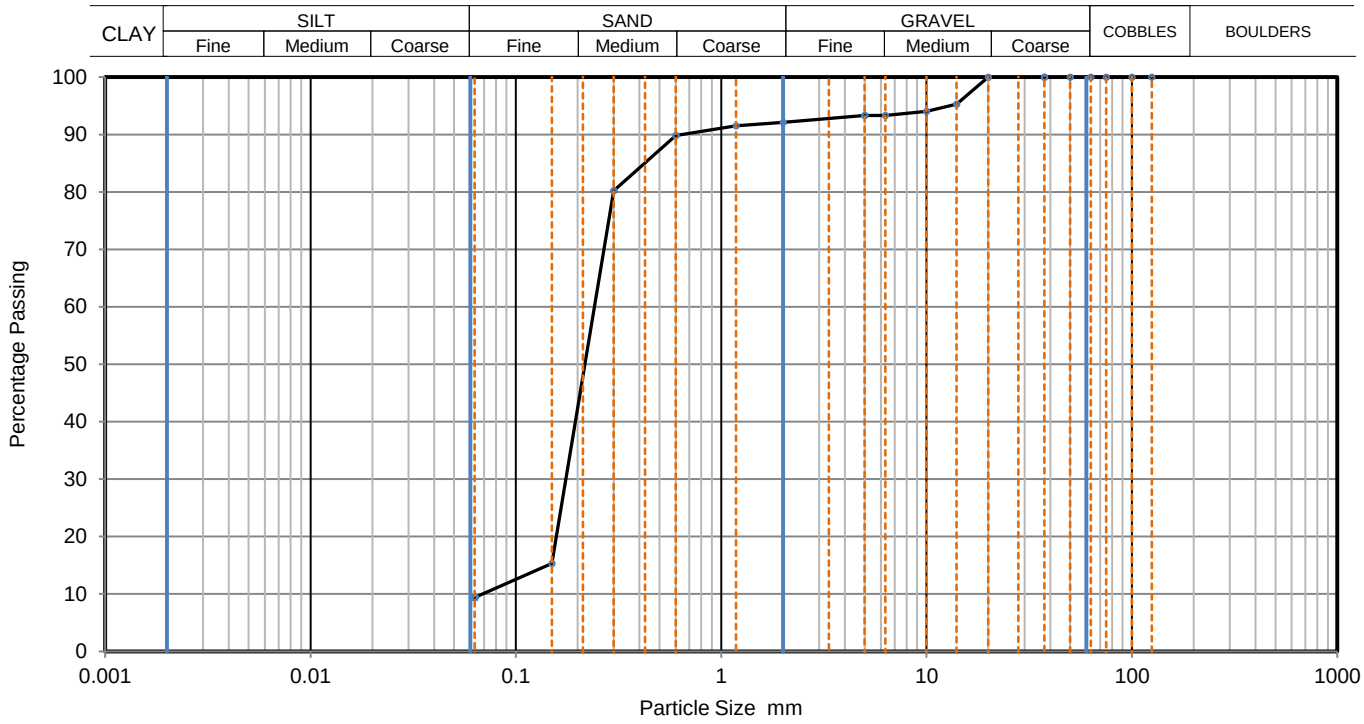
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP03
		Sample No.	
Project Number:	PC238663	Depth m	0.50 - 0.70
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Dark brown gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	95		
10	94		
6.3	93		
5	93		
2	92		
1.18	92		
0.6	90		
0.3	80		
0.15	15		
0.063	9		

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	83
Fines <0.063mm	9

Grading Analysis		
D100	mm	20
D60	mm	0.242
D30	mm	0.176
D10	mm	0.0686
Uniformity Coefficient		3.5

Remarks

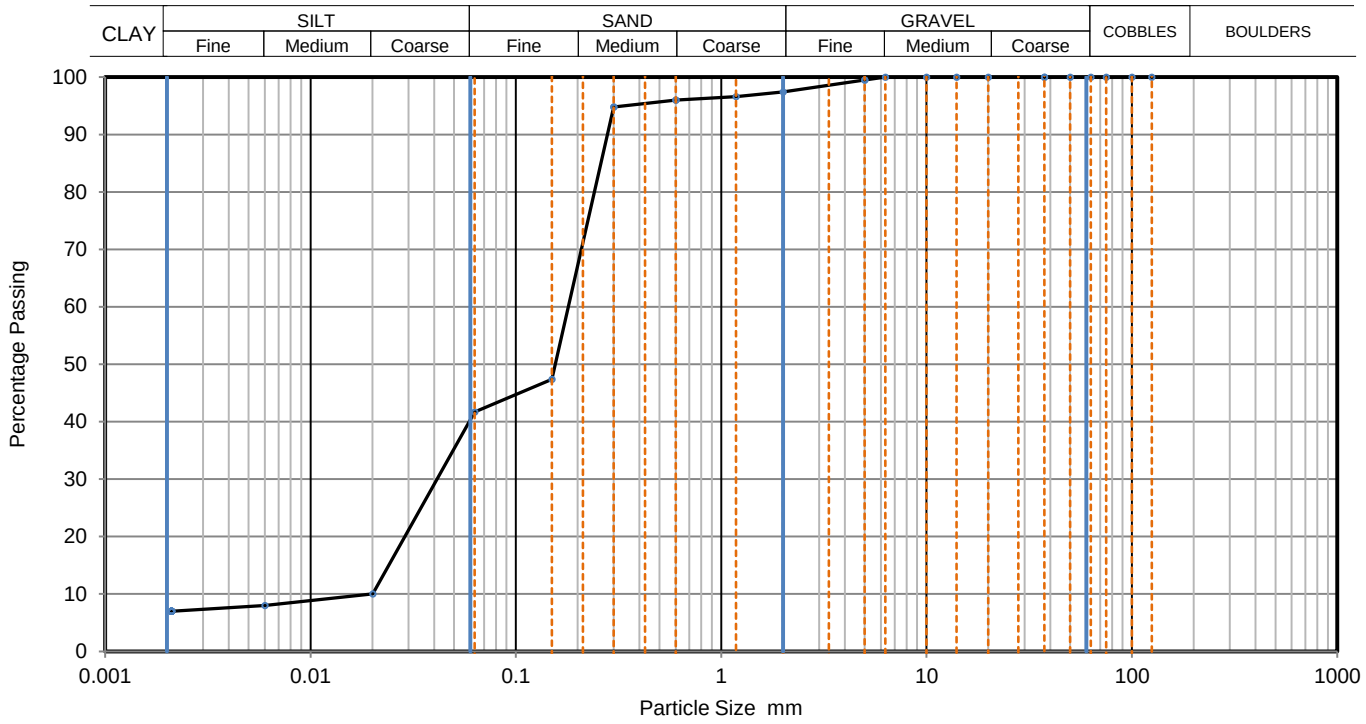
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP03
		Sample No.	
Project Number:	PC238663	Depth m	1.80 - 2.30
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	8
75	100	0.002	7
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	97		
1.18	97		
0.6	96		
0.3	95		
0.15	47	Particle density	(assumed)
0.063	42	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	55
Silt	35
Clay	7

Grading Analysis		
D100	mm	6.3
D60	mm	0.18
D30	mm	0.0414
D10	mm	0.0201
Uniformity Coefficient		9

Remarks

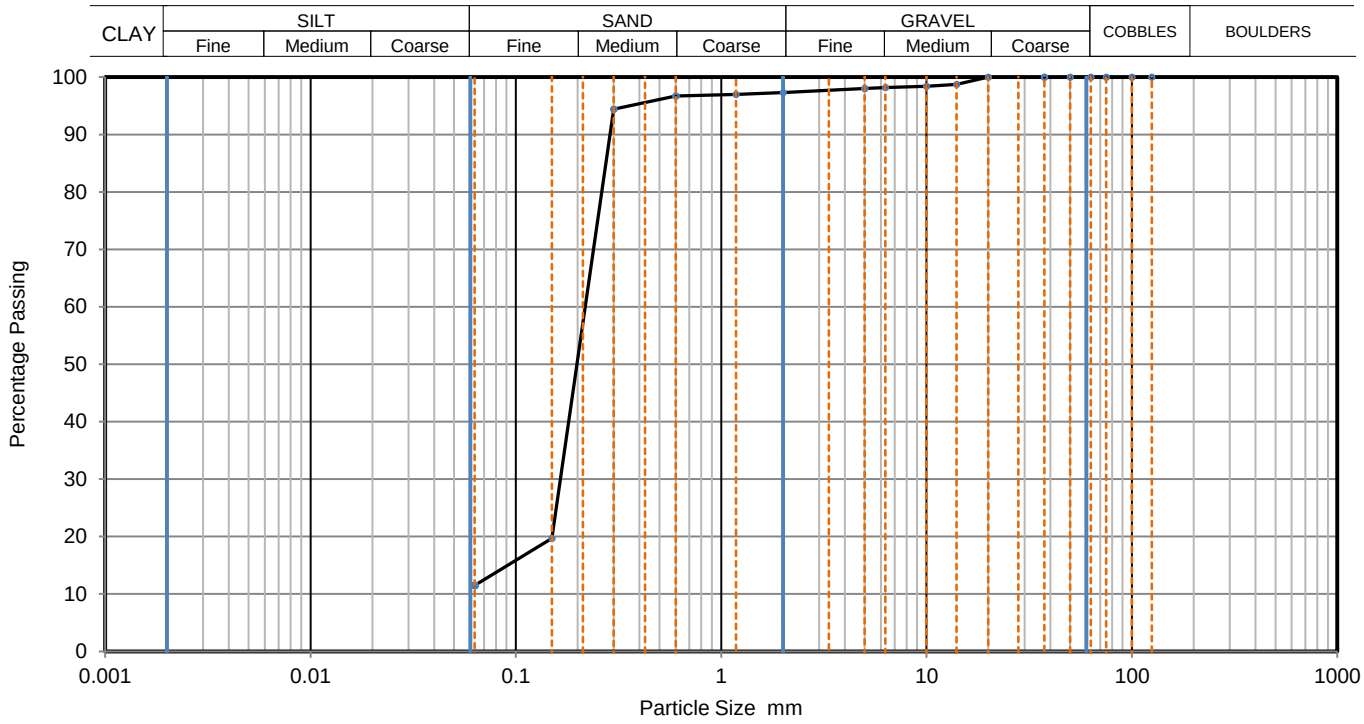
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP04A
		Sample No.	
Project Number:	PC238663	Depth m	3.00 - 3.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	98		
5	98		
2	97		
1.18	97		
0.6	97		
0.3	94		
0.15	20		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	3
Sand	85
Fines <0.063mm	12

Grading Analysis		
D100	mm	20
D60	mm	0.218
D30	mm	0.165
D10	mm	
Uniformity Coefficient		

Remarks

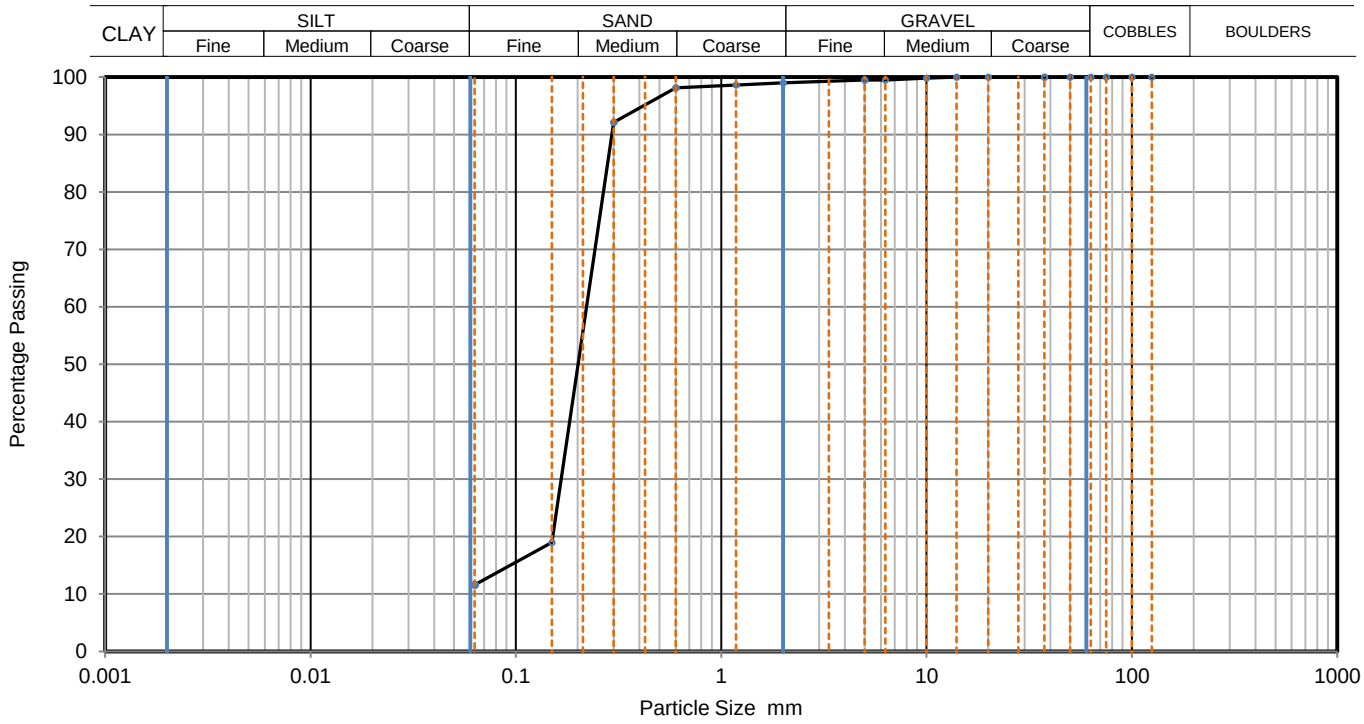
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP05A
		Sample No.	
Project Number:	PC238663	Depth m	2.30 - 3.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	92		
0.15	19		
0.063	12		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	87
Fines <0.063mm	12

Grading Analysis		
D100	mm	14
D60	mm	0.221
D30	mm	0.166
D10	mm	
Uniformity Coefficient		

Remarks

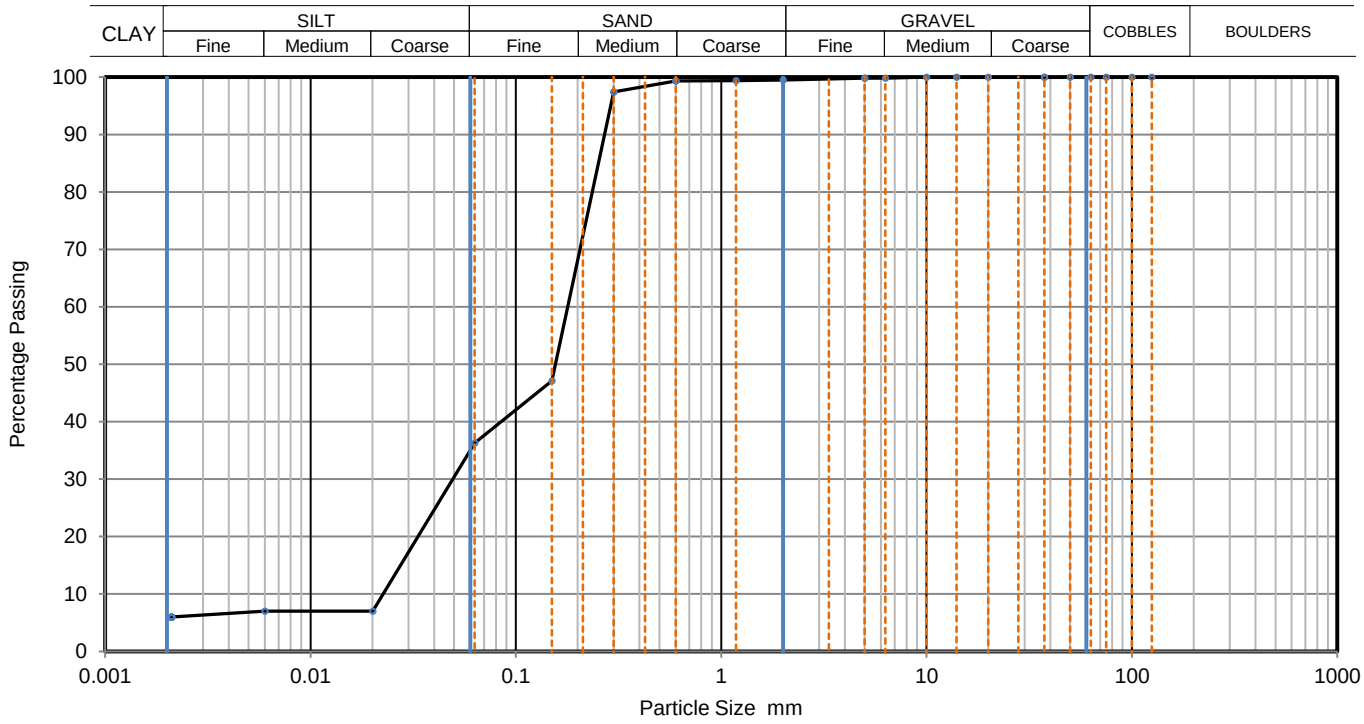
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP06
		Sample No.	
Project Number:	PC238663	Depth m	1.60 - 2.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	7
100	100	0.006	7
75	100	0.002	6
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	99		
0.6	99		
0.3	97		
0.15	47	Particle density	(assumed)
0.063	36	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	63
Silt	30
Clay	6

Grading Analysis		
D100	mm	10
D60	mm	0.179
D30	mm	0.0491
D10	mm	0.0224
Uniformity Coefficient		8

Remarks

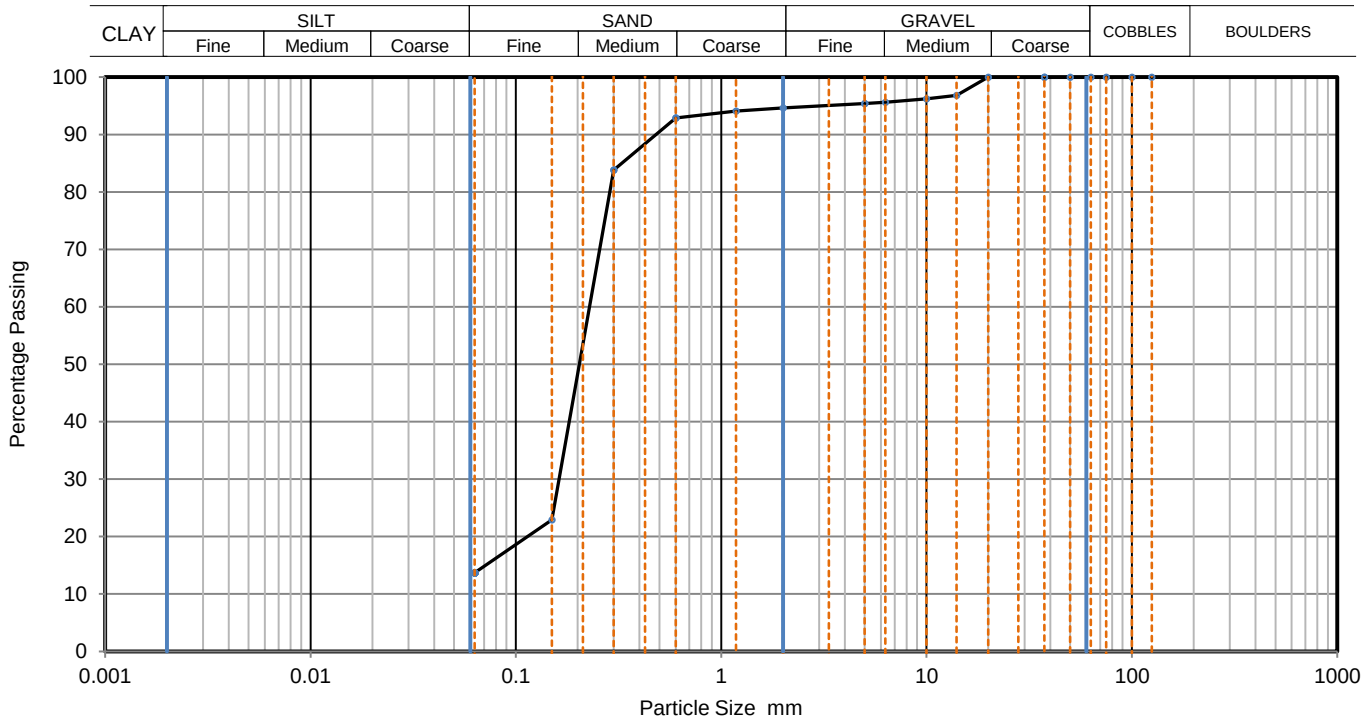
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP07
		Sample No.	
Project Number:	PC238663	Depth m	0.50 - 1.10
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Dark brown slightly gravelly clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving on as received or wet sample		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
100	100		
75	100		
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	96		
6.3	96		
5	95		
2	95		
1.18	94		
0.6	93		
0.3	84		
0.15	23		
0.063	14		

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	81
Fines <0.063mm	14

Grading Analysis		
D100	mm	20
D60	mm	0.229
D30	mm	0.163
D10	mm	
Uniformity Coefficient		

Remarks

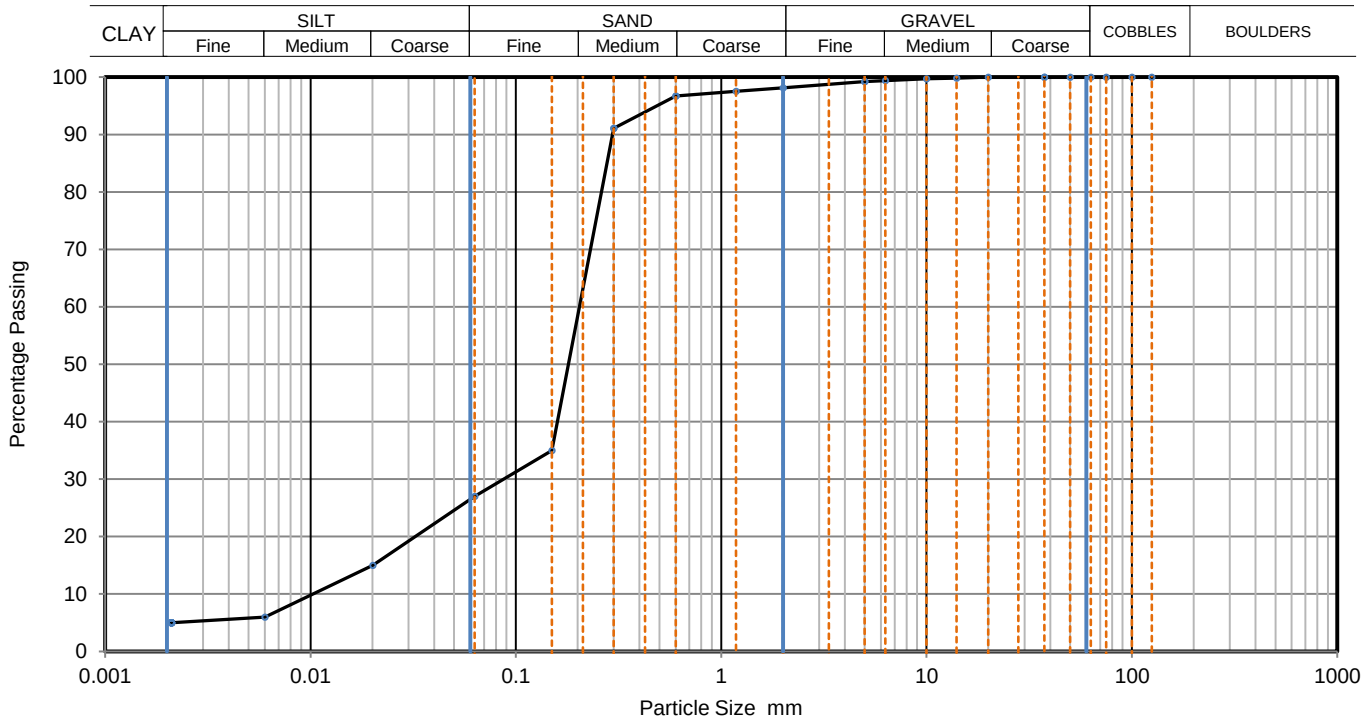
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP07
		Sample No.	
Project Number:	PC238663	Depth m	2.60 - 3.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	15
100	100	0.006	6
75	100	0.002	5
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
2	98		
1.18	98		
0.6	97		
0.3	91		
0.15	35	Particle density (assumed)	
0.063	27	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	71
Silt	22
Clay	5

Grading Analysis		
D100	mm	20
D60	mm	0.204
D30	mm	0.0872
D10	mm	0.0103
Uniformity Coefficient		20

Remarks

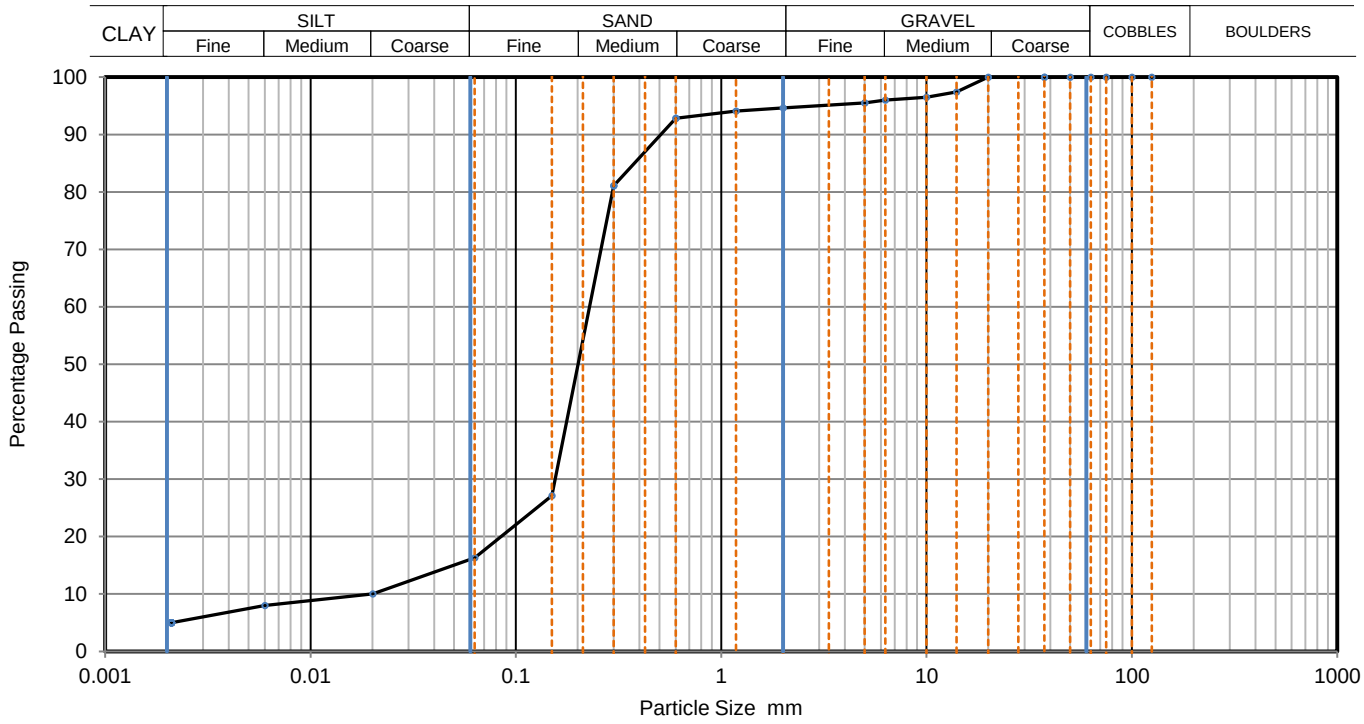
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP08
		Sample No.	
Project Number:	PC238663	Depth m	0.45 - 0.90
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Dark brown gravelly silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	10
100	100	0.006	8
75	100	0.002	5
63	100		
50	100		
37.5	100		
20	100		
14	97		
10	97		
6.3	96		
5	96		
2	95		
1.18	94		
0.6	93		
0.3	81		
0.15	27	Particle density	(assumed)
0.063	16	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	79
Silt	11
Clay	5

Grading Analysis		
D100	mm	20
D60	mm	0.229
D30	mm	0.156
D10	mm	0.0211
Uniformity Coefficient		11

Remarks

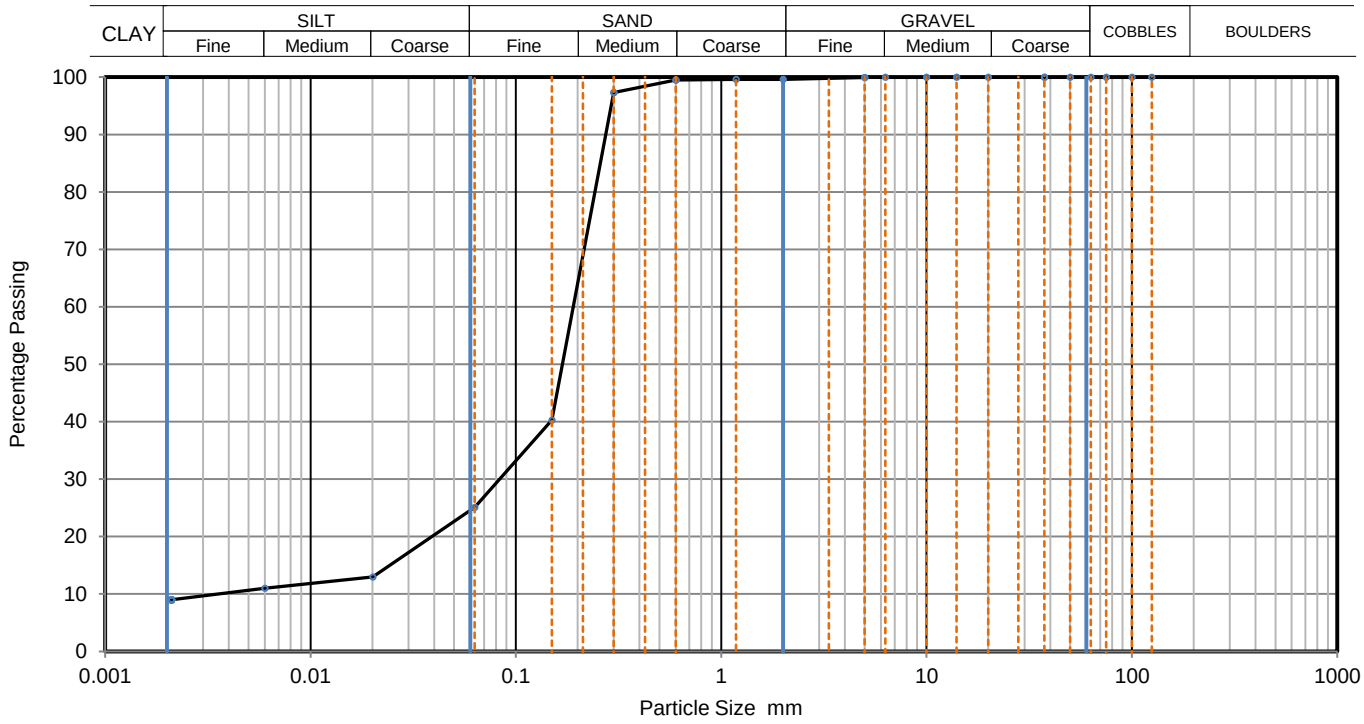
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GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP08
		Sample No.	
Project Number:	PC238663	Depth m	1.60 - 2.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	13
100	100	0.006	11
75	100	0.002	9
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	100		
0.3	97		
0.15	40	Particle density (assumed)	
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	75
Silt	16
Clay	9

Grading Analysis		
D100	mm	6.3
D60	mm	0.191
D30	mm	0.0833
D10	mm	0.00294
Uniformity Coefficient		65

Remarks

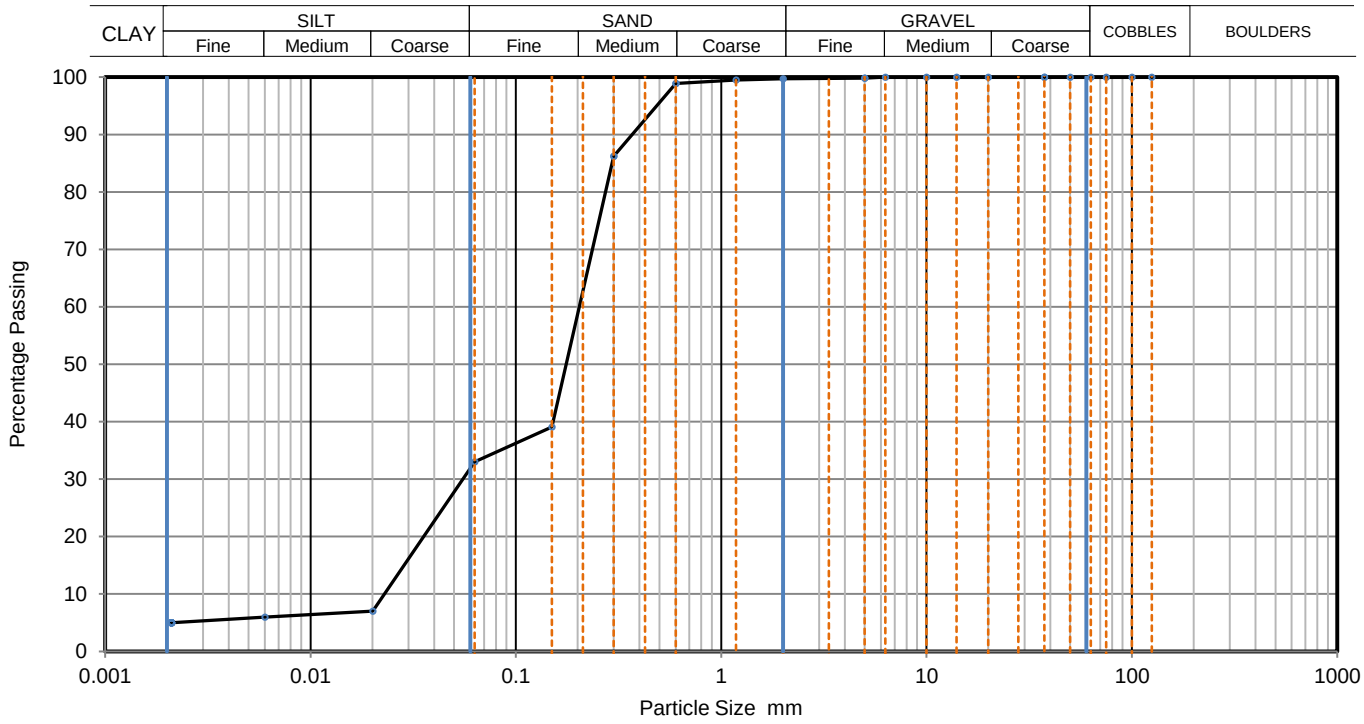
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18/12/2024

UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP09
		Sample No.	
Project Number:	PC238663	Depth m	1.60 - 2.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown very silty SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	7
100	100	0.006	6
75	100	0.002	5
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	100		
1.18	100		
0.6	99		
0.3	86		
0.15	39	Particle density	(assumed)
0.063	33	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	67
Silt	28
Clay	5

Grading Analysis		
D100	mm	6.3
D60	mm	0.204
D30	mm	0.0552
D10	mm	0.0231
Uniformity Coefficient		8.8

Remarks

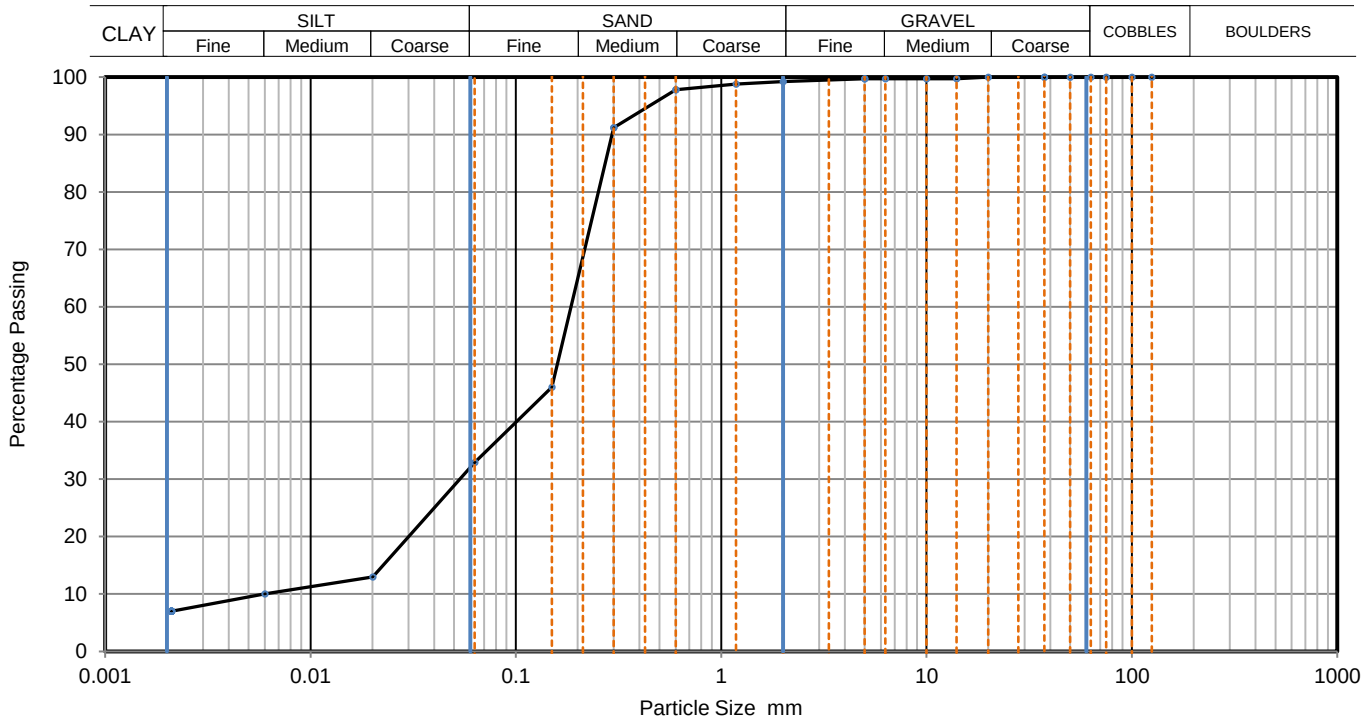
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP10
		Sample No.	
Project Number:	PC238663	Depth m	0.60 - 0.90
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	13
100	100	0.006	10
75	100	0.002	7
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	98		
0.3	91		
0.15	46	Particle density	(assumed)
0.063	33	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	66
Silt	26
Clay	7

Grading Analysis		
D100	mm	20
D60	mm	0.186
D30	mm	0.0532
D10	mm	0.00614
Uniformity Coefficient		30

Remarks

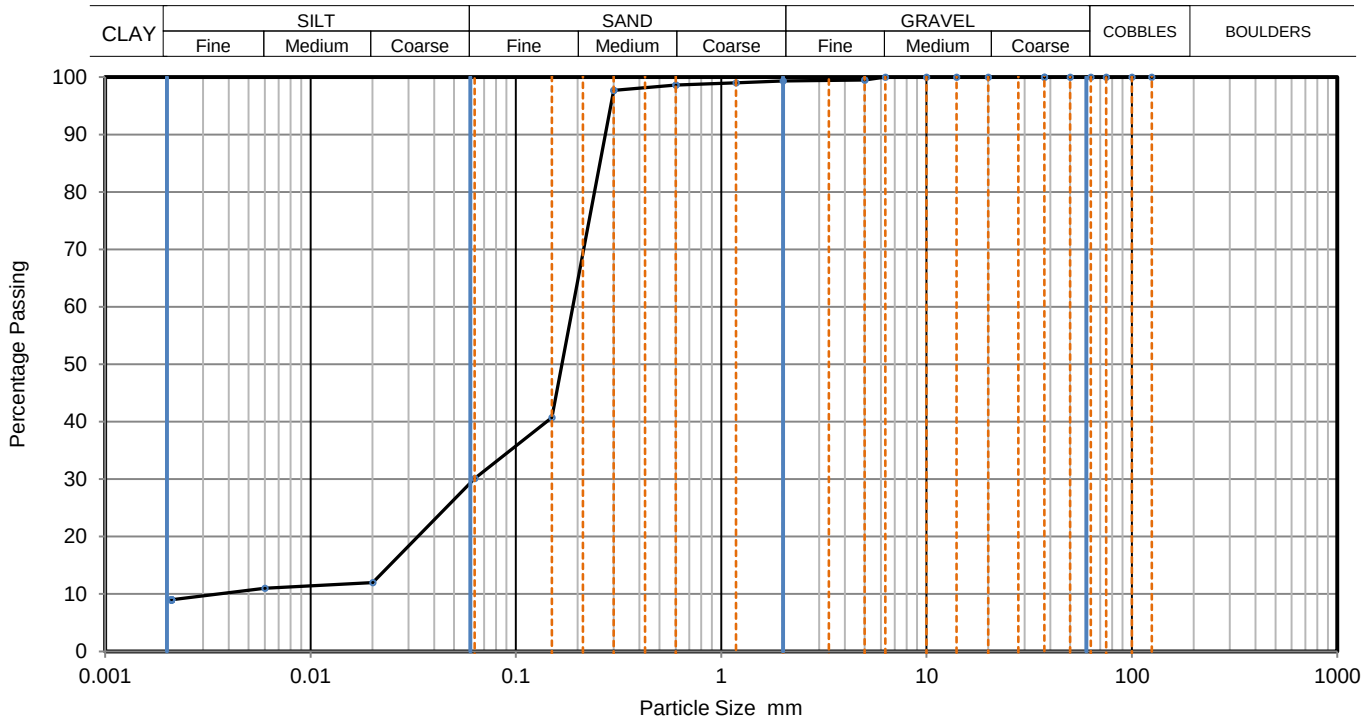
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP10
		Sample No.	
Project Number:	PC238663	Depth m	1.40 - 2.50
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown slightly gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	12
100	100	0.006	11
75	100	0.002	9
63	100		
50	100		
37.5	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
2	99		
1.18	99		
0.6	99		
0.3	98		
0.15	41	Particle density	(assumed)
0.063	30	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	69
Silt	21
Clay	9

Grading Analysis		
D100	mm	6.3
D60	mm	0.19
D30	mm	0.0627
D10	mm	0.00302
Uniformity Coefficient		63

Remarks

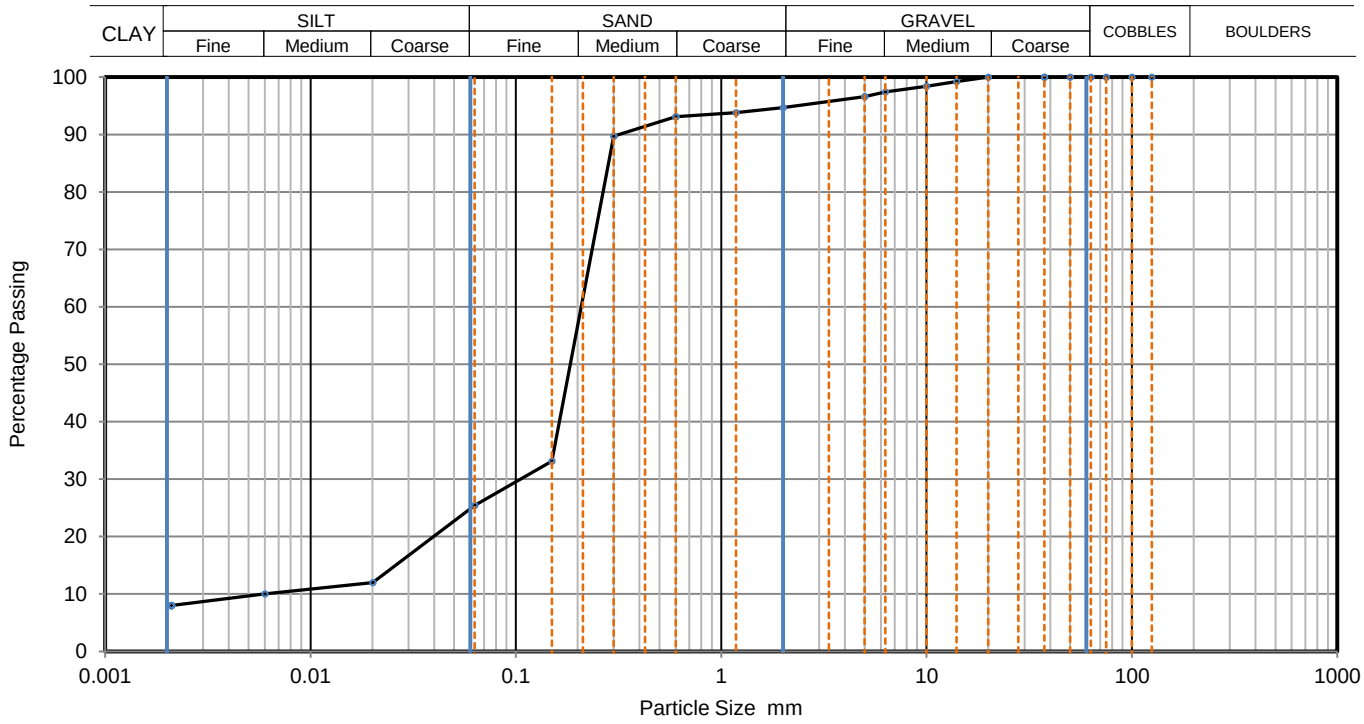
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UKAS TESTING

1365

GEOTECHNICS	PARTICLE SIZE DISTRIBUTION	Hole No.	TP11
		Sample No.	
Project Number:	PC238663	Depth m	2.10 - 2.80
Project Name:	Lionlink - Walberswick Landfall	Sample Type	B
Specimen Description	Brown gravelly very clayey SAND.	Specimen Depth m	
Test Method	BS EN ISO 17892 -4:2016, by sieving and pipette sedimentation		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.020	12
100	100	0.006	10
75	100	0.002	8
63	100		
50	100		
37.5	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
2	95		
1.18	94		
0.6	93		
0.3	90		
0.15	33	Particle density	(assumed)
0.063	25	2.65	Mg/m3

Sample Proportions	% dry mass
Cobbles	0
Gravel	5
Sand	69
Silt	18
Clay	8

Grading Analysis		
D100	mm	20
D60	mm	0.209
D30	mm	0.106
D10	mm	0.0075
Uniformity Coefficient		28

Remarks

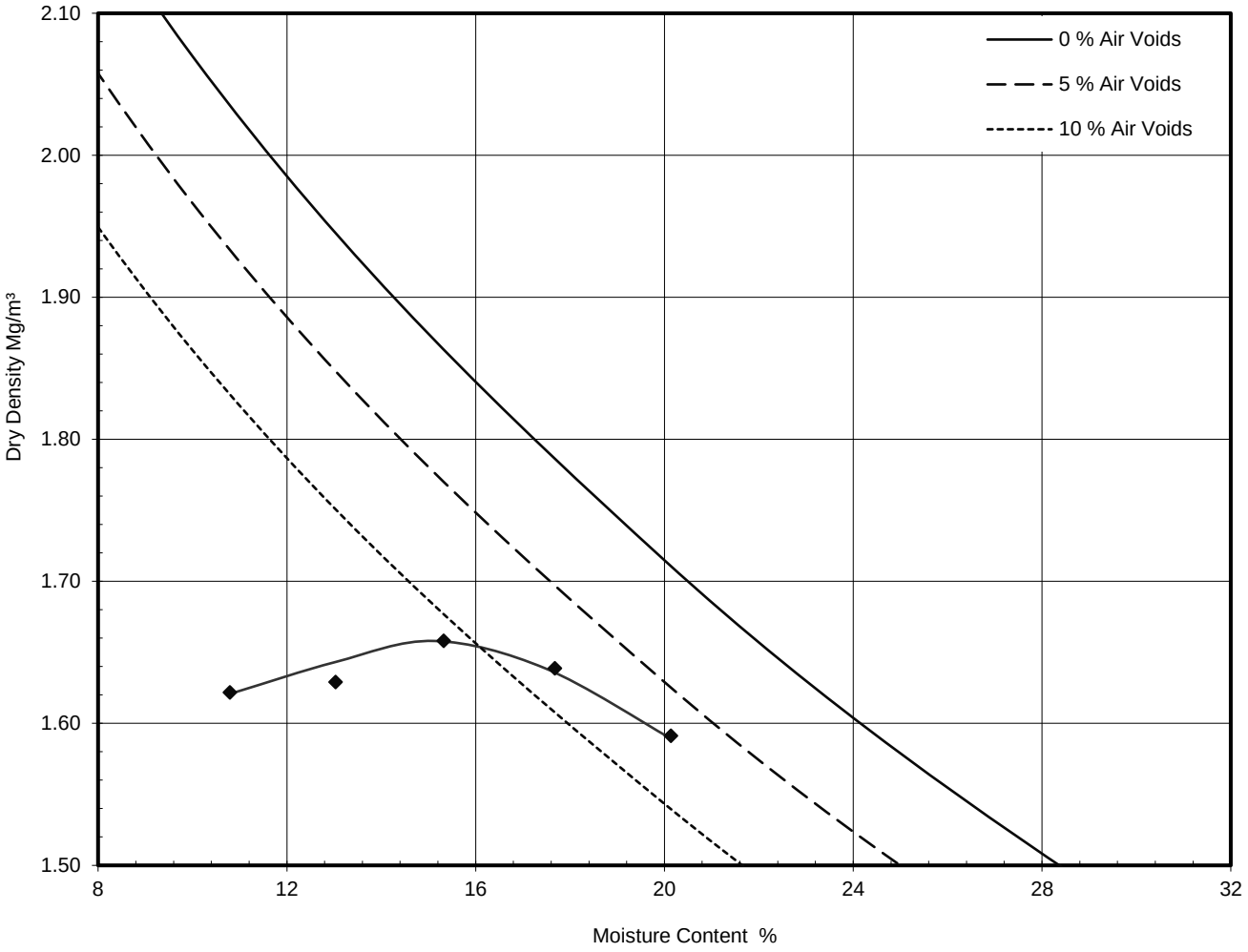
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18/12/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP01
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown SAND	Depth m	0.95 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B

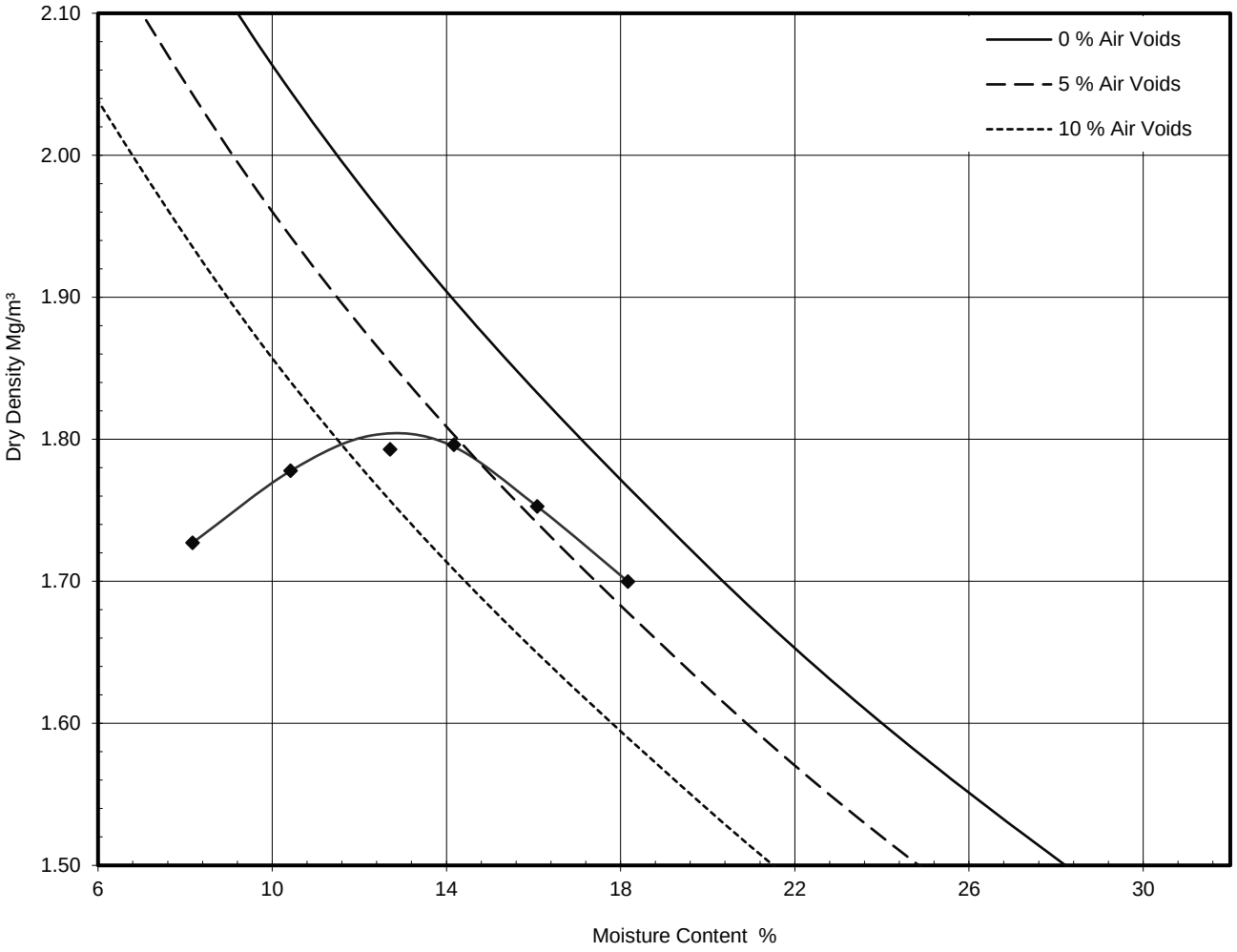


Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.61

Maximum Dry Density	Mg/m³	**1.66**
Optimum Moisture Content	%	**15**

Remarks	Printed	
NMC = 7.3%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP02
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Dark brown slightly clayey SAND	Depth m	0.40 - 0.80
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



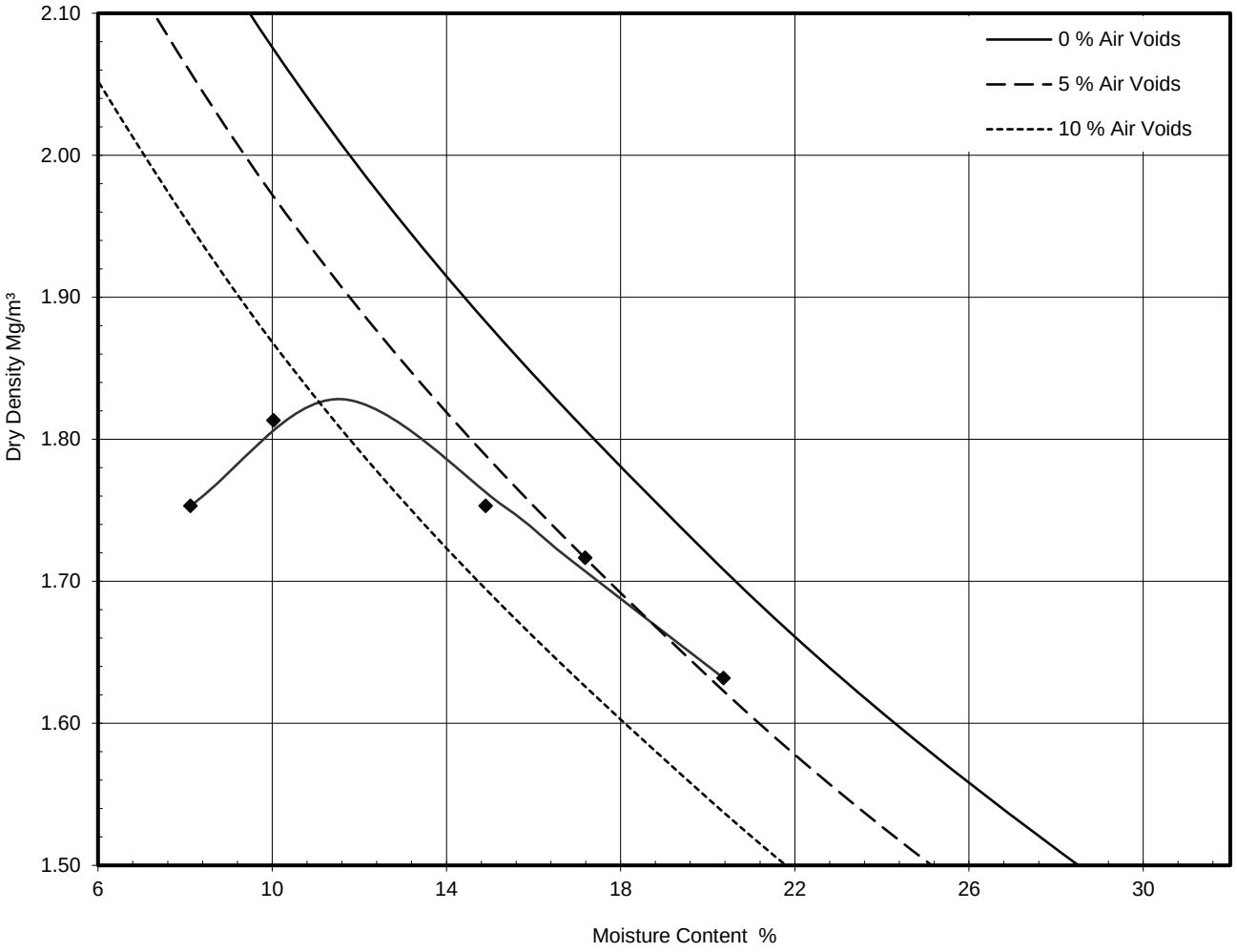
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.81**

Optimum Moisture Content	%	**13**

Remarks	Printed	
NMC = 8.2%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP04A
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Dark brown slightly gravelly slightly silty SAND	Depth m	0.40 - 0.60
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



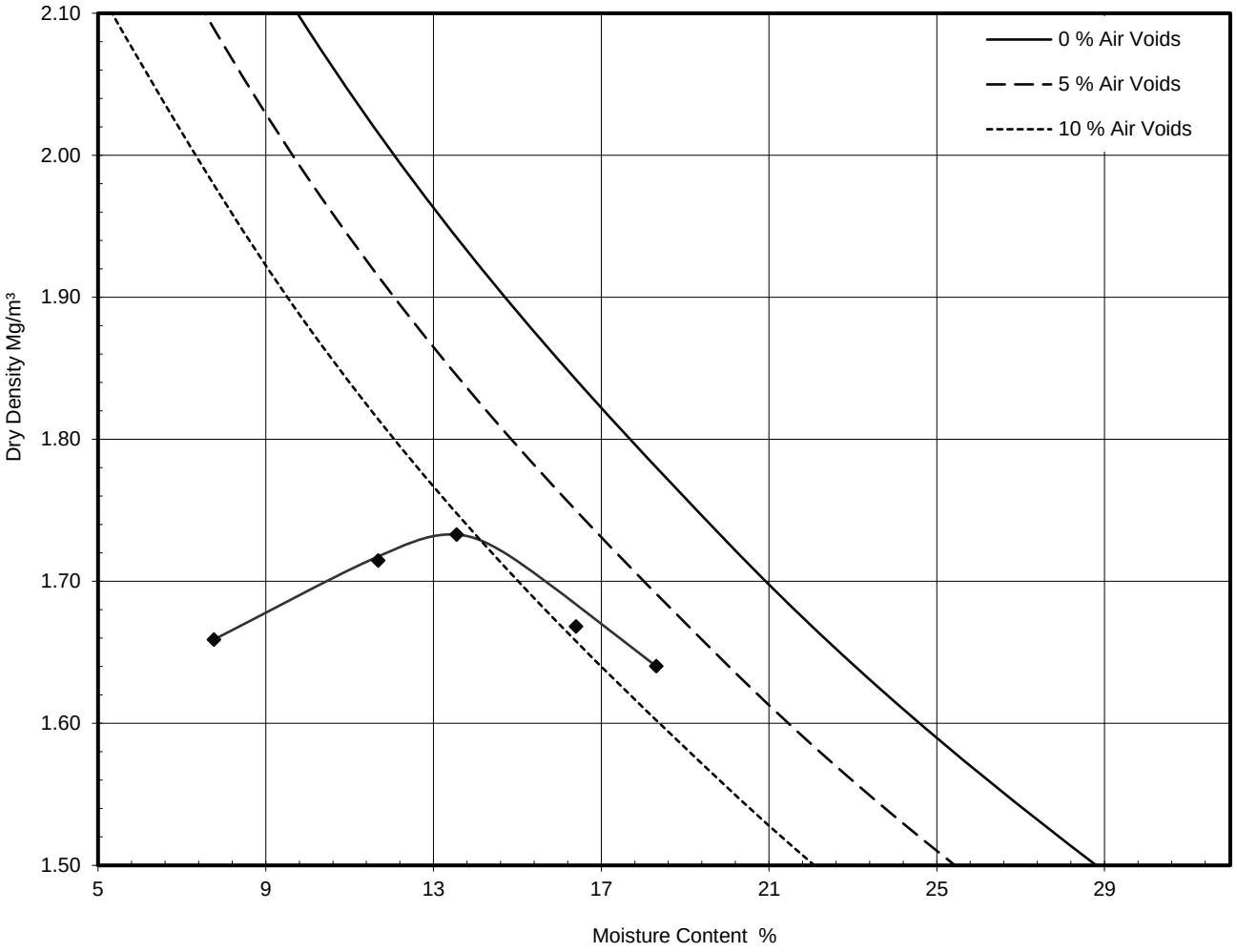
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.62

Maximum Dry Density	Mg/m³	**1.83**

Optimum Moisture Content	%	**12**

Remarks	Printed	
NMC = 8.1%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP05A
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown slightly gravelly SAND	Depth m	0.50 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.64

Maximum Dry Density	Mg/m³	**1.73**

Optimum Moisture Content	%	**13**

Remarks

NMC = 7.8%

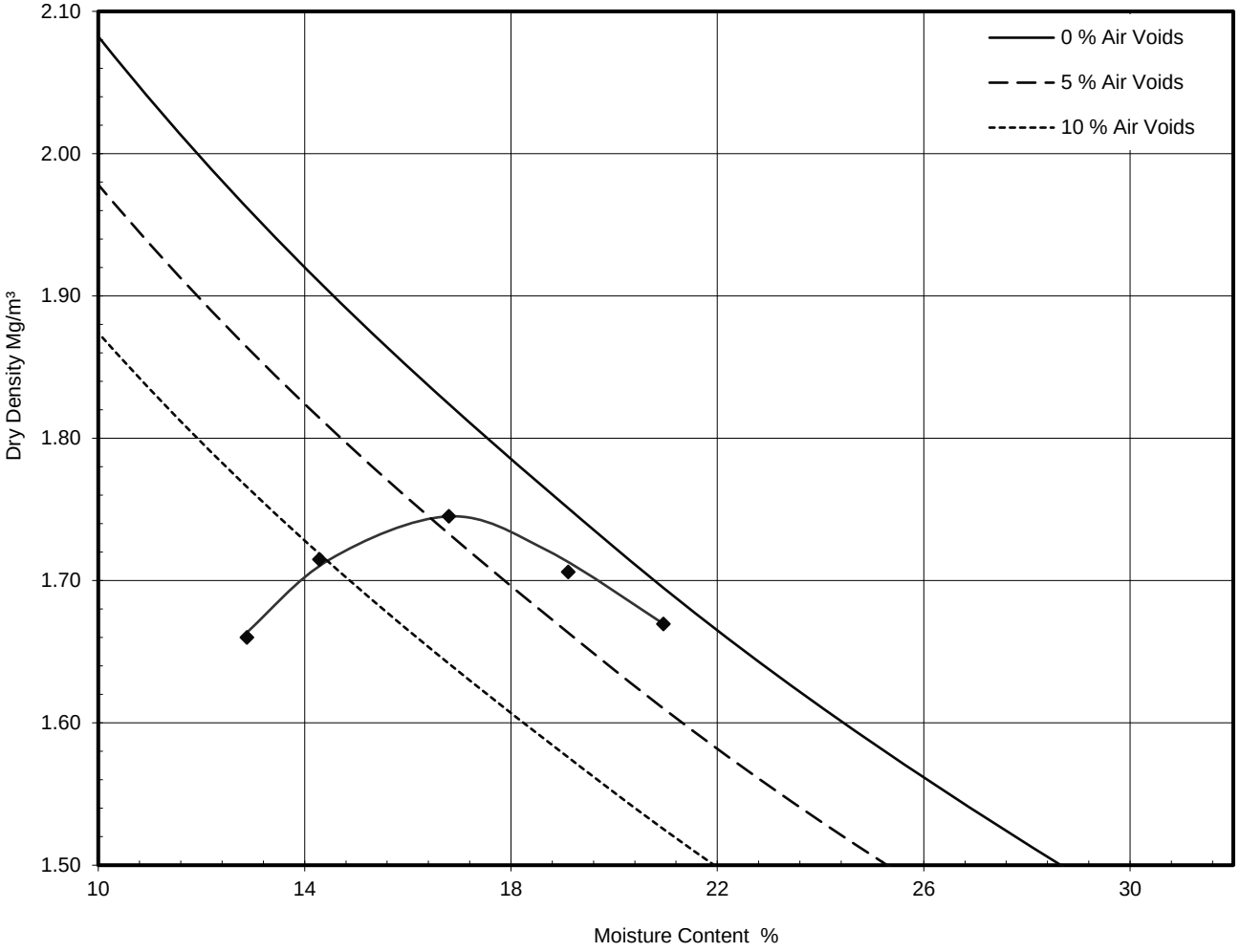
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UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP06
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown slightly gravelly SAND	Depth m	0.60 - 1.50
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.75**
Optimum Moisture Content	%	**17**

Remarks

NMC = 13%

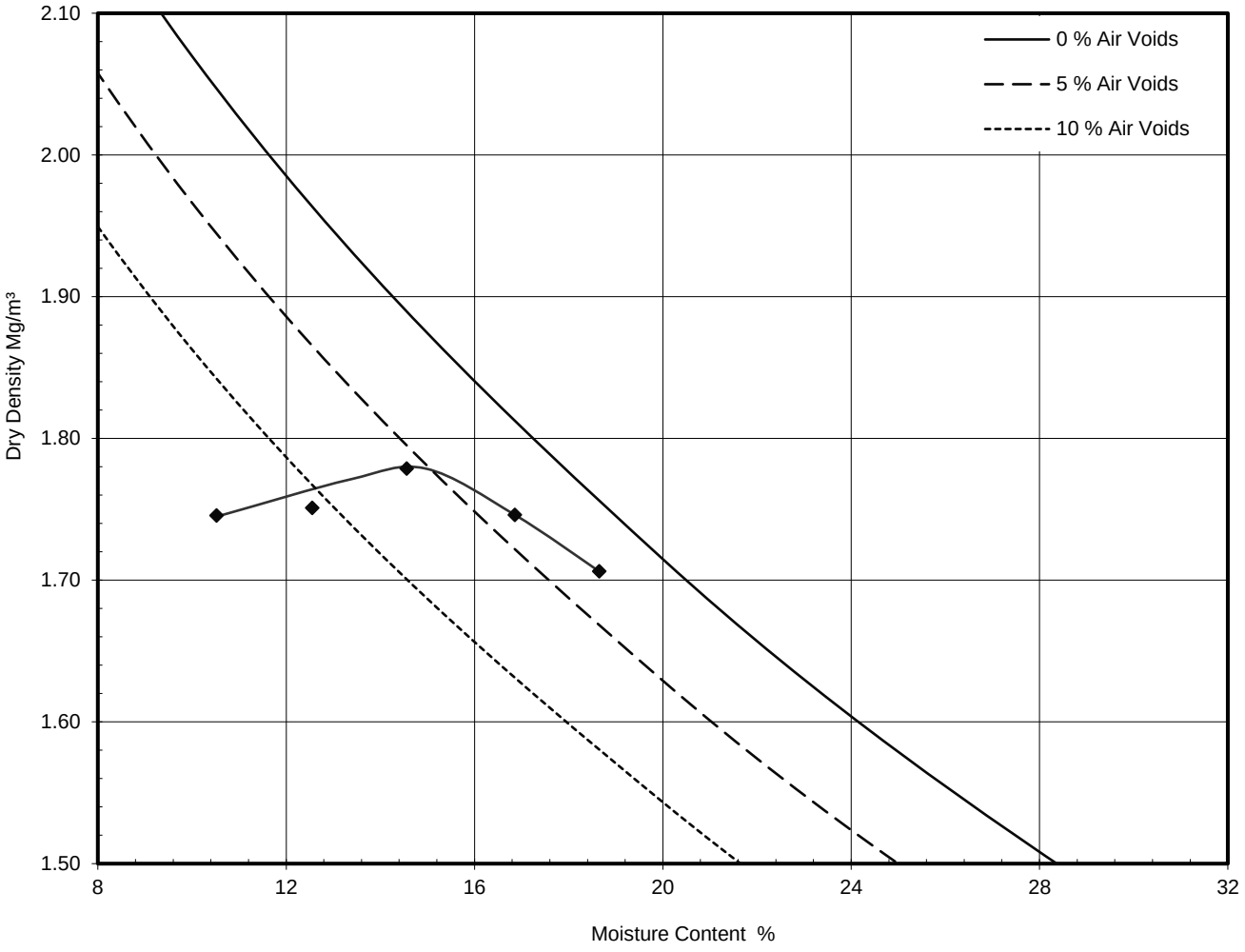
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UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP07
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown SAND with clay pockets	Depth m	1.80 - 2.60
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.61

Maximum Dry Density	Mg/m³	**1.78**
Optimum Moisture Content	%	**15**

Remarks

NMC = 15%

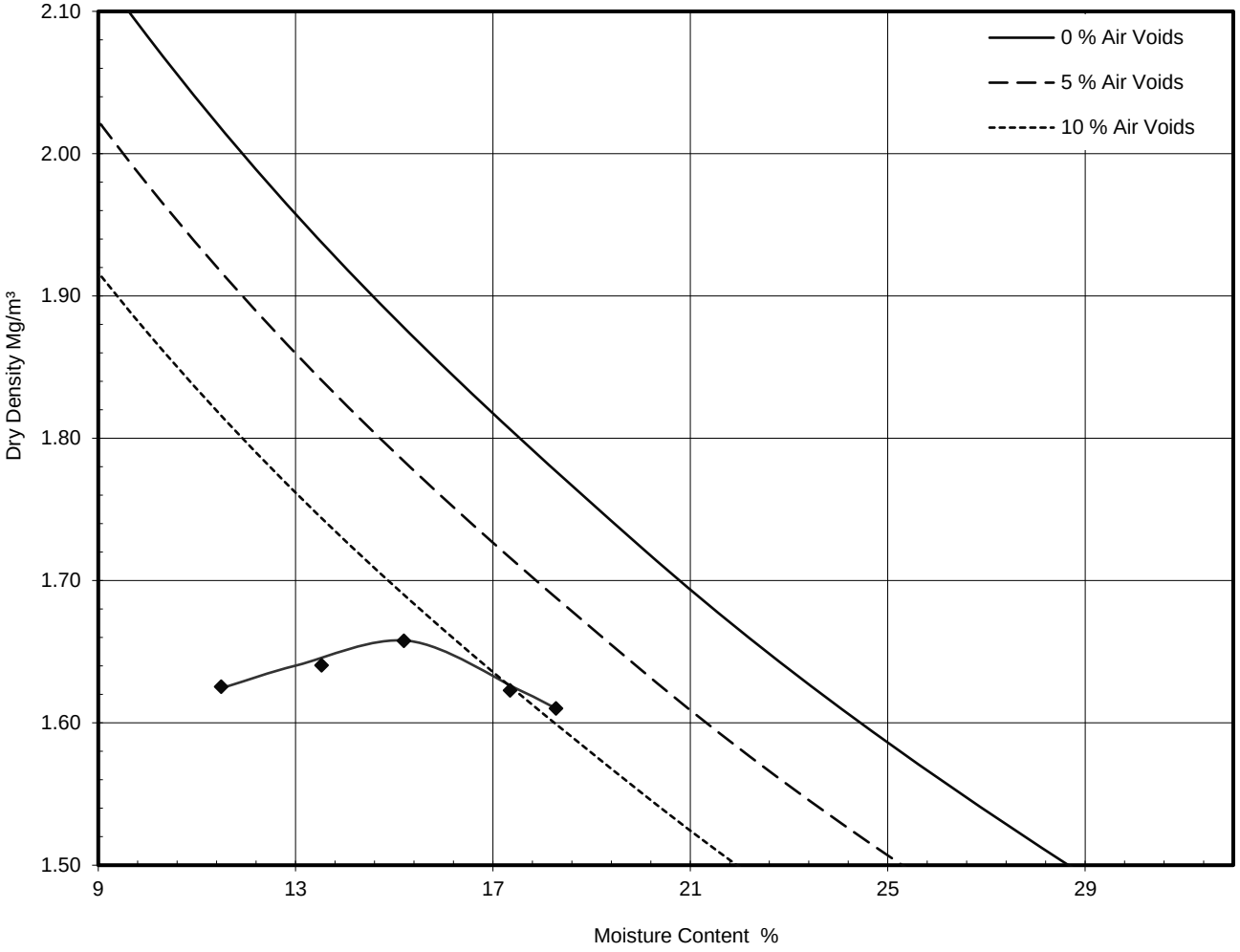
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18/12/2024

UKAS TESTING

1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP09
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown SAND	Depth m	0.70 - 1.60
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



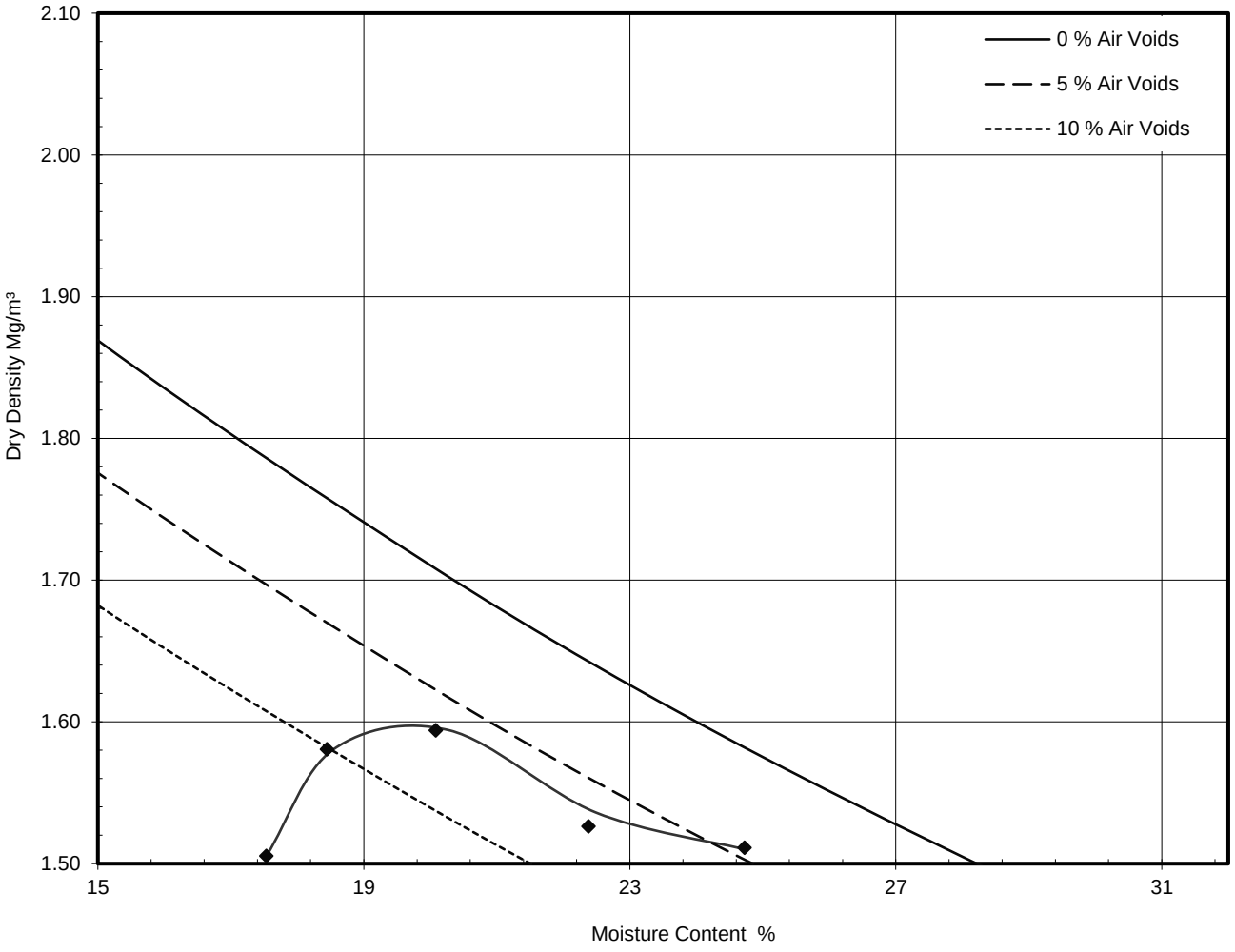
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.63

Maximum Dry Density	Mg/m³	**1.66**

Optimum Moisture Content	%	**15**

Remarks	Printed	
NMC = 5.1%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP10
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown slightly sandy CLAY	Depth m	0.90 - 1.20
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



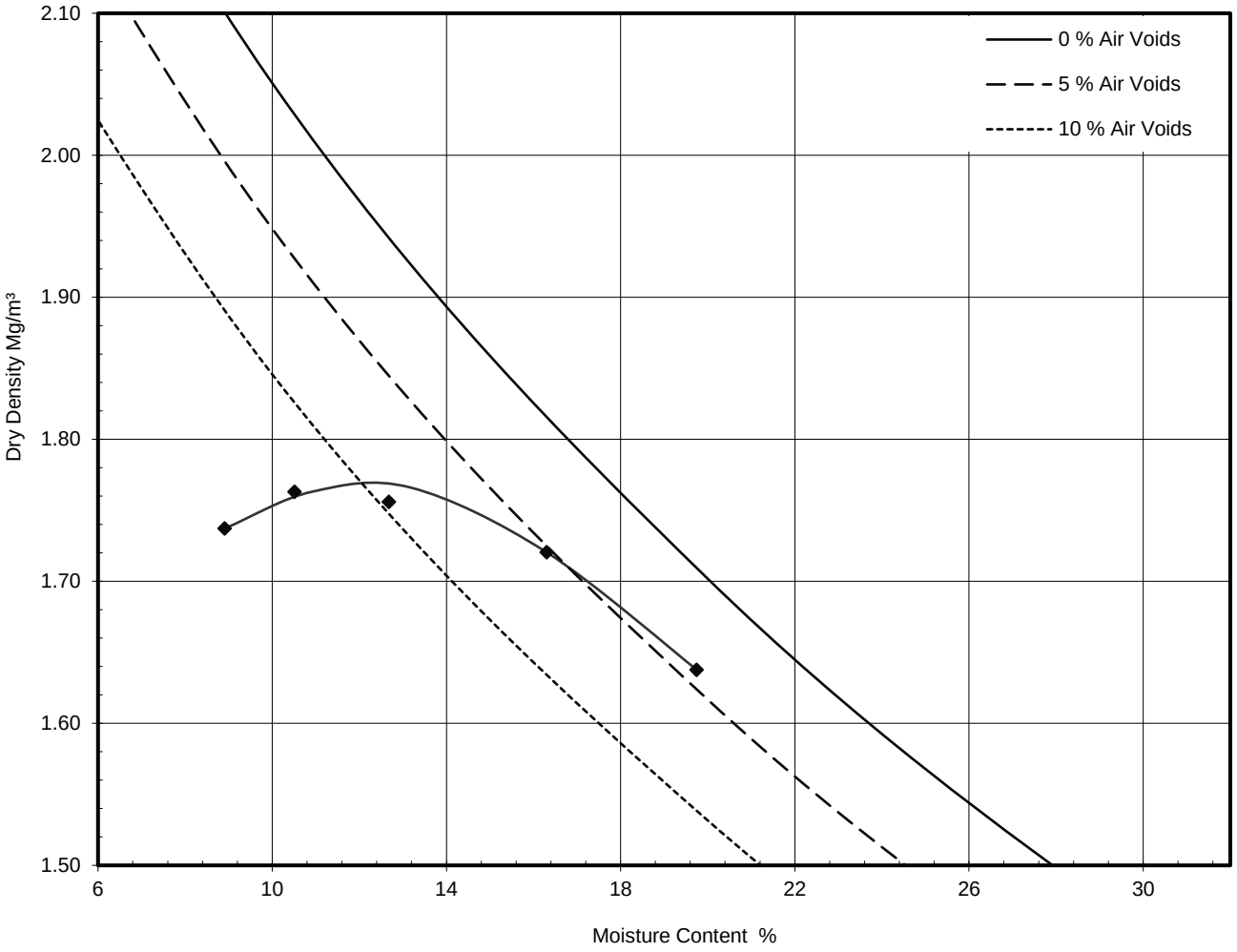
Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using small pyknometer	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.59**

Optimum Moisture Content	%	**20**

Remarks	Printed	
NMC = 26%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	**Dry Density / Moisture Content Relationship 2.5kg Compaction**	Project Number	PC238663
		Hole Number	TP11
Project Name	Lionlink - Walberswick Landfall	Sample Number	
Specimen Description	Brown SAND	Depth m	0.40 - 1.10
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	Sample Type	B



Preparation		Material used was natural
Mould Type		1 LITRE
Samples Used		Single sample tested.
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Measured using small pyknometer	Mg/m³	2.58

Maximum Dry Density	Mg/m³	**1.77**

Optimum Moisture Content	%	**12**

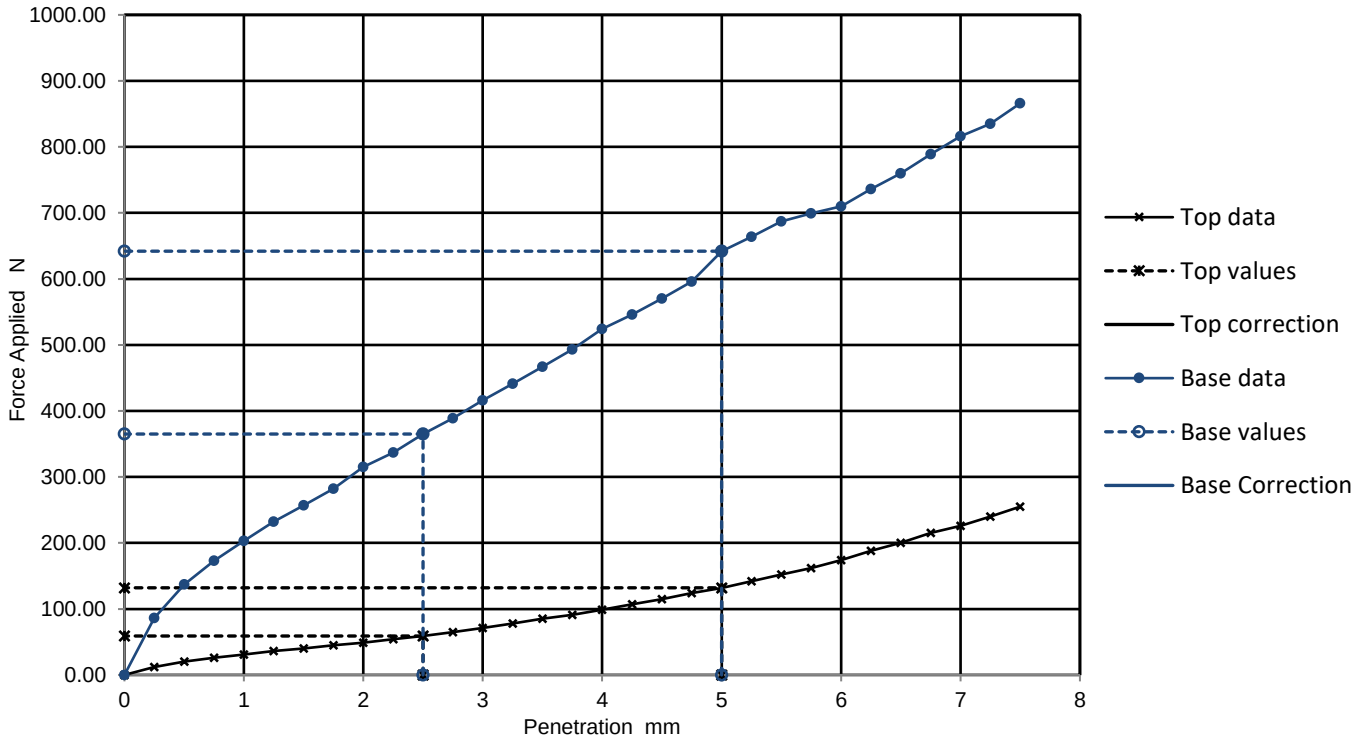
Remarks	Printed	
NMC = 20%	18/12/2024	UKAS TESTING 1365

GEOTECHNICS	California Bearing Ratio (CBR)				Project Number	PC238663
					Hole Number	TP04A
Project Name	Lionlink - Walberswick Landfall				Sample Number	
Specimen Reference		Specimen Depth		m	Depth (m)	0.60 - 1.50
Specimen Description	Brown SAND with with clay pockets				Sample Type	B
Test Method	BS1377 : Part 4 : 1990, clause 7					

Specimen Preparation

Condition	REMOULDED		* Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 4.5kg rammer		Period of soaking		days
			Time to surface		days
			Amount of swell recorded		mm
Material retained on 20mm sieve removed	0	%	Dry density after soaking	1.61	Mg/m3
Initial Specimen details	Bulk density	1.71 Mg/m3	Surcharge applied	12.3	kg
	Dry density	1.61 Mg/m3	Equivalent Overburden	7	kPa
	Moisture content	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	#Average	Moisture Content %
TOP	No	0.5	0.7	0.7		6.5
BASE	No	2.8	3.2	3.2		6.2

Remarks	Test Specific Remarks	Printed
	Not suitable for soaking method	18/12/2024

*Soaking (if applicable) not UKAS accredited. #Average value reported if ±10%

UKAS TESTING 1365

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP01
		Sample Depth	0.50-0.95m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	10/12/2024

Specimen Description	Dark brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	7.6	-	%
Bulk Density	1.87	-	Mg/m³
Dry Density	1.74	-	Mg/m³
Sample Mass	2954.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.38**	**-**	W/(m.k)
Thermal Resistivity	**0.42**	**-**	(m.k)/W
Initial Temperature	17.7	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP02
		Sample Depth	0.80-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	6.6	-	%
Bulk Density	1.72	-	Mg/m³
Dry Density	1.61	-	Mg/m³
Sample Mass	2708.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.86**	**-**	W/(m.k)
Thermal Resistivity	**0.54**	**-**	(m.k)/W
Initial Temperature	16.5	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP03
		Sample Depth	0.70-1.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	10/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	4.6	-	%
Bulk Density	1.65	-	Mg/m³
Dry Density	1.58	-	Mg/m³
Sample Mass	2602.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.70**	**-**	W/(m.k)
Thermal Resistivity	**0.59**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP04A
		Sample Depth	1.50-2.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	8.9	-	%
Bulk Density	1.70	-	Mg/m³
Dry Density	1.57	-	Mg/m³
Sample Mass	2683.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.77**	**-**	W/(m.k)
Thermal Resistivity	**0.56**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP05A
		Sample Depth	1.50-2.20m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	14.7	-	%
Bulk Density	1.96	-	Mg/m³
Dry Density	1.70	-	Mg/m³
Sample Mass	3078.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.15**	**-**	W/(m.k)
Thermal Resistivity	**0.47**	**-**	(m.k)/W
Initial Temperature	17.3	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP06
		Sample Depth	0.40-0.60m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	10/12/2024

Specimen Description	Dark brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	8.5	-	%
Bulk Density	1.95	-	Mg/m^3
Dry Density	1.79	-	Mg/m^3
Sample Mass	3064.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.58**	**-**	W/(m.k)
Thermal Resistivity	**0.39**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP07
		Sample Depth	1.10-1.80m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	3.3	-	%
Bulk Density	1.90	-	Mg/m³
Dry Density	1.84	-	Mg/m³
Sample Mass	3001.2	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.16**	**-**	W/(m.k)
Thermal Resistivity	**0.86**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP08
		Sample Depth	0.90-1.60m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.37	-	mm
Water Content	12.9	-	%
Bulk Density	1.95	-	Mg/m³
Dry Density	1.73	-	Mg/m³
Sample Mass	3070.8	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.22**	**-**	W/(m.k)
Thermal Resistivity	**0.45**	**-**	(m.k)/W
Initial Temperature	17.4	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP09
		Sample Depth	0.50-0.70m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	10/12/2024

Specimen Description	Dark brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.07	-	mm
Sample Length	200.17	-	mm
Water Content	8.3	-	%
Bulk Density	1.93	-	Mg/m³
Dry Density	1.79	-	Mg/m³
Sample Mass	3046.3	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.33**	**-**	W/(m.k)
Thermal Resistivity	**0.43**	**-**	(m.k)/W
Initial Temperature	17.8	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP10
		Sample Depth	1.20-1.40m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	11/12/2024

Specimen Description	Dark grey slightly sandy slightly gravelly CLAY

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	17.3	-	%
Bulk Density	1.94	-	Mg/m^3
Dry Density	1.65	-	Mg/m^3
Sample Mass	3059.5	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**1.82**	**-**	W/(m.k)
Thermal Resistivity	**0.55**	**-**	(m.k)/W
Initial Temperature	17.5	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

LABORATORY TESTING - Thermal Conductivity ASTM D5334-22a ^{e1}

Project	LionLink - Walberswick Landfall	Hole	TP11
		Sample Depth	1.10-2.10m
Client	National Grid Ventures	Sample Type	B
Project No.	PC238663	Test Date	10/12/2024

Specimen Description	Light brown slightly gravelly SAND

Specimen	**1**	**2**	Units
Sample Diameter	100.10	-	mm
Sample Length	200.33	-	mm
Water Content	18.1	-	%
Bulk Density	1.99	-	Mg/m^3
Dry Density	1.69	-	Mg/m^3
Sample Mass	3143.0	-	g
Thermal Compound Applied to Needle	No	-	
Thermal Conductivity	**2.48**	**-**	W/(m.k)
Thermal Resistivity	**0.40**	**-**	(m.k)/W
Initial Temperature	17.6	-	°C

Test Method

Specimen 1 recompacted in 5 layers using a 2.5kg rammer at received Water Content

Needle inserted by pushing directly into sample and allowed to stabilise for 15 minutes to eliminate or minimize potential thermal drift.

Test Equipment

Tempos Readout unit with a TR-3 2.4mm diameter probe measures thermal conductivity and thermal resisitivity. The TR-3 probe is primarily designed for soil and other granular or porous materials. The probe heats for 60 seconds and concurrently records temperature and conductivity readings every 1 second.

The internal microprocessor uses an algorithm to obtain the value of thermal conductivity. This negates the need for a graphical plot of temperature against time elapsed.

Other Standards

BS EN 17892-2 : CL 5.1 Density by Linear Measurement (UKAS Accredited)

Remarks		GEOTECHNICS

Certificate of Analysis

Certificate Number	24-24973	*Issued:*	22-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-24973
Client Reference ~	PC238663
Order No ~	OC42057
Contract Title ~	Lionlink - Walberswick Landfall
Description	25 Soil samples.
Date Received	18-Nov-24
Date Started	18-Nov-24
Date Completed	22-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24973
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2425716	2425717	2425718	2425719	2425720	2425721	2425722	2425723	2425724	2425725	2425726
			Sample ID ~	BH01	BH03	BH04	BH05	TP01	TP01	TP02	TP02	TP03	TP04A	TP04A
			Depth ~	0.70-0.80	1.20	27.90-28.00	17.90-18.00	0.50-0.95	1.00	0.60	0.80-1.40	0.70-1.80	1.00	1.50-2.10
			Other ID ~											
			Sample Type ~	D	D	D	D	B	D	D	B	B	D	B
			Sampling Date ~	25/10/2024	28/10/2024	21/10/2024	29/10/2024	24/10/2024	24/10/2024	29/10/2024	29/10/2024	29/10/2024	30/10/2024	30/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Metals														
Magnesium Aqueous Extract (2:1)	DETSC 2076*	10	mg/l	< 10	< 10	< 10	< 10		< 10	< 10			< 10	
Inorganics														
pH	DETSC 2008#		pH	8.0	7.6	8.5	8.5	8.0	7.9	7.4	7.6	8.4	8.9	7.4
Chloride Aqueous Extract (2:1)	DETSC 2055	1	mg/l	19	24	15	23		7.5	11			12	
Nitrate Aqueous Extract as NO3 (2:1)	DETSC 2055	1	mg/l	4.1	1.1	< 1.0	< 1.0		4.4	3.2			< 1.0	
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	13	12	48	19		< 10	10			< 10	
Sulphur as S, Total	DETSC 2320	0.01	%	0.01	< 0.01	0.07	0.01		< 0.01	0.01			0.01	
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.02	0.01	0.07	0.04		0.02	0.02			0.01	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24973
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2425727	2425728	2425729	2425730	2425731	2425732	2425733	2425734	2425735	2425736	2425737
			Sample ID ~	TP05A	TP05A	TP06	TP06	TP07	TP07	TP08	TP08	TP09	TP09	TP10
			Depth ~	1.20	1.50-2.20	0.40-0.60	0.50	1.10-1.80	1.20	0.70	0.90-1.60	0.50-0.70	0.60	0.80
			Other ID ~											
			Sample Type ~	D	B	B	D	B	D	D	B	B	D	D
			Sampling Date ~	25/10/2024	25/10/2024	28/10/2024	28/10/2024	25/10/2024	25/10/2024	29/10/2024	29/10/2024	30/10/2024	30/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Metals														
Magnesium Aqueous Extract (2:1)	DETSC 2076*	10	mg/l	< 10			< 10		< 10	< 10			< 10	< 10
Inorganics														
pH	DETSC 2008#		pH	7.5	7.4	7.8	7.9	8.2	8.1	8.0	7.6	7.6	7.5	7.7
Chloride Aqueous Extract (2:1)	DETSC 2055	1	mg/l	8.7			7.1		11	15			16	12
Nitrate Aqueous Extract as NO3 (2:1)	DETSC 2055	1	mg/l	1.2			1.8		< 1.0	4.6			3.4	1.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	< 10			< 10		< 10	13			10	11
Sulphur as S, Total	DETSC 2320	0.01	%	< 0.01			< 0.01		< 0.01	< 0.01			< 0.01	< 0.01
Sulphate as SO4, Total	DETSC 2321#	0.01	%	< 0.01			0.02		< 0.01	0.02			0.02	0.02

Summary of Chemical Analysis
Soil Samples

Our Ref 24-24973
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2425738	2425739	2425740
			Sample ID ~	TP10	TP11	TP11
			Depth ~	1.20-1.40	0.90	1.10-2.10
			Other ID ~			
			Sample Type ~	B	D	B
			Sampling Date ~	28/10/2024	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Magnesium Aqueous Extract (2:1)	DETSC 2076*	10	mg/l		< 10	
Inorganics						
pH	DETSC 2008#		pH	7.7	7.4	7.8
Chloride Aqueous Extract (2:1)	DETSC 2055	1	mg/l		18	
Nitrate Aqueous Extract as NO3 (2:1)	DETSC 2055	1	mg/l		3.7	
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		14	
Sulphur as S, Total	DETSC 2320	0.01	%		0.01	
Sulphate as SO4, Total	DETSC 2321#	0.01	%		0.03	

Information in Support of the Analytical Results

Our Ref 24-24973
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2425716	BH01 0.70-0.80 SOIL	25/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425717	BH03 1.20 SOIL	28/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425718	BH04 27.90-28.00 SOIL	21/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425719	BH05 17.90-18.00 SOIL	29/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425720	TP01 0.50-0.95 SOIL	24/10/24	PT 1L	pH + Conductivity (7 days)	
2425721	TP01 1.00 SOIL	24/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425722	TP02 0.60 SOIL	29/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425723	TP02 0.80-1.40 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425724	TP03 0.70-1.80 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425725	TP04A 1.00 SOIL	30/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425726	TP04A 1.50-2.10 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425727	TP05A 1.20 SOIL	25/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425728	TP05A 1.50-2.20 SOIL	25/10/24	PT 1L	pH + Conductivity (7 days)	
2425729	TP06 0.40-0.60 SOIL	28/10/24	PT 1L	pH + Conductivity (7 days)	
2425730	TP06 0.50 SOIL	28/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425731	TP07 1.10-1.80 SOIL	25/10/24	PT 1L	pH + Conductivity (7 days)	
2425732	TP07 1.20 SOIL	25/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425733	TP08 0.70 SOIL	29/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425734	TP08 0.90-1.60 SOIL	29/10/24	PT 1L	pH + Conductivity (7 days)	
2425735	TP09 0.50-0.70 SOIL	30/10/24	PT 1L	pH + Conductivity (7 days)	
2425736	TP09 0.60 SOIL	30/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425737	TP10 0.80 SOIL	28/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425738	TP10 1.20-1.40 SOIL	28/10/24	PT 1L	pH + Conductivity (7 days)	
2425739	TP11 0.90 SOIL	28/10/24	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days)	
2425740	TP11 1.10-2.10 SOIL	28/10/24	PT 1L	pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Information in Support of the Analytical Results

Our Ref 24-24973
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

Our Ref 24-24973
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 13

Laboratory Test Results - Contamination Soil

APPENDIX 13

Certificate of Analysis

Certificate Number	24-23263	*Issued:*	06-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23263
Client Reference ~	PC238663
Order No ~	OC41966
Contract Title ~	Lionlink - Walberswick Landfall
Description	2 Soil samples, 1 Leachate prepared by DETS sample.
Date Received	29-Oct-24
Date Started	29-Oct-24
Date Completed	06-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By



Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2416111	2416112
			Sample ID ~	BH01	TP01
			Depth ~	0.20	0.20-0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/10/2024	24/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	5.4	5.6
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	< 0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.5	5.3
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	15	12
Lead	DETSC 2301#	0.3	mg/kg	25	26
Mercury	DETSC 2325#	0.05	mg/kg	0.08	< 0.05
Nickel	DETSC 2301#	1	mg/kg	5.0	4.4
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	13	12
Zinc	DETSC 2301#	1	mg/kg	32	28
Inorganics					
pH	DETSC 2008#		pH	8.1	7.3
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	2.2	0.7
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	15	17
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2416111	2416112
			Sample ID ~	BH01	TP01
			Depth ~	0.20	0.20-0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/10/2024	24/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1	
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2416111	2416112
			Sample ID ~	BH01	TP01
			Depth ~	0.20	0.20-0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/10/2024	24/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1	
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2416111	2416112
			Sample ID ~	BH01	TP01
			Depth ~	0.20	0.20-0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	24/10/2024	24/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2416113
Sample ID ~	TP01
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	24/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.73
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.0
Chromium, Dissolved	DETSC 2306	0.25	ug/l	0.47
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	1.4
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.97
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	0.9
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3
Inorganics				
pH	DETSC 2008		pH	7.8
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.1
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	0.022
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	22
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.018
Nitrite as N	DETSC 2055	0.03	mg/l	< 0.03
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.56
Nitrate as N	DETSC 2055	0.0226	mg/l	0.13
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.0
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2416113
Sample ID ~	TP01
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	24/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10
PAHs				
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2416113
Sample ID ~	TP01
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	24/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
VOCs				
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4
Chloroform	DETSC 3432	1	ug/l	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1
Benzene	DETSC 3432	1	ug/l	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
Toluene	DETSC 3432	1	ug/l	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1
Styrene	DETSC 3432	1	ug/l	< 1
Bromoform	DETSC 3432	1	ug/l	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2416113
Sample ID ~	TP01
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	24/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1
MTBE	DETSC 3432*	1	ug/l	< 1
SVOCs				
Phenol	DETSC 3434*	1	ug/l	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2416113
Sample ID ~	TP01
Depth ~	0.20-0.30
Other ID ~	
Sample Type ~	ES
Sampling Date ~	24/10/2024
Sampling Time ~	n/s

Test	Method	LOD	Units	
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-23263
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2416111	BH01 0.20	SOIL	NAD	none	Michael Kay
2416112	TP01 0.20-0.30	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-23263
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2416111	BH01 0.20 SOIL	24/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2416112	TP01 0.20-0.30 SOIL	24/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2416113	TP01 0.20-0.30 LEACHATE	24/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-22754	*Issued:*	31-Oct-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-22754
Client Reference ~	PC238663
Order No ~	OC41913
Contract Title ~	LIONLINK - WALBERSWICK LANDFILL
Description	3 Soil samples, 2 Leachate prepared by DETS samples.
Date Received	23-Oct-24
Date Started	23-Oct-24
Date Completed	31-Oct-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413218	2413219	2413220
			Sample ID ~	BH02	BH04	BH04
			Depth ~	0.30-0.40	0.30-0.40	0.80-0.90
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600	1600
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	7.8	7.0	8.7
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	0.3	0.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	< 0.2	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	11	9.3	10
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	20	11	8.6
Lead	DETSC 2301#	0.3	mg/kg	37	26	8.5
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	11	6.1	6.7
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.5	0.6
Vanadium	DETSC 2301#	0.8	mg/kg	21	15	18
Zinc	DETSC 2301#	1	mg/kg	47	31	38
Inorganics						
pH	DETSC 2008#		pH	7.7	7.9	7.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.6	1.0	0.4
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	11	< 10	< 10
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413218	2413219	2413220
			Sample ID ~	BH02	BH04	BH04
			Depth ~	0.30-0.40	0.30-0.40	0.80-0.90
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600	1600
Test	**Method**	**LOD**	**Units**			
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10
Phenols						
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	< 0.3
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413218	2413219	2413220
			Sample ID ~	BH02	BH04	BH04
			Depth ~	0.30-0.40	0.30-0.40	0.80-0.90
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600	1600
Test	**Method**	**LOD**	**Units**			
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413218	2413219	2413220
			Sample ID ~	BH02	BH04	BH04
			Depth ~	0.30-0.40	0.30-0.40	0.80-0.90
			Other ID ~			
			Sample Type ~	ES	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600	1600
Test	**Method**	**LOD**	**Units**			
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413221	2413222
			Sample ID ~	BH02	BH04
			Depth ~	0.70-0.80	0.30-0.40
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.84	1.1
Boron, Dissolved	DETSC 2306*	12	ug/l	< 12	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.2	4.5
Chromium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Chromium III, Dissolved	DETSC 2306*	1	ug/l	< 1.0	< 1.0
Chromium, Hexavalent	DETSC 2203	7	ug/l	< 7.0	< 7.0
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.6	2.0
Lead, Dissolved	DETSC 2306	0.09	ug/l	0.14	0.39
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	< 0.5	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	1.2	1.4
Zinc, Dissolved	DETSC 2306	1.3	ug/l	< 1.3	< 1.3
Inorganics					
pH	DETSC 2008		pH	7.2	6.9
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Dissolved Organic Carbon	DETSC 2085	2	mg/l	< 2.0	< 2.0
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as NH3	DETSC 2207	18.3	ug/l	< 18	< 18
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	< 0.03	0.13
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.66	1.1
Nitrate as N	DETSC 2055	0.0226	mg/l	0.15	0.26
Nitrite as NO2	DETSC 2055	0.1	mg/l	< 0.10	0.44
Sulphate as SO4	DETSC 2055	0.1	mg/l	0.96	2.1
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413221	2413222
			Sample ID ~	BH02	BH04
			Depth ~	0.70-0.80	0.30-0.40
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	0.02	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	0.02	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

Lab No	2413221	2413222
Sample ID ~	BH02	BH04
Depth ~	0.70-0.80	0.30-0.40
Other ID ~		
Sample Type ~	ES	ES
Sampling Date ~	21/10/2024	21/10/2024
Sampling Time ~	1600	1600

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

			Lab No	2413221	2413222
			Sample ID ~	BH02	BH04
			Depth ~	0.70-0.80	0.30-0.40
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	21/10/2024	21/10/2024
			Sampling Time ~	1600	1600
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

Lab No	2413221	2413222
Sample ID ~	BH02	BH04
Depth ~	0.70-0.80	0.30-0.40
Other ID ~		
Sample Type ~	ES	ES
Sampling Date ~	21/10/2024	21/10/2024
Sampling Time ~	1600	1600

Test	Method	LOD	Units		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-22754
Client Ref ~ PC238663
Contract Title ~ LIONLINK - WALBERSWICK LANDFILL

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2413218	BH02 0.30-0.40	SOIL	NAD	none	Michael Kay
2413219	BH04 0.30-0.40	SOIL	NAD	none	Michael Kay
2413220	BH04 0.80-0.90	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-22754
Client Ref ~ PC238663
Contract ~ LIONLINK - WALBERSWICK LANDFILL

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2413218	BH02 0.30-0.40 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413219	BH04 0.30-0.40 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413220	BH04 0.80-0.90 SOIL	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2413221	BH02 0.70-0.80 LEACHATE	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH/Cond (1 days)	VOC
2413222	BH04 0.30-0.40 LEACHATE	21/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-23745	*Issued:*	20-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23745
Client Reference ~	PC238663
Order No ~	OC42024
Contract Title ~	Lionlink - Walberswick Landfall
Description	5 Soil samples, 3 Leachate prepared by DETS samples.
Date Received	04-Nov-24
Date Started	04-Nov-24
Date Completed	20-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418763	2418764	2418765	2418766	2418767
	Sample ID ~	BH03	BH05	BH05	TP05A	TP07
	Depth ~	0.20	0.15	0.70	0.20-0.30	0.20-0.30
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024	29/10/2024	25/10/2024	25/10/2024
	Sampling Time ~	n/s	1600	1600	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Metals						
Arsenic	DETSC 2301#	0.2	mg/kg	7.8	8.4	9.2	6.7	7.0
Beryllium	DETSC 2301#	0.2	mg/kg	0.2	0.3	0.3	0.2	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	< 0.2	0.3	0.3	0.3	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.7	8.3	8.2	7.2	7.9
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	13	12	13	21
Lead	DETSC 2301#	0.3	mg/kg	21	22	18	27	34
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	0.07
Nickel	DETSC 2301#	1	mg/kg	5.3	6.6	7.1	5.5	6.7
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	14	16	17	14	16
Zinc	DETSC 2301#	1	mg/kg	28	27	27	27	33
Inorganics								
pH	DETSC 2008#		pH	7.8	7.8	7.8	8.2	7.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1	0.1
Organic matter	DETSC 2002#	0.1	%	0.8	1.4	0.8	1.2	1.2
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	21	14	< 10	11	< 10
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
PAHs								
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418763	2418764	2418765	2418766	2418767
	Sample ID ~	BH03	BH05	BH05	TP05A	TP07
	Depth ~	0.20	0.15	0.70	0.20-0.30	0.20-0.30
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024	29/10/2024	25/10/2024	25/10/2024
	Sampling Time ~	n/s	1600	1600	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	0.4	< 0.3	0.5	0.5
Acid Herbicides								
Mecoprop	DETSC 3447	35	ug/kg	< 35			< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35			< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35			< 35	
Picloram	DETSC 3447	35	ug/kg	< 35			< 35	
MCPA	DETSC 3447	35	ug/kg	< 35			< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35			< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35			< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35			< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35			< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35			< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35			< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35			< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35			< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35			< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35			< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35			< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35			< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35			< 35	
PCP	DETSC 3447*	35	ug/kg	< 35			< 35	
OCPs								
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418763	2418764	2418765	2418766	2418767
	Sample ID ~	BH03	BH05	BH05	TP05A	TP07
	Depth ~	0.20	0.15	0.70	0.20-0.30	0.20-0.30
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024	29/10/2024	25/10/2024	25/10/2024
	Sampling Time ~	n/s	1600	1600	n/s	n/s
Test	**Method**	**LOD**	**Units**					
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
OPPs								
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1	

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418763	2418764	2418765	2418766	2418767
	Sample ID ~	BH03	BH05	BH05	TP05A	TP07
	Depth ~	0.20	0.15	0.70	0.20-0.30	0.20-0.30
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024	29/10/2024	25/10/2024	25/10/2024
	Sampling Time ~	n/s	1600	1600	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418763	2418764	2418765	2418766	2418767
	Sample ID ~	BH03	BH05	BH05	TP05A	TP07
	Depth ~	0.20	0.15	0.70	0.20-0.30	0.20-0.30
	Other ID ~					
	Sample Type ~	ES	ES	ES	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024	29/10/2024	25/10/2024	25/10/2024
	Sampling Time ~	n/s	1600	1600	n/s	n/s
Test	**Method**	**LOD**	**Units**			
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418768	2418769
			Sample ID ~	BH03	BH05
			Depth ~	0.60	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/10/2024	29/10/2024
			Sampling Time ~	n/s	1600
Test	**Method**	**LOD**	**Units**		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	1.7	1.1
Boron, Dissolved	DETSC 2306*	12	ug/l	16	< 12
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	0.34	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	2.6	1.6
Chromium, Dissolved	DETSC 2306	0.25	ug/l	5.4	0.69
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.005	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	5.7	1.9
Lead, Dissolved	DETSC 2306	0.09	ug/l	5.5	1.5
Mercury, Dissolved	DETSC 2306	0.01	ug/l	0.04	0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	4.0	0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	1.6	0.41
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	5.7	1.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	4.5	1.5
Inorganics					
pH	DETSC 2008		pH	7.1	7.0
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	< 0.1	0.2
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l	< 0.1	< 0.1
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l	< 0.1	0.2
Dissolved Organic Carbon	DETSC 2085	2	mg/l	2.0	< 2.0
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l	< 0.02	< 0.02
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l	< 0.018	< 0.018
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Nitrite as N	DETSC 2055	0.03	mg/l	0.14	0.09
Nitrate as NO3	DETSC 2055	0.1	mg/l	1.1	1.9
Nitrate as N	DETSC 2055	0.0226	mg/l	0.25	0.44
Nitrite as NO2	DETSC 2055	0.1	mg/l	0.45	0.29
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.7	3.3
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418768	2418769
			Sample ID ~	BH03	BH05
			Depth ~	0.60	0.15
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	25/10/2024	29/10/2024
			Sampling Time ~	n/s	1600
Test	**Method**	**LOD**	**Units**		
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418768	2418769
	Sample ID ~	BH03	BH05
	Depth ~	0.60	0.15
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024
	Sampling Time ~	n/s	1600

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	2418768	2418769
Sample ID ~	BH03	BH05
Depth ~	0.60	0.15
Other ID ~		
Sample Type ~	ES	ES
Sampling Date ~	25/10/2024	29/10/2024
Sampling Time ~	n/s	1600

Test	Method	LOD	Units		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418768	2418769
	Sample ID ~	BH03	BH05
	Depth ~	0.60	0.15
	Other ID ~		
	Sample Type ~	ES	ES
	Sampling Date ~	25/10/2024	29/10/2024
	Sampling Time ~	n/s	1600

Test	Method	LOD	Units		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-23745
Client Ref PC238663
Contract Title Lionlink - Walberswick Landfall
Sample Id TP07 0.20-0.30
Sample Numbers 2418767 2418770
Date Analysed 20/11/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.3	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.88	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	12	0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	6.6	0.07	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.43	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.41	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	19	0.19	4	50	200
DETSC 2055 Chloride as Cl	970	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1400	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	12000	120	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2400	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.0
DETSC 2009 Conductivity uS/cm	17.8
* Temperature*	18.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098
Stage 1	
Volume of Leachant L2*	0.964
Volume of Eluate VE1*	0.91

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-23745
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2418763	BH03 0.20	SOIL	NAD	none	Michael Kay
2418764	BH05 0.15	SOIL	NAD	none	Michael Kay
2418765	BH05 0.70	SOIL	NAD	none	Michael Kay
2418766	TP05A 0.20-0.30	SOIL	NAD	none	Michael Kay
2418767	TP07 0.20-0.30	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-23745
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2418763	BH03 0.20 SOIL	25/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2418764	BH05 0.15 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418765	BH05 0.70 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418766	TP05A 0.20-0.30 SOIL	25/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2418767	TP07 0.20-0.30 SOIL	25/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH + Conductivity (7 days), VOC (7 days)	
2418768	BH03 0.60 LEACHATE	25/10/24	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), Nitrite as NO2 (5 days), PAH MS (4 days), SVOC (7 days)	VOC
2418769	BH05 0.15 LEACHATE	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2418770	TP07 0.20-0.30 LEACHATE	25/10/24	GJ 250ml, GJ 60ml x2, PT 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic J-Jar T-Tub
DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	24-23747	*Issued:*	20-Nov-24

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	24-23747
Client Reference ~	PC238663
Order No ~	OC42025
Contract Title ~	Lionlink - Walberswick Landfall
Description	9 Soil samples, 6 Leachate prepared by DETS samples.
Date Received	04-Nov-24
Date Started	04-Nov-24
Date Completed	20-Nov-24
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

ilac-MRA UKAS TESTING 2139

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418773	2418774	2418775	2418776	2418777	2418778	2418779
			Sample ID ~	TP02	TP03	TP04A	TP04A	TP06	TP08	TP09
			Depth ~	0.30	0.30	0.30	0.45	0.30	0.30	0.30
			Other ID ~							
			Sample Type ~	ES	ES	ES	ES	ES	ES	ES
			Sampling Date ~	29/10/2024	29/10/2024	30/09/2024	30/09/2024	28/10/2024	29/10/2024	30/09/2024
			Sampling Time ~	1600	1600	1600	1600	n/s	1600	1600
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	6.0	6.7	7.5	6.6	9.0	8.0	7.3
Beryllium	DETSC 2301#	0.2	mg/kg	< 0.2	0.3	0.3	< 0.2	0.3	0.3	0.2
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5	0.4	0.3	0.3	0.3	0.4	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	< 0.1	0.1	< 0.1	0.1	0.1	0.1
Chromium III	DETSC 2301*	0.15	mg/kg	6.7	9.3	7.4	7.2	7.6	8.7	8.4
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	16	15	15	12	20	18	13
Lead	DETSC 2301#	0.3	mg/kg	32	27	29	20	24	30	27
Mercury	DETSC 2325#	0.05	mg/kg	0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	5.9	8.0	6.0	5.4	6.0	7.3	6.2
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	14	20	16	13	16	18	17
Zinc	DETSC 2301#	1	mg/kg	33	37	34	31	31	34	30
Inorganics										
pH	DETSC 2008#		pH	7.7	7.6	7.7	7.8	7.8	7.8	8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.1	< 0.1	0.1	< 0.1	< 0.1	0.1	0.1
Organic matter	DETSC 2002#	0.1	%	1.3	1.2	1.1	0.7	0.7	0.7	0.9
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	19	14	< 10	12	< 10	11	< 10
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

				Lab No	2418773	2418774	2418775	2418776	2418777	2418778	2418779
				Sample ID ~	TP02	TP03	TP04A	TP04A	TP06	TP08	TP09
				Depth ~	0.30	0.30	0.30	0.45	0.30	0.30	0.30
				Other ID ~							
				Sample Type ~	ES	ES	ES	ES	ES	ES	ES
				Sampling Date ~	29/10/2024	29/10/2024	30/09/2024	30/09/2024	28/10/2024	29/10/2024	30/09/2024
				Sampling Time ~	1600	1600	1600	1600	n/s	1600	1600
Test	**Method**	**LOD**	**Units**								
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols											
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3	0.4	0.3	0.3
Acid Herbicides											
Mecoprop	DETSC 3447	35	ug/kg							
2,4-D	DETSC 3447	35	ug/kg							
Bentazone	DETSC 3447	35	ug/kg							
Picloram	DETSC 3447	35	ug/kg							
MCPA	DETSC 3447	35	ug/kg							
Clopyralid	DETSC 3447	35	ug/kg							
Dicamba	DETSC 3447	35	ug/kg							
2,3,6-TBA	DETSC 3447	35	ug/kg							
Dichlorprop	DETSC 3447	35	ug/kg							
Bromoxynil	DETSC 3447	35	ug/kg							
Triclopyr	DETSC 3447	35	ug/kg							
Fenoprop	DETSC 3447	35	ug/kg							
MCPB	DETSC 3447*	35	ug/kg							
2,4,5-T	DETSC 3447	35	ug/kg							
Fluroxypyr	DETSC 3447	35	ug/kg							
2,4-DB	DETSC 3447	35	ug/kg							
Ioxynil	DETSC 3447	35	ug/kg							
Benazolin	DETSC 3447	35	ug/kg							
PCP	DETSC 3447*	35	ug/kg							
OCPs											
alpha-BHC	DETSC 3433*	0.1	mg/kg							
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg							
beta-BHC	DETSC 3433*	0.1	mg/kg							
delta-BHC	DETSC 3433*	0.1	mg/kg							
Heptachlor	DETSC 3433*	0.1	mg/kg							
Aldrin	DETSC 3433*	0.1	mg/kg							

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418773	2418774	2418775	2418776	2418777	2418778	2418779
	Sample ID ~	TP02	TP03	TP04A	TP04A	TP06	TP08	TP09
	Depth ~	0.30	0.30	0.30	0.45	0.30	0.30	0.30
	Other ID ~							
	Sample Type ~	ES	ES	ES	ES	ES	ES	ES
	Sampling Date ~	29/10/2024	29/10/2024	30/09/2024	30/09/2024	28/10/2024	29/10/2024	30/09/2024
	Sampling Time ~	1600	1600	1600	1600	n/s	1600	1600
Test	**Method**	**LOD**	**Units**					
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg					
gamma-Chlordane	DETSC 3433*	0.1	mg/kg					
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg					
4,4-DDE	DETSC 3433*	0.1	mg/kg					
Dieldrin	DETSC 3433*	0.1	mg/kg					
Endrin	DETSC 3433*	0.1	mg/kg					
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg					
Endrin aldehyde	DETSC 3433*	0.1	mg/kg					
4,4-DDT	DETSC 3433*	0.1	mg/kg					
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg					
Methoxychlor	DETSC 3433*	0.1	mg/kg					
Endrin ketone	DETSC 3433*	0.1	mg/kg					
OPPs								
Dichlorvos	DETSC 3433*	0.1	mg/kg					
Mevinphos	DETSC 3433*	0.1	mg/kg					
Demeton-O	DETSC 3433*	0.1	mg/kg					
Ethoprop	DETSC 3433*	0.1	mg/kg					
Naled	DETSC 3433*	0.1	mg/kg					
Phorate	DETSC 3433*	0.1	mg/kg					
Demeton-S	DETSC 3433*	0.1	mg/kg					
Diazinon	DETSC 3433*	0.1	mg/kg					
Disulfoton	DETSC 3433*	0.1	mg/kg					
Methylparathion	DETSC 3433*	0.1	mg/kg					
Ronnel	DETSC 3433*	0.1	mg/kg					
Fenthion	DETSC 3433*	0.1	mg/kg					
Chlopyrifos	DETSC 3433*	0.1	mg/kg					
Trichlorinate	DETSC 3433*	0.1	mg/kg					
Merphos	DETSC 3433*	0.1	mg/kg					
Stirofos	DETSC 3433*	0.1	mg/kg					
Tokuthion	DETSC 3433*	0.1	mg/kg					
Fensulfothion	DETSC 3433*	0.1	mg/kg					
Bolstar	DETSC 3433*	0.1	mg/kg					
Azinphos methyl	DETSC 3433*	0.1	mg/kg					
Coumaphos	DETSC 3433*	0.1	mg/kg					

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418773	2418774	2418775	2418776	2418777	2418778	2418779
			Sample ID ~	TP02	TP03	TP04A	TP04A	TP06	TP08	TP09
			Depth ~	0.30	0.30	0.30	0.45	0.30	0.30	0.30
			Other ID ~							
			Sample Type ~	ES	ES	ES	ES	ES	ES	ES
			Sampling Date ~	29/10/2024	29/10/2024	30/09/2024	30/09/2024	28/10/2024	29/10/2024	30/09/2024
			Sampling Time ~	1600	1600	1600	1600	n/s	1600	1600
Test	**Method**	**LOD**	**Units**							
VOCs										
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

				Lab No	2418773	2418774	2418775	2418776	2418777	2418778	2418779
				Sample ID ~	TP02	TP03	TP04A	TP04A	TP06	TP08	TP09
				Depth ~	0.30	0.30	0.30	0.45	0.30	0.30	0.30
				Other ID ~							
				Sample Type ~	ES	ES	ES	ES	ES	ES	ES
				Sampling Date ~	29/10/2024	29/10/2024	30/09/2024	30/09/2024	28/10/2024	29/10/2024	30/09/2024
				Sampling Time ~	1600	1600	1600	1600	n/s	1600	1600
Test	**Method**	**LOD**	**Units**								
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418780	2418781
			Sample ID ~	TP10	TP11
			Depth ~	0.30	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	7.5	13
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	0.2
Cadmium	DETSC 2301#	0.1	mg/kg	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	8.0	7.0
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	14	12
Lead	DETSC 2301#	0.3	mg/kg	25	18
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	6.3	6.0
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	16	16
Zinc	DETSC 2301#	1	mg/kg	30	29
Inorganics					
pH	DETSC 2008#		pH	8.2	8.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1	< 0.1
Organic matter	DETSC 2002#	0.1	%	1.1	1.1
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	12	11
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418780	2418781
			Sample ID ~	TP10	TP11
			Depth ~	0.30	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	0.4
Acid Herbicides					
Mecoprop	DETSC 3447	35	ug/kg		< 35
2,4-D	DETSC 3447	35	ug/kg		< 35
Bentazone	DETSC 3447	35	ug/kg		< 35
Picloram	DETSC 3447	35	ug/kg		< 35
MCPA	DETSC 3447	35	ug/kg		< 35
Clopyralid	DETSC 3447	35	ug/kg		< 35
Dicamba	DETSC 3447	35	ug/kg		< 35
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35
Dichlorprop	DETSC 3447	35	ug/kg		< 35
Bromoxynil	DETSC 3447	35	ug/kg		< 35
Triclopyr	DETSC 3447	35	ug/kg		< 35
Fenoprop	DETSC 3447	35	ug/kg		< 35
MCPB	DETSC 3447*	35	ug/kg		< 35
2,4,5-T	DETSC 3447	35	ug/kg		< 35
Fluroxypyr	DETSC 3447	35	ug/kg		< 35
2,4-DB	DETSC 3447	35	ug/kg		< 35
Ioxynil	DETSC 3447	35	ug/kg		< 35
Benazolin	DETSC 3447	35	ug/kg		< 35
PCP	DETSC 3447*	35	ug/kg		< 35
OCPs					
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418780	2418781
			Sample ID ~	TP10	TP11
			Depth ~	0.30	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1
OPPs					
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1
Naled	DETSC 3433*	0.1	mg/kg		< 0.1
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418780	2418781
			Sample ID ~	TP10	TP11
			Depth ~	0.30	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418780	2418781
			Sample ID ~	TP10	TP11
			Depth ~	0.30	0.30
			Other ID ~		
			Sample Type ~	ES	ES
			Sampling Date ~	28/10/2024	28/10/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

				Lab No	2418782	2418783	2418784	2418785	2418786	2418787
				Sample ID ~	TP02	TP09	TP03	TP04A	TP08	TP10
				Depth ~	0.30	0.30	0.30	0.30	0.30	0.30
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	29/10/2024	30/09/2024	29/10/2024	30/09/2024	29/10/2024	28/10/2024
				Sampling Time ~	1600	1600	1600	1600	1600	n/s
Test	**Method**	**LOD**	**Units**							
Preparation										
BS EN 12457 10:1	DETSC 1009*					Y	Y	Y	Y	
BS EN 12457 10:1	DETSC 1009*			Y	Y					
Metals										
Arsenic, Dissolved	DETSC 2306	0.16	ug/l			1.1	1.0	0.74	0.66	
Boron, Dissolved	DETSC 2306*	12	ug/l			< 12	< 12	< 12	< 12	
Cadmium, Dissolved	DETSC 2306	0.03	ug/l			< 0.03	< 0.03	< 0.03	< 0.03	
Calcium, Dissolved	DETSC 2306	0.09	mg/l			0.92	1.2	2.0	4.8	
Chromium, Dissolved	DETSC 2306	0.25	ug/l			0.56	< 0.25	< 0.25	< 0.25	
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l			< 0.001	< 0.001	< 0.001	< 0.001	
Chromium, Hexavalent	DETSC 2203	0.007	mg/l			< 0.007	< 0.007	< 0.007	< 0.007	
Copper, Dissolved	DETSC 2306	0.4	ug/l			1.5	2.3	1.5	1.2	
Lead, Dissolved	DETSC 2306	0.09	ug/l			1.7	0.98	0.83	0.23	
Mercury, Dissolved	DETSC 2306	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Nickel, Dissolved	DETSC 2306	0.5	ug/l			< 0.5	< 0.5	< 0.5	< 0.5	
Selenium, Dissolved	DETSC 2306	0.25	ug/l			< 0.25	< 0.25	< 0.25	< 0.25	
Vanadium, Dissolved	DETSC 2306	0.6	ug/l			2.2	1.6	1.0	0.9	
Zinc, Dissolved	DETSC 2306	1.3	ug/l			2.6	1.6	13	4.6	
Inorganics										
pH	DETSC 2008		pH			7.5	7.3	7.2	7.0	
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l			0.2	< 0.1	0.2	< 0.1	
Cyanide, Free Low Level	DETSC 2131	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Cyanide, Complex Low Level	DETSC 2131	0.1	ug/l			0.2	< 0.1	0.2	< 0.1	
Dissolved Organic Carbon	DETSC 2085	2	mg/l			< 2.0	2.2	< 2.0	2.7	
Ammoniacal Nitrogen as NH4	DETSC 2207	0.0193	mg/l			< 0.02	< 0.02	< 0.02	< 0.02	
Ammoniacal Nitrogen as NH3	DETSC 2207	0.0183	mg/l			< 0.018	< 0.018	< 0.018	< 0.018	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l			< 0.015	< 0.015	< 0.015	< 0.015	
Nitrite as N	DETSC 2055	0.03	mg/l			0.05	0.06	0.05	0.07	
Nitrate as NO3	DETSC 2055	0.1	mg/l			0.83	1.3	1.0	1.2	
Nitrate as N	DETSC 2055	0.0226	mg/l			0.19	0.29	0.23	0.28	
Nitrite as NO2	DETSC 2055	0.1	mg/l			0.16	0.21	0.16	0.23	
Sulphate as SO4	DETSC 2055	0.1	mg/l			1.2	1.8	1.5	1.8	
Petroleum Hydrocarbons										
Aliphatic C5-C6	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Aliphatic C6-C8	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Aliphatic C8-C10	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Aliphatic C10-C12	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic C12-C16	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic C16-C21	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic C21-C35	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aliphatic C5-C35	DETSC 3072*	10	ug/l			< 10	< 10	< 10	< 10	
Aromatic C5-C7	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	

Summary of Chemical Analysis
Leachate Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

				Lab No	2418782	2418783	2418784	2418785	2418786	2418787
				Sample ID ~	TP02	TP09	TP03	TP04A	TP08	TP10
				Depth ~	0.30	0.30	0.30	0.30	0.30	0.30
				Other ID ~						
				Sample Type ~	ES	ES	ES	ES	ES	ES
				Sampling Date ~	29/10/2024	30/09/2024	29/10/2024	30/09/2024	29/10/2024	28/10/2024
				Sampling Time ~	1600	1600	1600	1600	1600	n/s
Test	**Method**	**LOD**	**Units**							
Aromatic C7-C8	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Aromatic C8-C10	DETSC 3322	0.1	ug/l			< 0.1	< 0.1	< 0.1	< 0.1	
Aromatic C10-C12	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic C12-C16	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic C16-C21	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic C21-C35	DETSC 3072*	1	ug/l			< 1.0	< 1.0	< 1.0	< 1.0	
Aromatic C5-C35	DETSC 3072*	10	ug/l			< 10	< 10	< 10	< 10	
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l			< 10	< 10	< 10	< 10	
PAHs										
Naphthalene	DETSC 3304	0.05	ug/l			< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Acenaphthene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Fluorene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Phenanthrene	DETSC 3304	0.01	ug/l			< 0.01	0.01	< 0.01	< 0.01	
Anthracene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Fluoranthene	DETSC 3304	0.01	ug/l			< 0.01	0.03	< 0.01	< 0.01	
Pyrene	DETSC 3304	0.01	ug/l			< 0.01	0.03	< 0.01	< 0.01	
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l			< 0.01	0.03	< 0.01	< 0.01	
Chrysene	DETSC 3304	0.01	ug/l			< 0.01	0.01	< 0.01	< 0.01	
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(a)pyrene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l			< 0.01	0.02	< 0.01	< 0.01	
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l			< 0.01	< 0.01	< 0.01	< 0.01	
PAH Total	DETSC 3304	0.2	ug/l			< 0.20	< 0.20	< 0.20	< 0.20	

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418784	2418785	2418786	2418787
	Sample ID ~	TP03	TP04A	TP08	TP10
	Depth ~	0.30	0.30	0.30	0.30
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	29/10/2024	30/09/2024	29/10/2024	28/10/2024
	Sampling Time ~	1600	1600	1600	n/s

Test	Method	LOD	Units				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

	Lab No	2418784	2418785	2418786	2418787
	Sample ID ~	TP03	TP04A	TP08	TP10
	Depth ~	0.30	0.30	0.30	0.30
	Other ID ~				
	Sample Type ~	ES	ES	ES	ES
	Sampling Date ~	29/10/2024	30/09/2024	29/10/2024	28/10/2024
	Sampling Time ~	1600	1600	1600	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
SVOCs							
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis
Leachate VOC/SVOC Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

			Lab No	2418784	2418785	2418786	2418787
			Sample ID ~	TP03	TP04A	TP08	TP10
			Depth ~	0.30	0.30	0.30	0.30
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	29/10/2024	30/09/2024	29/10/2024	28/10/2024
			Sampling Time ~	1600	1600	1600	n/s
Test	**Method**	**LOD**	**Units**				
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-23747
Client Ref PC238663
Contract Title Lionlink - Walberswick Landfall
Sample Id TP02 0.30
Sample Numbers 2418773 2418782
Date Analysed 19/11/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.4	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	1.1	0.01	0.5	2	25
DETSC 2306 Barium as Ba	8.2	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.7	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.67	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.41	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	7.6	0.08	4	50	200
DETSC 2055 Chloride as Cl	990	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	140	1.4	10	150	500
DETSC 2055 Sulphate as SO4	1600	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	13000	130	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2400	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.6
DETSC 2009 Conductivity uS/cm	19.2
* Temperature*	18.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.100
Stage 1	
Volume of Leachant L2*	0.991
Volume of Eluate VE1*	0.94

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 24-23747
Client Ref PC238663
Contract Title Lionlink - Walberswick Landfall
Sample Id TP09 0.30
Sample Numbers 2418779 2418783
Date Analysed 19/11/2024

Test Results On Waste

Determinand and Method Reference	Units	Result	WAC Limit Values Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC2003# Loss On Ignition	%		n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311* Mineral Oil (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC2008# pH	pH Units		n/a	>6	n/a
DETS073* Acid Neutralisation Capacity (pH4)	mol/kg		n/a	TBE	TBE
DETS073* Acid Neutralisation Capacity (pH7)	mol/kg		n/a	TBE	TBE

Test Results On Leachate

Determinand and Method Reference	Conc in Eluate ug/l 10:1	Amount Leached* mg/kg LS10	WAC Limit Values (Limit values for LS10 Leachate) Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.64	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4.5	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	1.2	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.25	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.2	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2	0.02	4	50	200
DETSC 2055 Chloride as Cl	730	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	140	1.4	10	150	500
DETSC 2055 Sulphate as SO4	1800	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	22000	220	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive Hazardous Waste

Additional Information

DETSC 2008 pH	7.4
DETSC 2009 Conductivity uS/cm	31.8
* Temperature*	18.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098
Stage 1	
Volume of Leachant L2*	0.97
Volume of Eluate VE1*	0.915

Disclaimer: *The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.*

V.2.06 ** DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.*

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-23747
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfall

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2418773	TP02 0.30	SOIL	NAD	none	Michael Kay
2418774	TP03 0.30	SOIL	NAD	none	Michael Kay
2418775	TP04A 0.30	SOIL	NAD	none	Michael Kay
2418776	TP04A 0.45	SOIL	NAD	none	Michael Kay
2418777	TP06 0.30	SOIL	NAD	none	Michael Kay
2418778	TP08 0.30	SOIL	NAD	none	Michael Kay
2418779	TP09 0.30	SOIL	NAD	none	Michael Kay
2418780	TP10 0.30	SOIL	NAD	none	Michael Kay
2418781	TP11 0.30	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-23747
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2418773	TP02 0.30 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418774	TP03 0.30 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418775	TP04A 0.30 SOIL	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), Organic Matter (Manual) (28 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2418776	TP04A 0.45 SOIL	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), Organic Matter (Manual) (28 days), PAH MS (14 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), VOC (7 days)	
2418777	TP06 0.30 SOIL	28/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418778	TP08 0.30 SOIL	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418779	TP09 0.30 SOIL	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Anions 2:1 (30 days), Aliphatics/Aromatics (14 days), BTEX / C5-C10 (14 days), Mercury (28 days), Kone Cr6 (30 days), Naphthalene (14 days), Organic Matter (Auto) (28 days), Organic Matter (Manual) (28 days), PAH FID (14 days), PAH MS (14 days), PCB (30 days), pH + Conductivity (7 days), Cyanide/Mono pHoh (14 days), EPH/TPH Cleanup (14 days), VOC (7 days)	
2418780	TP10 0.30 SOIL	28/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418781	TP11 0.30 SOIL	28/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418782	TP02 0.30 LEACHATE	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		
2418783	TP09 0.30 LEACHATE	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Conductivity (non reportable) (28 days), Conductivity uS/cm (28 days), Anions (28 days), pH/Cond (1 days), Phenol Index (30 days), Cyanide/Mono pHoh (14 days), Total Dissolved s (28 days), TOC AN (28 days)	
2418784	TP03 0.30 LEACHATE	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Information in Support of the Analytical Results

Our Ref 24-23747
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfall

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2418785	TP04A 0.30 LEACHATE	30/09/24	GJ 250ml, GJ 60ml x2, PT 1L	Aliphatics/Aromatics (4 days), BTEX / C5-C10 (14 days), Chromium, Hexavalent (4 days), Anions (28 days), Kone (4 days), pH/Cond (1 days), Naphthalene (14 days), Ammoniacal Nitrogen as NH4 (10 days), Ammoniacal Nitrogen as NH3 (10 days), Nitrite as NO2 (5 days), PAH MS (4 days), Cyanide/Mono pHoh (14 days), Cyanide/Mono PhOH Low Level (14 days), SVOC (7 days), TOC AN (28 days)	VOC
2418786	TP08 0.30 LEACHATE	29/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC
2418787	TP10 0.30 LEACHATE	28/10/24	GJ 250ml, GJ 60ml x2, PT 1L		VOC

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 14

Laboratory Test Results - Contamination Groundwater

APPENDIX 14

Certificate of Analysis

Certificate Number	25-02335	*Issued:*	06-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-02335
Client Reference ~	PC238663
Order No ~	OC42811
Contract Title ~	Lionlink - Walberswick Landfill
Description	3 Water samples.
Date Received	03-Feb-25
Date Started	03-Feb-25
Date Completed	06-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Adam Geddes
Laboratory Manager

2139

Normec Dets Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info-dets@normecgroup.com • normecdets.com/

Summary of Chemical Analysis
Water Samples

Our Ref 25-02335
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfill

	Lab No	2458517	2458518	2458519
	Sample ID ~	BH01	BH02	BH03
	Depth ~	10.88	10.30	10.00
	Other ID ~			
	Sample Type ~	EW	EW	EW
	Sampling Date ~	29/01/2025	29/01/2025	29/01/2025
	Sampling Time ~	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.38	0.37	0.34
Boron, Dissolved	DETSC 2306*	12	ug/l	91.3	149.0	187.0
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.12	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	42	43	110
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.0010	< 0.0010	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	< 0.4	0.8	1.5
Lead, Dissolved	DETSC 2306	0.09	ug/l	1.8	0.15	0.13
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	8.4	18	3.7
Zinc, Dissolved	DETSC 2306	1.3	ug/l	120	140	46
Inorganics						
pH	DETSC 2008		pH	7.5	7.0	7.2
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.1	0.1	0.2
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5	< 1.5	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	162	268	442
Sulphate as SO4	DETSC 2055	0.1	mg/l	49	73	110
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10	< 10
PAHs						
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01

Summary of Chemical Analysis
Water Samples

Our Ref 25-02335
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458517	2458518	2458519
			Sample ID ~	BH01	BH02	BH03
			Depth ~	10.88	10.30	10.00
			Other ID ~			
			Sample Type ~	EW	EW	EW
			Sampling Date ~	29/01/2025	29/01/2025	29/01/2025
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.03
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01	0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-02335
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458517	2458518	2458519
			Sample ID ~	BH01	BH02	BH03
			Depth ~	10.88	10.30	10.00
			Other ID ~			
			Sample Type ~	EW	EW	EW
			Sampling Date ~	29/01/2025	29/01/2025	29/01/2025
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
VOCs						
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-02335
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458517	2458518	2458519
			Sample ID ~	BH01	BH02	BH03
			Depth ~	10.88	10.30	10.00
			Other ID ~			
			Sample Type ~	EW	EW	EW
			Sampling Date ~	29/01/2025	29/01/2025	29/01/2025
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1
SVOCs						
Phenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-02335
Client Ref ~ PC238663
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458517	2458518	2458519
			Sample ID ~	BH01	BH02	BH03
			Depth ~	10.88	10.30	10.00
			Other ID ~			
			Sample Type ~	EW	EW	EW
			Sampling Date ~	29/01/2025	29/01/2025	29/01/2025
			Sampling Time ~	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	13	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 10.0	< 1.0	< 1.0

Information in Support of the Analytical Results

Our Ref 25-02335
Client Ref ~ PC238663
Contract ~ Lionlink - Walberswick Landfill

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2458517	BH01 10.88 WATER	29/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	
2458518	BH02 10.30 WATER	29/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	
2458519	BH03 10.00 WATER	29/01/25	GB 1L x2, GV x2, PB 1L	Aliphatics/Aromatics (4 days), Chromium, Hexavalent (4 days), Kone (4 days), pH/Cond (1 days), PAH MS (4 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number	25-02340	*Issued:*	06-Feb-25

Client Geotechnics LTD
203 Torrington Avenue
Tile Hill
Coventry
CV4 9AP

Our Reference	25-02340
Client Reference ~	248770
Order No ~	OC42829
Contract Title ~	Lionlink - Walberswick Landfill
Description	2 Groundwater samples.
Date Received	03-Feb-25
Date Started	03-Feb-25
Date Completed	06-Feb-25
Test Procedures	Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Adam Geddes
Laboratory Manager

2139

Normec Dets Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • email: info-dets@normecgroup.com • normecdets.com/

Summary of Chemical Analysis
Water Samples

Our Ref 25-02340
Client Ref ~ 248770
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458588	2458589
			Sample ID ~	BH05	BH04
			Depth ~	8.50	10.00
			Other ID ~		
			Sample Type ~	EW	EW
			Sampling Date ~	30/01/2025	30/01/2025
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	0.33	1.4
Boron, Dissolved	DETSC 2306*	12	ug/l	190.5	78.9
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.14
Calcium, Dissolved	DETSC 2306	0.09	mg/l	110	54
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.0010	< 0.0010
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.7	1.3
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01
Nickel, Dissolved	DETSC 2306	0.5	ug/l	7.5	16
Zinc, Dissolved	DETSC 2306	1.3	ug/l	120	89
Inorganics					
pH	DETSC 2008		pH	7.3	6.3
Cyanide, Total Low Level	DETSC 2131	0.1	ug/l	0.1	0.2
Phenol - Monohydric Low Level	DETSC 2131	1.5	ug/l	< 1.5	< 1.5
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	587	176
Sulphate as SO4	DETSC 2055	0.1	mg/l	180	67
Petroleum Hydrocarbons					
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aliphatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0
Aromatic C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
TPH Ali/Aro Total C5-C35	DETSC 3072*	10	ug/l	< 10	< 10
PAHs					
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	< 0.05
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluorene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Phenanthrene	DETSC 3304	0.01	ug/l	< 0.01	0.02

Summary of Chemical Analysis
Water Samples

Our Ref 25-02340
Client Ref ~ 248770
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458588	2458589
			Sample ID ~	BH05	BH04
			Depth ~	8.50	10.00
			Other ID ~		
			Sample Type ~	EW	EW
			Sampling Date ~	30/01/2025	30/01/2025
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	< 0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	< 0.20

Summary of Chemical Analysis
Water Samples

Our Ref 25-02340
Client Ref ~ 248770
Contract Title ~ Lionlink - Walberswick Landfill

Lab No	2458588	2458589
Sample ID ~	BH05	BH04
Depth ~	8.50	10.00
Other ID ~		
Sample Type ~	EW	EW
Sampling Date ~	30/01/2025	30/01/2025
Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1

Summary of Chemical Analysis
Water Samples

Our Ref 25-02340
Client Ref ~ 248770
Contract Title ~ Lionlink - Walberswick Landfill

			Lab No	2458588	2458589
			Sample ID ~	BH05	BH04
			Depth ~	8.50	10.00
			Other ID ~		
			Sample Type ~	EW	EW
			Sampling Date ~	30/01/2025	30/01/2025
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1
SVOCs					
Phenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Aniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Benzyl Alcohol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroisopropyl)ether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3&4-Methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-chloroethoxy)methane	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dimethylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,2,4-Trichlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chloro-3-methylphenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorocyclopentadiene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,6-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4,5-Trichlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Chloronaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,4-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
3-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitrophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dibenzofuran	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,6-Dinitrotoluene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Summary of Chemical Analysis
Water Samples

Our Ref 25-02340
Client Ref ~ 248770
Contract Title ~ Lionlink - Walberswick Landfill

Lab No	2458588	2458589
Sample ID ~	BH05	BH04
Depth ~	8.50	10.00
Other ID ~		
Sample Type ~	EW	EW
Sampling Date ~	30/01/2025	30/01/2025
Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
2,3,4,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Chlorophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Nitroaniline	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Diphenylamine	DETSC 3434*	1	ug/l	< 1.0	< 1.0
4-Bromophenylphenylether	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Hexachlorobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)ester	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Pentachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-butylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Butylbenzylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Bis(2-ethylhexyl)phthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Di-n-octylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,4-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Dimethylphthalate	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1,3-Dinitrobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
2,3,5,6-Tetrachlorophenol	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Azobenzene	DETSC 3434*	1	ug/l	< 1.0	< 1.0
Carbazole	DETSC 3434*	1	ug/l	< 1.0	< 1.0
1-Methylnaphthalene	DETSC 3434*	1	ug/l	< 1.0	< 1.0

Information in Support of the Analytical Results

Our Ref 25-02340
Client Ref ~ 248770
Contract ~ Lionlink - Walberswick Landfill

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2458588	BH05 8.50 GROUND WATER	30/01/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	
2458589	BH04 10.00 GROUND WATER	30/01/25	GB 1L x2, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

APPENDIX 15

Archaeological Report

APPENDIX 15

Cotswold Archaeology

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling



for:
Steven Chapman
(Geotechnics Ltd)

on behalf of:
National Grid Ventures

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

April 2025

Andover Cirencester Milton Keynes Suffolk

Lion Link Cable Route, Geotechnical Investigations; Sections A – F and Reydon and Walberswick Landfall Sites

Interim Results of a Programme of Archaeological Monitoring and Geoarchaeological Modelling

CA Project: SU0680
CA Report: SU0680_1
OASIS ID: cotswold2-527147

HER Refs.: UGG 043, WNF 082, HAM 048, REY 152, REY 206, WLB 148, WLB 149, BLB 177, WLN 147, MDD 052, THB 061, SXM 086, SNF 031, KND 047, FRS 092, WMH 091, TNG 052, BLY 025, STH 032, BRP 044

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A	April 2025	Michael Green and Holly Rogers	Stuart Boulter	Internal review	Copy Edit and Quality Control	Stuart Boulter

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Fig. 37 REY 206: TP101-TP114, BH101-BH107 with geophysical survey (1: 500 @ A3)

Fig. 38 REY 206: photographs

SUMMARY

Project name:	Lion Link Cable Route,
Location:	Sections A-F (Knodishall to Southwold and Walberswick)
NGR:	Centred on 642832 269245
Type:	Archaeological Monitoring
Date:	September to November 2024
OASIS ID:	Cotswold2-527147
Location of Archive:	To be deposited with SCCAS and the Archaeology Data Service (ADS)
Site Codes:	UGG043, WNF082, HAM048, REY152, REY206, WLB148, WLB149, BLB 177, WLN147, MDD052, THB061, SXM086, SNF031, KND047, FRS092, WMH091, TNG052, BLY025, STH032, BRP044

Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from their bore-hole logs.

Archaeological features were encountered in five of the test-pits, a post-hole in Westleton parish (TPC08), five ditches in Walberswick (TP04, TP05 and TP08) and a ditch in Middleton (TPB23). Artefactual evidence suggested a Roman date for the features in TP04 and TPB23 while the ditch in TP05 appeared to join with an extant field boundary. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting prehistoric, Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although another interpretation of this evidence is the process of nightsoiling. The geoarchaeological assessment identified a number of deposits which can be considered to have archaeological potential during future, more invasive works.

1. INTRODUCTION

1.1. Between September and November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geological deposit modelling on land designated as Sections A – F and the proposed Walberswick and Reydon Landfall Sites for the Lion Link Cable Route (NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West) (Fig. 1). The proposed route will pass through, or at least encroach upon seventeen Suffolk parishes (Sternfield, Knodishall, Friston, Saxmundham, Theberton, Middleton, Westleton, Blythburgh, Walberswick, Reydon, Wangford with Henham, Uggeshall, Wenhaston with Mels Hamlet, Thorington, Blyford, Sotherton and Brampton with Stoven).

1.2. This interim report collates and reports on the works completed in 2024 with, the remainder of the outstanding fieldwork projected to be completed in May 2025. The results will be integrated into this report.

1.3. While no formal Archaeological Brief has been prepared by Suffolk County Council Archaeological Service (SCCAS), in their role as Archaeological Advisors (AA) to the Local Planning Authority (LPA), they have provided archaeological advice for the project team and the geotechnical contractor (Geotechnics Ltd) were asked to include Archaeological Monitoring and Geological Deposit Modelling within their tender. Subsequently, CA were commissioned by Geotechnics Ltd to undertake these elements of the work.

1.4. This project has been treated with the same due process as those with a formal SCCAS archaeological Brief. The methodology for the Archaeological Monitoring and the Geological Deposit Modelling is detailed in a Written Scheme of Investigation (WSI) prepared by CA (Boulter and Rogers; CA 2024b) and submitted to SCCAS for scrutiny. Initially, Section E was excluded from this phase of works, but subsequently added with and updated WSI agreed with SCCAS. A third version of the WSI has since been prepared and agreed with SCCAS which accommodates various programme changes associated with the second phase of fieldwork in 2025.

1.5. Invasive works associated with this initial phase of work involved the excavation of 108 x *c*.0.6m wide by *c*.2.5m long trial-pits of the proposed 183 trial-pits that were excavated to depths of between 2.5m and 3.5m along with the monitoring of twelve of the fourteen bore-holes deemed by SCCAS to be located in archaeologically sensitive

areas. A total of forty-one of the proposed bore-holes were completed by the contractor and the bore-hole logs were provided to CA for use in the geological deposit modelling (paras. 5.79 – 5.89 and Appendix B).

1.6. The detailed methodology for the fieldwork was defined in the various versions of the WSI based on advice from SCCAS archaeologist Hannah Cutler acting as the AA for the project.

1.7. The works were also carried out in line with *Standard for archaeological monitoring and recording* (CIfA 2023a); *Universal guidance for archaeological monitoring and recording* (CIfA 2023b); the *EAA Standards for Field Archaeology in the East of England* (Gurney 2003); *Management of Research Projects in the Historic Environment (MoRPHE) PPN 3: Archaeological Excavation* (Historic England 2015a); *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015b); *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England, 2015c) and the *SCCAS Requirements for Archaeological Monitoring* (SCCAS 2024).

The site

1.8. The overall redline area of the cable route and its associated works covered *c*.53.6 square kilometres (Fig. 1).

1.9. Essentially, the bulk of the site is orientated north to south, running from the Saxmundham Convertor Station at the southern end, *c*.23km northwards to where two east to west orientated spurs (*c*.6.77km and *c*.8.15km long) project eastwards to the two proposed landfall sites at Walberswick and Reydon respectively.

1.10. The route traverses gently undulating agricultural land, crossing the Minsmere River, Dunwich River and Blythe River along with a number of other minor watercourses and varying from *c*.30m AOD down to sea level at the landfall sites, both located on low lying water meadows/marshy areas.

1.11. While there is some variation along the route regarding the superficial geology, The British Geological Survey defines the bedrock geology of the site as Crag Group – Sand, a sedimentary rock formed between 5.333 million and 11.8 thousand years ago during the Neogene and Quaternary periods (BGS 2025).

1.12. Superficial deposits are largely mapped as Lowestoft Formation – Diamicton, formed between 480 and 423 thousand years ago during the Quaternary period. Localised deposits of Head (consisting of clay, silt, sand and gravel formed between 2.588 million years ago and the present during the Quaternary period) and Alluvium (consisting of clay, silt, sand and gravel formed between 11.8 thousand years ago and the present during the Quaternary period) are also mapped across the Site. In addition, at the Reydon landfall site, there is potential for Tidal Flat Deposits - Clay and silt formed between 11.8 thousand years ago and the present during the Quaternary period and localised peat (BGS 2025). https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/

2. ARCHAEOLOGICAL BACKGROUND

2.1. Following discussions with SCCAS it was agreed that a formal HER search would not be required as part of this element of the project. Desk Based Assessment works have already been undertaken and interrogation of the county Historic Environment Record (HER) may be specified as part of any subsequent archaeological mitigation works (evaluation and excavation).

2.2. However, it should be noted that the cable route crosses a rich and diverse landscape where archaeological deposits of all periods are recorded on the HER and recent geophysical surveys of the route (Wessex Archaeology 2024 and 2025) indicate that significant deposits are present in some areas.

3. AIMS AND OBJECTIVES

3.1. The aims and objectives of the archaeological and geoarchaeological monitoring were:

- to maintain a continuous archaeological presence during the geotechnical investigations and identify any archaeological deposits or features thus revealed; **NB it was possible to avoid excavation of archaeological features in some trial-pits. These were re-located once archaeology was revealed after the initial removal of topsoil;**
- to undertake geoarchaeological monitoring of the geotechnical trial-pit and bore-hole locations in accordance with current best practice and guidelines with the aim of refining understanding of the presence, nature and distribution of Quaternary superficial deposits across the site

- to assess the archaeological and geoarchaeological potential of the deposits recorded across the site;
- to record any archaeological deposits, features, structures, or remains encountered within the bore-hole and trial-pit locations;
- to identify the presence of Quaternary sediment sequences across the Site;
- to establish the potential of the superficial deposits to preserve archaeological and/or palaeoenvironmental remains;
- to correlate available Ground Investigation data to develop a deposit model for the Site, including (where appropriate) representative transects, thickness plots and digital elevation models (DEMs);
- to establish the potential impact of the proposed works on deposits of archaeological and geoarchaeological potential;
- Following the completion of the fieldwork, to produce a report setting out the monitoring results and the geoarchaeological and archaeological conclusions that can be drawn from the recorded data. This will be used to Inform the scope of subsequent phases of geoarchaeological and archaeological work that may be required to mitigate the impact of the works on the archaeological resource;
- at the conclusion of the project, to compile a stable, ordered, accessible project archive (see Section 6).

4. METHODOLOGY

4.1. The 2024 phase of fieldwork involved the monitoring of 103 of the proposed 182 trial-pits and twelve of the proposed fourteen archaeologically sensitive bore-holes. A total of forty-one of the originally proposed ninety-two bore-holes were completed and the bore-hole logs have been provided to CA for use in the geological deposit model:

- 103 x 1m x 3m trial-pits
- 12 x 1m x 1m bore-holes
- 41 x bore-hole logs

4.2. The initial scope of invasive works prior to the various revisions comprised the following interventions;

- **Section A:** 3 bore-holes (not monitored) and 8 trial-pits
- **Section B:** 24 bore-holes (1 monitored) and 33 trial-pits

- **Section C:** 11 bore-holes (3 monitored) and 39 trial-pits
- **Section D:** 6 bore-holes (2 monitored) and 18 trial-pits
- **Section E:** 24 bore-holes (1 monitored) and 33 trial-pits
- **Section F:** 12 bore-holes (2 monitored) and 27 trial-pits
- **Reydon Landfall Site:** 7 bore-holes (not monitored) and 14 trial-pits
- **Walberswick Landfall Site:** 5 bore-holes (all monitored) and 13 trial-pits (2 re-located)

4.3. Prior to the more recent revisions, the proposed interventions at that juncture were as follows, located within the bounds of seventeen parishes;

- **Sternfield (SNF 031):** one bore-hole, BHA01; five trial-pits, TPA01 – TPA05
- **Knodishall (KND 047):** one bore-hole, BHA02; three trial-pits, TPA06 – TPA08
- **Friston (FRS 092):** one bore-hole, BHA03; no trial-pits
- **Saxmundham (SXM 086):** two bore-holes, BHB01 and BHB02; four trial-pits, TPB01 – TPB04
- **Theberton (THB 061):** fifteen bore-holes, BHB03 – BHB015; fifteen trial-pits, TPB05 – TPB19
- **Middleton (MDD 052):** eight bore-holes, BHB18 – BHB24 and BHC01; eighteen trial-pits, TPB20 – TPB33 and TPC01 – TPC04
- **Westleton (WLN 147):** six bore-holes, BHC02 – BHC07, thirteen trial-pits, TPC05 – TPC17
- **Blythburgh (BLB 177):** eight bore-holes, BHC08 – BHC11, BHD01 and BHD 02 and BHE01 and BHE02; thirty-two trial-pits, TPC 18 – TPC39, TPD01 – TPD09 and TPE01
- **Walberswick (WLB 148 and WLB 149):** nine bore-holes, BHD03 – BHD06 (WLB 148) and BH01 – BH05 (WLB 149); twenty two trial-pits, TPD10 – TPD18 (WLB 148) and TP01 – TP11 (WLB 149)
- **Reydon (REY 152 and REY 206):** seventeen bore-holes, BHF03 – BHF12 (REY 152) and BH101 – BH107 (REY 206); twenty-nine trial-pits, TPF13 – TPF27 (REY 152) and TP101 – TP114 (REY 206)
- **Wenhaston with Mels Hamlet (WMH 091):** three bore-holes BHE06 – BHE08; four trial-holes, TPE02 – TPE05
- **Thorington (TNG 052):** three bore-holes, BHE03 – BHE05

- **Blyford (BLY 025):** two bore-holes, BHE10 and BHE11, two trial-holes, TPE06 and TPE07
- **Sotherton (STH 032):** four bore-holes, BHE14 – BHE17, seven trial-holes, TPE17 – TPE23
- **Brampton with Stoven (BRP 044):** four bore-holes, BHE18 – BHE21, two trial-holes, TPE 24 and TPE25
- **Wangford with Henham (WNF 082):** ***WNF 082***: two bore-holes, BHF01 and BHF02, eight trial-pits, TPF5 – TPF12: ***HAM 048***: two bore-holes BHE12 and BHE13, eight trial-pits, TPE08 – TPE16
- **Uggeshall (UGG 043):** four bore-holes, BHE22 – BHE25; twelve trial-pits, TPF1 – TPF4 and TPE26 – TPE33

4.4. The trial-pits and bore-holes were located to test the geological substrate, install ground water pipes and to test soak away properties of the underlying geology. The locations were set out by the geotechnical contractor (Geotechnics Ltd), as per the WSI and SCCAS agreed plan. In the field, where a trial-pit or bore-hole was found to encroach on dense archaeological features or remains, it was moved and excavated in a new location as close as possible to the original position; these movements were agreed following discussion between Geotechnics Ltd and SCCAS.

4.5. The archaeological monitoring involved the continuous presence of a competent archaeologist during the geotechnical works with an emphasis on the trial-pits. The less archaeologically damaging bore-hole investigations, which were undertaken broadly at the same time, were generally subjected to less intensive scrutiny on site. The bore-hole logs were subsequently provided to the CA Geoarchaeological Manager (Holly Rogers) for the purpose of using the data, in conjunction with that recorded on site from the trial-pits, to construct a geological deposit model across the site.

4.6. However, fourteen of the bore-hole locations (BHB19, BHC02 – BHC04, BHD03, BHD04, BHE08, BHF05, BHF011 and BH01 – BH05) were highlighted by SCCAS as having significant archaeological potential and were to be subject to a more enhanced methodology and higher scrutiny (see section 4.8 below).

4.7. Initially, the trial-pits were subject to the removal of 0.3 - 0.5m of topsoil over a *c.*3m x *c.*3m square. Where this did not reveal the archaeological horizon, a small 1m x 3m trench was excavated within original square to the top of the archaeological horizon.

Once fully recorded the trial-pits were then excavated to their full depth of 2.5m for soakaways and 3m or 3.5m for the standard trial-pits.

4.8. The archaeologically sensitive bore-holes were hand or machine excavated to remove the superficial overburden layers (topsoil and subsoil) to either the natural substrate or archaeological horizon. After recording, these were backfilled with the bore-holes inserted to various depths, normally exceeding 10m.

4.9. Upcast spoil was examined visually for the presence of artefactual evidence and was also subject to metal-detector survey.

4.10. Where no archaeological features were found to be present, the geotechnical contractors were able to proceed with the full depth excavation of the test-pit into the naturally occurring superficial geology.

4.11. Archaeological features/deposits were investigated, planned and recorded in accordance with *CA Technical Manual 1: Fieldwork Recording Manual*.

4.12. Deposits were assessed for their palaeoenvironmental potential and samples were taken in accordance with *CA Technical Manual 2: The Taking and Processing of Environmental and Other Samples from Archaeological Sites*.

4.13. Artefacts were processed in accordance with *CA Technical Manual 3: Treatment of Finds Immediately after Excavation*.

Treasure

4.14. An Item (RA 12) was identified that is considered to be 'Treasure' as detailed in the Treasure Act 1996 and the Code of Practice referred to therein, the following guidelines were followed.

- Upon discovery of treasure, CA notified their client (and landowner if different) and SCCAS immediately once identification was confirmed. CA will comply fully with the provisions of the Treasure Act 1996 and the Code of Practice referred to therein. Findings were reported to the Coroner within fourteen days.

- Treasure objects were immediately moved to secure storage at CA and appropriate security measures were taken on site.

Geoarchaeological recording of deposits

4.15. Deposits revealed during the geotechnical works were recorded on a graphic log with a written description by the attending archaeologist and geotechnical contractor, to include information in accordance with Hodgson (1997) such as:

- Location (XY coordinates)
- Level of the top of the sample (m OD)
- Depth for top and bottom of each lithological unit
- Texture
- Composition
- Colour
- Inclusions (clast size-range, degree of angularity/roundness etc.)
- Structure (bedding, ped characteristics etc.)
- Contacts between deposits (sharp, gradual etc.)
- Sampling locations

4.16. Interpretations were made regarding the likely depositional environments and formation processes of the encountered deposits. The data was tabulated by bore-hole / trial-pit and depth.

4.17. CA will make arrangements with SCCAS for the deposition of the project archive and, subject to agreement with the legal landowner(s), the artefact collection. A digital archive will also be prepared and deposited with the Archaeology Data Service (ADS). The archives (physical and digital) will be prepared and deposited in accordance with *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (CIfA 2020) and Archaeological Archives in Suffolk, guidelines for preparation and deposition. (SCCAS 2023).

4.18. A summary of information from this project, as set out in Appendix E, will be entered onto the OASIS online database of archaeological projects in Britain.

5. RESULTS

5.1. This section provides an overview of the monitoring results of the works conducted in 2024. Detailed summaries of the recorded contexts are given in Appendix A, tabulated geoarchaeological data is presented in Appendix B, details of the artefact assemblage is given in Section 6 and Appendix C and the biological evidence provided in Section 7 and Appendix D.

5.2. The results are presented by parish site code from south to north encompassing trial-pits and bore-holes within each section of the linear project. Only bore-holes which were perceived by SCCAS to have a high archaeological potential were monitored and are described in detail below. For the remainder of the boreholes, the geological logs were provided to CA for the information to be included in the geological deposit modelling.

5.3. The works completed during this phase of works and the revised outstanding works are as follows;

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Knodishall (KND 047)	BHA02 ***(1)***	TPA06, TPA07, TPA08, TPA10, TPA13, TPA14, TPA15, TPA16 ***(8)***
Friston (FRS 092)	*BHA03* ***(1)***	TPA09 ***(1)***
Sternfield (SNF 031)	***(0)***	WSA01, WSA02, *TPA01, TPA02,* TPA03, TPA04, TPA05 ***(5)***
Saxmundham (SXM 086)	BHA01, BHB01, BHB02 ***(3)***	TPA11, TPA12, TPB01, TPB02, TPB03, TPB04 ***(4)***
Theberton (THB 061)	BHB03, BHB04, BHB05, BHB06, BHB07, BHB08, BHB09, BHB10, BHB11, BHB12, BHB13, *BHB14,* BHB15, BHB16, BHB17 ***(15)***	TPB05, TPB06, TPB07, TPB08, TPB09, TPB10, TPB11, TPB12, TPB13, TPB14, *TPB15,* TPB16, TPB17, TPB18, TPB19 ***(15)***
Middleton (MDD 052)	BHB18, *BHB19,* BHB20, BHB21, BHB22, BH B23, BHB24, BHC01 ***(8)***	TPB20, TPB21, TPB22, TPB23, TPB24, TPB25, TPB26, TPB27, *TPB28,* TPB29, TPB30, TPB31, TPB 32, TPB33, TPC01, TPC02, TPC03, TPC04 ***(18)***
Westleton (WLN 147)	*BHC02, BHC03, BHC04,* BHC05, BHC06, BHC07 ***(6)***	TPC05, TPC06, TPC07, TPC08, TPC09, TPC10, TPC11, TPC12, TPC13, TPC14, TPC15, TPC16, TPC17 ***(13)***
Blythburgh (BLB 177)	BHC08, BHC09, BHC10, BHC11, BHD01, BHD02, BHE01, BHE02 ***(8)***	TPC18, TPC19, TPC20, TPC21, TPC22, TPC23, TPC24, TPC25, TPC26, TPC27, TPC28, TPC29, TPC30, TPC31, TPC32, TPC33, TPC34, TPC35, TPC36, TPC37, TPC38, TPC39, TPD01, TPD02, TPD03, TPD04, TPD05, TPD06, TPD07, TPD08, TPD09, TPE01 ***(32)***
Thorington (TNG 052)	BHE03, BHE04, BHE05 ***(3)***	***(0)***
Walberswick (WLB 148)	*BHD03, BHD04,* BHD05, BHD06 ***(4)***	TPD10, TPD11, TPD12, TPD13, TPD14, TPD15, TPD16, TPD17, TPD18 ***(9)***

Parish	**Bore-hole No.s Completed 2024** *Required Archaeological Monitoring* *Currently Descoped*	**Test-pit and Window Sample No.s Completed 2024** *Currently descoped*
Walberswick (WLB 149)	*BH01, BH02, BH03, BH04, BH05* ***(5)***	TP01, TP02, TP03, TP04, TP05, TP06, TP07, TP08, TP09, TP10, TP11 ***(11)***
Wenhaston with mels hamlet (WMH 091)	*BHE06, BHE07, BHE08* ***(3)***	TPE02, TPE03, TPE04, TPE05 ***(4)***
Blyford (BLY 025)	BHE10, BHE11 ***(2)***	TPE06, TPE07 ***(2)***
Wangford with Henham (HAM 048)	*BHE12, BHE13* ***(2)***	TPE08, TPE09, TPE10, *TPE11, TPE12, TPE13, TPE14, TPE15, TPE16* ***(9)***
Wangford with Henham (WNF 082)	*BHF01, BHF02* ***(2)***	TPF5, TPF6, *TPF7, TPF8, TPF9,* TPF10, *TPF11, TPF12* ***(8)***
Sotherton STH 032	*BHE14, BHE15, BHE16, BHE17* ***(4)***	*TPE17, TPE18, TPE19, TPE20, TPE21, TPE22, TPE23* ***(7)***
Brampton with Stoven (BRP 044)	BHE18, BHE19, BHE20, BHE21 ***(4)***	TPE24, TPE25 ***(2)***
Uggeshall (UGG 043)	BHE22, *BHE23, BHE24, BHE25* ***(4)***	TPF01, TPF02, TPF03, TPF04, *TPE26, TPE27, TPE28, TPE29, TPE30, TPE31,* TPE32, TPE33 ***(12)***
Reydon (REY 152)	*BHF03, BHF04, BHF05, BHF06, BHF07, BHF08, BHF09, BHF10, BHF11, BHF12* ***(10)***	*TPF13, TPF14, TPF15, TPF16,* TPF17, *TPF18,* TPF19, *TPF20,* TPF21, TPF22, TPF23, TPF24, TPF25, TPF26, TPF27 ***(15)***
Reydon (REY 206)	*BH101, BH102, BH103, BH104, BH105,* BH106, BH107 ***(7)***	TP101, *TP102, TP103, TP104, TP105, TP106, TP107,* TP108, *TP109, TP110, TP111, TP112, TP113,* TP114 ***(14)***

KND 047 (Knodishall), FRS 092 (Friston), SNF 031 (Sternfield)

5.4. No works undertaken in this phase.

SXM 086 Saxmundham (Figs. 2, 5 and 6)

5.5. Four trial-pits of the six proposed for this parish, TPB01 - TPB04, located in two separate but adjacent fields, were excavated. Three bore-holes, BHA01 - BHA 03, were also excavated, but did not require archaeological monitoring.

5.6. The topsoil and subsoil deposits within the two fields were similar in character with topsoil comprising mid-dark red grey compact silty clay with frequent small to mid-sized flint inclusions and frequent chalk flecks varying between 0.15m - 0.3m in

thickness. Subsoil deposits were 0.1m - 0.3m in thickness, consisting of mid-brown firm clay with frequent chalk flecks.

5.7. No archaeological finds or features were recorded in any of the trial-pits excavated within this parish.

THB 061 Theberton (Figs. 2, 7 and 8)

5.8. Twelve of the fifteen proposed trial-pits for this parish were excavated, TPB05 - TPB14, TPB16 and TPB18 along with twelve bore-holes; none of the latter required archaeological monitoring. The interventions were distributed between eleven separate fields.

5.9. The topsoil varied in depth between 0.2m - 0.5m; the topsoil in TPB05 - TPB14 was similar in character, comprising firm mid-brown silty clay with occasional small flint inclusions and chalk flecks. In TPB16 and TPB18 the topsoil consisted of dark brown grey silty clay with occasional small to mid-sized flint inclusions. No finds were recovered from any of the topsoil deposits.

5.10. Subsoil was present in TPB07 (0023), TPB12 - TPB14 (0053, 0048, 0043), TPB16 (0061) and TPB18 (0074). In TPB07 - TPB14 the subsoil layer measured between 0.1m - 0.4m in thickness, comprising mid to dark olive brown firm sandy to silty clay with occasional small stones. The subsoil in TPB16 and TPB18 measured 0.15m - 0.2m in thickness and consisted of dark brown to grey firm clay with occasional chalk flecks and small flint inclusions. No finds were recovered from any of the subsoil deposits.

5.11. The geological subsoil comprised firm orange/brown clay or sandy clay apart from TPB09 which encountered a cover sand deposit.

MDD 052 Middleton (Figs. 2, 3, 9 and 10)

5.12. Seventeen trial-pits TPB20 - TPB27, TPB29 - TPB33 and TPC01 - TPC04 of the eighteen proposed for this parish and one bore-hole (BHB19) of the eight excavated, BHB03 – BHB17, were monitored. The trial-pits and bore holes were excavated across nine different fields with varying surface deposits; a ditch previously recorded on the geophysical survey was encountered in TPB23 which produced finds suggesting a Roman date for the feature (see below).

5.13. Bore-hole BHB19 was the most southerly excavated within this parish. The hand dug pit revealed 0.5m thickness of topsoil directly above the natural clay substrate. No features or finds were recorded.

5.14. TPB20 - TPB26 were excavated within two fields either side of Wash Lane on a moderate slope increasing in elevation in a north-westerly direction from TPB20 - TPB26. The topsoil deposits within these pits measured 0.2m - 0.4m in thickness, comprising dark grey-brown firm sandy silt and sandy clay with occasional small stones and chalk flecks. Below the topsoil a colluvial/subsoil deposit was present which varied in thickness between 0.6m -1.1m within pits TPB20 - TPB24, contexts 0109, 0113, 0117, 0148 and 0126 and consisted of mid-yellow brown firm sand with occasional small stones and chalk flecks.

5.15. TPB23 was excavated on the location of a linear feature previously recorded in the geophysical survey (Fig. 9). Removal of colluvial layer 140 revealed this feature, here numbered 150 and recorded as a ditch, although its actual dimensions could not be ascertained at this juncture due to the central location of the trial-pit, although it was seen to be 0.7m in depth. The single fill, 149, comprised dark brown firm sandy silt fill with occasional small stones and chalk flecks. Finds recovered from the fill included thirty-two sherds (173g) of Roman, late 2nd century or later pottery, eight pieces of Ceramic Building Material (CBM) (319g) an a residual worked flint flake.

5.16. The sequence encountered in TPB25 and TPB26 were markedly different from TPB20 - TPB24. TPB25 was excavated within a visible natural hollow where 1.7m of mixed topsoil had accumulated above the underlying geological substrate comprising yellow sand. TPB26 was excavated at the top of the slope where the subsoil/colluvial layer was not present.

5.17. Trial-pits TPB27 - TPB33 and TPC01 - TPC03 were excavated across five separate fields, all exhibiting a similar 0.3m – 0.45m thick topsoil comprising dark to mid-grey/brown sandy silt or clayey silt with occasional to frequent small stones. For the majority of these trial-pits, the natural geological substrate was revealed immediately below topsoil. However, in TPB27 a 0.2m thick layer of mid-brown firm silty clay subsoil, 0066, was recorded and in TPB30 a 0.7m of dark yellow/brown soft sandy silt colluvium, 0135, was found to be present overlying the geological substrate. No finds were recovered from the topsoil or subsoil/colluvial deposits.

5.18. TPC04 was the only trial-pit excavated in one of the fields where a 0.1m thick layer of topsoil, 165, comprising mid-brown loose sandy silt which measured 0.1m in thickness was recorded overlying a 0.3m thick layer of mid-yellow brown soft sandy silt subsoil, 166. A single sherd of Roman pottery (2g) and two worked flint flakes were recovered from the subsoil.

WLN 147 Westleton (Figs. 3 and 11-13)

5.19. All thirteen of the trial-pits proposed for this parish, TPC05 - TPC17, were excavated over ten separate fields. Four of the proposed six bore-holes were excavated, three of which, BHC02 – BHC04 required archaeological monitoring. These were located south of TPC05 within three additional fields. A possible post-hole was recorded in TPC08 with a stake-hole tentatively identified in BHC02.

5.20. Topsoil deposits differed in character within the various trial-pits and bore-holes. In TPC05 - TPC08 a 0.1m – 0.4m thick layer of firm mid-brown clayey silt with moderate stones and occasional chalk lumps. In TPC09-TPC17, the 0.2m - 0.5m thick topsoil comprised dark brown to dark grey/brown firm clayey silt topsoil with occasional small stones and chalk lumps. For BHC02 - BHC04, the topsoil was recorded as 0.3m - 0.35m of mid-brown soft sandy silt with no inclusions. No finds were recovered from the topsoil deposits.

5.21. Subsoil was present within TPC05, TPC06, TPC13, BHC02 and BHC04; 0170, 0176, 0206, 0218 and 0215 respectively, and differed in character between the excavated areas. In TPC05 and TPC06 the subsoil layer was 0.25m - 0.4m thick, comprising dark yellow/brown firm silty clay with occasional small stones measuring while in TPC13, a 0.3m thick layer of light olive brown firm clay subsoil with occasional chalk flecks was encountered. BHC02 and BHC04 revealed a 0.25m - 0.3m of soft mid brown sandy silt subsoil with no inclusions. No finds were recovered from these deposits.

5.22. TPC05-TPC16 revealed a firm olive brown clay natural substrate while TPC17 and BHC02-BHC04 contained a soft to moderately compact yellow sand; gravel was present within the sand in TPC17 only.

5.23. In TPC08, a possible post-hole, 181, was recorded immediately below topsoil 179 cutting into the underlying geological substrate (Fig. 12). It was sub-circular in plan, measuring 0.25m long, 0.19m wide and 0.1m in depth with steep concave sides and

a concave base and a single fill, 180, comprising dark grey to black firm clay with no inclusions. No finds were recovered.

5.24. In the hand excavated area around bore-hole BHC02, a possible stake-hole, 230, was recorded below subsoil 215 (Fig. 13). It was circular, measuring 0.13m in diameter, 0.07m in depth with steep sides and a V-shaped profile and a single fill, 231, comprising mid to light brown soft silty sand with no inclusions. No finds were recovered.

BLB 177 Blythburgh (Figs. 3, 4 and 15-17)

5.25. Eleven out of the thirty-two trial-pits proposed for this parish were excavated, TPC19 - TPC20, TPD02 - TPD09 and TPE01 over seven separate fields with a considerable distance between TPC19 and TPE01. Four of the proposed eight bore-holes were excavated, BHC08, BHD02, BHE01 and BHE02, none of which required archaeological monitoring.

5.26. Topsoil deposits differed in character within the various trial-pits. In TPC19 and TPC20, a 0.5m – 0.55m thick layer of soft dark grey/brown sandy silt with occasional stones was recorded while in TPD02 - TPE01 a 0.35m - 0.7m thick layer of dark olive brown soft clayey sandy silt with stones becoming more frequent from TPD07 - TPE01. No finds were recovered from these deposits.

5.27. The topsoil in TPC19 was recorded directly above a possible 0.8m thick colluvial layer comprising dark yellow/brown loose sand with occasional stones. No finds were recovered from this deposit.

5.28. In trial-pits TPD03, TPD05 and TPD06 a 0.2m thick layer of subsoil was recorded comprising dark yellow/brown soft silty sand with occasional small stones and clay pockets. No finds were recovered from these deposits.

5.29. The geological substrate in TPC19 and TPE01 consisted of light yellow sand and gravel in the remaining trial-pits it comprised light yellow/brown firm clay with a mix of sand and clay also present in TPD08 and TPD09.

TNG 052 Thorington (Figs. 3 and 4)

5.30. Only three bore-holes BHE03 - BHE05 were proposed for this parish, none of which required archaeological monitoring and were not excavated during this tranche of works.

WLB 148 Walberswick (Figs. 3, 4, 18 and 19)

5.31. All nine of the proposed trial-pits form this parish, TPD10 - TPD18, were excavated along with all four proposed boreholes, two of which, BHD03 and BHD04, required archaeological monitoring. The trial-pits and bore-holes were excavated over five separate fields.

5.32. Within TPD10 - TPD13 and BHD03 and BHD04, the two most westerly fields, both topsoil and subsoil deposits were found to be similar in character. The topsoil measured 0.4m – 0.6m in thickness comprising dark brown loose silty sand with occasional small stones while the subsoil deposits in TPD10 - TPD12, contexts 0442, 0426 and 0430, were 0.1m - 0.2m in thick, consisting of dark yellow-brown loose fine sand with occasional stones. Subsoil was absent in TPD13, BHD03 and BHD04 with the 0.4-0.6m of topsoil directly overlying the geological substrate.

5.33. TPD14 was excavated in one of the more easterly fields where the surface deposits were seen to be different. Here, the topsoil, 0082, comprised a 0.5m thickness of very dark brown/grey loose silty sand with an underlying 0.2m thick subsoil deposit of very fine orange/brown silty sand.

5.34. TPD15 - TPD18 were excavated within the two easternmost fields and revealed similar topsoil and subsoil deposits. Topsoil varied in thickness between 0.3m - 0.45m, comprising mid-brown loose sandy silt with moderate small to medium-sized stones while the subsoil layer varied in thickness between 0.1m - 0.4m and consisted of either mid to dark red brown, TPD15 context 0079, or mid to light yellow brown, TPD16 - TPD18, contexts 0088, 0093 and 0098 respectively, mixed sandy silt with frequent to occasional small stones.

5.35. With the exception of a highly worn, broken fragment of a James I Royal Farthing (RA 1), recovered from topsoil 097 in TPD18, no archaeological finds or features were recorded the trial-pits or bore-holes within this parish.

WLB 149 Walberswick landfall area (Figs. 3, 4 and 20-24)

5.36. The potential landfall site was confined to a single field and all eleven of the proposed trial-pits, TP01 - TP04/TP04A, TP05/TP05A, TP06 - TP11 and five proposed bore-holes, BH01 - BH05, were excavated. Trial-pits TP04 and TP05 were moved due to archaeological features being present in the initial excavation and renumbered as TP04A and TP05A. Possible features/ layers were also seen in TP08 and BH03 which were not subsequently re-located.

5.37. The topsoil varied in thickness from between 0.35m to 0.5m, comprising mid-brown soft silty sand with occasional small stones. Moderate amounts of CBM and modern material were recorded, but not retained along with a significant number of Registered Artefact (RA's) which are detailed in Section 6. In summary, these included seventeen separate items (RA's 1 – 9 and 11 – 19), eight coins, five jettons, a ring, a spoon, a cloth seal and a watch winder, with dates ranging from the medieval to modern period (see Section 6 for detail).

5.38. The subsoil varied in thickness from between 0.1m to 0.4m, comprising mid-orange brown soft silty sand with occasional small stones. BH03 and TP11 did not contain any subsoil. Finds recovered from the subsoil included two sherds (25g) of 14th – 15th century pottery from TP03, context 378 along with a sherd (1g) of Roman pottery from, three sherds (6g) of medieval pottery and two pieces of CBM (68g) from TP09, context 394.

5.39. When TP04 was initially excavated to a depth of 0.5m where the archaeological horizon was exposed, three ditches, 385, 387 and 389, were seen crossing the trench, all sealed by the subsoil deposits with unclear stratigraphic relationships between the individual features. These features were recorded with the surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP04A.

5.40. Ditch 0383 was located at the east end of TP04 and was only partially exposed. It was north to south orientated and measured in excess of 1m wide with a fill, 0384, comprising mid-orange/brown loose sandy silt with no visible inclusions. One sherd (4g) of Roman pottery was recovered from the surface.

5.41. Ditch 0385 was located at the southern edge of the trial-pit and was only partially exposed. It was orientated east to west and measured in excess of 0.8m wide with a fill, 0386, comprising mid-orange/brown loose sandy silt with no visible inclusions. No finds were recovered.

5.42. Ditch 0387 was located at the northern edge of the trial-pit and was only partially exposed. It was orientated east to west and in excess of 0.5m wide with a fill, 0388, comprising mid-orange/brown loose sandy silt with no visible inclusions. One piece of CBM (423g) was recovered that is likely be of medieval or post-medieval date.

5.43. When TP05 was initially excavated to a depth of 0.65m where the archaeological horizon was encountered, a large ditch, 0322, was seen to be present where it was sealed by the subsoil (Fig. 21). The ditch was recorded, surface finds collected, but remained unexcavated and the trial-pit was moved to avoid further disturbance where it was excavated as TP05A. This feature possibly equates to a ditch seen on the geophysical survey that joins with an extant field boundary at the north-western edge of the field.

5.44. Ditch 0322 was located at the northern edge of the trial-pit and was only partially exposed. It was east to west orientated and measured in excess of 2m wide with a fill, 0323, comprising mid-brown loose sandy silt with occasional stones. The finds collected from the ditch surface included twenty sherds (340g) of Roman pottery along with three fragments (58g) of Roman CBM. In addition,

5.45. TP08 was excavated to a depth of 0.8m where the archaeological horizon was encountered. A possible ditch or deepening of subsoil, 0373, was visible and was manually excavated as part of the current works.

5.46. Ditch 0373 was located on the eastern edge of the trial-pit and was only partially exposed. Within the trial-pit it was orientated north to south, measured 3m long, 1.5m wide, 0.3m in depth with a single fill, 0374, comprising mid-orange/brown loose sandy silt with occasional stones. No finds were recovered.

5.47. During the manual excavation of a 1m x 1m square box around BH03, a possible feature, 0312, or deeper subsoil deposit was encountered. The box was excavated to a depth of 0.8m where the geological substrate was encountered.

5.48. Possible feature 0312 was recorded throughout the excavated box with no edges visible. The feature/deposit was 0.45m in thickness with a single fill, 0313, comprising mid-orange/brown loose sandy silt similar in character to subsoil seen elsewhere in the vicinity. No finds were recovered.

WMH 091 Wenhaston with Mels Hamlet (Figs. 3, 4, 25, 26)

5.49. All four of the proposed trial-pits for this parish, TPE02 - TPE05, were excavated along with one of the three bore-holes, BHE08, which required archaeological monitoring *(NB CA were not informed when this was being done and it was not monitored)*. The trial-pits were located across three separate fields.

5.50. Topsoil deposits were consistent within the four trial-pits, varying in thickness between 0.4m - 0.7m, comprising dark olive to dark grey/brown soft fine sandy silt with frequent gravel-sized stones. No finds were recovered from the topsoil.

5.51. Subsoil was present in TPE04 (0481) and TPE05 (0443), measuring between 0.2m - 0.25m in thickness, comprising dark yellow/brown fine sand with occasional small stones. No finds were recovered.

BLY 025 Blyford (Figs. 4, 27 and 28)

5.52. The two proposed trial-pits for this parish, TPE06 and TPE07, were excavated, both in the same field. In addition, the two proposed bore-holes, BHE10 and BHE11, were excavated, neither of which required archaeological monitoring.

5.53. The overburden recorded within the trial-pits differed due to the varying topographical aspect. Trial-pit TPE06 was located at the base of the slope where a 0.5m thick layer of topsoil, 0463, was recorded comprising mid-olive brown soft sandy silt with occasional small stones overlying a 0.2m thick subsoil layer, 0464, consisting of light olive brown soft sandy silt with occasional small stones which, in turn, overlay the geological substrate of light yellow medium course sand with small stones.

5.54. TPE07 was located at the top of the slope with only a 0.4m thickness of similar topsoil (0467), although slightly more clayey, recorded directly above the geological substrate, here a soft light olive brown sandy clay, 0468.

5.55. No archaeological finds or features were recorded.

HAM 048 Wangford with Henham (Figs. 4 and 29)

5.56. Only three, TPE08 – TPE10, of the nine trial-pits proposed for this parish were excavated over three separate fields. The two proposed bore-holes were not excavated at this juncture.

5.57. Topsoil deposits were consistent within the three trial-pits, measuring 0.4m in thickness, comprising soft mid-brown silty clay with occasional stones. No Subsoil was recorded and no finds were recovered from the topsoil.

5.58. Removal of the topsoil revealed a yellow firm chalk flecked clay geological substrate in all three trial-pits.

WNF 082 Wangford with Henham (Figs. 4, 33 and 34)

5.59. Only three, TPF05, TPF06 and TPF10, of the proposed eight trial-pits for this parish were excavated across two separate fields. The two proposed bore-holes were not excavated at this juncture.

5.60. Topsoil deposits were consistent within the trial-pits, measuring between 0.35m - 0.45m in thickness, comprising soft mid-brown clayey silt with frequent stones and occasional chalk flecks and lumps. No finds were recovered.

5.61. Subsoil 0417 was present in TPF10 only, measuring 0.4m in thickness and consisting of light red brown firm clay with occasional small stones. No finds were recovered.

STH 032 Sotherton

5.62. No works undertaken in this phase.

BRP 044 Brampton with Stoven (Figs. 4, 30 and 31)

5.63. Both of the two proposed trial-pits for this parish, TPE24 and TPE25, were excavated within two fields flanking the A145 road with the topographical elevation increasing to the west. Four bore-holes were excavated, BHE18 – BHE21, none of which required archaeological monitoring.

5.64. The topsoil deposits TPE24 and TPE25, 0490 and 0494, respectively, were similar in character despite being within two different fields. The layer varied in depth between 0.3m - 0.4m in thickness, comprising mid-olive brown silty clay with frequent small stones.

5.65. Subsoil was only present in TPE024, 0495, comprising a 0.5m thickness of dark yellow/brown firm sandy clay with occasional stones.

5.66. No archaeological finds or features were recorded.

UGG 043 Uggeshall (Figs. 4 and 32)

5.67. Six out of the proposed twelve trial-pits for this parish were excavated, TPF01 - TPF04, TPE32 and TPE33 over four separate fields. Only one, BHE22, of the four proposed bore-holes was excavated, but did not require archaeological monitoring.

5.68. The landscape in this area was generally undulating and the deposits reflected this with variations in topsoil depths and thicknesses of subsoil/colluvial layers.

5.69. Topsoil deposits were consistent within TPF01 - TPF04, measuring 0.2m - 0.3m in thickness, comprising loose mid-brown sandy silt, becoming more clayey within TPF03 and TPF04, with frequent stones. The topsoil in TPE32 and TPE33 varied in thickness with 0.7m in TPE32, 0.4m in TPE33, both comprising dark grey/brown loose sandy silt with occasional stones. No finds were recovered.

5.70. Possible subsoil/colluvium was recorded in TPF02 - TPF04, 0238, 0248 and 0253 respectively, varying between 0.2m - 0.9m in thickness, comprising loose olive brown sand or clayey silt with occasional small stones. These deposits were recorded directly overlying the fine sand or clay geological substrate. No finds were recovered.

5.71. In trial-pit TPE32, a layer of colluvium, 0477, 0.9m in thickness, comprising dark yellow brown soft sandy clay with occasional small stones and chalk flecks was recorded while in TPE33, colluvial layers 0472 and 0473, with a combined thickness of 0.7m, were seen to consist of dark to mid yellow brown soft sandy clay with occasional stones. It is possible that these deposits represent silting within a localised dry valley. No finds were recovered.

REY 152 Reydon (Figs. 4, 35 and 36)

5.72. Seven out of the fifteen trial-pits proposed for this parish were excavated, TPF17, TPF19 and TPF21 - TPF25 over seven separate fields. Of the ten bore-holes proposed for this parish, only two, BHF05 and BHF11 were excavated during this tranche of works, both requiring archaeological monitoring *(NB CA were not informed when this was being done and they were not monitored).*

5.73. The geological substrate varied across this area and differences in the topsoil and subsoil appeared to reflect these variations. In TPF17, TPF19 and TPF21 a sandy clay geological substrate was recorded while in TPF22 - TPF25 mixed sand and gravel was encountered.

5.74. Topsoil deposits were consistent within TPF17, TPF19 and TPF20 - TPF23, measuring 0.4m - 0.7m in thickness, comprising soft dark grey/brown sandy silt with moderate to frequent stones. In TPF24 and TPF25, the topsoil varied between 0.4m -0.45m in thickness, consisting of dark grey/black loose sandy silt with occasional small stones. A worked flint flake was recovered from topsoil 0335 in TPF17.

5.75. Subsoil was recorded within TPF17, TPF19, TPF21, TPF23 and TPF25, 0336, 0339, 0290, 0298 and 0306 respectively, all measuring between 0.2m - 0.3m in thickness.

In trial-pits TPF17, TPF19 and TPF21 it comprised mid-yellow brown soft to moderately compact silty clay or sandy clay with frequent small stones while in TPF23 a very mixed mid-brown to mid-yellow/brown and grey/brown silty sand and sandy clay with frequent gravel inclusions was recorded. In TPF25, the subsoil comprised dark brown loose sand with occasional stones. No finds were recovered from any of the subsoil deposits.

REY 206 Reydon landfall site (Figs. 4, 37 and 38)

5.76. Three out of the fourteen trial-pits proposed for this parish were excavated, TP101, TPF108 and TP114 along with two of the proposed bore-holes, BH106 and BH107, neither of which required archaeological monitoring. The trial-pits were all located within one field which had a number of extant segmented drainage ditches.

5.77. The juxtaposition of the landfall site to the coastline has resulted in the presence of varying superficial geological deposits including sand wash, sand dunes and fluvial sediments. Only the topsoil is described below as the underlying deposits are presented in more detail in the geological deposit model.

5.78. Topsoil deposits were consistent in TP101, TP108 and TP114, measuring between 0.1m - 0.2m in thickness, comprising soft light yellow/brown sand with frequent small stones. No finds were recovered.

Geological deposit modelling

Introduction

5.79. An interim geoarchaeological assessment has been carried out for the trial-pits and bore-holes that formed the first tranche of geotechnical investigation of the site.

5.80. In total, 109 of the 183 originally proposed trial-pits along the route have been monitored to a maximum depth of 3m below ground level (bgl). Each test-pit was excavated and monitored to the following dimensions: 3m long x 0.5m wide x 3m deep.

5.81. A total of 53 of the 92 originally proposed boreholes along the route have also been monitored to a maximum depth of 35m bgl (WLB 049, BH03). Inspection pits for each bore-hole were monitored to a maximum depth of 0.8m bgl (WLB 049, BH03) prior to drilling.

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5.82. Within the boreholes, bedrock was encountered at an average depth of 3.77m bgl, ranging between 0.90m bgl (WMH 091, BHE08) and 9.6m bgl (THB 061, BHB12).

Methodology

5.83. Following an interim review of the Ground Investigation (GI) data logs against the localised bedrock geology and superficial geology mapped by the British Geological Survey, the sediments encountered within each intervention have been assigned a geoarchaeological potential rating as outlined in the table below.

Geoarchaeological potential rating

Deposit type	Geoarchaeological potential
Topsoil	Low
Subsoil	Low
Alluvium	Moderate
Organic alluvium	High
Peat	High
Archaeological deposits	High
Colluvium	Low
Head	Low
Lowestoft Formation	Low
Bedrock	Low

5.84. The stratigraphical units present across the Site which have potential to contain and/or seal archaeological remains and deposits of geoarchaeological significance (i.e. sediments containing paleoenvironmental indicators such as pollen, plant macrofossils etc) are alluvial deposits, organic rich alluvial deposits and sediments containing archaeological remains.

5.85. Alluvial deposits represent low-energy fluvial sediments (i.e. mostly clays and silts with some coarser-grained sands and gravels) associated with local river systems and in-filling former palaeochannels or topographic lows incised into the underlying bedrock topography.

5.86. Although alluvium has the potential to contain and seal waterlogged archaeology, the deposits themselves typically have a low geoarchaeological potential. Archaeological and palaeoenvironmental remains – if present - are likely to be preserved within the alluvium, but these will invariably have been fluvially transported from within the catchment and therefore representative of a potentially large and uncertain source area. Alluvium, therefore, can be considered to have a ‘moderate’ geoarchaeological potential.

5.87. Organic alluvium and/or peat deposits have the potential to contain a wide range of palaeoenvironmental remains (e.g. pollen and plant macrofossils) and waterlogged archaeological remains informing on past physical vegetation and environmental change and the impact of humans on the landscape. Organic alluvium and/or peat deposits can therefore be considered to have a 'high' geoarchaeological potential.

5.88. Deposits containing archaeological remains can also be considered to have a 'high' geoarchaeological potential; containing archaeological evidence for human settlement and interaction within the landscape.

Results of the interim geoarchaeological assessment

5.89. Having reviewed the initial GI logs, a geoarchaeological interim assessment has been carried out for the initial tranche of interventions. The interventions with potential are tabulated in Appendix B and have been summarised by parish code below:

Theberton (THB 061)

BHB03a – **High potential** - Organic material encountered at 3.00m – 3.45m bgl.

BHB06 – **High potential** - Organic material encountered between 0.80m - 2.00m bgl.

TPB07 – **Moderate potential** - Alluvium encountered between 0.40m – 0.65m bgl.

Middleton (MDD 052)

BHC01 – **Moderate potential** – Alluvium encountered between 0.80m - 2.00m bgl.

TPB23 – **High potential** - Archaeological ditch feature encountered between 1.00m - 1.70m bgl.

TPB30 – **Moderate potential** - Alluvium encountered between1.50m-3.00m bgl.

Westleton (WLN 147)

TPC08 – **High potential** - Archaeological feature encountered between 0.35m - 0.45m bgl.

TPC15 – **Moderate potential** – Alluvium encountered between 0.35m – 1.70m bgl.

Blythburgh (BLB 177)

BHE01 – **Moderate potential** - Alluvium encountered between 3.00m – 6.50m bgl.

BHE02 – **Moderate Potential** - Alluvium encountered between 0.40m – 5.90m bgl.

TPC19 – **Moderate Potential -** Alluvium encountered between 1.35m – 1.60m bgl.

TPD08 – **Moderate Potential -** Alluvium encountered between 0.35m – 1.10m bgl.

Walberswick (WLB 148)

TPD14 – **Moderate Potential -** Alluvium encountered between 1.80m – 2.90m bgl.

TPD16 – **High potential** – Alluvium encountered between 1.70m – 3.00m bgl containing fossilised wood and iron panning within alluvium substrate.

TPD17 – **Moderate potential** - Alluvium encountered between 1.50m – 2.20m bgl.

TPC18 – **Moderate potential** – Alluvium encountered between 1.40m – 2.30m bgl.

Walberswick (WLB 149)

TP08 – **High potential** – Archaeological feature encountered between 0.80m – 1.10m bgl.

TP10 – **High potential** - Alluvium substrate encountered between 0.90m – 1.30m bgl overlaying an organic alluvium deposit with possible humic laminae between 1.30m – 1.40m bgl.

TP11 – **Moderate potential** - Alluvium encountered between 2.20m – 2.60m bgl.

Brampton with Stoven (BRP 044)

BHE20 – **High potential** - Organic alluvium encountered between 1.20m to 3.20m bgl.

BHE21 – **Moderate potential** - Alluvium substrate encountered between 0.80m – 3.00m bgl.

Wangford with Henham (WNF 082)

TPF10 – **Moderate potential** – Alluvium encountered between 1.50m – 3.00m bgl.

Reydon (REY 206)

BH106 – **High potential** - Peat encountered between 3.00m – 6.00m bgl, overlaying organic alluvium substrate.

BH107 – **High potential** - Alluvium encountered between 2.50m - 3.60m bgl overlying partially decomposed fibrous peat at 3.60m – 5.90m bgl.

TP108 – **High potential** - Organic alluvium encountered between 1.20m – 1.40m bgl.

TP114 – **High potential** - Organic deposits encountered between 1.15m - 1.25m bgl.

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6. THE FINDS

6.1. A small quantity of pottery, ceramic building material (CBM), lithics, metalwork and possible briquetage was recovered from three of the parishes, Walberswick, Middleton and Reydon; sites WLB 149, MDD 052 and REY 152 respectively. A summary quantification is provided in the table below. The finds from these sites are variously indicative of activity during the prehistoric, Roman, medieval and post-medieval periods. While most of the assemblage is residual, stratified artefactual evidence supports a Roman date for two features in the Middleton (site MDD 052, TPB23) and Walberswick (site WLB 149, TP05) parishes.

6.2. Finds have been washed (with the exception of the metal objects), quantified and recorded in line with the CIfA Toolkit for Specialist Recording (2021, Level 2). Details have been recorded directly to a Microsoft Access database which will form part of the project archive; a summary of the finds catalogue is provided in Appendix C (Table C1). Pottery has been recorded in line with national guidance (Barclay *et al.* 2016, section 2.4.5), and fabrics follow period-specific regional pottery series (Lyons and Tester 2014; Anderson 2020). Pottery fabrics are tabulated and described in Appendix C, Table C2). The worked flint was macroscopically scanned and assigned to a category within a worked flint classification system (after Brown *et al.* 2024; Butler 2005; Mithen 2000; Wickham-Jones 1990).

Summary of finds by material type

Site	Material type	Category	Count	Weight (g)
MDD 052	Pottery	Roman	33	175
	CBM	Roman	8	319
	Lithics	Worked flint	3	33
WLB 148	Metalwork	Copper alloy	1	<1
WLB 149	Pottery	Roman	22	345
		Post-Roman	5	31
		Sub total	***27***	***376***
	CBM	Roman	3	58
		Med/PM	3	491
		Sub total	***6***	***549***
	Briquetage	Roman	1	257
	Metalwork	Copper alloy	7	11
		Silver	9	10
		Lead	1	2
		Sub total	***17***	***23***
REY 152	Lithics	Worked flint	1	10
	Metalwork	Silver	1	1

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Middleton Parish, MDD 052

6.3. A small assemblage of pottery, CBM and worked flint was recovered from two trial-pits, TPC04 and TPB23, a subsoil layer, 166 in TPC04, and a ditch, 150 in TPB23. The finds are most clearly indicative of Roman activity in the vicinity of trial-pit TPB23, with residual elements suggestive of prehistoric and Roman activity more generally in the wider area.

Pottery

Roman

6.4. Roman pottery amounting to thirty-three sherds (175g) was recovered from trial-pits TPB23 (fill 149 of ditch 150) and TPC04 (subsoil layer 166). The condition of the pottery is mostly fair, with some light to moderate abrasion.

6.5. Ditch 150 (trial-pit TPB23) produced almost all of the Roman pottery (32 sherds, 173g), with only a single, presumably residual, sherd (2g) coming from layer 166 (trial-pit TPC04).

6.6. The only fineware fabric present is an unprovenanced whiteware (WF; 1 sherd, 8g), present only in the pedestal base of a small, exceptionally thin-walled (1-2mm) platter form reminiscent of Eggshell Terra Nigra wares; the vessel may represent a Gaulish import, although further research would be required to parallel this sherd.

6.7. Miscellaneous local reduced coarsewares (GX) comprise the majority of the assemblage (22 sherds, 140g); these include a single beaded rim from a beaker type vessel (EVE 0.04, estimated diameter 140mm). Micaceous reduced coarsewares, likely produced by the Wattisfield industry of northern Suffolk (GM; 5 sherds, 7g), and buff coarsewares (BUF; 4 sherds, 8g) are also present. Black surfaced wares are represented by a single base sherd (BSW; 12g), probably from a Cam 404 small, ovoid beaker (Hawkes and Hull 1947; Symonds and Wade 1999).

6.8. The only closely dateable Roman pottery recovered is the Cam 404 beaker base, which is dated to the late 2nd century. Along with the wider group from ditch 150 (TPB23), this is sufficient to support a date for the deposition of fill 149 to during or after the late 2nd century.

CBM

6.9. A small assemblage of eight fragments (319g) of Roman CBM was recovered during excavation of trial-pit TPB23, from fill 149 of ditch 150. All fragments are moderately or severely abraded.

6.10. Fabrics include fine and medium sand, and the majority utilize grog temper; a minority of fragments have small subrounded and elongate voids suggesting the inclusion of a non-surviving organic or calcareous temper.

6.11. Most fragments are too poorly preserved to confidently indicate original forms, but one extremely abraded fragment (128g) must be from a *tegula* roof tile, given its faintly visible semicircle signature, formed of two (possibly three) parallel finger-grooves. At least four further fragments (176g) appear most likely to be from tiles, though few surfaces survive.

Lithics

6.12. Three worked flints (33g) were recovered. One from subsoil layer 166 in trial-pit TPC04, the other two from fill 149 of ditch 150 in trial-pit TBP23.

6.13. One worked flint from the subsoil layer has a grey abraded cortex while the other two are noncortical. All three worked flints are in poor condition with moderate to heavy edge damage.

6.14. The assemblage comprises flakes that are thick and hard hammer struck indicating broadly prehistoric activity, dating probably from later Neolithic to Bronze Age. All were residual as the two flakes from ditch 149 were found in conjunction with sherds of Roman pottery, whilst the other flake was recovered from subsoil.

6.15. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Discussion

6.16. The finds assemblage from the trial-pits in Middleton parish (MDD 052) provides evidence of activity in the Roman and prehistoric period.

6.17. The most indicative element is the group of Roman pottery from ditch 150 (fill 149, TPB23), which is sufficient to suggest a Roman date after the mid to late 2nd century for the infilling of this feature, and includes two particularly notable forms: a Cam 404 small ovoid beaker, and the fine, extremely thin-walled unprovenanced – but possibly

imported - whiteware platter. This small group, in conjunction with Roman CBM from the same deposit, likely represents domestic waste from nearby settlement. Roman activity is also more ephemerally suggested in the area of TPC04 by a single residual sherd.

6.18. A low level of prehistoric, late Neolithic or Bronze Age, activity is suggested in the wider vicinity of trial-pits TPB23 and TPC04 by the presence of a small quantity of residual worked flint. The worked flints are from secondary gravel deposits which are common in this part of East Anglia. The site is situated within a wider area of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

Walberswick Parish, WLB 148

6.19. One trial-pit (TPD18) produced a single coin from the topsoil, suggestive of ephemeral post-medieval activity in the local area.

Metalwork

6.20. A singular copper alloy coin (RA 1, topsoil 097, TPD18). The object dates to the earlier post-medieval period and is identifiable as a highly worn, broken fragment of a James I Royal Farthing. Though poor preservation does not allow for a more precise identification (see North 1991, nos. 2130-2136 for general type), these coins were issued from 1613–1625. However, due to the chronic shortage of small change during the 17th century this example could well have continued to circulate up till the period of the English Civil War.

Discussion

6.21. The singular, unstratified find indicates little else other than attesting to the presence of earlier post-medieval activity within the vicinity. Given its status as a singular coin find, this object probably represents a casual loss.

Walberswick Parish, WLB 149

6.22. A moderate assemblage of metalwork and pottery was recovered from ten trial-pits and five bore holes within the area of this parish covered by the WLB 149. Finds were recovered from layers and two archaeological features (ditches 322 in trial-pit TP05, and 383 in trial-pit TP04). Medieval and early post-medieval activity is attested by the metalwork, and the distribution of numismatic evidence from this period could suggest a commercial site in the area; Roman activity is also represented by stratified and residual pottery, especially focused in trial-pit TP05.

Pottery

Roman

6.23. A small assemblage of twenty-two sherds (345g; EVE 0.3) of Roman pottery was recovered from three deposits in trial-pits TP05 (fill 323 of ditch 322), TP04 (fill 384 of ditch 383), and TP09 (layer 394). Condition of the pottery ranges from fair to poor, though a few sherds show more than light to moderate abrasion.

6.24. Ditch 322 (TP05) produced by far the largest group of pottery, with twenty sherds (340g), with the other two sherds occurring singly.

6.25. All fabrics present are coarsewares, with the most frequent being micaceous reduced wares (GMG; 14 sherds, 271g), likely products of the Wattisfield industry (Lyons and Tester 2014). A further six sherds are in unprovenanced local reduced fabrics (GX; 6 sherds, 69g). Single sherds of black surfaced ware (BSW; 4g) and buff ware (BUF; 1g) were also recovered.

6.26. Refitting sherds from the rim and body of a wide mouthed jar with a groove below the rim (fabric GM; EVE 0.26, rim diameter 280mm) came from ditch 322 (fill 323) in trial-pit TP05. Body sherds from a second jar form, with a band of stabs at the shoulder, were also found in the same context.

6.27. None of the sherds present are closely datable. The group from ditch 322 (trial-pit TP05) is sufficient nonetheless to indicate a date for the deposition of fill 323 during the Roman period. The single sherd from deposit 394 is residual in a layer with medieval pottery; while no later finds accompanied the single sherd from ditch 383 (TP04), it is also likely to be residual.

Post-Roman

6.28. Post-Roman pottery amounting to five sherds (31g) was recovered from trial-pits TP03 and TP09, within subsoil layers 378 and 394. Condition ranges from fair to poor, with most sherds showing light or severe abrasion.

6.29. Fabrics present are mostly unprovenanced medieval coarsewares (fabric MCW; 4 sherds, 18g); however, of these, the largest sherd (12g, from layer 378 in TP03) may be of the Suffolk Coastal type (MCWSC; Anderson 2020). One rim sherd is in an oxidized, partially glazed Late Medieval Transitional fabric (LMT; 13g, EVE 0.05), though these fabrics can be similar to the earliest Glazed Red Earthenwares (GRE;

Jennings 1981; Anderson 2020), and it is possible that this sherd could alternatively belong in the latter categorisation.

6.30. The only rim present (fabric LMT, EVE 0.05) is everted and flanged, likely from a jar, with a clear glaze applied to the rim interior only.

6.31. None of the post-Roman pottery was recovered within stratified features, and can only attest broadly to activity in the area in the high and late medieval (or possibly post-medieval) periods. Medieval coarseware fabrics (MCW) are generally current in the period of the 12th – 14th century; however, if the sherd from TP03 is of the Suffolk Coastal type (MCWSC), these fabrics have a slightly later, 13th – 15th century currency (Anderson 2020). Despite some slight uncertainty in the fabric categorisation, the Late Medieval Transitional (or possible Glazed Red Earthenware) sherd is dated to the period of the 15th or 16th century.

CBM

6.32. Six fragments (549g) of CBM were recovered from trial-pits TP04. TP05, and TP09. They are likely to include Roman and medieval/post-medieval types.

Roman

6.33. Three fragments (58g) of heavily abraded CBM were recovered from ditch 322 (fill 323, TP05), which also contained a small group of Roman pottery, and are probably of Roman date.

6.34. Fabrics include an orange, medium sandy fabric with flint, and a paler orange, fine sandy fabric with grog. Poor preservation of surface morphology makes identification of forms difficult, but at least two fragments (51g) are likely to be from tiles.

Medieval or post-medieval

6.35. Three fragments (491g) of CBM, certainly or tentatively identified as brick, are likely dated to the medieval or post-medieval periods. All appear abraded, and no fragments survive with sufficient measurable dimensions to suggest a specific type.

6.36. Fabrics all include medium, or fine and medium, sand with flint. One fragment (423g) from ditch 387 (fill 388) also includes two visible, possibly incidental pieces of chalk <14mm.

6.37. Though no formal types are identified, the preserved surfaces and edges appear relatively evenly shaped and regular. This trait is more commonly associated with post-medieval manufacture. However, given the low proportion of each brick surviving, it cannot be considered as conclusive in this case.

6.38. One fragment from layer 394 (TP09) is heavily sooted on one surface, which could result from use in a hearth, oven or chimney, though burning could alternatively have occurred after disposal or re-use. The same may be true of the large fragment from ditch 387 (fill 388, TP04) which is heat-affected, although this could also be the result of overfiring.

6.39. The fragments from layer 394 (TP09) were found with both medieval and Roman pottery fragments, all off which may be residual. The fragment from ditch 387 (TP04) was the sole find from the deposit, but given the long use-life of bricks, may have been deposited decades or centuries after its manufacture and therefore provides only *terminus post quem* (TPQ) for this feature.

Briquetage

6.40. A single fragment (257g) of possible briquetage (salt-making ceramic material) was recovered from ditch 322 (fill 323, TP05). The fragment is in fair condition, with light abrasion.

6.41. The fabric contains medium and coarse sand with rare angular flint 4mm - 12mm. The fragment is flat, roughly formed and smoothed, with a thin white coating on one surface; a straight concave edge preserved suggests either a large coil-join, or possibly a means of tightly fitting with another, convex-edged piece.

6.42. The presence of possible briquetage near to the coastline here is not surprising. The fabric and form of this fragment suggests a Roman date, supported by the presence of a small group of Roman pottery found in the same deposit.

Metalwork

6.43. The overwhelming majority of metalwork from the initial phase geotechnical works was recovered from WLB 149, which produced a scatter of seventeen metal objects (Fig. 21). They include thirteen items of numismatic relevance (e.g., coins or jettons) with the remaining four belonging to other functional categories.

Medieval

6.44. Two silver coins are of medieval date. The first (RA 11, topsoil 320, TP05) is a somewhat worn and clipped sterling issue penny of Edward I, struck *c*.1305 – 1306 (class 10cf1, mint of Canterbury, see North 1991 no. 1040 for type). Its condition suggests it may well have circulated for quite some time before being lost, perhaps even beyond Edward III's weight-reduction reforms of 1351. The second coin of medieval date (RA 2, topsoil 278, BH01) is slightly later, identifiable as a halfpenny of Edward III's second 'star-marked' coinage. This piece was struck at London between 1335–1343 (see Withers and Withers 2007, type 5ii/iii, North 1991 no. 1102).

Post-medieval to modern

6.45. The remaining fifteen objects are of post-medieval to modern date, though most of these (13 finds, 11 of which are coins or jettons) date from the 16th to 17th centuries.

6.46. The post-medieval coins (6) correspond to the reigns of Henry VIII (2), Elizabeth I (2) and Charles I (2). A silver halfpenny of Henry VIII's second coinage (RA 13, topsoil 329, TP07) dates *c*.1526–1544 (see North 1991, no. 1815), while a base silver groat (RA 3, topsoil 281, BH04) is a posthumous issue of Canterbury struck early in the reign of Edward VI (see North 1991, no. 1875). Both coins of Elizabeth are worn silver halfgroats, which potentially circulated well into the 17th century. Registered Artefact 7 (topsoil 282, BH105) is incomplete and of the third coinage, its initial mark ('A') indicating a date of 1582 – 1584, while the second example (RA 19, topsoil 367, TP02) is much more worn and cannot be dated any closer than 1558 – 1603. The coins attributable to Charles I were both recovered from topsoil 356 of TP010. These comprise RA 14, a very worn and bent silver halfgroat of group D or E (see North 1991, nos. 2271 - 2272) and RA 15, a worn copper alloy Richmond farthing struck 1625 - 1644 (type 1, initial mark probably lion, see North 1991, no. 2277).

6.47. In addition to the coins, five copper alloy jettons were recovered. These objects are relatively common British site finds, designated officially as accounting tokens but probably also utilised as gaming counters or for local small change when need arose. All are products of Nuremberg and date from the period *c*.1500 – 1640. One jetton (RA 6, topsoil 280, BH103) is a large, piedfort-style piece with repeating nonsense legends corresponding to the Lion of St. Mark type (see Mitchiner 1988, nos. 1102 - 1109). It dates *c*.1500 – 1570. All the other jettons are of the rose-orb type. One example (RA 4, topsoil 279 of BH02) is complete but broken into two conjoining

fragments, attributable as an anonymous-issue type with nonsense legends of *c*.1500 – 1550/1585 (see Mitchiner 1988, nos. 1227 - 1286). Two further jettons bear fully literate inscriptions indicating their issue by mintmasters Hans Krauwinckel II (RA 5, topsoil 280, BH103) and Hans Schultes III (RA 17, topsoil 326, TP05A) between 1585 – 1635 and 1608 – 1612 respectively. Registered Artefact 17, interestingly, shows evidence of secondary modification, a triangular off-centre perforation indicating its piercing with the tip of a knife blade. However, the reason this was undertaken is uncertain. Lastly, the remaining rose-orb jetton (RA 8 topsoil, 282, BH105) cannot be dated any more closely than 1500 – 1640, given its highly worn state of preservation.

6.48. A small number of other objects dating to the earlier post-medieval period (i.e., 16th – 17th centuries) were additionally recovered. The sole lead/lead alloy object (RA 16, topsoil 362, TP011) is very worn and fragmentary but can be identified as part of a two-disc type cloth seal used to indicate the type, origin and quality of textile bolts. Raised decoration on one face appears to depict the Royal Arms of England, though this is tentative. More closely identifiable is a well-worn, silver-gilt finger ring with an internal posy or inscription (RA 12, topsoil 315, TP01), likely dating to the second half of the 16th century. Its circular hoop is 'D' shaped in cross section and plain on its external face excepting for an incised groove at each edge, its interior retaining copious gilding alongside the block-capital inscription 'GOD BE PRASED' (God be praised). Rings of this type with either religious or love-themed inscriptions (posies) were popular from the 16th – 18th centuries, being known in both precious and base metals. Those with inscriptions using block-capital letterforms became most common after *c.*1530 (Glanville 1990, 149) and remained fashionable till the early 17th century, when lower-case italic script became increasingly common. Because of its age and precious metal content, this find qualifies as potential Treasure under the 1996 Treasure Act and has accordingly been reported to both the Suffolk Coroner and British Museum, being assigned the Treasure case tracking number 2024 T1211.

6.49. Lastly, two finds are of modern date (i.e., post 1800). A small, oval silver spoon bowl (RA 9, topsoil 282, BH105) probably originates from a mustard spoon, while an openwork copper alloy object with a suspension loop (RA 18, topsoil 367, TP02) is probably best identified as a watch-winder. Both of these finds likely date from the later 19th to early 20th centuries, representing the most recent metal objects from WLB 149.

Discussion

6.50. The assemblage of pottery, CBM and metalwork from WLB 149 is indicative of activity at and around the site in the Roman, medieval and early post-medieval periods.

6.51. Activity in the Roman period is attested most clearly by pottery, and supported by CBM and a single fragment of possible briquetage; the finds are sufficient to suggest a stratified Roman deposit within ditch 322 (TP05), likely refuse from nearby settlement. The presence of possible briquetage in this feature is suggestive of local salt-production in the Roman period; the site is suitably close to the coast for such activity to occur nearby. The pottery assemblage is typical for northern Suffolk, with a high proportion of micaceous reduced wares likely originating from the Wattisfield industry, though sherds present are not particularly indicative of a close date within the Roman period.

6.52. The medieval and early post medieval assemblage includes pottery, CBM and metalwork, with the most significant elements being numismatic objects. The fairly substantial assemblage of metalwork alone, from twelve trial-pits across the site, indicates activity within the landscape from the medieval period onwards, certainly beginning in at least the 14th century. No stratified archaeological features are definitively dated to this period, though the medieval or post-medieval brick fragment suggests that ditch 387 was backfilled no earlier than the later medieval period, and given the decades- or centuries-long use of bricks before deposition, possibly much later.

6.53. However, It is also possible that the medieval and later metalwork, pottery and CBM finds could have been deposited through centuries of nightsoiling/manuring from the local settlement at Walberswick, or in the case of the metalwork, singular casual losses relating to foot traffic. However, the predominance of coins and coin-related objects, as well as their spatial concentration, may well indicate that the metal finds scatter relates to commercial activity in the medieval to earlier post-medieval periods (i.e., the location of a small fair or undocumented market). Certainly the location of this site would have been well suited for activity of this character, being located directly south of the main east/west thoroughfare through the village. However, the specific find-types recovered additionally hint at such an interpretation, with jettons and cloth-seals both having distinctly commercial associations. These have been observed to cluster strongly in both urban settings as well as around market sites (Oksanen and Lewis 2020, 16), often occurring alongside numerous coin finds. Such a trend,

particularly for jettons, indicates their important role in more monetarily developed environments (*ibid.*) where use of token currency alongside 'proper' money was probably quite common. Residual pottery from trial-pit TP03 (layer 378) and TP09 (layer 394) is also suggestive of activity in the vicinity during the high medieval, and late medieval or early post-medieval, periods.

REY 152

6.54. Finds recovered from trial-pitting within this parish include a worked flint flake (trial-pit TPF17) and a silver coin (trial-pit TPF23), each recovered from topsoil, 355 and 297 respectively. The finds represent residual evidence of ephemeral activity in the local area during the late Neolithic or Bronze Age and post-medieval periods.

Lithics

6.55. A single worked flint (10g) was recovered from topsoil layer 355 in TPF17.

6.56. The flake has a cream abraded cortex and is slightly rolled, has heavy edge damage and is uncorticated. The flake is hard hammer struck and provides minimal evidence for broadly prehistoric activity dating probably from later Neolithic to Bronze Age.

6.57. Raw material represented is flint from secondary gravel geological deposits which are common in this part of East Anglia indicating local sources of flint were exploited.

Metalwork

6.58. A singular coin was recovered from REY 152 (RA 10, topsoil 297 of TPF23). It can be identified as a broken fragment of a third coinage Elizabeth I sixpence, dated 1591 (see North 1991, no. 2015). Only around 20% of the original flan is preserved due to old breaks.

Discussion

6.59. The worked flint and metalwork finds from site REY 152 are both residual, having been recovered from topsoil.

6.60. The singular coin from REY 152 indicates little more than the presence of earlier post-medieval activity within the vicinity; this object was probably deposited as a result of casual loss.

6.61. The worked flint flake is minimal evidence of broadly prehistoric activity dating probably from later Neolithic to Bronze Age. The site is situated within a wider area

of Suffolk, which have yielded larger quantities of worked flint from major projects with stratified prehistoric deposits (Boulter 2022).

7. THE BIOLOGICAL EVIDENCE

The Animal bone

7.1. A very small assemblage of animal bone was recovered from ditch 0322 in TP05 excavated in Walberswick parish, site WLB 149.

Methods

7.2. Each bone fragment was identified where possible to element (including cranial and post-cranial elements) and species, All data are recorded in Appendix D, Table D1. Identification was carried out using comparative collections and with reference to Hillson (1992) and Schmid (1972) for domestic mammals.

7.3. The percentage of the element present was estimated and recorded to the nearest 10% for all identified fragments. Each fragment was also examined for butchery, breakage patterns, gnawing and weathering indicators. Burnt bone was recorded by colour (buff, brown, grey, black and calcined). The condition of all fragments was assessed on a five-point scale through poor, poor-average, average, average-good and good. Pathological changes were noted where present. Measurements were taken as per von den Driesch (1976). No teeth were available for assessment of aging.

Results

7.4. A single fragment was recorded from context 0323 in ditch 0322. The condition of the bone was average, with some indications of minor etching of the surface by roots. No gnawing or burning was noted.

7.5. The single element recovered was a horse radius. This provides some aging information as it was distally fused, suggesting an animal of more than forty-two months of age at death. This fragment was measurable is recorded in Table C1; withers height was not calculable.

Comment and Selection

7.6. This single bone is unable to provide much information, and could be consistent with various periods, including the post-medieval.

7.7. Individually this horse element offers little insight into the economy or consumption/disposal practice at the site. However, it does indicate reasonable bone preservation on the site and further material is likely to provide information on the animal economy and consumption practice, should the area be further excavated.

7.8. The assemblage has been fully recorded to archive standards. The material should be retained and in the event that further work is undertaken at the site, this material should be available for inclusion alongside a wider archive. The data recorded to date can be incorporated into any subsequent report.

8. DISCUSSION

8.1. The results of the geophysics survey (Wessex 2024 and 2025) clearly provide evidence for a landscape which has been heavily utilised with concentrations of archaeological features visible over wide areas of the overall site.

8.2. However, given the keyhole nature of the geotechnical excavations, the chances of hitting archaeological features within the trial-pits and bore-holes remained low, even within the more concentrated areas of archaeology as demonstrated by the geophysics results (*ibid*.). In addition, where the geophysics results were available prior to the geotechnical fieldwork, SCCAS requested a number of movements to the location of specific interventions which were subsequently implemented on site.

8.3. Archaeological features were only recorded in five of trial-pits; a possible post-hole in trial-pit TPC08 located in Westleton parish, while three ditches were seen in TP04, one in TP05 and a possible ditch in TP08, all in the Walberswick landfall area (WLB 149), and one ditch in TPB23 in Middleton parish.

8.4. While remaining unexcavated, with the trial-pits moved (TP04A and TP05A), surface finds suggested that the features in TP04 were Roman in date, while the ditch in TP05 appeared in the geophysics survey to join with an extant field boundary. The feature in TP08 remained undated. The ditch in TPB23 coincided with a feature previously recorded in the geophysical survey and produced ceramic evidence suggestive of a Roman, late 2nd century or later date.

8.5. Also of possible archaeological significance relating to the Walberswick landfall site was the presence of a metalwork scatter including coins, jettons and cloth seal that were that could relate to commercial activity on the site, possibly a small fair or

undocumented market, although another interpretation of this evidence is the process of nightsoiling.

8.6. Other artefactual evidence was limited to a small quantity of finds recovered from subsoil in TPC04 (Middleton), topsoil in TPF17 and TPF23 (Reydon).

8.7. However, the low level of finds recovery from almost all of the interventions and limited to topsoil and subsoil, cannot be taken as evidence for the absence of archaeology in the wider vicinity, the presence and character of which will become more apparent during the subsequent trial-trenching exercise.

8.8. The geological deposit modelling designated a rating of archaeological potential to the various sediment types encountered which included alluvium (moderate), organic alluvium, peat and archaeological deposits (high). On that basis, deposits of moderate and high archaeological potential were identified locally in the parishes of Theberton, Middleton, Westleton, Blythburgh, Walberswick, Brampton with Stoven, Wangford with Henham and Reydon.

9. CA PROJECT TEAM

9.1. Fieldwork was undertaken by Edward Aylott and Michael Green. This report was written by Michael Green. The finds and biological evidence reports were written by Ciar Boyle Gifford (pottery, CBM and briquetage), Alexander Bliss (metalwork), Robert Leedham (lithics) and Clare Randall (animal bone). The geoarchaeological deposit modelling was undertaken by Holly Rodgers. The report illustrations were prepared by Alice Woodard. The project archive has been compiled by Clare Wootton, and prepared for deposition by Zoe Emery. The project was managed for CA by Stuart Boulter who also edited the report.

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APPENDIX A: CONTEXT DESCRIPTIONS

Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0001				TPB01	Layer	5YR 4/2 dark reddish grey, hard clay topsoil with frequent flints of all sizes, poorly sorted and occasional to frequent chalk flecking. SHARP TO: 2				0.15	0002			
0002				TPB01	Layer	7.5YR 5/3 brown firm clay with chalk flecking. SHARP TO: 3				0.15	0003	0001		
0003				TPB01	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub-angular flint nodules, 2-3 cm, relatively well sorted. SHARP TO: 4				0.55	0004	0002		
0004				TPB01	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				2.15		0003		
0005				TPB02	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 6				0.30	0006			
0006				TPB02	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 7				0.20	0007	0005		
0007				TPB02	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, and patches of 5YR 4/4 reddish brown loose sand DIFFUSE TO: 8				0.50	0008	0006		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0008				TPB02	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecks and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules.				2.00		0007		
0009				TPB03	Layer	5YR 4/2 dark reddish grey hard clay topsoil, frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 10				0.30	0010			
0010				TPB03	Layer	7.5YR 5/3 brown loose clay with sand, with moderate small chalk nodules, roughly 1cm, rare medium nodules roughly 3-5cm. SHARP TO: 11				0.30	0011	0009		
0011				TPB03	Layer	7.5YR 5/4 brown firm very coarse sandy clay with frequent chalk flecking and patches of 5YR 4/4 reddish brown loose sand SHARP TO: 12				0.70	0012	0010		
0012				TPB03	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking occasional medium chalk nodules, roughly 5cm, and occasional pockets of 5YR 4/4 reddish sand,				1.70		0011		
0013				TPB04	Layer	5YR 4/2 dark reddish grey hard clay topsoil, occasional to frequent chalk flecking, and frequent flints of all sizes, poorly sorted. SHARP TO: 14				0.25	0014			
0014				TPB04	Layer	7.5YR 5/3 brown firm clay with rare chalk flecking. SHARP TO:15				0.10	0015	0013		
0015				TPB04	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking, rare small to medium rounded and sub angular flint nodules, roughly 2-3cm, relatively well sorted. SHARP TO: 16				0.45	0016	0014		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0016				TPB04	Layer	7.5YR 5/4 brown friable very sandy (mid coarse) clay moderate chalk flecking, rare to medium small flint nodules of roughly 2-3cm. Relatively well sorted. SHARP TO: 17				0.80	0017	0015		
0017				TPB04	Layer	10 YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules of roughly 5cm, and frequent small rounded chalk nodules.				1.40		0016		
0018				TPB06	Layer	10YR 4/4 dark yellowish brown firm silty clay with frequent chalk flecking, occasional flints of all sizes and shapes, Rare CBM. SHARP TO: 19				0.40	0019			
0019				TPB06	Layer	2.5Y 5/4 light olive brown very firm clay with frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm and occasional rounded flint nodules of roughly 3-5cm. Well sorted. SHARP TO: 20				0.20	0020	0018		
0020				TPB06	Layer	2.5Y 6/2 light brownish grey very firm clay, frequent chalk flecking and frequent small to medium chalk nodules of roughly 3.5cm, rare angular flint and very rare nodules of iron stone of roughly 10cm. DIFFUSE TO: 21				1.00	0021	0019		
0021				TPB06	Layer	10YR 4/1 dark grey firm clay with frequent chalk flecking and occasional medium chalk nodules roughly 0.5cm, and frequent small rounded chalk nodules roughly 3cm.				1.40		0020		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0022				TPB07	Layer	10YR 4/3 brown firm silty clay topsoil, occasional chalk flecks and nodules of roughly 3-4cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 23				0.30	0023			
0023				TPB07	Layer	2.5Y 4/4 olive brown firm silty clay with rare small stones. SHARP TO: 24				0.10	0024	0022		
0024				TPB07	Layer	2.5YR 4/4 olive brown firm silty clay with frequent chalk flecking, occasional manganese streaking, and rare small angular stones. Patches of 2.5Y 8/1 white very chalky firm clay, occasional chalk nodules smaller than 10cm DIFFUSE TO: 25				0.15	0025	0023		
0025				TPB07	Layer	The very chalky clay described in 24 becomes predominant over the olive brown clay to the point that it is almost entirely absent, SHARP TO: 26				1.45	0026	0024		
0026				TPB07	Layer	GLEY1 3/N Very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules <1cm				0.90		0025		
0027				TPB08	Layer	10YR 4/3 brown firm silty clay topsoil with occasional chalk flecks and nodules of roughly 3-4 cm, rare to occasional flints of all sizes, poorly sorted. SHARP TO: 28				0.40	0028			
0028				TPB08	Layer	2.5Y 3/3 dark olive brown friable silty slightly sandy clay with very rare angular flints. SHARP TO: 29				0.10	0029	0027		
0029				TPB08	Layer	2.5Y 5/3 light olive brown friable silty clay with frequent chalk flecking and very small nodules, occasional chalk nodules of larger				0.60	0030	0028		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sizes. Rare stones of all sizes and shapes, poorly sorted. SHARP TO: 30								
0030				TPB08	Layer	GLEY1 6/10Y greenish grey firm clay with very frequent chalk flecking and frequent small chalk nodules of roughly 0.3cm. VERY DIFFUSE TO: 31				0.50	0031	0029		
0031				TPB08	Layer	GLEY1 3/N very dark grey, very firm clay with frequent chalk flecking and rare ironstone nodules smaller than 1cm				1.4		0030		
0032				TPB05	Layer	5Y 4/3 olive firm clay topsoil, frequent small and medium - roughly 4cm - angular and sub angular flint nodules, poorly sorted. SHARP TO: 33				0.30	0033			
0033				TPB05	Layer	7.5YR 5/4 brown firm clay with frequent chalk flecking and with patches of 5YR 4/4 reddish brown loose sand. SHARP TO 34				0.50	0034	0032		
0034				TPB05	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and frequent small to medium chalk nodules. Rare flints of roughly 3-4cm. The layer becomes slightly darker right at the base of the trial-pit around 3m				2.20		0033		
0035				TPB09	Layer	10YR 4/2 dark greyish brown friable sandy topsoil flint nodules of all sizes and shapes, poorly sorted. DIFFUSE TO: 36				0.50	0036			
0036				TPB09	Layer	7.5YR 4/6 strong brown friable to firm medium coarse sand, occasional to rare small to medium large flints of 2-8cm, poorly sorted. SHARP TO 37				0.65	0037	0035		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0037				TPB09	Layer	2.5Y 5/4 light olive brown firm clay with rare angular small flints, occasional chalk nodules of roughly 10 to 3cm, occasional to rare large patches of chalk. Poorly sorted.				1.85		0036		
0038				TPB10	Layer	2.5Y 3/3 dark olive brown friable mid coarse sandy clayey topsoil. SHARP TO: 39				0.40	0039			
0039				TPB10	Layer	2.5Y 4/4 olive brown friable very sandy (mid coarse) clay with occasional very small angular flints of roughly 0.5cm, rare sub rounded flints of roughly 1cm, and frequent medium sub rounded flints of roughly 5-7cm. Poorly sorted. SHARP TO: 40				0.40	0040	0038		
0040				TPB10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and rare very small chalk nodules of less than 1cm. Occasional medium to large flints of all shapes. Poorly sorted. SHARP TO: 41				0.70	0041	0039		
0041				TPB10	Layer	GLEY 1 4/5GY dark greenish grey firm clay with frequent chalk flecking, frequent rounded chalk nodules of roughly 4cm and smaller, and rare to occasional small angular flints.				1.50		0040		
0042				TPB14	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 43	Topsoil			0.20	0043			
0043				TPB14	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flints, quite poorly sorted. SHARPE TO: 44				0.40	0044	0042		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0044				TPB14	Layer	2.5Y 4/3 olive brown soft clay with rare chalk fecking and even rarer manganese streaking. Small patches of 10YR 5/6 yellowish brown clay with frequent mid coarse to fine sand throughout, and with rare manganese streaks and chalk flecks. SHARP TO: 45				0.3	0045	0043		
0045				TPB14	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules, 1-4cm across. Pockets of 10YR 5/8 yellowish brown soft/loose medium to fine sand from 0.9-1.5m BGL. SHARP TO: 46				1.0	0046	0044		
0046				TPB14	Layer	GLEY1 4/5GY dark greenish grey firm clay, frequent chalk flecking and very small nodules				1.10		0045		
0047				TPB13	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil. Frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 48	Topsoil			0.25	0048			
0048				TPB13	Layer	2.5Y 4/2 dark greyish brown medium to soft clay with occasional rounded to sub angular small to medium flint nodules. Poorly sorted. SHARP TO: 49	Subsoil			0.25	0049	0047		
0049				TPB13	Layer	2.5Y 6/1 grey medium to firm clay with very frequent chalk flecking and rare rounded chalk nodules				0.50	0050	0048		
0050				TPB13	Layer	GLEY1 4/5GY dark greenish grey firm clay with frequent chalk flecking and very small chalk nodules				0.60	0051	0049		
0051				TPB13	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk flecking and rare ironstone nodules				1.40		0050		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0052				TPB12	Layer	2.5Y 4/3 olive brown hard/friable clayey topsoil, frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 53				0.30	0053			
0053				TPB12	Layer	2.5Y 4/2 dark greyish brown medium to soft clay. Occasional rounded to sub angular small to medium flints, poorly sorted. SHARP TO: 54				0.30	0054	0052		
0054				TPB12	Layer	2.5Y 4/4 olive brown medium firm clay, very frequent chalk flecking and rare rounded chalk nodules				0.60	0055	0053		
0055				TPB12	Layer	GLEY1 6/5GY greenish grey firm clay with frequent chalk flecking and small nodules				0.50	0056	0054		
0056				TPB12	Layer	GLEY1 4/1 dark greenish grey very firm clay with frequent chalk nodules				1.30		0055		
0057				TPB11	Layer	2.5Y 4/4 olive brown clayey silty topsoil, occasional flints of all shapes and sizes, poorly sorted. SHARP TO: 58	Topsoil			0.30	0058			
0058				TPB11	Layer	2.5Y 6/2 light brownish grey friable silty clay with streaks of 10YR 5/8 yellowish brown sand throughout. Frequent chalk flecking and very small nodules, 1cm across, occasional nodules of 5-8cm, across, and rare larger nodules of roughly 15cm across. Occasional angular flints 0.5-7cm across. Large pockets of 10YR 5/8 yellow red sand from 0.3-0.7m BGL. SHARP TO: 59				1.30	0059	0057		
0059				TPB11	Layer	GLEY1 4/N dark grey friable/hard silty clay with frequent chalk flecks and small nodules <7cm.				1.40		0058		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0060				TPB16	Layer	2.5Y 3/2 very dark greyish brown clayey silty topsoil occasional to frequent small angular to sub angular flints				0.30	0061			
0061				TPB16	Layer	2.5Y 4/3 olive brown friable silty clay. Occasional small sub-angular flints				0.15	0062	0060		
0062				TPB16	Layer	2.5Y 4/4 olive brown friable/firm clay, frequent chalk flecking and small nodules				0.25	0063	0061		
0063				TPB16	Layer	5Y 5/1 grey friable/firm clay with frequent chalk flecking, small nodules				1.10	0064	0062		
0064				TPB16	Layer	GLEY1 4/N Dark grey friable/firm clay, frequent chalk flecking and small nodules				1.20		0063		
0065				TPB27	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent flints of all shapes and sizes, and rare small chalk nodules				0.30	0066			
0066				TPB27	Layer	2.5Y 4/3 olive brown firm clay with rare chalk flecking and small chalk nodules				0.20	0067	0065		
0067				TPB27	Layer	2.5Y 5/3 light olive brown firm clay with frequent very small chalk nodules				0.25	0068	0066		
0068				TPB27	Layer	2.5Y 5/1 grey friable/loose clay with frequent chalk flecking and very small nodules				1.05	0069	0067		
0069				TPB27	Layer	GLEY1 4/N dark grey firm clay with frequent chalk flecking and small and medium nodules				1.20		0068		
0070				TPB29	Layer	5Y 3/2 dark olive grey loose sandy topsoil with rare flints of all sizes and shapes, poorly sorted. SHARP TO: 71				0.40	0071			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0071				TPB29	Layer	2.5Y 6/6 olive yellow very fine loose stoneless sand. SHARP TO: 72				0.30	0072	0070		
0072				TPB29	Layer	2.5Y 7/4 pale brown very fine loose stoneless sand.				2.30		0071		
0073				TPB18	Layer	2.5Y 2.5/1 black friable/firm silty clayey topsoil, occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO: 74	Topsoil			0.30	0074			
0074				TPB18	Layer	2.5Y 4/2 dark greyish brown hard/friable clay with occasional chalk flecks and rare poorly sorted flints of all shapes and sizes. SHARP TO: 75	Subsoil			0.20	0075	0073		
0075				TPB18	Layer	2.5Y 5/3 light olive brown very firm clay with occasional chalk flecking and rare, angular flints of 2-4cm across SHARP TO: 76				0.60	0076	0074		
0076				TPB18	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking, frequent very small nodules				0.40	0077	0075		
0077				TPB18	Layer	GLEY1 3/N very dark grey firm clay with frequent chalk flecking, occasional chalk nodules 3-6cm across and frequent very small nodules <1cm.				1.50		0076		
0078				TPD15	Layer	10R 2.5/1 Red very fine sandy topsoil, frequent medium to small flints	Topsoil			0.30	0079			
0079				TPD15	Layer	10R 2.5/4 dark reddish grey very fine sand with frequent medium and small flints				0.40	0080	0078		
0080				TPD15	Layer	Darker than 10R 2.5/2 slightly reddish black, no direct match in the soil chart. Mid coarse sand with frequent to occasional quite well				0.80	0081	0079		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						sorted flint gravel, mostly rounded, roughly 3cm across. Rare smaller angular flints								
0081				TPD15	Layer	10YR 5/8 yellowish brown soft medium fine stoneless clayey sand. Occasional patches of 10YR 6/2 light brownish grey friable sandy clay. Clay content of both becomes increasingly scarce towards 3m.				1.50		0080		
0082				TPD14	Layer	10YR 2/1 black very fine sandy topsoil, rare small sub rounded flints, roughly 5cm across.	Topsoil			0.50	0083			
0083				TPD14	Layer	10YR 6/4 orange brown fine sand and silt with occasional rounded flint.	Subsoil			0.20	0084	0082		
0084				TPD14	Layer	2.5Y 6/6 yellow fine sand with mixed yellow brown patches, and occasional small rounded flint inclusions. Patches of 10YR 7/6.				1.10	0085	0083		
0085				TPD14	Layer	5Y 8/6 pale white/yellow medium fine sand, relatively homogenous, with frequent rounded gravel.				1.0	0086	0084		
0086				TPD14	Layer	GLEY1 5G5/2 grey orange firm stoneless micaceous clay.				0.10		0085		
0087				TPD16	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.45	0088			
0088				TPD16	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0089	0087		
0089				TPD16	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.15	0090	0088		
0090				TPD16	Layer	2.5Y 6/8 mixed with 5Y 8/4 fine and medium fine soft sand				0.80	0091	0089		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0091				TPD16	Layer	2.5Y 6/8 clay laminated with 5Y 8/4 orange and white sand mixed with GLEY1 8/10GYclay. Iron panning and fossilised wood.				0.50		0090		
0092				TPD17	Layer	10YR 3/2 mid brown soft sandy silty topsoil. Moderate flints 5-15cm across.	Topsoil			0.40	0093			
0093				TPD17	Layer	10YR 6/8 light yellow brown silty sand with moderate flints, 5-15cm across.	Subsoil			0.10	0094	0092		
0094				TPD17	Layer	2.5Y 6/8 fine yellow orange soft stoneless sand.				1.00	0095	0093		
0095				TPD17	Layer	GLEY1 5G5/2 laminated micaceous pale grey blue clay and 2.5Y 6/8 red fine sand.				0.70	0096	0094		
0096				TPD17	Layer	2.5YR 8/8 yellow medium fine sand and laminated patches of 7.5YR 6/8 orange clay. Iron panning inclusions.				0.80		0095		
0097				TPD18	Layer	10YR 3/2 mid dark grey brown sandy silty topsoil with occasional small rounded flints <5cm	Topsoil			0.40	0098			
0098				TPD18	Layer	10YR 4/6 mid brown yellow silty sand with occasional small rounded flints.	Subsoil			0.10	0099	0097		
0099				TPD18	Layer	2.5Y 6/8 fine yellow orange soft sand with occasional small rounded flints.				0.90	0100	0098		
0100				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.10	0101	0099		
0101				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.60	0102	0100		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0102				TPD18	Layer	GLEY1 5G5/2 mixed laminated pale grey clay with 2.5Y 6/8 red/yellow fine sand.				0.20	0103	0101		
0103				TPD18	Layer	2.5Y 6/8 olive yellow stoneless sand.				0.70		0102		
0104				TPD08	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes, poorly sorted. DIFFUSE TO: 105	Topsoil			0.35	0105			
0105				TPD08	Layer	10YR 5/6 yellowish brown fine clayey sand, rare angular to sub angular quite well sorted flints of 2-5cm across. SHARP TO: 106	Subsoil			0.75	0106	0104		
0106				TPD08	Layer	10YR 5/6 yellowish brown very firm fine clayey sand with occasional to frequent small to medium sub angular to sub rounded flints 1-3cm across, and occasional very small angular flints				0.60	0107	0105		
0107				TPD08	Layer	2.5Y 6/6 olive yellow fine to medium fine stoneless sand.				1.30		0106		
0108				TPB20	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Rare chalk flecking and occasional rounded to sub rounded medium flints of roughly 3cm across. SHARP TO: 109	Topsoil			0.30	0109			
0109				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand with 10YR 3/2 greyish brown striations. Rare small angular flints	Colluvium			0.60	0110	0108		
0110				TPB20	Layer	10YR 5/8 yellowish brown very firm/concreted coarse sand, with rare small angular flints	Colluvium			0.50	0111	0109		
0111				TPB20	Layer	10YR 5/6 yellowish brown loose mid coarse stoneless sand.				1.60		0110		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0112				TPB21	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. Rare CBM. SHARP TO: 113	Topsoil			0.40	0113			
0113				TPB21	Layer	10YR 5/4 yellowish brown quite firm/friable somewhat concreted mid fine sand. SHARP TO: 114	Colluvium			0.70	0114	0112		
0114				TPB21	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO 115				0.60	0115	0113		
0115				TPB21	Layer	10YR 4/6 dark yellowish brown mid fine loose stoneless sand with rare pockets of 5Y 7/3 pale yellowish mid fine loose stoneless sand				1.30		0114		
0116				TPB22	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded medium flints of roughly 3cm, and occasional chalk flecking. SHARP TO: 113				0.40	0117			
0117				TPB22	Layer	10YR 4/3 brown firm concreted/friable sand, rare chalk nodules and flecking of roughly 3cm across, rare large flints of roughly 10cm across. Occasional flints				1.10	0118	0116		
0118				TPB22	Layer	7.5YR 4/6 strong brown firm/friable coarse sand with frequent gravel of all sizes and shapes, poorly sorted. SHARP TO: 119				0.80	0119	0117		
0119				TPB22	Layer	10YR 5/8 yellowish brown loose mid-course stoneless sand.				0.70		0118		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0120				TPB33	Layer	2.5Y 4/4 olive brown friable silty clayey topsoil with rare to occasional small to medium flints of all shapes, poorly sorted. SHARP TO: 121	Topsoil			0.45	0121			
0121				TPB33	Layer	10YR 5/6 yellowish brown firm clay with frequent chalk flecking, occasional to frequent chalk nodules of roughly 5cm across, occasional small to medium flints of all shapes, rare large sub angular to rounded flints of roughly 10cm across. SHARP TO: 122				1.15	0122	0120		
0122				TPB33	Layer	2.5Y 6/1 grey firm clay with frequent small to medium chalk nodules				0.40	0123	0121		
0123				TPB33	Layer	10YR 5/8 yellowish brown loose mid coarse clayey sand with frequent small sub angular flints and chalk flecks. SHARP TO: 124				0.90	0124	0122		
0124				TPB33	Layer	2.5Y 8/3 pale brown loose medium fine stoneless sand.				0.10		0123		
0125				TPB24	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil with occasional rounded to sub rounded flints, roughly 3cm across, and occasional chalk flecking. SHARP TO: 126	Topsoil			0.20	0126			
0126				TPB24	Layer	10YR 4/3 brown firm/friable sand with rare chalk flecking and nodules of roughly 3cm across. Rare large flints of all shapes, 10cm across, occasional flints of all shapes,	Colluvium			0.70	0127	0125		
0127				TPB24	Layer	10YR 5/8 yellowish brown loose coarse stoneless sand				2.10		0126		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0128				TPB25	Layer	10YR 4/2 dark greyish brown very firm clayey topsoil, with frequent small to medium flints, mostly rounded or sub rounded. Frequent chalk flecking, rare CBM. SHARP TO: 129	Very deep topsoil. TPB25 was dug in a large hollow in a field, the topsoil is possibly so deep as a result of repeated ploughing into the depression building up the layer over time, or deliberate infill. There was no perceptible subsoil.			1.70	0129			
0129				TPB25	Layer	2.5Y 7/6 yellow very fine stoneless sand.				1.30		0128		
0130				TPB26	Layer	10YR 4/2 dark greyish brown very firm clay topsoil with frequent small to medium rounded and subrounded flints and frequent chalk flecking. SHARP TO: 131	Topsoil			0.30	0131			
0131				TPB26	Layer	2.5Y 4/3 olive brown very firm clay with rare pockets of 10YR 5/8 yellowish brown mid coarse loose sand, frequent chalk flecking, occasional chalk nodules of roughly 7cm across, rare angular flint of roughly 7cm across. SHARP TO: 132				0.50	0132	0130		
0132				TPB26	Layer	10YR 5/1 grey very firm clay, frequent chalk flecking, occasional small nodules of chalk				0.90	0133	0131		
0133				TPB26	Layer	2.5Y 4/1 dark grey very firm clay with frequent chalk flecking, occasional small chalk nodules				1.30		0132		
0134				TPB30	Layer	2.5Y 3/3 dark olive brown friable sandy topsoil, rare small to medium flints of all shapes, poorly sorted. SHARP TO 135				0.40	0135			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0135				TPB30	Layer	10YR 3/6 dark yellowish brown soft slightly silty sand, rare sub rounded flints. SHARP TO: 136	Subsoil or possible colluvium			0.70	0136	0134		
0136				TPB30	Layer	10YR 5/6 yellowish brown mid coarse sand, largely stoneless excepting a single pocket of medium flint gravel, poorly sorted. SHARP TO: 137				0.40	0137	0135		
0137				TPB30	Layer	10YR 6/1 grey very sandy clay with striations of 10YR 5/6 yellowish brown mid coarse sand, with occasional small sub rounded to sub angular flints. SHARP TO: 138				0.80	0138	0136		
0138				TPB30	Layer	10YR 5/6 yellowish brown soft sandy clay with some silt, frequent small flints of roughly 1cm across.				0.70		0137		
0139				TPB31	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARPT TO: 40	Topsoil			0.40	0140			
0140				TPB31	Layer	10YR 5/6 yellowish brown friable mid fine sand with rare to occasional chalk flecking, and rare patches of chalk becoming more common with depth until 1.1m. Occasional medium rounded to angular flints of roughly 7cm across, rare larger sub rounded flints of roughly 12cm across. Poorly sorted. SHARP TO: 141				1.40	0141	0139		
0141				TPB31	Layer	2.5Y 8/4 pale brown mid fine stoneless sand.				1.20		0140		
0142				TPB32	Layer	10YR 3/2 very dark greyish brown slightly silty sandy topsoil with frequent flints of all sizes, poorly sorted. SHARP TO: 143	Topsoil			0.45	0143			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0143				TPB32	Layer	2.5Y 5/4 light olive brown firm clay with frequent medium to small chalk nodules and flecking, rare angular flints of roughly 3cm across. Rare patches of 10YR 5/6 mid fine sand with large patches of chalk from 1.0m BGL. SHARP TO 144				0.75	0144	0142		
0144				TPB32	Layer	5Y 4/1 dark grey very firm clay with frequent chalk flecking and very small nodules				0.80	0145	0143		
0145				TPB32	Layer	A thin layer of 2.5Y 6/6 olive yellow friable very sandy clay with some silt, and very frequent chalk flecking. SHARP TO: 146				0.20	0146	0144		
0146				TPB32	Layer	2.5Y 8/3 pale brown medium fine stoneless sand				0.80		0145		
0147				TPB23	Layer	10YR 4/2 dark greyish brown firm/friable coarse sandy topsoil. Occasional rounded to sub rounded medium flints of roughly 3cm across, and occasional chalk flecking. SHARP TO: 148	Topsoil			0.4	0148			
0148				TPB23	Layer	10YR 4/3 brown firm concreted/friable sand with rare chalk flecking and nodules	Colluvium			0.60	0149	0147		
0149	0150	Ditch		TPB23	Cut	10YR 3/3 dark brown firm, concreted/friable sand, rare chalk flecking and nodules	Colluvial ditch fill			0.70	0150	0148		
0150	0150	Ditch		TPB23	Fill	A ditch cut occupying the entire trial-pit, only visible as a feature in geophysics. Due to this and the ditch being filled with a colluvial layer, while itself being underneath another layer of colluvium almost indistinguishable from each other [150] was not recorded as a feature	Probable Roman enclosure ditch			0.70	0151	0149		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						when in the field, but rather 2 layers of colluvium. While the survey was being processed the pit was found to be totally within a likely enclosure ditch, and the lower layer of colluvium from which a deal of pot was recovered has been retrospectively recorded as a ditch. The pit is situated at the SSE corner of a large probable enclosure from which the enclosure ditch continues up to the NNW and off to the WSW meeting at right angles where the pit was dug.									
0151				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand. SHARP TO: 152	Fluvial deposit			0.60	0152	0150		
0152				TPB23	Layer	10YR 4/6 dark yellowish brown sandy soft stoneless clay. SHARP TO:153				0.40	0153	0151		
0153				TPB23	Layer	10YR 5/8 yellowish brown mid coarse loose stoneless sand.				0.30		0152		
0154				TPC01	Layer	10YR 3/2 very dark greyish brown sandy topsoil with rare flints of all shapes and sizes. SHARP TO: 155	Topsoil			0.30	0155			
0155				TPC01	Layer	10YR 5/8 yellowish brown mid coarse friable stoneless sand. SHARP TO: 156				1.30	0156	0154		
0156				TPC01	Layer	2.5Y 8/3 pale brown mid fine stoneless sand.				1.40		0155		
0157				TPC02	Layer	2.5Y 3/2 very dark greyish brown clayey topsoil with frequent small to medium flints of all shapes, poorly sorted. SHARP TO: 158				0.30	0158			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0158				TPC02	Layer	2.5Y 4/4 olive brown very firm clay with frequent chalk flecking and occasional chalk nodules				1.70	0159	0157		
0159				TPC02	Layer	2.5Y 8/3 pale brown mid coarse stoneless sand. Becomes mid fine from 2.5m BGL onwards.				1.0		0158		
0160				TPC03	Layer	2.5Y 3/3 dark olive brown clayey topsoil with some mid coarse sand. Rare rounded to sub angular medium to small flints,	Topsoil			0.40	0161			
0161				TPC03	Layer	2.5Y 4/3 olive brown firm clay with mid coarse sand with rare chalk flecking and poorly sorted rare to occasional flints of all shapes				0.50	0162	0160		
0162				TPC03	Layer	10YR 4/4 dark yellowish brown firm mid coarse sandy clay, with rare chalk nodules				0.30	0163	0161		
0163				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across. SHARP TO: 164				1.40	0164	0162		
0164				TPC03	Layer	2.5Y 5/4 light olive brown friable clay with frequent chalk flecking and occasional medium to large nodules of chalk between 4 and 10cm across, with large pockets of 2.5Y 5/6 light olive brown mid coarse sand.				0.40		0163		
0165				TPC04	Layer	10YR 5/3 brow mid loose mid coarse sandy topsoil, with rare small to medium angular flints	Topsoil			0.10	0166			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0166				TPC04	Layer	10YR 5/4 yellowish brown friable mid coarse sand with frequent medium to small sub angular flints, quite well sorted. Rare CBM and chalk flecking. SHARP TO: 167	Subsoil			0.30	0167	0165		
0167				TPC04	Layer	7.5YR 4/6 strong brown friable mid coarse sand with occasional sub angular flints of roughly 4cm across, rare sub angular flints				0.70	0168	0166		
0168				TPC04	Layer	2.5Y 5/6 light olive brown loose fine stoneless sand, with pockets of fine 7.5YR 4/6 sand				1.90		0167		
0169				TPC05	Layer	10YR 4/3 brown firm clayey topsoil with poorly sorted frequent flints of all sizes and shapes, and rare sub angular chalk nodules of around 5cm across. SHARP TO: 170	Topsoil			0.10	0170			
0170				TPC05	Layer	10YR 4/4 dark yellowish brown firm silty clay with rare poorly sorted flints of all shapes and sizes. SHARP TO: 171	Subsoil			0.25	0171	0169		
0171				TPC05	Layer	2.5Y 5/3 light olive brown very firm clay with frequent chalk flecking and very small nodules				0.35	0172	0170		
0172				TPC05	Layer	2.5Y 6/2 light brownish grey medium stiff clay with frequent chalk flecking. Frequent medium chalk nodules around 5cm across. SHARP TO: 173				0.80	0173	0171		
0173				TPC05	Layer	2.5Y 4/2 dark greyish brown medium stiff clay with frequent chalk flecking and medium chalk nodules of roughly 5cma cross. DIFFUSE TO: 174				0.80	0174	0172		
0174				TPC05	Layer	2.5Y 6/2 light brownish grey friable clay with frequent small flint gravel				0.70		0173		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						and rare large flints, roughly 30cm across, small angular chalk nodules - possibly some form of limestone or similar material, and rare large lumps of chalk of roughly 25cm.								
0175				TPC06	Layer	2.5Y 3/3 dark olive brown soft clayey topsoil, frequent flints of all shapes	Topsoil			0.40	0176			
0176				TPC06	Layer	10YR 4/4 dark yellowish brown friable sandy clay with rare small sub angular to angular flints. SHARP TO: 177				0.40	0177	0175		
0177				TPC06	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				1.70	0178	0176		
0178				TPC06	Layer	10YR 5/6 yellowish brown friable/loose sandy clay with occasional chalk flecking.				0.50		0177		
0179				TPC08	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes	Topsoil			0.35	0180			
0180	0181			TPC08	Fill	5Y 2.5/1 black stiff clay, no inclusions, no finds.	Post-hole fill, natural processes.	0.25	0.19	0.10	0181	0179		
0181	0181	Post-hole		TPC08	Cut	A possible post-hole cut, circular in plan, very slightly elongated NW/SE. Steep sides leading to a rounded base via moderate breaks of slope.	Possible post-hole cut	0.25	0.19	0.10	0182	0180		
0182		Post-hole		TPC08	Layer	2.5Y 5/4 light olive brown firm clay with frequent chalk flecking and small nodules				0.45	0183	0181		
0183				TPC08	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0184	0182		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0184				TPC08	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and very small nodules				1.60		0183		
0185				TPC09	Layer	2.5Y 3/2 very dark greyish brown friable clayey topsoil with some sand. Frequent flints of all shapes	Topsoil			0.50	0186			
0186				TPC09	Layer	2.5Y 5/3 firm clay with occasional chalk flecking and small nodules				0.50	0187	0185		
0187				TPC09	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0188	0186		
0188				TPC09	Layer	2.5Y 3/1 very dark grey firm clay with frequent chalk flecking and very small nodules <10cm				1.20		0187		
0189				TPC07	Layer	2.5Y 4/3 olive brown friable clayey topsoil with frequent flints of all shapes and sizes, occasional to frequent rounded chalk nodules	Topsoil			0.10	0190			
0190				TPC07	Layer	Mottled 2.5Y 5/3 light olive brown, 2.5Y 4/3 olive brown and 5YR 3/3 dark reddish brown soft clay with occasional medium flints of all shapes and rounded chalk nodules both	Shallow topsoil and deep ploughing have heavily disturbed this layer.			0.20	0191	0189		
0191				TPC07	Layer	2.5Y 5/3 light olive brown soft clay with rare rounded and sub rounded medium flints				0.90	0192	0190		
0192				TPC07	Layer	2.5Y 6/1 grey firm clay with frequent chalk flecking and nodules				0.70	0351	0191		
0193				TPC10	Layer	2.5Y 3/3 dark olive brown firm clayey topsoil occasional to rare flints of all shapes	Topsoil			0.30	0194			
0194				TPC10	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				0.30	0195	0193		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0195				TPC10	Layer	5Y 7/1 light grey firm clay with frequent chalk flecking and small nodules				0.30	0196	0194		
0196				TPC10	Layer	5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules				1.50		0195		
0197				TPC11	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 198	Topsoil			0.30	0198			
0198				TPC11	Layer	2.5Y 5/3 light olive brown firm clay with occasional to frequent chalk flecking and nodules				0.40	0199	0197		
0199				TPC11	Layer	2.5Y 5/1 grey firm clay frequent chalk flecking and small nodules				0.80	0200	0198		
0200				TPC11	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules <5cm				1.50		0199		
0201				TPC12	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with flints of all sizes and shapes, poorly sorted. SHARP TO: 202	Topsoil			0.30	0202			
0202				TPC12	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.40	0203	0201		
0203				TPC12	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.60	0204	0202		
0204				TPC12	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				1.70		0203		
0205				TPC13	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with poorly sorted flints of all sizes and shapes. SHARP TO: 206				0.20	0206			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0206				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with rare chalk flecking. SHARP TO: 207	Subsoil			0.30	0207	0205		
0207				TPC13	Layer	2.5Y 5/3 light olive brown firm clay with frequent chalk flecking and small nodules				0.20	0208	0206		
0208				TPC13	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and small nodules				0.80	0209	0207		
0209				TPC13	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.50		0208		
0210				TPC14	Layer	2.5Y 3/1 very dark grey friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 211	Topsoil			0.40	0211			
0211				TPC14	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking and small nodules				0.50	0212	0210		
0212				TPC14	Layer	2.5Y 5/1 grey firm clay with frequent chalk flecking and nodules				0.70	0213	0211		
0213				TPC14	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and small nodules				1.40		0212		
0214				BHC02	Layer	10YR 3/3 silty sandy topsoil, no inclusions. SHARP TO: 215	Topsoil			0.30	0215			
0215				BHC02	Layer	.5YR 3/3 silty mid fine sand, no inclusions. SHARP TO: 216	Subsoil			0.25	0231	0214		
0216				BHC02	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand, likely the result of rooting pulling subsoil down into the sand.						0230		
0217				BHC04	Layer	7.5YR 3/3 dark brown silty sandy topsoil with rare sub angular and	Topsoil			0.30	0218			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						angular flints of 1-2cm. SHARP TO: 218								
0218				BHC04	Layer	7/5YR 3/4 dark brown loose silty sand with rare flints of all shapes, 5-1cm across. SHARP TO: 219	Subsoil			0.30	0219	0217		
0219				BHC04	Layer	Mottled 10YR 5/8 yellowish brown and 7.5YR 4/6 friable sand with small patches of 10YR 5/6 yellowish brown stiff clay Rare subangular flints of around 5cm and rare chalk nodules of around 10cm.						0218		
0220				TPC15	Layer	2.5Y 3/1 dark grey brown friable topsoil with frequent flints of all sizes.	Topsoil			0.35	0221			
0221				TPC15	Layer	2.5Y 5/3 light olive brown firm clay with occasional chalk flecking.				0.55	0222	0220		
0222				TPC15	Layer	2.5Y 5/1 light grey firm clay with frequent chalk flecks and occasional flints.				0.80	0223	0221		
0223				TPC15	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules, and occasional large flints.				1.30		0222		
0224				TPC16	Layer	2.5Y 3/1 dark grey brown clayey friable topsoil with frequent flints of all sizes.				0.35	0225			
0225				TPC16	Layer	2.5Y 5/3 light olive brown and orange firm clay with occasional chalk flecking ad small flints.				0.90	0226	0224		
0226				TPC16	Layer	2.5Y 5/1 light grey compact clay with frequent chalk flecking and occasional large flints.				0.90	0227	0225		
0227				TPC16	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and large				1.30		0226		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk noodles. Occasional large and medium sized flint.								
0228				BHC03	Layer	10YR 3/3 silty candy topsoil, no inclusions. SHARP TO: 229				0.35	0229			
0229				BHC03	Layer	10YR 5/8 yellowish brown sand mottled with 7.5YR 3/3 silty mid fine sand. Rare chalk nodules.						0228		
0230	0230	Stake-hole		BHC02	Cut	Circular in plan, no elongation/orientation. A steep western side and a moderate eastern side meet in a rounded V shaped base.	Though this may be a stake-hole, fill (231) in texture and colour was indistinguishable from several natural splodges also seen in the trial-pit, likely the result of rooting. This suggests some caution should be taken in interpreting this feature, however the shape in profile and particularly in plan remains convincing.			0.07	0216	0231		
0231	0230	Stake-hole		BHC02	Fill	7.5YR 3/3 silty mid fine sand, no inclusions.	Natural infill.			0.07	0230	0215		
0232				TPC17	Layer	10YR 4/2 dark greyish brown loose sandy topsoil with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 283	TOPSOIL			0.30	0233			
0233				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. SHARP TO: 234				0.80	0234	0232		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0234				TPC17	Layer	2.5Y 5/6 light olive brown loose mid coarse sand with frequent flints of all shapes and sizes, poorly sorted. Flints become less and less frequent with depth before becoming totally absent from 2m BGL and downwards.				1.90		0233		
0235				BHB19	Layer	2.5Y 2.5/1 black friable silty clayey topsoil with occasional chalk flecks and poorly sorted flints of all shapes and sizes. SHARP TO 236	Topsoil			0.50	0236			
0236				BHB19	Layer	2.5Y 5/3 light olive brown firm clay with flints and chalk flecking.						0235		
0237				TPF02	Layer	2.5Y 3/2 very dark greyish brown fine silty topsoil, flints of all shapes and sizes. SHARP TO: 238	Topsoil			0.30	0238			
0238				TPF02	Layer	2.5Y 4/4 olive brown loose silty sandy subsoil with very rare small angular flints	Subsoil			0.90	0239	0237		
0239				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler. No inclusions. DIFFUSE TO 240				0.90	0240	0238		
0240				TPF02	Layer	2.5Y 5/4 light olive brown soft extremely fine sand with rare pockets of slightly clayey sand of almost identical colour to the main matrix, though perhaps a little paler, with frequent flint gravel				0.80	0241	0239		
0241				TPF02	Layer	2.5Y 5/2 greyish brown very firm clay with rare chalk flecking and flints <1cm.				0.10		0240		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0242				TPF01	Layer	2.5Y 4/4 olive brown loose/soft sandy topsoil with frequent flints of all sizes and shapes, poorly sorted. SHARP TO: 243				0.30	0243			
0243				TPF01	Layer	2.5Y 5/4 light olive brown loose very sandy clay with occasional to frequent chalk flecking and rare medium chalk nodules of roughly 4cm across. Occasional medium rounded flints of roughly 6cm, with rare larger sub rounded flints, quite well sorted. SHARP TO: 244				1.50	0244	0242		
0244				TPF01	Layer	2.5Y 5/4 light olive brown soft clayey fine sand, frequent small to medium rounded flints 1-6cm across, SHARP TO: 245				0.30	0245	0243		
0245				TPF01	Layer	2.5Y 5/4 light olive brown soft somewhat sandy clay with rare chalk flecks, rare small to medium angular flints, and rare highly degraded possible iron stone. SHARP TO: 246				0.30	0246	0244		
0246				TPF01	Layer	2.5Y 6/4 light yellowish brown very fine sand, no inclusions.				0.60		0245		
0247				TPF03	Layer	10YR 3/2 sandy clayey topsoil with frequent flints of all shapes	Topsoil			0.20	0248			
0248				TPF03	Layer	2.5Y 4/4 olive brown friable silty clay with rare small flints	Subsoil			0.60	0249	0247		
0249				TPF03	Layer	2.5Y 6/4 light yellowish brown firm clay with occasional sub angular and sub rounded flints with occasional chalk flecking and small chalk nodules				1.40	0250	0248		
0250				TPF03	Layer	2.5Y 5/2 greyish brown firm clay with occasional sub angular and sub rounded flints with occasional				0.30	0251	0249		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						chalk flecking and small chalk nodules								
0251				TPF03	Layer	2.5Y 5/6 light olive brown very fine stoneless sand.				0.50		0250		
0252				TPF04	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes. DIFFUSE TO: 253	Topsoil			0.30	0253			
0253				TPF04	Layer	2.5Y 4/3 olive brown soft clayey subsoil, occasional small angular flints. SHARP TO: 254	Subsoil			0.20	0254	0252		
0254				TPF04	Layer	2.5Y 5/4 light olive brown quite firm clay with frequent chalk flecks and small nodules				0.70	0255	0253		
0255				TPF04	Layer	2.5Y 5/6 greyish brown firm clay with frequent chalk flecks and small nodules				0.90	0256	0254		
0256				TPF04	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecks and small nodules				0.90		0255		
0257				TPF05	Layer	2.5Y 3/3 olive brown soft clayey topsoil, frequent flecks of all shapes and sizes, and very rare small chalk nodules	Topsoil			0.35	0258			
0258				TPF05	Layer	2.5Y 5/4 light olive brown quite firm clay, frequent chalk flecking and small chalk nodules				0.75	0259	0257		
0259				TPF05	Layer	2.5Y 5/2 greyish brown firm clay with frequent chalk flecking and small nodules				1.20	0260	0258		
0260				TPF05	Layer	2.5Y 4/1 greyish brown firm clay frequent chalk flecking and nodules <5cm.				0.70		0259		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0261				TPF06	Layer	2.5Y 3/3 olive brown soft clayey topsoil with frequent flints of all shapes and sizes, very rare small chalk nodules	Topsoil			0.45	0262			
0262				TPF06	Layer	2.5Y 5/4 light olive brown friable clay (sandy from 0.45-0.55 BGL) frequent small chalk flecks and nodules				1.35	0263	0261		
0263				TPF06	Layer	2.5Y 6/2 light brownish grey medium firm clay with frequent chalk flecking and nodules				0.30	0264	0262		
0264				TPF06	Layer	2.5Y 4/1 dark grey firm clay with frequent chalk flecking and nodules <5cm.				0.90		0263		
0265				TPC19	Layer	10YR 3/2 very dark grey brown soft sandy topsoil with occasional to rare small angular to sub rounded flints less than 3cm across. SHARP TO: 266	Topsoil			0.55	0266			
0266				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with rare small flints	Colluvium			0.80	0267	0265		
0267				TPC19	Layer	10YR 4/4 dark yellow brown mid coarse loose sand with frequent flint gravel, frequent small flints	Fluvial deposit			0.25	0268	0266		
0268				TPC19	Layer	10YR 5/6 yellowish brown mid coarse loose stoneless sand.				0.80		0267		
0269				TPC20	Layer	10YR 3/2 very dark greyish brown soft sandy topsoil with occasional to rare angular to sub rounded flints	Topsoil			0.50	0270			
0270				TPC20	Layer	A thin lens of 2.5Y 4/4 dark yellow brown stiff somewhat sandy clay from 0.5-0.6m BGL, then 2.5Y 5/8 yellow brown medium fine clayey sand, with rare medium flints	Very mixed layer			1.60	0271	0269		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0271				TPC20	Layer	2.5Y 8/4 medium fine stoneless sand				0.90		0270		
0272				TPD02	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 273	Topsoil			0.40	0273			
0273				TPD02	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				1.70	0274	0272		
0274				TPD02	Layer	10YR 5/8 yellowish brown medium fine to fine sand with occasional rounded to sub angular flints <2cm.				0.90		0273		
0275				TPD03	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes from 1-4cm. SHARP TO: 276	Topsoil			0.70	0276			
0276				TPD03	Layer	10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm. Rare to occasional pockets of 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules				0.20	0277	0275		
0277				TPD03	Layer	Predominantly 10YR 5/6 yellowish brown loose very sandy clay with occasional to frequent chalk nodules with pockets of 10YR 3/4 dark yellowish brown fine sand with rare sub rounded and sub angular flints of about 12cm.				2.10		0276		
0278				BH01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0308			
0279				BH02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0287			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0280				BH03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0313			
0281				BH04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0283			
0282				BH05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.35	0310			
0283				BH04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.	Subsoil			0.15	0284	0281		
0284				BH04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0283		
0285				TPD04	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with occasional flints of all shapes, 1-4cm. SHARP TO: 286	Topsoil			0.60	0286			
0286				TPD04	Layer	10YR 5/6 yellowish brown loose very sandy clay with occasional very small chalk nodules				2.40		0285		
0287				BH02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.2	0288	0279		
0288				BH02	Layer	2.5Y 7/6 yellow fine stoneless sand.						0287		
0289				TPF21	Layer	2.5Y 3/2 very dark greyish brown somewhat silty sandy topsoil with occasional to frequent rounded flints of 4-2 cm SHARP TO: 290	Topsoil			0.40	0290			
0290				TPF21	Layer	10YR 5/8 yellowish brown mottled with 10YR 4/4 dark yellowish brown soft/loose slightly clayey sand with occasional to rare sub angular to rounded flints of 2-5cm. SHARP TO: 291	Subsoil			0.30	0291	0289		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0291				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with rare small rounded flints				2.10	0292	0290		
0292				TPF21	Layer	7.5YR 5/8 strong brown friable clayey sand with frequent flint gravel, rounded 5-8cm, well sorted.	Fluvial deposit?			0.20		0291		
0293				TPF22	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional to frequent flints, sub rounded to sub angular. SHARP TO: 294	Topsoil			0.55	0294			
0294				TPF22	Layer	10YR 5/8 yellowish brown firm/medium firm clayey sand with occasional to rare flints from 1-3cm. SHARP TO 295				0.75	0295	0293		
0295				TPF22	Layer	2.5Y 7/4 pale brown mid fine sand mixed with 2.5Y 6/8 olive yellow mid fine sand with occasional rounded flint gravel, 5-8cm, quite well sorted. 2.5Y 7/4 becomes predominant with only pockets of 2.5Y 6/8 from 1.8m BGL SHARP TO: 296				1.50	0296	0294		
0296				TPF22	Layer	7.5YR 4/6 strong brown mid coarse sand with frequent rounded flint gravel of 5-8cm, well sorted.						0295		
0297				TPF23	Layer	10YR 3/3 dark brown silty sandy topsoil with occasional subrounded to subangular flints. SARP TO: 298	Topsoil			0.70	0298			
0298				TPF23	Layer	Very mixed layer of subsoil; mid fine sand with mottled patches of 5YR 3/4 dark reddish brown, 10YR 4/3 brown, 10YR 5/4 yellowish brown and 10YR 5/8 yellowish brown. Frequent rounded flint gravel throughout, 3-6cm across. SHARP TO: 299	Subsoil			0.20	0299	0297		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0299				TPF23	Layer	2.5Y 6/4 light yellowish brown mid fine sand mixed with 10YR 4/6 dark yellowish brown, with occasional to frequent subrounded to sub angular flint gravel 1-4cm across throughout, and patches of 2.5Y 7/2 fine stoneless sand. SHARP TO: 300				1.10	0300	0298		
0300				TPF23	Layer	2.5Y 7/2 light grey mixed with 10YR 6/8 brownish yellow sandy silty soft clay, with rare very small flints				0.90	0301	0299		
0301				TPF23	Layer	10YR 6/8 gravel with clay and silty sand with occasional rounded and sub rounded flints from 5-3cm across and rare small sub angular flints				0.10		0300		
0302				TPF24	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded and rounded flints from 1-4cm across. SHARP TO: 303	Topsoil			0.40	0303			
0303				TPF24	Layer	10YR 5/8 yellowish brown soft, quite fine sand with occasional sub angular to rounded flints from 1-4cm across, and rare larger flints from 6-10cm across. Occasional pockets of 10YR 5/8 yellowish brown mid firm clay, with pockets of small, well sorted, rounded flints from 1-4cm across. DIFFUSE TO: 304				0.95	0304	0302		
0304				TPF24	Layer	2.5Y 6/4 fine sand with frequent rounded flints, mostly 1-5cm across, rare flints up to 10cm, quite well sorted.				1.65		0303		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0305				TPF25	Layer	2.5Y 2.5/1 black loose silty topsoil with occasional sub rounded flints, 1-4cm across. SHARP TO: 306	Topsoil			0.45	0306			
0306				TPF25	Layer	7.5YR 3/3 dark brown sand with rare to occasional flints of all shapes	Subsoil			0.20	0307	0305		
0307				TPF25	Layer	10YR 5/6 yellowish brown loose mid to fine sand with rare to occasional flints of all shapes				2.35		0306		
0308				BH01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0309	0278		
0309				BH01	Layer	2.5Y 7/6 yellow fine stoneless sand.						0308		
0310				BH05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0311	0282		
0311				BH05	Layer	2.5Y 7/6 yellow fine stoneless sand.						0310		
0312	0312			BH03	Cut	A feature of unclear shape filling the entire trial-pit.					0314	0313		
0313	0312			BH03	Fill	Likely feature fill, very similar to subsoil in nearby pits. 10YR 4/6 dark yellowish brown soft sandy silt.				0.45	0312	0280		
0314				BH03	Layer	2.5Y 7/6 yellow fine stoneless sand.						0312		
0315				TP01	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0316			
0316				TP01	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0317	0315		
0317				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.90	0318	0316		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0318				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0319	0317		
0319				TP01	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.50		0318		
0320				TP05	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0321			
0321				TP05	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.15	0323	0320		
0322	0322	Ditch		TP05	Cut	East West running ditch, unexcavated.		Linear	2.00		0499	0323		
0323	0322	Ditch		TP05	Fill	10YR 5/4 yellowish brown loose sandy silt with occasional flints.					0322	0321		
0324				TP05A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0325			
0325				TP05A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.10	0326	0324		
0326				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.00	0327	0325		
0327				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0328	0326		
0328				TP05A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				1.20		0327		
0329				TP07	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0330			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0330				TP07	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0331	0329		
0331				TP07	Layer	2.5Y 7/6 yellow fine sand with occasional flint gravel.				0.40	0332	0330		
0332				TP07	Layer	5Y 8/4 yellow medium fine soft stoneless sand.				0.70	0333	0331		
0333				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.80	0334	0332		
0334				TP07	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5Y 8/3 pale brown fine stoneless sand.				0.90		0333		
0335				TPF17	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across, and rare flints up to 10cm across. SHARP TO: 336				0.60	0336			
0336				TPF17	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints up to 10cm across. DIFFUSE TO: 337				0.20	0337	0335		
0337				TPF17	Layer	10YR 5/8 yellowish brown firm/friable sandy clay with frequent rounded and sub rounded flints from 1-5cm across, and rare flints up to 10cm across. Angular flints apparent from 1.6m BGL.				2.20		0336		
0338				TPF19	Layer	2.5Y 3/2 very dark greyish brown silty sandy topsoil with frequent rounded flints from 1-5cm across. SHARP TO: 339				0.60	0339			
0339				TPF19	Layer	10YR 5/8 yellowish brown clayey mid coarse sand with frequent rounded and sub rounded flints				0.20	0340	0338		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						from 1-5cm, rare up to 10cm. DIFFUSE TO 340								
0340				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. DIFFUSE TO 341				0.40	0341	0339		
0341				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across. DIFFUSE TO: 342				0.90	0342	0340		
0342				TPF19	Layer	10YR 5/8 yellowish brown sandy clay with frequent rounded and sub rounded flints from 1-5cm, rare up to 10cm. SHARP TO: 343				0.30	0343	0341		
0343				TPF19	Layer	10YR 5/8 yellowish brown loose/friable mid coarse clayey sand with frequent rounded to angular flints from 1-5cm across, occasional flints up to 10cm across.				0.60		0342		
0344				TP108	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 345	Topsoil			0.20	0345			
0345				TP108	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints less than 2cm across. SHARP TO: 346				1.00	0346	0344		
0346				TP108	Layer	GLEY2 2.5/5PB blueish black mid fine stoneless sand. Pit collapsed at 1.4m BGL.				0.20		0345		
0347				TP114	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints, less than 1cm across. SHARP TO: 348	Topsoil			0.15	0348			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0348				TP114	Layer	2.5Y 7/4 pale brown mid coarse sand with occasional to rare rounded flints				0.50	0349	0347		
0349				TP114	Layer	10YR 4/6 loose mid coarse to coarse sand and gravel with frequent rounded to angular flints, poorly sorted. SHARP TO: 350				0.50	0350	0348		
0350				TP114	Layer	10YR 3/1 very dark grey silty sand, with organic deposits. Though relatively deep in the sequence this layer of organic deposits seems quite recent, possibly as a result of fast paced natural processes due to proximity to the coast and a nearby marsh, or due to human action in the area, e.g. the sea wall/promenade/car park. Pit collapsed at 1.25m BGL.				0.10		0349		
0351				TPC07	Layer	2.5Y 4/1 dark grey fine clay with frequent chalk flecking and very small chalk nodules smaller than 1cm, and occasional larger nodules up to 10cm.				1.10		0192		
0352				TP06	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0353			
0353				TP06	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0354	0352		
0354				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.80	0355	0353		
0355				TP06	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10		0354		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0356				TP010	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0357			
0357				TP010	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0358	0356		
0358				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.30	0359	0357		
0359				TP010	Layer	2.5Y 8/8 olive yellow clay with 2.5Y 8/3 pale brown stoneless sand.				0.40	0360	0358		
0360				TP010	Layer	2.5YR 5/4 brown sand and silt organic lens, no clear preserved organics or other inclusions.	Organic lens			0.10	0361	0359		
0361				TP010	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				2.10		0360		
0362				TP011	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.40	0363			
0363				TP011	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.70	0364	0362		
0364				TP011	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.10	0365	0363		
0365				TP011	Layer	5Y 7/8 yellow clay laminated with 2.5Y 7/6 yellow sand and 5Y 4/1 dark grey iron and manganese panning.				0.40		0364		
0366				TP011	Layer	2.5Y 7/6 yellow medium fine stoneless sand.				0.90		0365		
0367				TP02	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0368			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0368				TP02	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.40	0369	0367		
0369				TP02	Layer	2.5Y 7/6 yellow fine stoneless sand.				0.70	0370	0368		
0370				TP02	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.00		0369		
0371				TP08	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0372			
0372				TP08	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.30	0374	0371		
0373	0373	Ditch		TP08	Cut	A possible ditch cut, running North South with moderate, concave sides, and an unclear base, obfuscated by the trial-pit wall. No section drawing due to depth of trial-pit in unstable ground.				0.30	0375	0374		
0374	0373	Ditch		TP08	Fill	2.5Y 5/4 light olive brown soft sand with occasional small flints.				0.30	0373	0372		
0375				TP08	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.50	0376	0373		
0376				TP08	Layer	2.5Y 8/4 pale brown medium fine sand with clay pockets.				0.90		0375		
0377				TP03	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.	Topsoil			0.50	0378			
0378				TP03	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0379	0377		
0379				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.20	0380	0378		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0380				TP03	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				0.40		0379		
0381				TP04	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0382			
0382				TP04	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.1	0384, 0386, 0388	0381		
0383	0383	Ditch		TP04	Cut	North South running unexcavated ditch.		Linear	>1.00	Unexcavated	0441	0384		
0384	0383	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>1.00	Unexcavated	0383	0382		
0385	0385	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	>0.80	Unexcavated	0441	0386		
0386	0385	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	>0.80	Unexcavated	0385	0382		
0387	0387	Ditch		TP04	Cut	East West running unexcavated ditch		Linear	0.50	Unexcavated	0441	0388		
0388	0387	Ditch		TP04	Fill	Mid orange brown loose sandy silt		Linear	0.50	Unexcavated	0387	0382		
0389				TP04A	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.40	0390			
0390				TP04A	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0391	0389		
0391				TP04A	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.50	0392	0390		
0392				TP04A	Layer	2.5Y 7/8 yellow stoneless sand with 2.5Y 7/1 light grey clay pockets.				1.40		0391		
0393				TP09	Layer	10YR 4/4 dark yellowish brown soft silty sand with occasional small flints.				0.50	0394			
0394				TP09	Layer	10YR 4/6 dark yellowish brown soft silty sand with occasional small flints.				0.20	0395	0393		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0395				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand.				1.10	0396	0394		
0396				TP09	Layer	2.5Y 7/6 yellow fine stoneless sand, with pockets of 2.5YR 7/8 light red clay.				1.70		0395		
0397				TP101	Layer	2.5Y 4/3 very sandy mid coarse topsoil with frequent small rounded to sub angular flints				0.10	0398			
0398				TP101	Layer	2.5Y 3/3 dark olive brown very fine sand with occasional to rare small rounded flints				0.30	0399	0397		
0399				TP101	Layer	2.5Y 5/6 light olive brown mid coarse sand with rare rounded flints				1.10	0400	0398		
0400				TP101	Layer	2.5Y 4/4 olive brown very sandy soft clay with occasional to rare sub angular and angular flints				0.70		0399		
0401				TPD05	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 402	Topsoil			0.70	0402			
0402				TPD05	Layer	10YR 5/8 yellowish brown fine soft sand, frequent very small flints				0.20	0403	0401		
0403				TPD05	Layer	10YR 5/8 mid coarse loose sand with frequent angular to sub rounded flint gravel up to 3cm across, rare up to 8cm. Frequent chalk flecking. SHARP TO: 404				0.60	0404	0402		
0404				TPD05	Layer	2.5Y 6/4 light yellowish brown firm/friable clay with frequent angular and sub angular flints				1.50		0403		
0405				TPD06	Layer	10YR 3/3 dark brown fine silty clayey soft topsoil. Rare angular to sub angular flints of 5cm across. SHARP TO: 406	Topsoil			0.60	0406			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0406				TPD06	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0407	0405		
0407				TPD06	Layer	10YR 5/6 yellow brown friable clayey sand with frequent chalk flecking and occasional nodules up to 6cm across, occasional sub rounded to angular flints up to 3cm across. Frequent pockets of 10YR 5/6 mid firm sandy clay. SHARP TO 408				1.40	0408	0406		
0408				TPD06	Layer	2.5Y 5/6 light olive brown loose, fine sand, with rare rounded to sub angular flints up to 3cm across.				0.80		0407		
0409				TPD07	Layer	2.5Y 3/3 mid coarse sandy topsoil with frequent flints of all shapes and sizes. SHARP TO: 410	Topsoil			0.50	0410			
0410				TPD07	Layer	10YR 5/6 yellowish brown friable sandy clay with frequent chalk flecking and small rounded flints				1.90	0411	0409		
0411				TPD07	Layer	2.5Y 6/4 light yellow brown friable sandy clay with frequent chalk flecking, small nodules up to 3cm across, and rare medium nodules up to 7cm. Frequent to occasional small flints				0.60		0410		
0412				TPD09	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 413	Topsoil			0.60	0413			
0413				TPD09	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 414				0.20	0414	0412		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0414				TPD09	Layer	10YR 5/6 yellowish brown fine mid firm sandy clay with frequent very small angular and sub angular flints				0.70	0415	0413		
0415				TPD09	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0414		
0416				TPF10	Layer	10YR 6/3 pale brown firm clayey silt with occasional small flints.	Topsoil			0.40	0417			
0417				TPF10	Layer	10YR 6/6 brownish yellow firm sandy clay with occasional small flints.	Alluvial Subsoil			0.40	0418	0416		
0418				TPF10	Layer	2.5Y 7/6 yellow firm clay with sand and gravel pockets.				0.70	0419	0417		
0419				TPF10	Layer	2.5YR 6/6 olive yellow loose sandy clay and gravel.				0.70	0420	0418		
0420				TPF10	Layer	2.5Y 7/6 yellow fine soft silty clay.				0.80		0419		
0421				TPD10	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 422	Topsoil			0.40	0422			
0422				TPF10	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.20	0423	0421		
0423				TPF10	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 424				1.00	0424	0422		
0424				TPF10	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				0.40		0423		
0425				TPD11	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 426	Topsoil			0.40	0426			

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0426				TPD11	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0427	0425		
0427				TPD11	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 428				1.00	0428	0426		
0428				TPD11	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.50		0427		
0429				TPD12	Layer	10YR 3/4 dark yellowish brown fine sandy topsoil with frequent flints of all sizes and shapes. SHARP TO: 430	Topsoil			0.40	0430			
0430				TPD12	Layer	10YR 4/6 dark yellow brown mid fine loose sand with rare small angular flints	Subsoil			0.10	0431	0429		
0431				TPD12	Layer	10YR 5/6 yellowish brown fine clayey sand with rare angular and sub angular flints from 2-5cm, quite well sorted. SHARP TO: 432				1.50	0432	0430		
0432				TPD12	Layer	10YR 5/8 yellow brown mid fine sand with rare rounded to sub angular flints				1.00		0431		
0433				TPD13	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 435	Topsoil			0.40	0434			
0434				TPD13	Layer	10YR 5/6 yellowish brown mid coarse very loose sand, occasional to rare well sorted rounded flints up to 3cm across. SHARP TO: 435.				0.80	0435	0433		
0435				TPD13	Layer	2.5Y 6/8 olive yellow mid coarse sand with occasional to rare well sorted rounded flints				0.70	0436	0434		

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0436				TPD13	Layer	2.5Y 7/4 mid fine loose sand with occasional to rare well sorted small rounded to sub rounded flints				1.10		0435		
0437				BHD03	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 438	Topsoil			0.60	0438			
0438				BHD03	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0437		
0439				BHD04	Layer	10YR 3/3 dark brown loose silty mid coarse silty sandy topsoil with frequent flints of all shapes 1-3cm across somewhat well sorted. SHARP TO: 440	Topsoil			0.50	0440			
0440				BHD04	Layer	10YR 4/6 dark yellowish brown loose mid fine sand with occasional to rare sub angular to rounded flints.						0439		
0441				TP04	Layer	2.5Y 7/6 yellow fine stoneless sand.						0387, 0385, 0383		
0442				TPE05	Layer	2.5Y 3/2 very dark greyish brown fine sandy topsoil with rare poorly sorted flints od all shapes up to 7cm across. SHARP TO: 443	Topsoil			0.5				
0443				TPE05	Layer	10YR 3/4 dark yellowish brown fine sand with rare poorly sorted flints of all shapes. SHARP TO: 044	Subsoil			0.2				
0444				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.9				
0445				TPE05	Layer	10YR 5/8 yellowish brown fine sand with rare small angular flints				0.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0446				TPE05	Layer	10YR 4/6 loose mid fine sand with frequent flints of all shapes up to 10cm across, with rare patches of 2.5Y 7/2 mid firm very sandy clay.				1.1				
0447				TPE01	Layer	2.5Y 3/3 dark olive brown loose fine sandy topsoil with frequent rounded and sub rounded flints of 2-6cm across. SHARP TO: 448	Topsoil			0.4				
0448				TPE01	Layer	10YR 3/6 dark yellowish brown loose fine stoneless sand. SHARP TO: 449				0.9				
0449				TPE01	Layer	2.5Y 5/6 light olive brown mottled with moderately frequent small splodges of 10YR 3/6 dark yellowish brown fine sand. Very rare flints and sandstone. Some clumps of 2.5Y 5/6 light olive brown very soft, very sandy clay apparent from 2.0m BGL, 40cm across. DIFFUSE TO: 450				1.0				
0450				TPE01	Layer	2.5Y 5/6 loose sand with frequent moderately well sorted rounded to sub rounded flint gravel, 0.5-6cm across.	Fluvial			0.7				
0451				TPE10	Layer	2.5Y 4/3 mid olive brown firm silty clay topsoil with occasional small mid-sized flints.	Topsoil			0.4				
0452				TPE10	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional poorly sorted flints of various sizes, and occasional firm sandy patches.				0.4				
0453				TPE10	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				0.9				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0454				TPE10	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.3				
0455				TPE08	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0456				TPE08	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.9				
0457				TPE08	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel.				1.0				
0458				TPE08	Layer	GLEY1 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				0.7				
0459				TPE09	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.4				
0460				TPE09	Layer	2.5Y 8/6 light yellow firm clay with frequent chalk flecks and nodules, and occasional small flints. Occasional orangey sand patches.				0.3				
0461				TPE09	Layer	GLEY1 5/5G_/1 greenish black firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.0				
0462				TPE09	Layer	GLEY 4/5G_/1 greenish grey firm clay with frequent chalk flecks and nodules, and occasional pockets of poorly sorted flint gravel				1.3				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0463				TPE06	Layer	2.5Y 4/3 olive brown silty clayey topsoil with occasional poorly sorted flints.	Topsoil			0.5				
0464				TPE06	Layer	2.5Y 5/4 light olive brown soft sandy silt subsoil with occasional small flints.	Subsoil			0.2				
0465				TPE06	Layer	2.5Y 5/6 light olive brown soft medium coarse sand with occasional rounded small flints.				1.1				
0466				TPE06	Layer	2.5Y 7/8 yellow fine stoneless sand with occasional small clay pockets.				1.2				
0467				TPE07	Layer	2.5Y 4/3 olive brown sandy clayey topsoil with occasional small flints.	Topsoil			0.4				
0468				TPE07	Layer	2.5Y 5/4 light olive brown soft sandy clay.				0.2				
0469				TPE07	Layer	GLEY1 6/5G_/1 greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.0				
0470				TPE07	Layer	GLEY1 3/5G_/1 very dark greenish grey firm clay with occasional flint and frequent chalk flecking and nodules.				1.4				
0471				TPE33	Layer	2.5Y 3/2 very dark greyish brown very fine loose sandy topsoil, occasional flints of all shapes	Topsoil			0.4				
0472				TPE33	Layer	10YR 4/4 dark yellowish brown medium coarse soft very sandy clay with rare rounded/sub rounded flints	Colluvium			0.3				
0473				TPE33	Layer	10YR 4/6 dark yellowish brown medium coarse soft sandy clay with occasional rounded flints 1-8cm across, rare up to 8cm. SHARP TO: 474	Colluvium			0.4				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0474				TPE33	Layer	2.5Y 5/6 light olive brown soft clay with occasional chalk flecks, occasional to rare rounded and sub rounded flints from 1-10cm across, and striations of mid fine 2.5Y 5/6 light olive brown sand. SHARP TO: 475				0.7				
0475				TPE33	Layer	Mixed 10YR 5/8 yellowish brown and 2.5Y 5/6 light olive brown fine sand with rare to occasional rounded flints from 1-3cm across.				1.2				
0476				TPE32	Layer	2.5Y 3/2 very dark greyish brown fine loose sandy topsoil with occasional poorly sorted flint of varying size.				0.7				
0477				TPE32	Layer	10YR 4/4 dark yellowish brown soft sandy clay with rare small rounded flints and chalk flecking.				0.9				
0478				TPE32	Layer	2.5Y 5/6 light olive brown soft sand with clay pockets and occasional small rounded flints.				0.3				
0479				TPE32	Layer	2.5Y 6/8 olive yellow sand with clay pockets, occasional small to medium rounded flints. Pockets of lighter sand apparent approaching 3.0m BGL.				1.1				
0480				TPE04	Layer	2.5Y 3/3 dark olive brown fine sandy topsoil with frequent rounded to sub rounded flint gravel, between 1-3cm across. SHARP TO: 481	Topsoil			0.4				
0481				TPE04	Layer	10YR 3/6 dark yellow brown loose slightly silty fine sand with rare rounded to sub rounded flints 1-3cm across. SHARP TO: 482	Subsoil			0.25				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0482				TPE04	Layer	10YR 5/6 yellowish brown loose fine sand with occasional rounded to sub angular flint gravel 1-5cm across, with pockets of 10YR 5/4 yellowish brown soft/friable clayey sand up to 40cm across. Pockets become frequent with depth. DIFFUSE TO: 483				1.35				
0483				TPE04	Layer	2.5Y 8/3 pale brown soft/friable clayey very fine sand with rare rounded flints 2-3cm across.				1.0				
0484				TPE02	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent flint gravel of all shapes and sizes, poorly sorted. DIFFUSE TO: 485	Topsoil			0.6				
0485				TPE02	Layer	2.5Y 4/4 olive brown fine loose sand mixed with 10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel <2cm.				0.9				
0486				TPE02	Layer	10YR 4/6 dark yellow brown fine loose sand with very frequent small angular flint gravel				0.2				
0487				TPE03	Layer	2.5Y 2.5/1 black fine silty sandy topsoil with frequent poorly sorted flint gravel of all shapes and sizes and rare chalk flecking. SHARP TO 488	Topsoil			0.7				
0488				TPE03	Layer	Mixed 2.5Y 6/4 light yellowish brown and 10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand from 1.7m BGL DIFFUSE TO: 489				1.6				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
0489				TPE03	Layer	10YR 4/6 dark yellowish brown fine sand with rare mostly rounded, though some angular flints 0.5-2.0cm across. Frequent large pockets of 2.5Y 8/2 pale brown very fine clay mixed with some very fine sand.				0.7				
0490				TPE25	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 491	Topsoil			0.4				
0491				TPE25	Layer	2.5Y 5/4 light olive brown stiff/friable slightly sandy clay with poorly sorted occasional flints of all shapes and sizes including rare very large flints 20-30cm across. SHARP TO: 492				1.1				
0492				TPE25	Layer	2.5Y 5/2 greyish brown firm clay, rare averagely well sorted rounded to sub angular flint gravel				1.2				
0493				TPE25	Layer	2.5Y 7/4 pale brown mid fine sand with frequent poorly sorted rounded to angular flints, 0.5-4cm across.				0.3				
0494				TPE24	Layer	2.5Y 3/3 dark olive brown mid firm/friable clayey topsoil with frequent poorly sorted flints of all shapes and sizes. SHARP TO: 495	Topsoil			0.3				
0495				TPE24	Layer	10YR 4/4 dark yellow brown firm/friable sandy clay with very rare small flints	Subsoil			0.5				
0496				TPE24	Layer	2.5Y 4/4 olive brown firm clay with frequent to moderate chalk flecking with rare flints				0.4				
0497				TPE24	Layer	2.5Y 6/4 light yellowish brown mixed with 10YR 5/6 yellowish				1.7				

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Context Number	Feature Number	Feature Type	Group Number	Trench	Category	Description	Interpretation	Length	Width	Depth	Over	Under	Cut by	Cuts
						brown loose sand with occasional rare rounded flints								
0498				TPE24	Layer	2.5Y 6/4 light yellowish brown firm clay with sand, rare angular flints				0.1				
0499				TP05	Layer	2.5Y 7/6 yellow fine stoneless sand.				Unexcavated		0322		

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APPENDIX B: GEOARCHAEOLOGICAL ASSESSMENT

Completed interventions only

Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Saxmundham (SXM 086)	BHB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Theberton (THB 061)	BHB03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB03A	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic alluvium encountered @3.00m-3.45m bgl
	BHB04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB06	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Organic material encountered @0.80m-2.00m bgl
	BHB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB07	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–0.65m bgl
	TPB08	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB15	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB17	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Middleton (MDD 052)	BHB18	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB19	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB20	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB21	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB22	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHB23	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @ 0.80m-2.00m
	TPB20	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB21	Crag Group - Sand	None recorded	Low	
	TPB22	Crag Group - Sand	None recorded	Low	
	TPB23	Crag Group - Sand	None recorded	High	Archaeological ditch feature encountered @1.00m-1.70m bgl
	TPB24	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB25	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB26	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB27	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB29	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPB30	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.50m-3.00m bgl
	TPB31	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPB 32	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPB33	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Westleton (WLN 147)	BHC02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHC04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	BHC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC05	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC07	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC08	Crag Group - Sand	Lowestoft Formation - Diamicton	High	Archaeological feature encountered @0.35m-0.45m bgl
	TPC09	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC14	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC15	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.35m-1.70m bgl
	TPC16	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPC17	Crag Group - Sand	Head	Low	
Blythburgh (BLB 177)	BHC08	Crag Group - Sand	Head	Low	
	BHD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	BHE01	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @3.00m–6.50m bgl
	BHE02	Crag Group - Sand	Lowestoft Formation - Diamicton	Moderate	Alluvium encountered @0.40m–5.90m bgl
	TPC19	Crag Group - Sand	N/A	Moderate	Alluvium encountered @1.35m-1.60m bgl
	TPC20	Crag Group - Sand	N/A	Low	
	TPD02	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD06	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD07	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD08	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @0.35m-1.10m bgl
	TPD09	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
Thorington (TNG 052)	BHE03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHE05	Crag Group - Sand	None recorded	Low	
Walberswick (WLB 148)	BHD03	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD04	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD05	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	BHD06	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPD10	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD11	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD12	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD13	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPD14	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.80m-2.90m bgl
	TPD15	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
	TPD16	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	High	Alluvium encountered @1.70m-3.00m bgl containing fossilised wood and iron panning.
	TPD17	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-2.20m bgl
	TPD18	Crag Group - Sand	None recorded	Moderate	Alluvium encountered @1.40m-2.30m bgl
Walberswick (WLB 149)	BH01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	BH02	Crag Group – Sand	None recorded	Low	
	BH03	Crag Group – Sand	None recorded	Low	
	BH04	Crag Group – Sand	None recorded	Low	
	BH05	Crag Group – Sand	None recorded	Low	
	TP01	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TP02	Crag Group – Sand	None recorded	Low	
	TP03	Crag Group – Sand	None recorded	Low	
	TP04	Crag Group – Sand	None recorded	Low	
	TP05	Crag Group – Sand	None recorded	Low	
	TP06	Crag Group – Sand	None recorded	Low	
	TP07	Crag Group – Sand	None recorded	Low	
	TP08	Crag Group – Sand	None recorded	High	Archaeological feature encountered @0.80m-1.10m bgl
	TP09	Crag Group – Sand	None recorded	Low	
	TP10	Crag Group – Sand	None recorded	High	Alluvium encountered @0.90m-1.30m bgl overlying Organic Alluvium @1.30m-1.40m bgl
	TP11	Crag Group – Sand	None recorded	Moderate	Alluvium encountered @2.20m-2.60m bgl
Wenhaston with mels hamlet (WMH 091)	BHE08	Crag Group – Sand	Head - Clay, Silt, Sand and Gravel	Low	
	TPE02	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE03	Crag Group – Sand	None recorded	Low	
	TPE04	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE05	Crag Group – Sand	Lowestoft Formation - Sand and Gravel	Low	

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Blyford (BLY 025)	BHE10	Crag Group – Sand	Head – Clay	Low	
	BHE11	Crag Group – Sand	Head – Clay	Low	
	TPE06	Crag Group – Sand	Head – Clay	Low	
	TPE07	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Wangford with Henham (HAM 048)	TPE08	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE09	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
	TPE10	Crag Group – Gravel	Lowestoft Formation – Diamicton	Low	
Brampton with Stoven (BRP 044)	BHE18	Crag Group - Gravel	Head – Clay	Low	
	BHE19	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	BHE20	Crag Group - Gravel	Lowestoft Formation – Diamicton	High	Organic alluvium encountered @1.20m-3.20m bgl
	BHE21	Crag Group - Gravel	Alluvium - Clay, Silt, Sand and Gravel	Moderate	Alluvium encountered @0.80m–3.00m bgl
	TPE24	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
	TPE25	Crag Group - Gravel	Lowestoft Formation – Diamicton	Low	
Uggeshall (UGG 043)	BHE22	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPF01	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF02	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF03	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF04	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPE32	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
	TPE33	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Low	
Wangford with Henham (WNF 082)	TPF5	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF6	Crag Group - Sand	Lowestoft Formation - Diamicton	Low	
	TPF10	Crag Group - Sand	Lowestoft Formation - Sand and Gravel	Moderate	Alluvium encountered @1.50m-3.00m bgl

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Parish	Borehole / Test-pit ID	Geology (BGS)		Geoarch potential	Comments
		Bedrock	Superficial		
Reydon (REY 152)	BHF11	Crag Group – Sand	None recorded	Low	
	TPF17	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF19	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF21	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF22	Crag Group – sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF23	Crag Group – Sand	Lowestoft Formation – Sand and Gravels	Low	
	TPF24	Crag Group – Sand	None recorded	Low	
	TPF25	Crag Group – Sand	None recorded	Low	
Reydon (REY 206)	BH106	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Peat encountered @3.00m–6.00m bgl. Overlaying organic Alluvium substrate
	BH107	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Alluvium encountered @2.50m-3.60m bgl overlying partially decomposed peat @3.60m–5.90m bgl.
	TP101	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	Low	
	TP108	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic Alluvium encountered @1.20m-1.40m bgl
	TP114	Crag Group – Sand	Marine Beach Deposits - Sand and Gravel	High	Organic deposits encountered @1.15m-1.25m bgl

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APPENDIX C: THE FINDS

Table C1: Finds concordance

Site	Test Pit	Context	Feature/ Layer	Material	Fabric/Description	Ct.	Wt. (g)	Artefact date	Overall finds spotdate
MDD 052	TPB23	149	Ditch 150	Roman pottery	WF, GM, GX, BUF, BSW	32	173	LC2+	LC2+ (residual LN/BA)
				CBM	Fragments of tegula and ?tile, undiagnostic fragments	8	319	Rom	
				Lithics	Worked flint flake	1	19	LN/BA (residual)	
	TPC04	166	Subsoil	Roman pottery	GM	1	2	Rom	
				Lithics	Worked flint flakes	2	14	LN/BA (residual)	
WLB 148	TPD18	097	Layer	Copper alloy	Coin (RA 1)	1	0.22	Post-medieval	
WLB 149	BH01	278	Layer	Silver	Coin (RA 2)	1	0.61	Medieval	
	BH02	279	Layer	Copper alloy	Jetton (RA 4)	1	0.67	Post-medieval	
	BH03	280	Layer	Copper alloy	Jetton (RA 5)	2	1.01	Post-medieval	
				Copper alloy	Jetton (RA 6)	1	5.34	Post-medieval	
	BH04	281	Layer	Silver	Coin (RA 3)	1	2.47	Post-medieval	
	BH05	282	Layer	Silver	Coin (RA 7)	1	0.62	Post-medieval	
				Copper alloy	Jetton (RA 8)	1	1.36	Post-medieval	
				Silver	Spoon (RA 9)	1	1.18	Modern	
	TP01	315	Layer	Silver	Ring (RA 12)	1	2.49	Post-medieval	
	TP05	320	Layer	Silver	Coin (RA 11)	1	1.03	Medieval	
		323	Ditch 322	Roman pottery	GM, GX	20	340	Rom	Rom
				CBM	?tile fragments, amorphous fragment	3	58	?Rom	
	TP05A	326	Layer	Copper alloy	Jetton (RA 17)	1	1.35	Post-medieval	
	TP07	329	Layer	Silver	Coin (RA 13)	1	0.31	Post-medieval	
	TP10	356	Layer	Silver	Coin (RA 14)	1	0.33	Post-medieval	
				Copper alloy	Coin (RA 15)	1	0.38	Post-medieval	
	TP11	362	Layer	Lead	Cloth seal (RA 16)	1	2.29	Post-medieval	
	TP02	367	Layer	Copper alloy	Watch winder (RA 18)	1	0.7	Modern	
				Silver	Coin (RA 19)	1	0.53	Post-medieval	
	TP03	378	Layer	Post-Roman pottery	LMT, MCW	2	25	12–14/15C	
	TP04	384	Ditch 383	Roman pottery	BSW	1	4	Rom	?Residual Rom

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		388	Ditch 387	CBM	Brick fragment (heat-affected/overfired)	1	423	Med/PM	?Residual Med/PM
	TP09	394	Layer	Roman pottery	BUF	1	1	Rom	
				Post-Roman pottery	MCW	3	6	12–14C	
				CBM	Brick fragments (one heavily sooted)	2	68	Med/PM	
REY 152	TPF17	335	Topsoil	Lithics	Worked flint flake	1	10	LN/BA (residual)	
	TPF23	297		Silver	Coin RA 10	1	1.06	Post-medieval	

Table C2: Pottery fabrics

Site	Period	Fabric	Fabric description	No.	Wt/g.	Fabric date
MDD 052	Roman	WF	Unprovenanced white finewares	1	8	Rom
		GX	Reduced coarsewares	22	140	Rom
		GM	Micaceous reduced wares (Wattisfield)	5	7	Rom
		BSW	Black surfaced wares	1	12	Rom
		BUF	Buff coarsewares	4	8	Rom
	Sub-total			***33***	***175***	
WLB 149	Roman	GM	Micaceous reduced wares (Wattisfield)	14	271	Rom
		GX	Reduced coarsewares	6	69	Rom
		BSW	Black surfaced wares	1	4	Rom
		BUF	Buff coarsewares	1	1	Rom
	Post-Roman	MCW	Medieval coarsewares	4	18	C12–C14(/15th)
		LMT	Late medieval and transitional wares	1	13	C15–C16
	Sub-total			***27***	***376***	
Total				**60**	**551**	

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APPENDIX D: THE BIOLOGICAL EVIDENCE

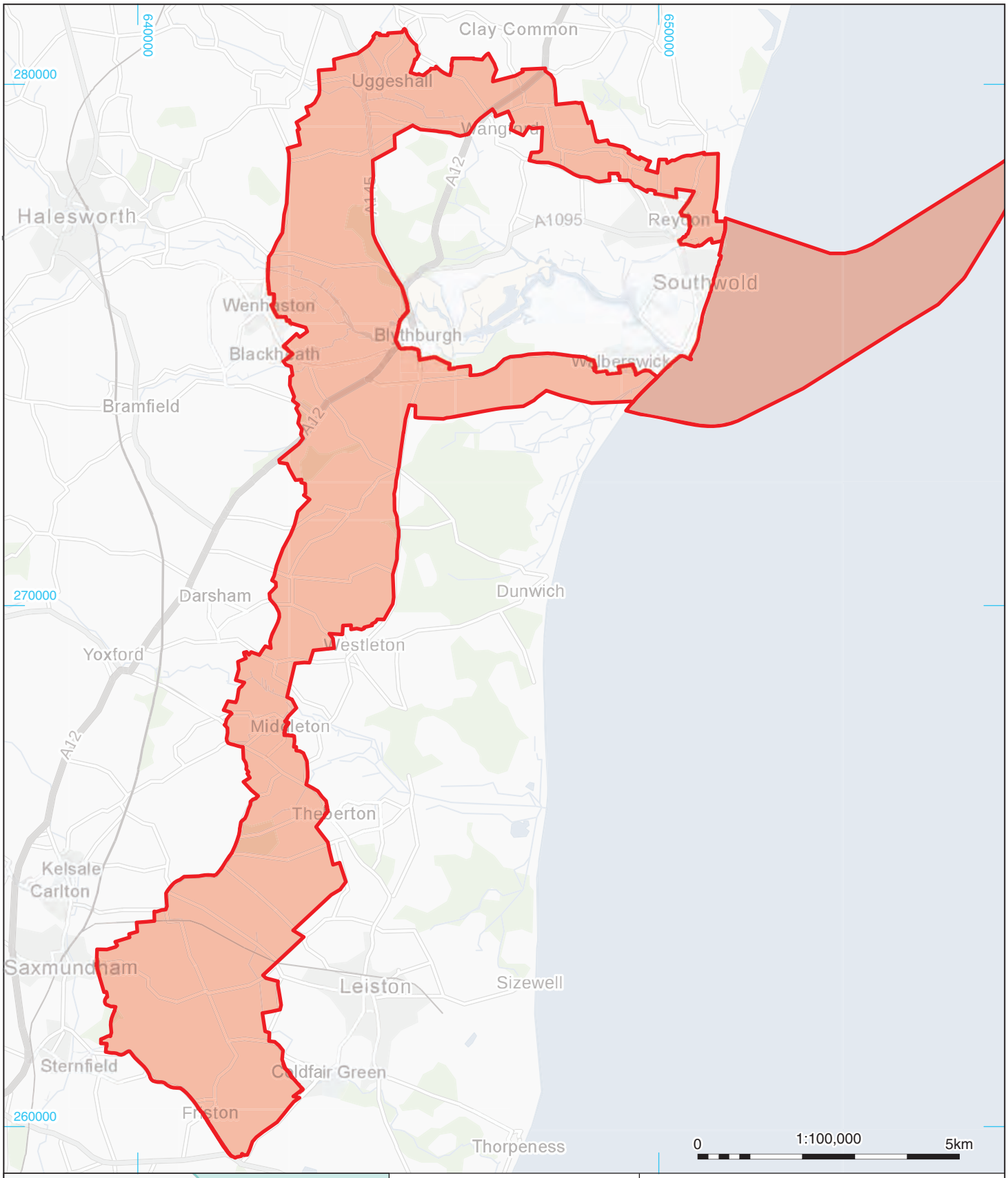
Table D1: Animal bone

Context	Taxon	Element	Details
0323	Horse	Radius (Left)	Distal half of bone present (60% WBE), including articulation. Average condition with minor surface root etching over 10% of surface. Distal fused. Measured: Bd=77.2mm Dd=40.7mm

APPENDIX E: OASIS REPORT FORM

PROJECT DETAILS (interim version)	
Project name	Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites Oasis ID: cotswold2-527147
Short description	Between September to November 2024, Cotswold Archaeology (CA) carried out a programme of archaeological monitoring and geoarchaeological modelling of land designated for a cable route from Knodishall to Wangford with Henham with a branch to potential landfall sites at Reydon and Walberswick. During this tranche of works, a total of 108 of the then proposed 183 trial-pits were excavated and recorded to depths of between 2.5m - 3.5m along with twelve of the fourteen bore-holes specified for on-site recording due to their perceived archaeological potential. A further forty-one of the then proposed ninety-two bore-holes were subject to geological deposit modelling from the bore-hole logs. Archaeological features were encountered in four of the test-pits, a post-hole in Westleton parish (TPC08) and four ditches in Walberswick (TP04, TP05 and TP08). Where artefactual evidence was recovered, a Roman date was suggested. A small quantity of unstratified material was also recovered from topsoil and subsoil deposits suggesting Roman and medieval activity in the parishes of Middleton and Reydon. Unstratified metalwork recovered during metal detecting in the Walberswick landfall site (WLB 149) included coins, jettons and other objects of medieval and earlier post-medieval date that could relate to commercial activity on the site, possibly a small fair or undocumented market, although nightsoiling could be a another interpretation of this evidence. The geoarchaeological assessment identified a limited number of deposits which can be considered to have archaeological potential during future, more invasive works.
Project dates	September – November 2024
Project type	Archaeological Monitoring of Geotechnical Interventions
Previous work	None
Future work	Completion of geotechnical interventions projected to be undertaken in May 2025
PROJECT LOCATION	
Site location	Sections A – F over seventeen parishes in Suffolk
Study area (m^2/ha)	NA
Site co-ordinates	NGR 641876 259409 – 645114 281065 South to North; 651302 277148 – 643473 280267 and 649701 274149 – 642948 274063 East to West
PROJECT CREATORS	
Name of organisation	Cotswold Archaeology
Project brief originator	Suffolk County Council Archaeological Service
Project design (WSI) originator	Cotswold Archaeology
Project Manager	Stuart Boulter

Project Supervisor	Michael Green, Edward Aylott	
MONUMENT TYPE	Ditches	
SIGNIFICANT FINDS	None	
PROJECT ARCHIVES	**Intended final location of archive (museum/Accession no.)** Suffolk County Council Archaeological Service (physical archive); Archaeology Data Service (digital archive)	**Content (e.g. pottery, animal bone etc) Indicate the contents of each archive box**
Physical	To be added when project is complete	To be added when project is complete
Paper	To be added when project is complete	To be added when project is complete
Digital	To be added when project is complete	To be added when project is complete
BIBLIOGRAPHY		
Cotswold Archaeology 2025, *Lion Link Cable Route, Geotechnical Investigations; Sections A-F and Reydon and Walberswick Landfall Sites: Interim Results of a Programme of Archaeological Monitoring and Geotechnical Modelling,* Report No. SU0680_1		





Site boundary

N

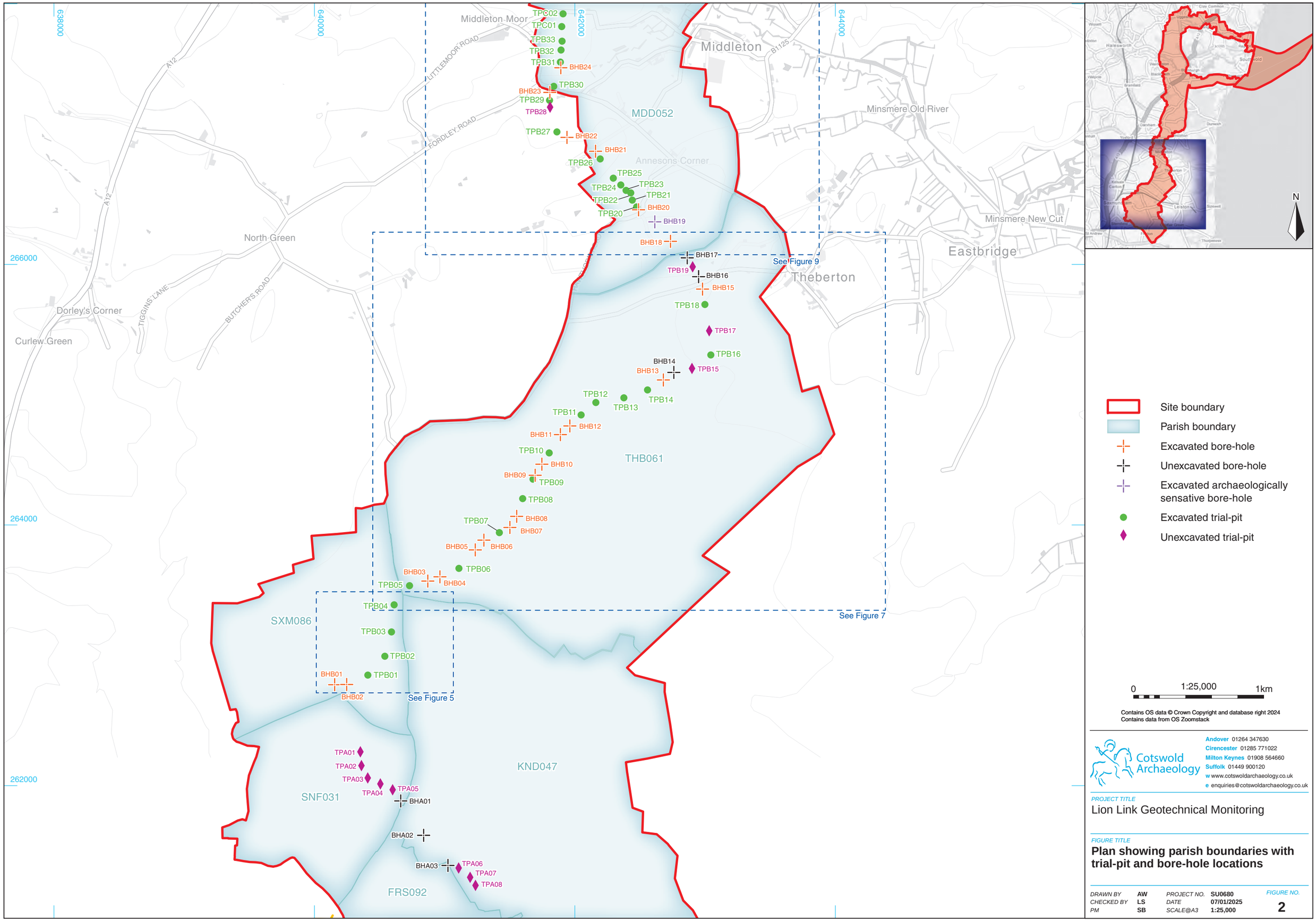
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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
Site location plan

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CHECKED BY	LS	DATE	06/01/2025	1
PM	SB	SCALE@A4	1:100,000	



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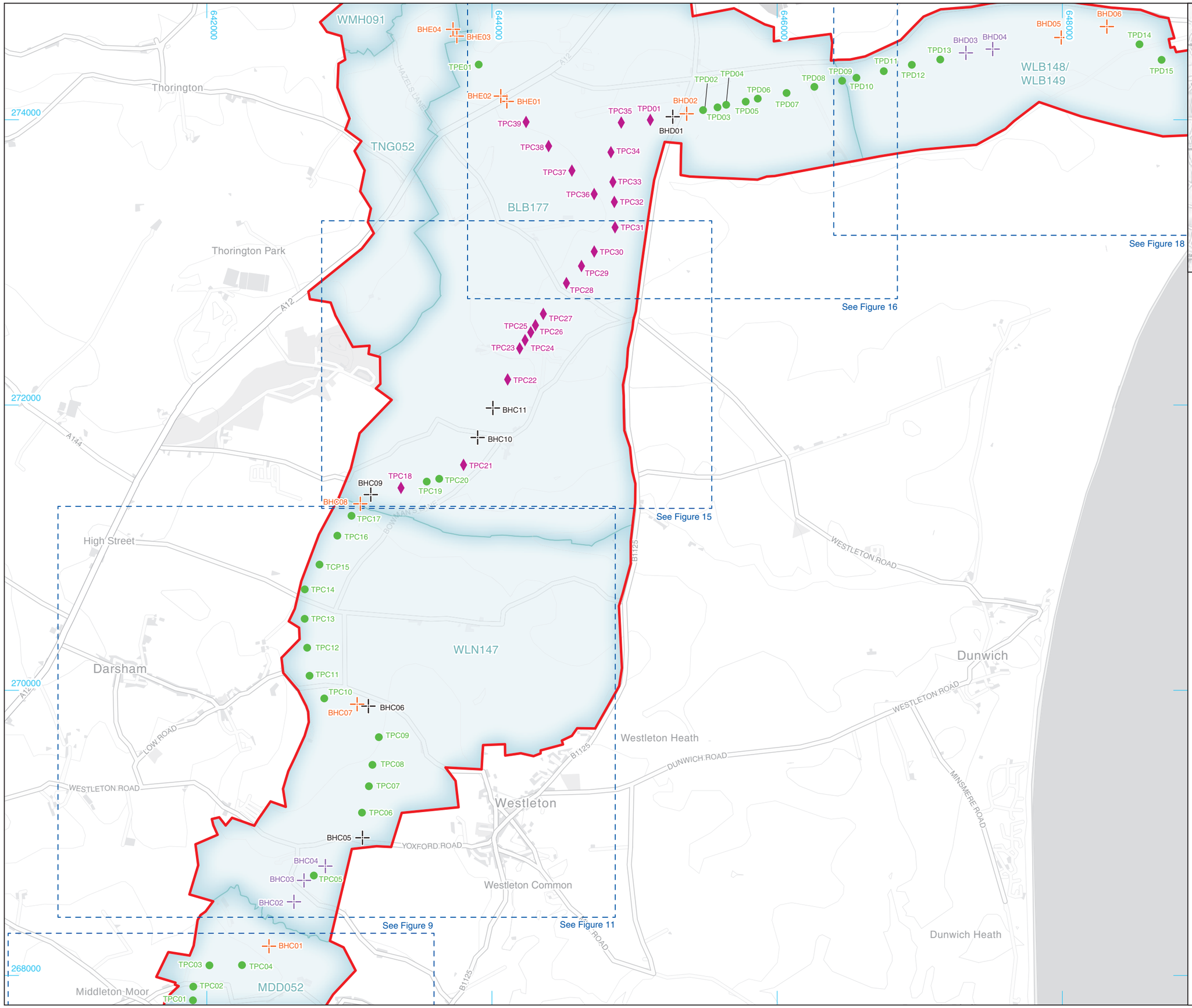
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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CHECKED BY	LS	DATE	07/01/2025		2
PM	SB	SCALE@A3	1:25,000		



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated archaeologically sensative bore-hole

Excavated trial-pit

Unexcavated trial-pit

0 1:25,000 1km

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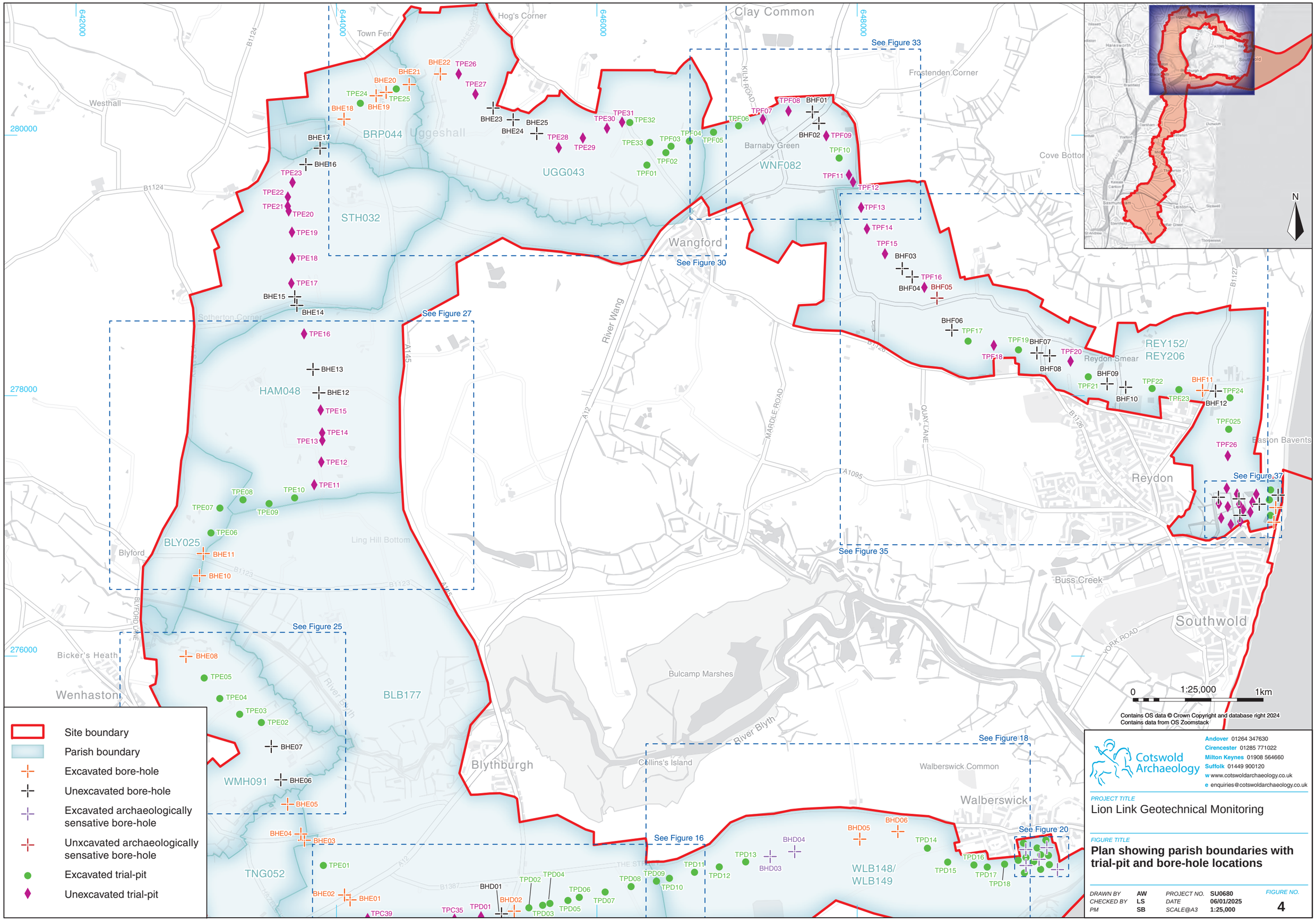
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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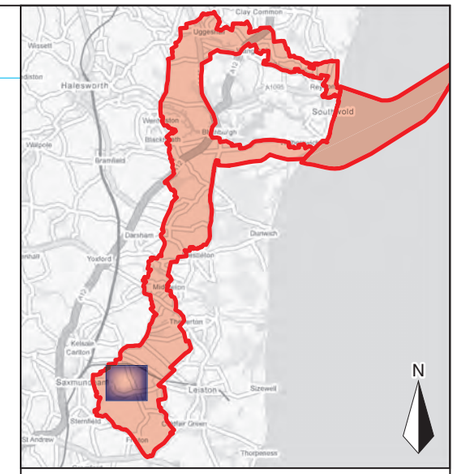
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

Plan showing parish boundaries with trial-pit and bore-hole locations

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640200
640400
640600
640800
263400
263200
263000
262800
Wardspring Farm
TPB04
TPB03
TPB02
TPB01
BHB01
BHB02
SXM 086
KND 047
Friston Covert


Site boundary
Parish boundary
Excavated bore-hole
Excavated trial-pit
Geophysical survey results (WA 2024)
Historic landscape feature
Service
Archaeology possible
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
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PROJECT TITLE
Lion Link Geotechnical Monitoring
FIGURE TITLE
SXM 086: TPB01-TPB04, BHB01, BHB02 with geophysical survey
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TPB01, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB04, looking north-west (1m scale)



TPB01, looking south-west (1m scale)

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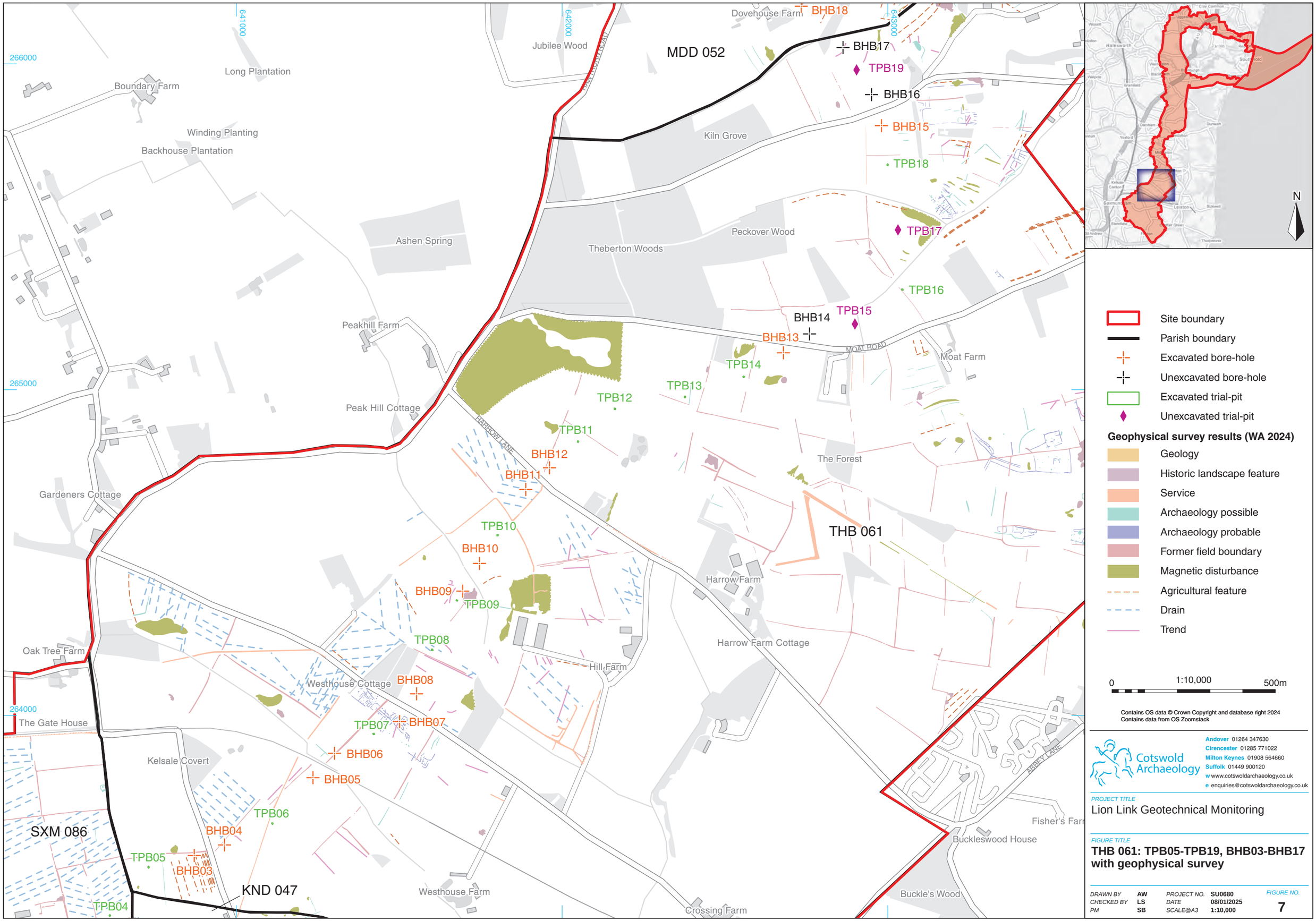
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

SXM 086: photographs

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
THB 061: TPB05-TPB19, BHB03-BHB17 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	08/01/2025	7
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TPB05, looking north (1m scale)



TPB10, looking south-west (1m scale)



TPB18, looking south (1m scale)



TPB18, looking south-west (1m scale)

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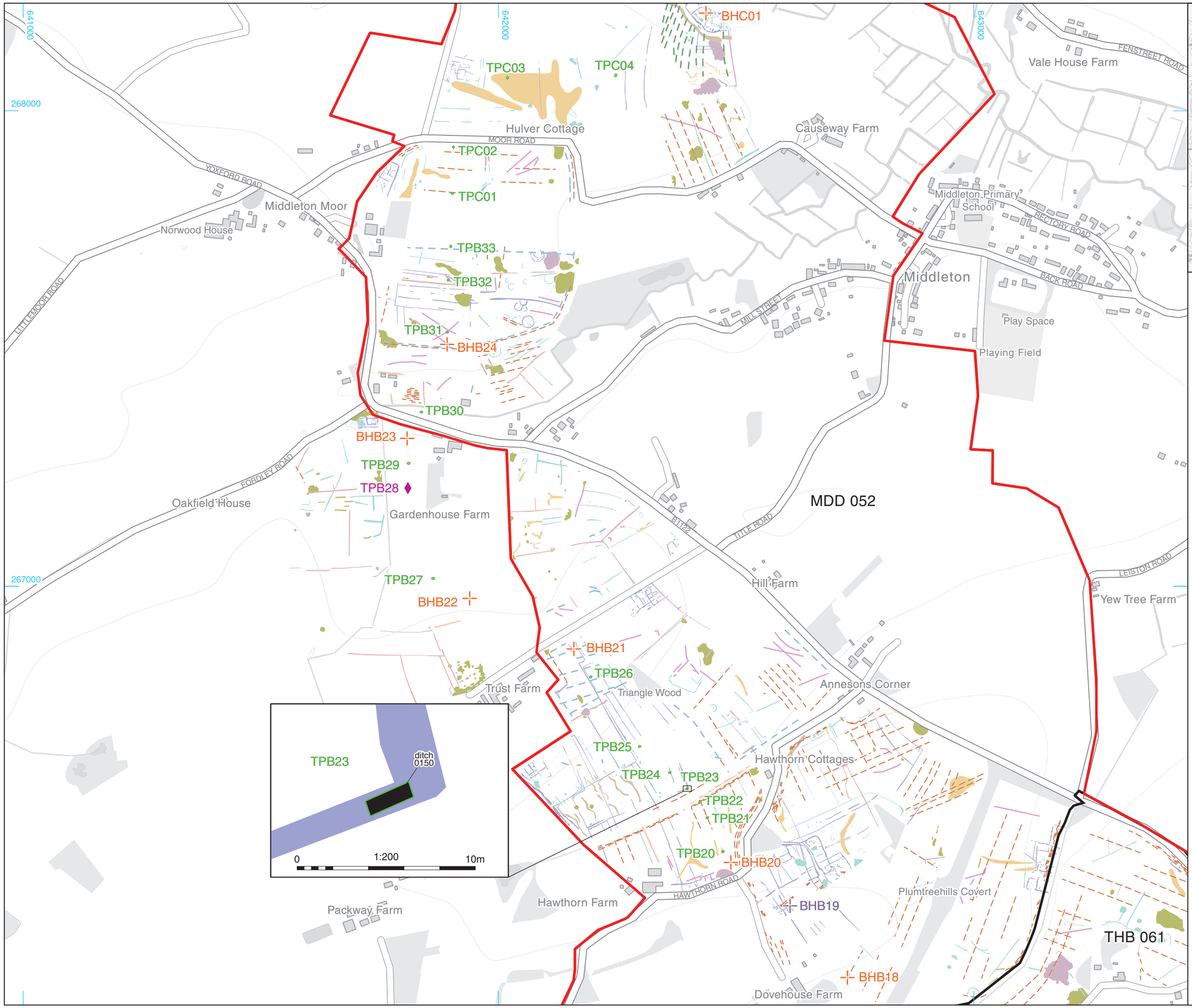
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

THB 061: photographs

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PROJECT TITLE
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FIGURE TITLE
MDD 052: TPB20-TPB33, TBC01-TBC04, BHB18-BHB24, BHC01 with geophysical survey

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TPB20, looking south-east (1m scale)



TPB23, looking west



TPC03, looking west (1m scale)



BHB19, looking south-west (0.2m scale)

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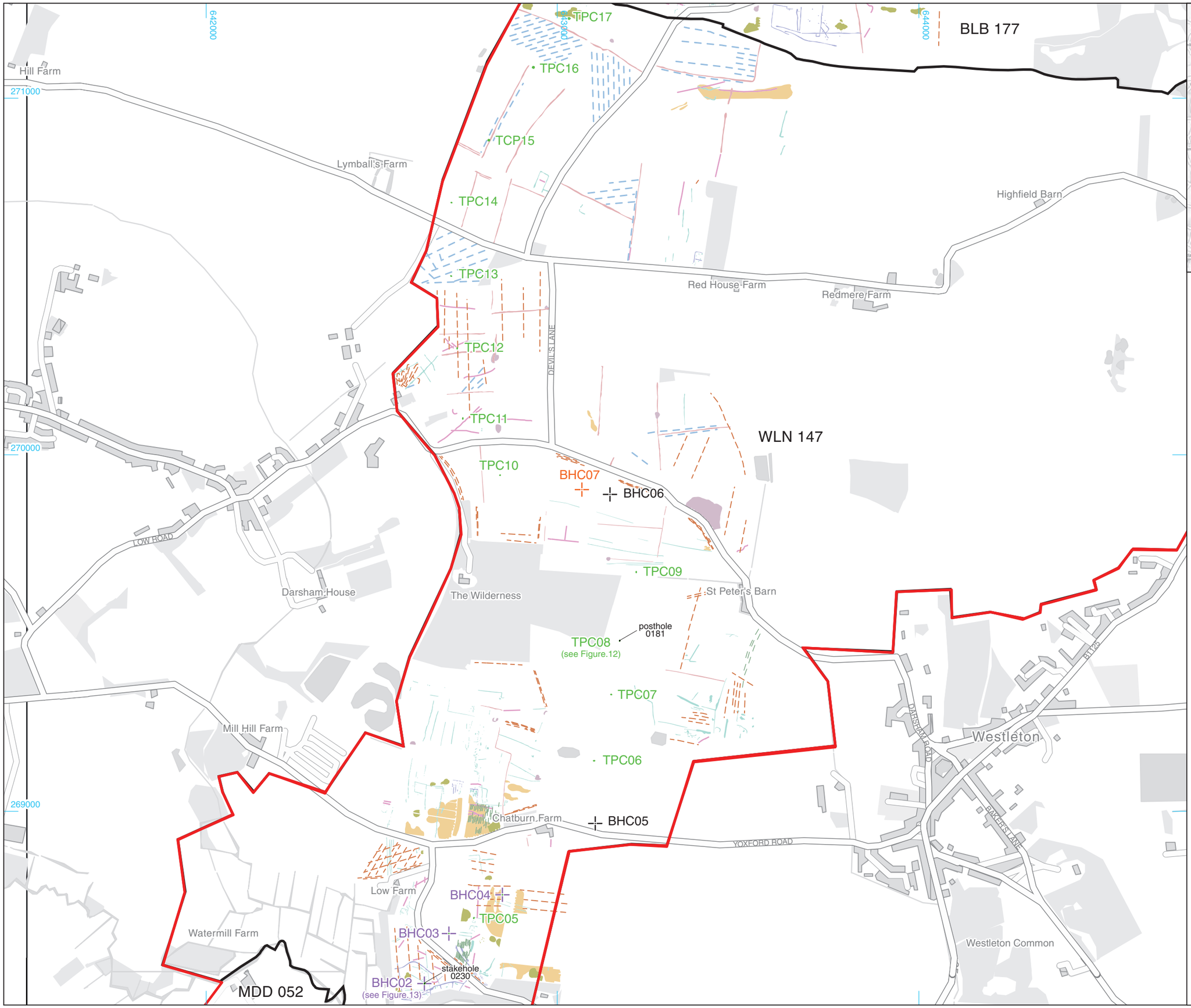
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

MDD 052: photographs

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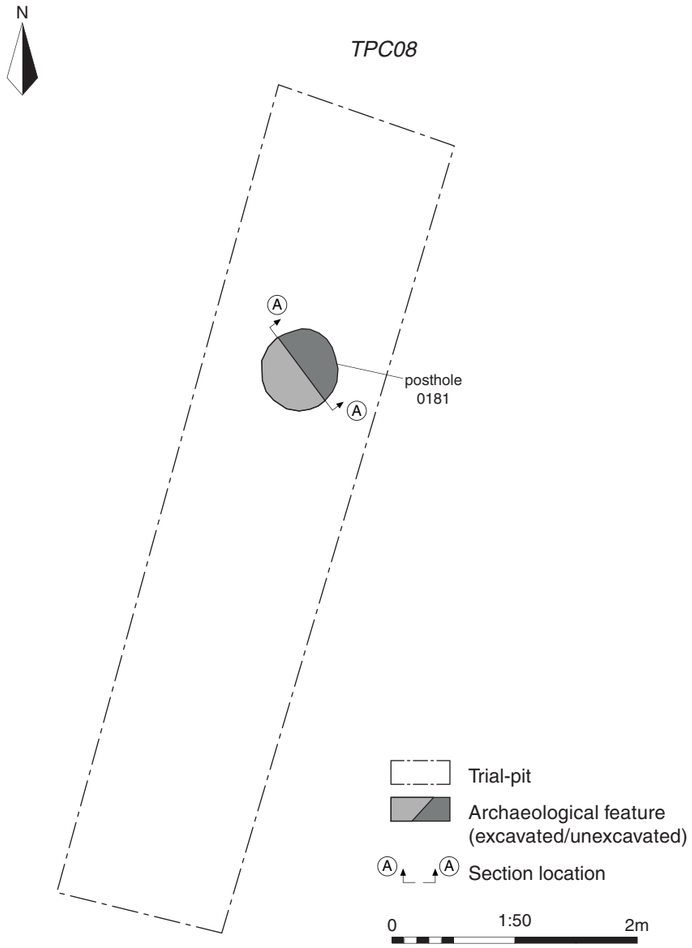
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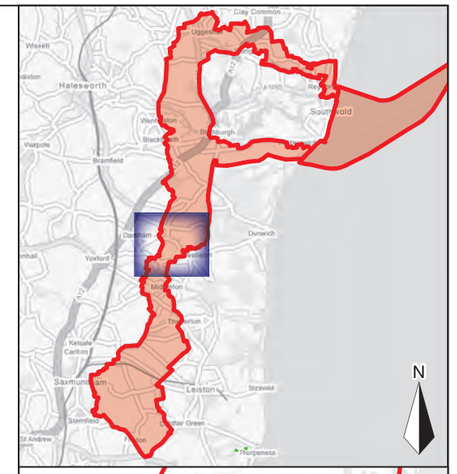
FIGURE TITLE
WLN 147: TPC05-TPC17, BHC02-BHC07 with geophysical survey

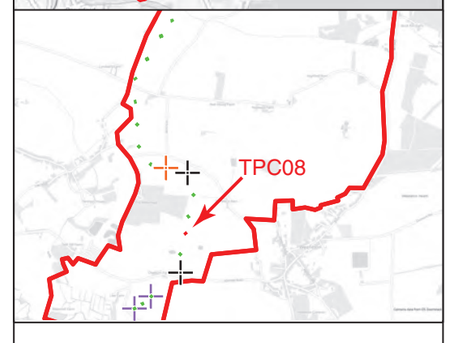
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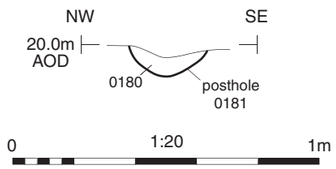


TPC08, looking north-east (1m scale)





Section AA





Posthole 0181, looking north-east (0.2m scale)



TPC08, looking north-west (1m scale)

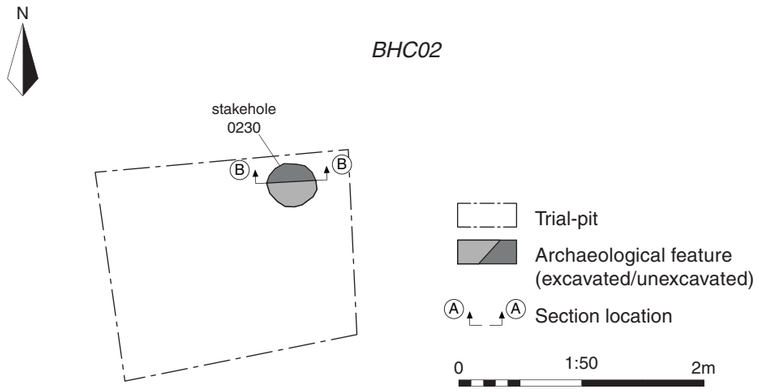
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PROJECT TITLE
Lion Link Geotechnical Monitoring

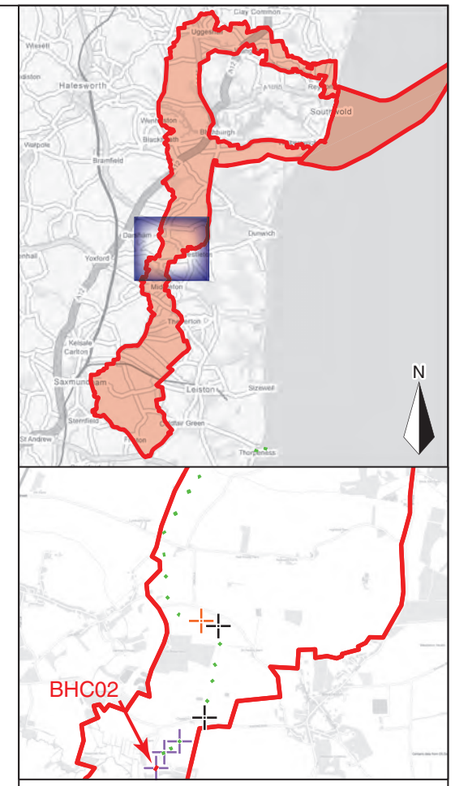
FIGURE TITLE
WLN 147: TPC08, plan, section and photographs

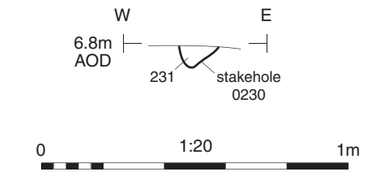
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BHC02, looking north (1m scale)







Stakehole 0230, looking north (0.2m scale)



BHC02, looking north (1m scale)

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PROJECT TITLE
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FIGURE TITLE
WLN 147: BHC02, plan, section and photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	13
PM	SB	SCALE@A3	1:50, 1:20	



TPC05, looking south-east (1m scale)



TPC11, looking north (1m scale)



BHC04, looking east (1m scale)



TPC17, looking south-east (1m scale)

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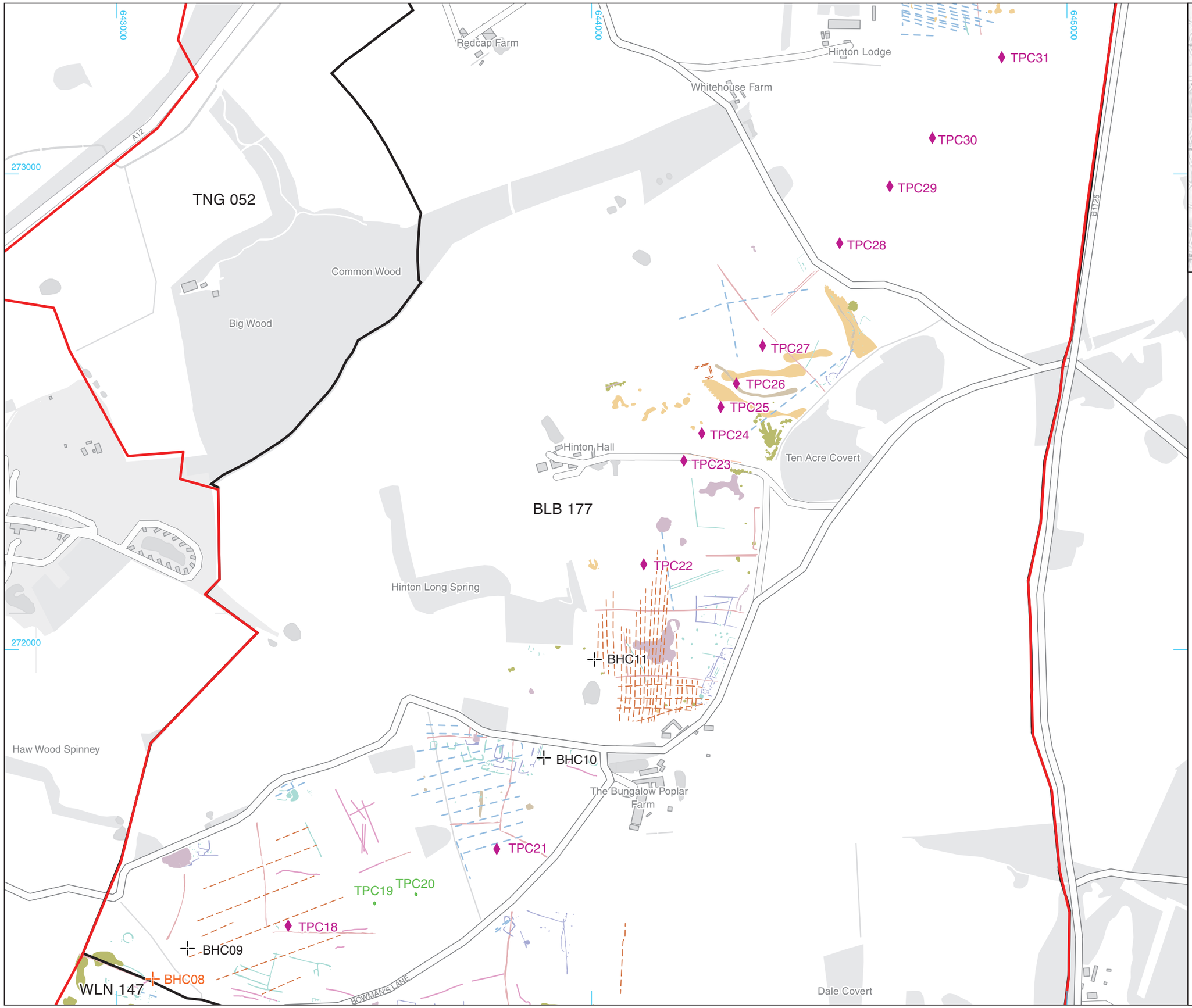
PROJECT TITLE

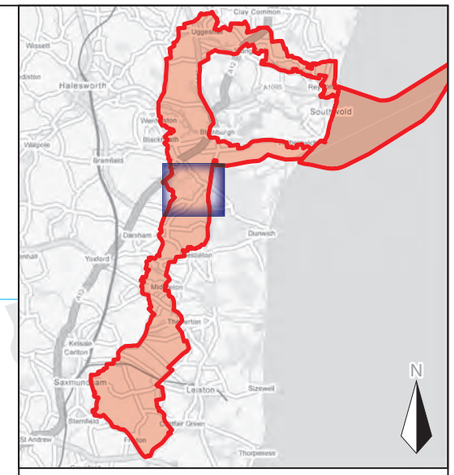
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FIGURE TITLE

WLN 147: photographs

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PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:7500 250m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
BLB 177: TPC18-TPC31, BHC08-BHC11 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	15
PM	SB	SCALE@A3	1:7500	

TNG 052

BLB 177

WLB 148

WENHASTON LANE

A12

B1387

THE STREET

DUNWICH ROAD

B1125

644000

645000

646000

274000

Blythburgh Covert

Stone Cottages

Toby's Cottage

Hinton Lodge

Whitehouse Farm

Westwood Lodge

Shepherds Cottage

Newdelight Covert

Fen Cottages

TPE01

BHE02

BHE01

BHD01

BHD02

TPC39

TPC38

TPC37

TPC36

TPC35

TPC34

TPC33

TPC32

TPC31

TPC30

TPC29

TPC28

TPD01

TPD02

TPD03

TPD04

TPD05

TPD06

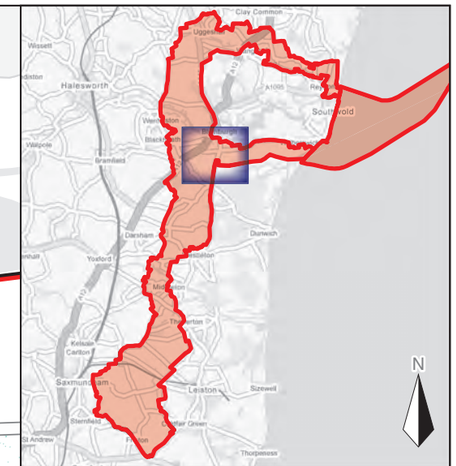
TPD07

TPD08

TPD09

TPD10

TPD11



Site boundary

Parish boundary

Excavated bore-hole

Unexcavated bore-hole

Excavated trial-pit

Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology

Historic landscape feature

Archaeology possible

Archaeology probable

Former field boundary

Magnetic disturbance

Agricultural feature

Drain

Trend

0 1:7500 250m

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLB 177: TPC32-TPC39, TPD01-TPD09, TPE01, BHD01, BHD02, BHE01, BHE02 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	16
PM	SB	SCALE@A3	1:7500	



TPC19, looking north (1m scale)



TPD02, looking south (1m scale)



TPD08, looking north-east (1m scale)

TPE01, looking north-east

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLB 177: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	17
PM	SB	SCALE@A3	NA	

Collins's Island
Hill Covert
Tinker's Covert
Deadman's Covert
Eastwoodlodge Farm
THE STREET
B1387
Sallow Walk Covert
LODGE ROAD
Hoist Covert
Wood Cottage
Old Covert
Dunwich River
St Andrew's Church
Walberswick
WLB 148/
WLB 149
BLB177
BHD03
BHD04
BHD05
BHD06
TPD09
TPD10
TPD11
TPD12
TPD13
TPD14
TPD15
TPD16
TPD17
TPD18
TP01
TP05/
TP05A
(see Figure 21)
BH01
ditches
0383,0385,
0387
ditch
0322
TP04/
TP04A
(see Figure 21)
BH04
TP09
647000
648000
275000
N
0 1:7500 250m

Site boundary
Parish boundary
Excavated bore-hole
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 148: TPD10-TPD18, BHD03-BHD06 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	18
PM	SB	SCALE@A3	1:7500	



TPD10, looking west (1m scales)



TPD15, looking west (1m scale)



BHD03, looking east (1m scale)



BHD04, looking north-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

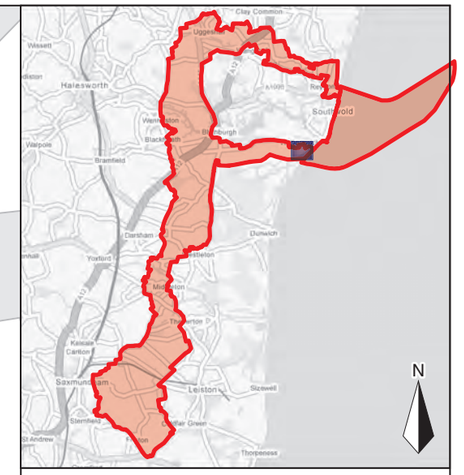
FIGURE TITLE

WLB 148: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**19**
PM	**SB**	*SCALE@A3*	**NA**	

649300
649400
649500
274500
274400

10
TP01
4
BH01
TP03
3
BH02
18
17
TP02
12
TP07
TP08
(see Figure.22)
ditch
0373
11
TP05
(see Figure.21)
ditch
0322
TP05A
WLB 149
8
BH03
feature
0312
7
ditch
0387
ditch
0383
TP04
(see Figure.21)
ditch
0385
TP04A
TP06
15
13
TP11
1
BH04
6
9
5
BH05
16
14
TP10
TP09



Site boundary
Parish boundary
Excavated archaeologically sensative bore-hole
Excavated trial-pit
Archaeological feature
Registered artefact

Geophysical survey results (WA 2024)

Geomorphology
Archaeology possible
Archaeology probable
Former field boundary
Agricultural feature
Trend

0 1:1000 50m

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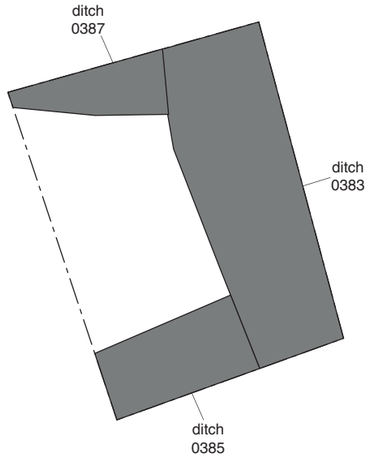
PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 149: TP01-TP11, BH01-BH05 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	20
PM	SB	SCALE@A3	1:1000	

N

TP04



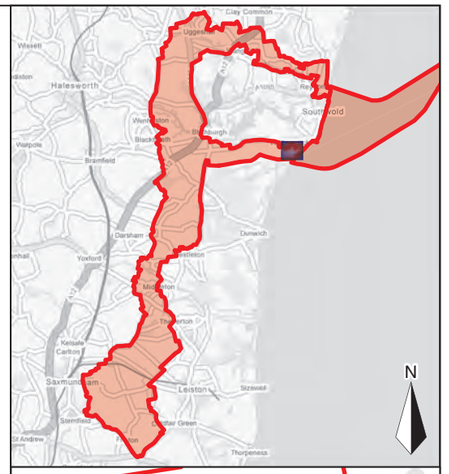
Trial-pit

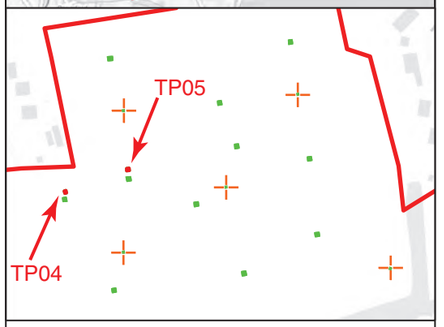
Archaeological feature
(excavated/unexcavated)

0 1:20 1m



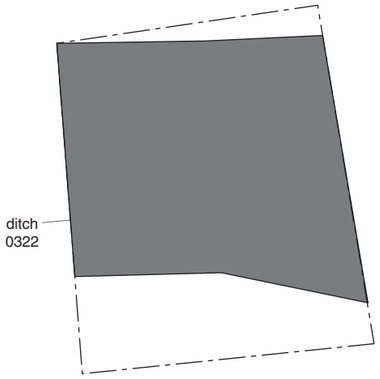
TP04, looking north-east (1m scales)





N

TP05



Trial-pit

Archaeological feature
(excavated/unexcavated)

0 1:20 1m



TP05, looking south-west (1m scales)

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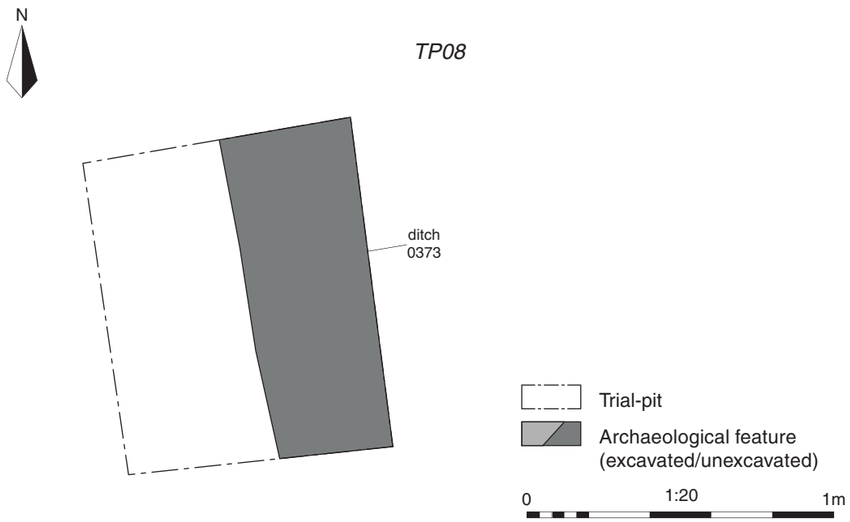
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: TP04, TP05, plan and photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**21**
PM	**SB**	*SCALE@A3*	**1:20**	

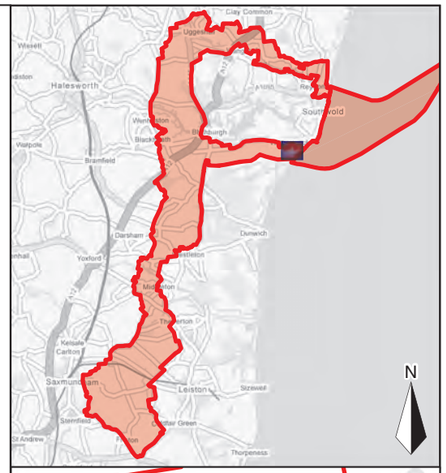


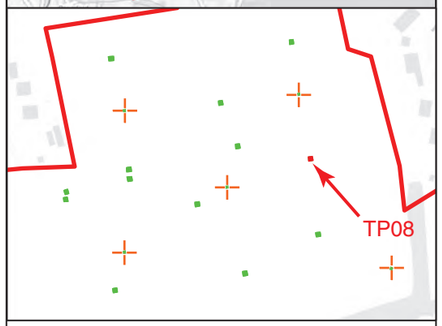


TP08, looking south-west (1m scales)



Ditch 373, looking north-west (1m scale)





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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WLB 149: TP08, plan and photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	22
PM	SB	SCALE@A3	1:20	



TP01, looking east (1m scales)



TP03, looking west (1m scales)



TP06, looking west (1m scales)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**23**
PM	**SB**	*SCALE@A3*	**NA**	



BH01, looking north (1m scales)



BH03, looking north-west (1m scales)



BH05, looking north-west (1m scales)



BH03, looking north (1m scales)

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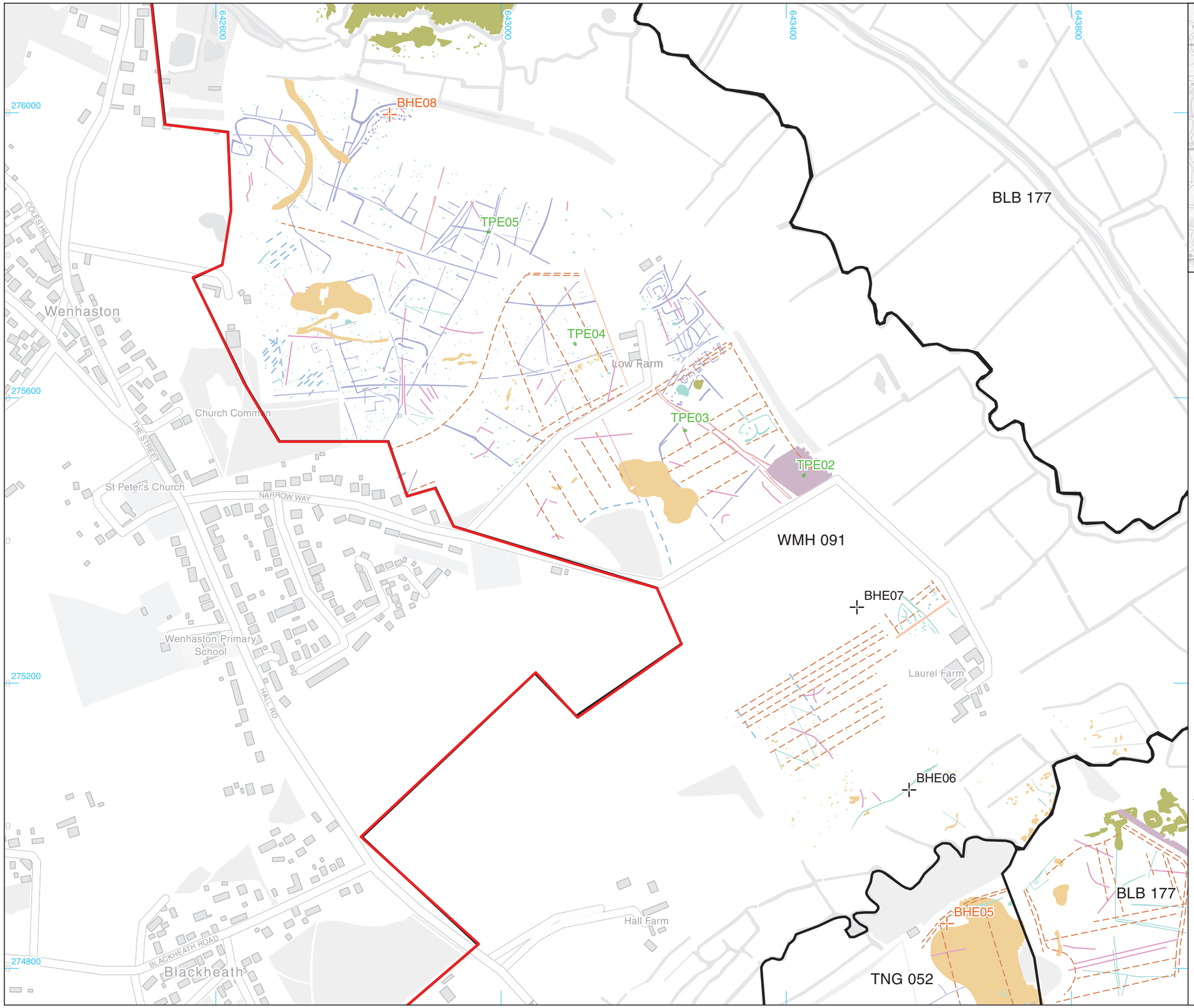
PROJECT TITLE

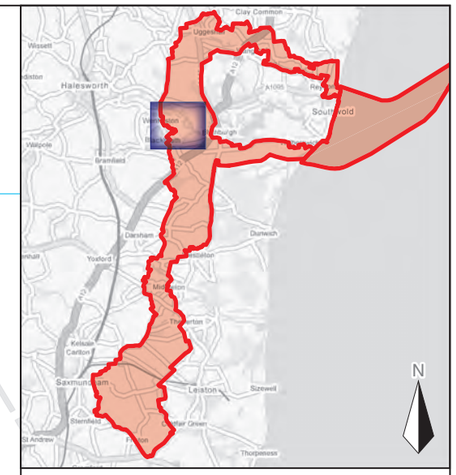
Lion Link Geotechnical Monitoring

FIGURE TITLE

WLB 149: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**24**
PM	**SB**	*SCALE@A3*	**NA**	





Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend

0 1:5000 250m

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PROJECT TITLE
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FIGURE TITLE
WMH 091: TPE02-TPE05, BHE06-BHE08 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	25
PM	SB	SCALE@A3	1:5000	



TPE02, looking south-west (1m scale)



TPE02, looking south-east



TPE04, looking south-east (1m scale)



TPE04, looking east (1m scale)

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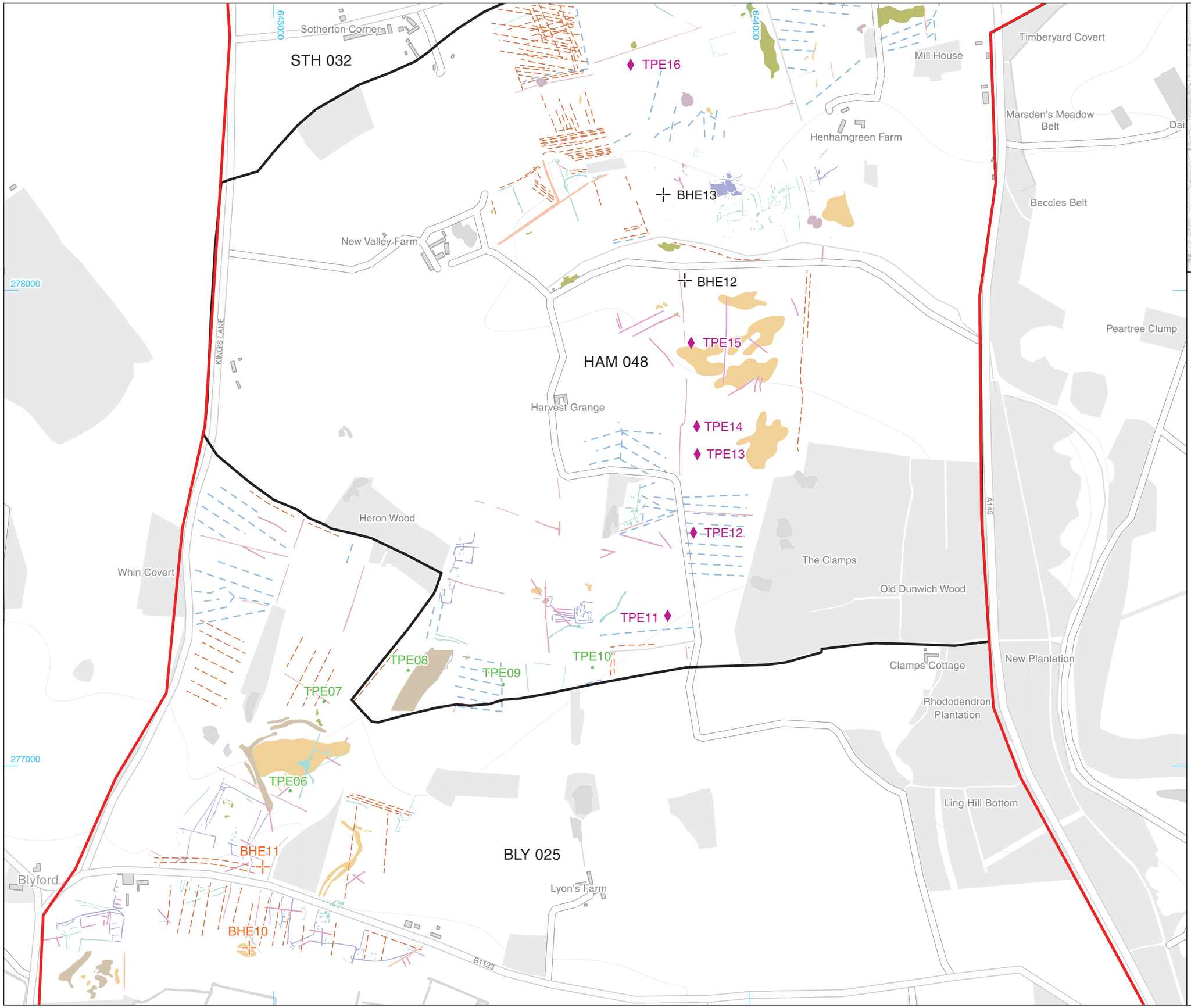
PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WMH 091: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**26**
PM	**SB**	*SCALE@A3*	**NA**	



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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

BLY 025: TPE06-TPE07, BHE10, BHE11 and HAM 048: TPE08-TPE16, BHE12, BHE13 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	09/01/2025	27
PM	SB	SCALE@A3	1:7500	



TPE06, looking south-west (1m scale)



TPE07, looking south-east (1m scale)



TPE06, looking south



TPE07, looking south-east

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PROJECT TITLE

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FIGURE TITLE

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**28**
PM	**SB**	*SCALE@A3*	**NA**	



TPE08, looking north (1m scale)



TPE09, looking north-east



TPE09, looking east (1m scale)



TPE10, looking north-east

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

HAM 048: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**29**
PM	**SB**	*SCALE@A3*	**NA**	

644000
645000
646000
281000
280000
Town Fen
A145
WANGFORD ROAD
HALESWORTH ROAD
CHURCH ROAD
Hog's Corner
Whitehouse Farm
Manor Farm
St Mary's Church
Wash Lane Cottages
BULLION'S LANE
Bullions Cottage
Uggeshall
STOVEN ROAD
Long Belt
Moatyard Covert
BHE18
BHE19
BHE20
BHE21
BHE22
BHE23
BHE24
BHE25
TPE24
TPE25
TPE26
TPE27
TPE28
TPE29
TPE30
TPE31
TPE32
TPE33
TPF01
TPF02
TPF03
TPF04
TPF05
BRP 044
UGG 043
WNF 082
STH 032
HAM 048
N
0
1:7500
250m
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Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
BRP 044: TPE24-TPE25, BHE18-BHE21 and UGG 043: TPF01-TPF04, TPE26-TPE33 with geophysical survey

DRAWN BY	AW	*PROJECT NO.*	SU0680	*FIGURE NO.*	
CHECKED BY	LS	*DATE*	09/01/2025		30
PM	SB	*SCALE@A3*	1:7500		



TPE24, looking north (1m scale)



TPE25, looking south-west (1m scale)



TPE24, looking north-west (1m scale)



TPE25, looking south-west (1m scale)

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PROJECT TITLE

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FIGURE TITLE

BRP 044: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	31
PM	SB	SCALE@A3	NA	



TPE32, looking south-east (1m scale)



TPF01, looking north-west (1m scale)



TPE32, looking south-east



TPF03, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

UGG 043: photographs

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	13/01/2025	32
PM	SB	SCALE@A3	NA	

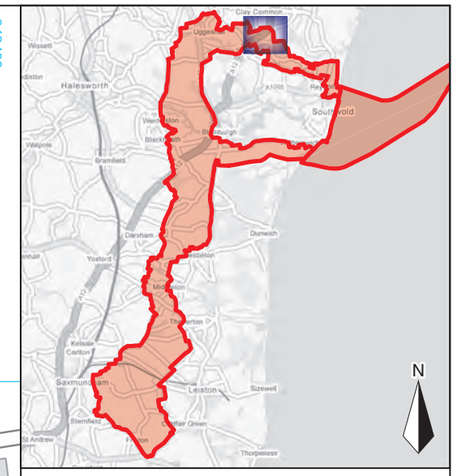
646800
647200
647600
648000
648400
280400
280000
279600

Gough's Wood
Blomfield Wood
White House Farm
Keith's Wood
Vale Farm
Wangford Farm
Barnaby Green
Elms Farm
A12
ELMS LANE
WOOD FARM LANE

UGG 043
WNF 082
REY 152/
REY 206

TPF05
TPF06
TPF07
TPF08
TPF09
TPF10
TPF11
TPF12
TPF13

BHF01
BHF02



- Site boundary
- Parish boundary
- Unexcavated bore-hole
- Excavated trial-pit
- Unexcavated trial-pit

Geophysical survey results (WA 2024)

- Geology
- Geomorphology
- Historic landscape feature
- Service
- Archaeology possible
- Archaeology probable
- Former field boundary
- Magnetic disturbance
- Agricultural feature
- Drain
- Trend
- Historic Culivation

0 1:5000 250m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
WNF 082: TPF05-TPF12, BHF01, BHF02 with geophysical survey

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**10/01/2025**	**33**
PM	**SB**	*SCALE@A3*	**1:5000**	



TPF05, looking north-west (1m scale)



TPF06, looking south-west (1m scale)



TPF05, looking north-east (1m scale)



TPF10, looking south (1m scales)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

WNF 082: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**34**
PM	**SB**	*SCALE@A3*	**NA**	

WNF 082

TPF13
TPF14
TPF15
TPF16
TPF17
TPF18
TPF19
TPF20
TPF21
TPF22
TPF23
TPF24
TPF025
TPF26
TPF27

BHF03
BHF04
BHF05
BHF06
BHF07
BHF08
BHF09
BHF10
BHF11
BHF12

BH101
BH102
BH104
BH105
TP102
TP103
TP104
TP105
TP106
TP107
TP109
TP110
TP111
TP112
TP113

REY 152/
REY 206

See Figure 37

Wood Farm
Jay's Farm
High Wood
Reydon Grove Farm
Hall Farm
Spright's Covert
The Elms Farm
The Grove
Cuckoo Farm
Reydon Smear
Quay Lane Cottage
Quay House
Reydon
Easton Bavents
Sole Bay

WOOD FARM LANE
RISSMERE LANE
WANGFORD ROAD
QUAY LANE
GREEN LANE
COX'S LANE
COVEY ROAD
LOWESTOFT ROAD
A1095
B1126
B1127

648000
649000
650000
651000
279000

N

0 1:10,000 500m

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Contains data from OS Zoomstack

Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Unexcavated archaeologically sensative bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Service
Archaeology possible
Archaeology probable
Former field boundary
Magnetic disturbance
Agricultural feature
Drain
Trend
Historic Culivation

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
REY 152: TPF13-TPF27, BHF03-BHF12 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.	
CHECKED BY	LS	DATE	10/01/2025		35
PM	SB	SCALE@A3	1:10,000		



TPF17, looking south (1m scale)



TPF19, looking south-east (1m scale)



TPF23, looking north (1m scale)



TPF25, looking east (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

REY 152: photographs

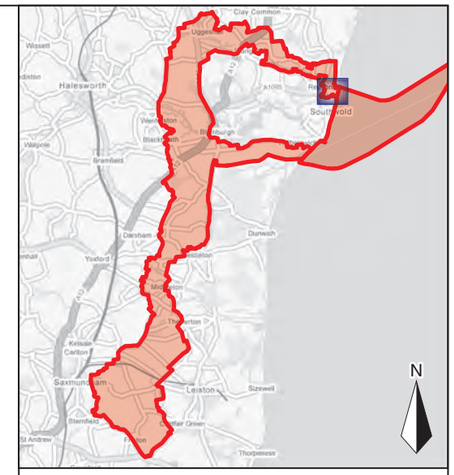
DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**36**
PM	**SB**	*SCALE@A3*	**NA**	

650800
651000
651200
277200
277000

REY 152/
REY 206

TPF27
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP109
TP110
TP111
TP112
TP113
TP114

BH101
BH102
BH103
BH104
BH105
BH106
BH107



Site boundary
Parish boundary
Excavated bore-hole
Unexcavated bore-hole
Excavated trial-pit
Unexcavated trial-pit

Geophysical survey results (WA 2024)

Geology
Geomorphology
Historic landscape feature
Archaeology possible
Former field boundary
Magnetic disturbance
Trend

0 1:1500 50m

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PROJECT TITLE
Lion Link Geotechnical Monitoring

FIGURE TITLE
REY 206: TP101-114, BH101-BH107 with geophysical survey

DRAWN BY	AW	PROJECT NO.	SU0680	FIGURE NO.
CHECKED BY	LS	DATE	10/01/2025	37
PM	SB	SCALE@A3	1:1500	



TP101, looking north-west (1m scale)



TP108, looking north (1m scale)



TP114, looking south-west (1m scale)

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PROJECT TITLE

Lion Link Geotechnical Monitoring

FIGURE TITLE

REY 206: photographs

DRAWN BY	**AW**	*PROJECT NO.*	**SU0680**	*FIGURE NO.*
CHECKED BY	**LS**	*DATE*	**13/01/2025**	**38**
PM	**SB**	*SCALE@A3*	**NA**	

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APPENDIX 16

Investigation Techniques and General Notes

INVESTIGATION TECHNIQUES

INTRODUCTION

The following brief review of Ground Investigation techniques, generally used as part of most Site Investigations in the UK, summarises their methodology, advantages and limitations. Detailed descriptions of the techniques are available and can be provided on request. This review should be read in conjunction with the accompanying General Notes.

TRIAL PITS

The trial pit is amongst the simplest yet most effective means of identifying shallow ground conditions on a site. Its advantages include simplicity, speed, potential accuracy and cost-effectiveness. The trial pit is most commonly formed using a back-acting excavator which can typically determine ground conditions to some 4 metres below ground level. Hand excavation is often used to locate, expose and detail existing foundations, features or services. In general, it is difficult to extend pits significantly below the water table in predominantly granular soils, where flows can cause instability. Unless otherwise stated, the trial pits will not have been provided with temporary side support during their construction. Under such circumstances, entrance into the pit is not permitted and hence observations will have been made from the ground surface and samples taken from the excavator bucket.

Where access for personnel is required to allow close observation of the exposed strata, the taking of samples and the carrying out of in situ tests, the sides of the trial pits (Observation Pits in BS 5930:2015) will be made safe using temporary supports or the sides battered back to a stable angle. Some limited access to such Trial Pits (Observation Pits) at depths less than 1m may be allowed in stable conditions or where the sides are benched or battered back to a safe angle.

Trends in strata type, level and thickness can be determined, shear surfaces identified and the behaviour of plant, excavation sides and excavated materials can be related to the construction process. They are particularly valuable in land slip investigations. Some types of in situ test can be undertaken in such pits and large disturbed or block samples obtained.

CABLE PERCUSSION BORING

The light Cable Percussion technique of soft ground boring, typically at a diameter of 150mm, is a well-established simple and flexible method of boring vertical holes and generally allows data to be obtained in respect of strata conditions other than rock. A tubular cutter (for cohesive soils) or shell with a flap valve (for granular soils) is repeatedly lifted and dropped using a winch and rope operating from an "A" frame. Soil which enters these tools is regularly removed and either sampled for subsequent examination or test, or laid to one side for later removal off site and licensed disposal or, if permitted by the Client, use as backfill. Steel casing will have been used to prevent collapse of the borehole sides where necessary. A degree of disturbance of soil and mixing of layers is inevitable and the presence of very thin layers of different soils within a particular stratum may not be identified. Changes in strata type can only be detected on recognition of a change in soil samples at the surface, after the interface has been passed. For the foregoing reasons, depth measurements should not be considered to be more accurate than 0.10 metre. The technique can determine ground conditions to depths in excess of 30 metres under suitable circumstances and usually causes less surface disturbance than trial pitting.

In cohesive soils cylindrical samples are retrieved by driving or pushing in 100mm nominal diameter tubes. In soft soils, piston sampling or vane testing may be undertaken. In granular soils and often in cohesive materials, in situ Standard Penetration Tests (SPT's) are performed. The SPT records the number of standard blows required to drive a 50mm diameter open or cone ended probe for 300mm after an initial 150mm penetration. A modified method of recording is used in denser strata. Small disturbed samples are obtained throughout.

ROTARY DRILLING

Rotary Drilling to produce cores by rotating an annular diamond-impregnated tube or barrel into the ground is the technique most appropriate to the forming of site investigation boreholes through rock or other hard strata. It has the advantage of being able to be used vertically or at an angle. Core diameters of less than 100mm are most common for site investigation purposes. Core is normally retrieved in plastic lining tubes. A flushing fluid such as air, water or foam is used to cool the bit and carry cuttings to the surface. Depths in excess of 60 metres can be achieved under suitable circumstances using rotary techniques, with minimal surface disturbance.

Examination of cores allows detailed rock description and generally enables angled discontinuity surfaces to be observed. However, vertical holes do not necessarily reveal the presence of vertical or near-vertical fissures or joint discontinuities. The core type and/or techniques used will depend on the ground conditions. Where open hole rotary drilling is employed, descriptions of strata result from examination at the surface of small particles ejected from the borehole in the flushing medium. In consequence, no indication of fissuring, bedding, consistency or degree of weathering can be obtained.

DYNAMIC SAMPLING

This technique involves the driving of an open-ended tube into the ground and retrieval of the soil which enters the tube. It was previously called window or windowless sampling. The term "window sample" arose from the original device which had a "window" or slot cut into the side of the tube through which samples were taken. This was superseded by the use of a thin-walled plastic liner to retrieve the soil sample from within a sampler (windowless sampling) which has a solid wall. Line diameters range from 36 to 86mm. Such samples can be used for qualitative logging, selection of samples for classification and chemical analysis and for obtaining a rudimentary assessment of strength.

Driving devices can be hand-held or machine mounted and the drive tubes are typically in 1m lengths. Depending on the type of rig used, the hole formed can be cased to prevent collapse of the borehole sides. Where the type of rig does not allow the insertion of casing, the success of this technique can be limited when soils and groundwater conditions are such that the sides of the hole collapse on withdrawal of the sampler. Obstructions within the ground, the density of the material or its strength can also limit the depth and rate of penetration of this light-weight investigation technique. Nevertheless, it is a valuable tool where access is constrained such as within buildings or on embankments. Depths of up to 10m can be achieved in suitable circumstances depending on the rig type but depths of 5m to 6m are more common.

EXPLORATORY HOLE RECORDS

The data obtained by these techniques are generally presented on Trial Pit, Borehole, Drillhole or Dynamic Sample Records. The descriptions of strata result from information gathered from a number of sources which may include published geological data, preliminary field observations and descriptions, in situ test results, laboratory test results and specimen descriptions. A key to the symbols and abbreviations used accompanies the records. The descriptions on the exploratory hole records accommodate but may not necessarily be identical to those on any preliminary records or the laboratory summaries.

The records show ground conditions at the exploratory hole locations. The degree to which they can be used to represent conditions between or beyond such holes, however, is a matter for geological interpretation rather than factual reporting and the associated uncertainties must be recognised.

DYNAMIC PROBING

This technique typically measures the number of blows of a standard weight falling over a standard height to advance a cone-ended rod over sequential standard distances (typically 100mm). Some devices measure the penetration of the probe per standard blow. It is essentially a profiling tool and is best used in conjunction with other investigation techniques where site-specific correlation can be used to delineate the distribution of soft or loose soils or the upper horizon of a dense or strong layer such as rock.

Both machine-driven and hand-driven equipment is available, the selection depending upon access restrictions and the depth of penetration required. It is particularly useful where access for larger equipment is not available, disturbance is to be minimised or where there are cost constraints. No samples are recovered and some techniques leave a sacrificial cone head in the ground. As with other lightweight techniques, progress is limited in strong or dense soils. The results are presented both numerically and graphically. Depths of up to 10m are commonly achieved in suitable circumstances.

The hand-driven DCP probing device has been calibrated by the Highways Agency to provide a profile of CBR values over a range of depths.

INSTRUMENTATION

The most common form of instrument used in site investigation is either the standpipe or else the standpipe piezometer which can be installed in investigation holes. They are used to facilitate monitoring of groundwater levels and water sampling over a period of time following site work. Normally a standpipe would be formed using rigid plastic tubing which has been perforated or slotted over much of its length whilst a standpipe piezometer would have a filter tip which would be placed at a selected level and the hole sealed above and sometimes below to isolate the zone of interest. Groundwater levels are determined using an electronic "dip meter" to measure the depth to the water surface from ground level. Piezometers can also be used to measure permeability. They are simple and inexpensive instruments for long term monitoring but response times can limit their use in tidal areas and access to the ground surface at each instrument is necessary. Remote reading requires more sophisticated hydraulic, electronic or pneumatic equipment.

Settlement can be monitored using surface or buried target plates whilst lateral movement over a range of depths is monitored using slip indicator or inclinometer equipment.

GENERAL NOTES

1. *The report is prepared for the exclusive use of the Client named in the document and copyright subsists with Geotechnics Limited. Prior written permission must be obtained to reproduce all or part of the report. It is prepared on the understanding that its contents are only disclosed to parties directly involved in the current investigation, preparation and development of the site.*

2. *Further copies may be obtained with the Client's written permission, from Geotechnics Limited with whom the master copy of the document will be retained.*

3. *The report and/or opinion is prepared for the specific purpose stated in the document and in relation to the nature and extent of proposals made available to Geotechnics Limited at that time. Re-consideration will be necessary should those details change. The recommendations should not be used for other schemes on or adjacent to the site without further reference to Geotechnics Limited.*

4. *The assessment of the significance of the factual data, where called for, is provided to assist the Client and their Engineer and/or Advisers in the preparation of their designs.*

5. *The report is based on the ground conditions encountered in the exploratory holes together with the results of field and laboratory testing in the context of the proposed development. The data from any commissioned desk study and site reconnaissance are also drawn upon. There may be special conditions appertaining to the site, however, which are not revealed by the investigation and which may not be taken into account in the report.*

6. *Methods of construction and/or design other than those proposed by the designers or referred to in the report may require consideration during the evolution of the proposals and further assessment of the geotechnical and any geoenvironmental data would be required to provide discussion and evaluations appropriate to these methods.*

7. *The accuracy of results reported depends upon the technique of measurement, investigation and test used and these values should not be regarded necessarily as characteristics of the strata as a whole (see accompanying notes on Investigation Techniques). Where such measurements are critical, the technique of investigation will need to be reviewed and supplementary investigation undertaken in accordance with the advice of the Company where necessary.*

8. *The samples selected for laboratory test are prepared and tested in accordance with the relevant Clauses and Parts of BS EN ISO 17892 and BS 1377 Parts 1 to 8, where appropriate, in Geotechnics Limited's UKAS accredited Laboratory, where possible. A list of tests is given.*

9. *Tests requiring the use of another laboratory having UKAS accreditation where possible are identified.*

10. *Any unavoidable variations from specified procedures are identified in the report.*

11. *Specimens are cut vertically, where this is relevant and can be identified, unless otherwise stated*

12. *All the data required by the test procedures are recorded on individual test sheets but the results in the report are presented in summary form to aid understanding and assimilation for design purposes. Where all details are required, these can be made available.*

13. *Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes, or on the possible presence of features based on either visual, verbal, written, cartographical, photographic or published evidence, this is for guidance only and no liability can be accepted for its accuracy.*

14. *The Code of Practice for Ground Investigations – BS 5930:2015 calls for man-made soils to be described as Anthropogenic Ground with soils placed in an un-controlled manner classified as Made Ground and soils placed in a controlled manner as Fill. In view of the difficulty in always accurately determining the origin of man-made soils in exploratory holes, Geotechnics Limited classify such materials as Made Ground. Where soils can be clearly identified as being placed in a controlled manner then further classification of the soils as Fill has been added to the Exploratory Hole Records.*

15. *Classification of man-made soils is based on the inspection of retrieved samples or exposed excavations. Where it is obvious that foreign matter such as paper, plastic or metal is present, classification is clear. Frequently, however, for man-made soils that arise from the adjacent ground or from the backfilling of excavations, their visual characteristics can closely resemble those of undisturbed ground. Other evidence such as site history, exploratory hole location or other tests may need to be drawn upon to provide clarification. For these reasons, classification of soils on the exploratory hole records as either Made Ground or naturally occurring strata, the boundary between them and any interpretation that this gives rise to should be regarded as provisional and subject to re-evaluation in the light of further data.*

16. *The classification of materials as Topsoil is generally based on visual description and should not be interpreted to mean that the material so described complies with the criteria for Topsoil used in BS 3882:2015. Specific testing would be necessary where such a definition is a requirement.*

17. *Ground conditions should be monitored during the construction of the works and the report should be re-evaluated in the light of these data by the supervising geotechnical engineers.*

18. *Any comments on groundwater conditions are based on observations made at the time of the investigation, unless specifically stated otherwise. It should be noted, however, that the observations are subject to the method and speed of boring, drilling or excavation and that groundwater levels will vary due to seasonal or other effects.*

19. *Any bearing capacities for conventional spread foundations which are given in the report and interpreted from the investigation are for bases at a minimum depth of 1m below finished ground level in naturally occurring strata and at broadly similar levels throughout individual structures, unless otherwise stated. Typically they are based on serviceability criteria taking account of an assessment of the shear strength and/or density data obtained by the investigation. The foundations should be designed in accordance with the good practice embodied in BS 8004:2015 - Foundations, supplemented for housing by NHBC Standards. Foundation design is an iterative process and bearing pressures may need adjustment or other measures may need to be taken in the context of final layouts and levels prior to finalisation of proposals.*

20. *Unless specifically stated, the investigation does not take account of the possible effects of mineral extraction or of gases from fill or natural sources within, below or outside the site.*

21. *The costs or economic viability of the proposals referred to in the report, or of the solutions put forward to any problems encountered, will depend on very many factors in addition to geotechnical or geoenvironmental considerations and hence their evaluation is outside the scope of the report.*

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