

Preliminary Environmental Information Report

Volume 3 Part B Section Specific Assessments

Section 7 New Walpole B Substation

Chapter 5 Historic Environment

Appendices

June 2025



Contents

-
- 5A. Known Heritage Assets**
 - 5B. Preliminary Summary of Likely Non-Significant Effects**
 - 5C. Detailed Gradiometer Survey Report**
-

Grimsby to Walpole

Document control

Document Properties	
Organisation	Arup AECOM
Approved by	National Grid
Title	Preliminary Environmental Information Report Volume 3 Part B Section Specific Assessments Section 7 New Walpole B Substation Chapter 5 Historic Environment Appendices
Document Register ID	GWNC-ARUP(AEC)-ENV-REP-0002
Data Classification	Public

Version History			
Date	Version	Status	Description / Changes
June 2025	1.0	Final	First Issue

5A. Known Heritage Assets

Contents

5A.	Known Heritage Assets	1
Table 5A.1	Designated Heritage Assets within the 3 km Study Area	2
Table 5A.2	Designated Heritage Assets of high value within the 3-5 km Study Area	4
Table 5A.3	Non-designated Heritage Assets within the draft Order Limits or the 1 km Study Area	5

5A. Known Heritage Assets

5A.1.1 The gazetteer tables presented in this appendix identify the following heritage assets relevant to Section 7 New Walpole B Substation (Section 7) of the Grimsby to Walpole Project (the Project):

- Designated heritage assets within the 3 km Study Area surrounding the draft Order Limits (**Table 5A.1**);
- Designated heritage assets of high value within the 3 - 5 km Study Area surrounding the draft Order Limits (**Table 5A.2**); and
- Non-designated heritage assets within the draft Order Limits and surrounding 1 km Study Area (**Table 5A.3**).

5A.1.2 Designated and non-designated heritage assets are shown in relation to the draft Order Limits on the accompanying drawings:

- **PEI Report Volume 2 Part B Section 7 Figure 5.1 Designated Heritage Assets**; and
- **PEI Report Volume 2 Part B Section 7 Figure 5.2 Non-designated Heritage Assets**.

List of Abbreviations

- NHLE: National Heritage List for England
- HER: Historic Environment Record

Table 5A.1 Designated Heritage Assets within the 3 km Study Area

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1264167	Grade I listed building	Church of St Peter	Parish church. Early C14 base of west tower. Remainder of late C14 comprising nave, aisles and chancel. Restored 1898. Ashlar with lead roofs. 4 stage tower, externally of 3 stages.	Medieval	TF 50212 16879
1264158	Grade I listed building	Church of St Andrew	Parish church. C15 with some re-used earlier details. Bequests date 1443 for nave, 1463 for porch, 1504 donation of lead. Restored 1811 and 1897. Tower restored 1902. West tower, nave, aisles and chancel. Brick tower with ashlar dressings, remainder rendered brick and ashlar. Lead roofs. 3 stage tower with angle buttresses to belfry.	Medieval	TF 50162 17558
1237330	Grade II* listed building	Old Manor Farmhouse	Farmhouse. Dated 1638. Brick with gabled pantile roof and brick stacks. T plan. 2 storeys and attic. South gable front has a blocked ground floor window to left of door in plain timber door case. To the first floor is a cross casement. In attic a recessed rectangular panel pierced to provide nesting boxes flanked by one cockshead panel right and left. In apex of gable head a recessed plaque beneath hood mould with labels bears numerals 1638 F C B and a four petalled flower motif. Cross wing extends to east, gabled and 2 of storeys.	Post-Medieval	TF 50217 17041
1237331	Grade II listed building	Faulkner House	House. Early C18. Brick with pantile roofs. 5 bay south facade in 3 storeys. Central panelled door below plain fanlight within doorcase of Tuscan columns supporting Doric block architrave and dentiled open pediment. Pediment with coffered soffit. 2 sashes with glazing bars right and left beneath gauged skewback arches. Platband at first floor. 5 renewed horned sashes to first floor with glazing bars and gauged skewback arches. 2 sashes and 3 folding casements to second floor under gauged skewback arches.	Post-Medieval	TF4989213777
1264180	Grade II listed building	Shepherds Cottage (formerly Greens Cottage)	House. Early C18. Whitewashed brick and pantile roof. One storey and dormer attic. C20 central door below flat hood and porch. One C20 window right and left beneath gauged arches. Mansard roof with two sloping dormers and casements. Limited tumbling in gable heads. Internal gable end stacks. Gabled cross wing to rear of two storeys.	Post-Medieval	TF 48595 15904
1171829	Grade II listed building	Old Post Office	House. Early C18. Brick with thatched roof. T plan. One storey and dormer attic in symmetrical arrangement. C20 central door flanked by one renewed sash window left and right with glazing bars. 2 gabled dormers with C20 casements in gabled roof. Internal gable end stacks. Gabled cross wing to rear with C19 sashes with glazing bars to north and south. C20 window to rear. One bay single storeyed extension to south with thatched gabled roof.	Post-Medieval	TF 49250 13049
1305435	Grade II listed building	Mill House	Tower Mill, converted to house. Mid C18 of 3 storeys, reduced to 2 in 1815 and a further 2 storeys added. Brick. Circular with pronounced batter at third floor. Late C20 bungalow abuts to south. C20 casements to cardinal points on each floor. Saw toothed cornice below C20 crenellated parapet. Tie plates above upper windows in form of letters and numerals: JD 1815 (John Dobbs).	Post-Medieval	TF5025911797
1237329	Grade II listed building	Windmill	Tower mill. c.1820. Brick, rendered to third floor. 4 storeys, battered at third floor. Double doors to north and south. Original 3-light casements to each floor, 3 to east, 2 to south, 2 to west. Interior floors intact but no machinery. One ground floor beam inscribed TF 1743, re-used.	Post-Medieval	TF5154814261
1237361	Grade II listed building	Townsend House	House. Dated 1735. Brick with slate roofs. Double pile plan. 2 storeys and attic. Irregular west front. Porch left of centre on pair of Tuscan columns. One C18 sash with glazing bars to left beneath gauged skewback arch. C20 casement to right. 2 C20 sashes to first floor, that to right within C18 architrave. Plain parapet below gabled roof. Later C18 2 storey extension to right now with C20 details.	Post-Medieval	TF 50196 16664
1264174	Grade II listed building	Forecourt Walls of Dovecote Farmhouse	Walls. Partly late C16, rebuilt C18. Brick. Square gate piers with ball finials with Tudor roses. Walls run north and east to enclose forecourt in front of house. Walls of indeterminate bond with semi-circular coping tiles.	Post-Medieval	TF5015016890

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1237327	Grade II listed building	Dovecot Farmhouse	Farmhouse. Late C16, restored 1930. Brick with pantiled roofs. F plan with twin cross wings now infilled. 2 storeys. South front on plinth course. 2 2-light cross casements to ground floor with leaded lights, 3 similar casements to first floor. Set-off between storeys. Gabled roof with ridge stack left of centre: square stepped plinth carries 4 octagonal flues with moulded capitals and bases. To west a projecting gabled cross wing, the gable head on kneelers. 5-light leaded cross casement to ground floor and one 2- light cross casement to first floor. East return to south range with 3 2- light casements arranged to sides and above a 4-centred door within square timber surround. West facade of 2 storeys in 3 bays.	Post-Medieval	TF 50141 16905
1440076	Grade II listed building	Walpole St Peter War Memorial	First World War memorial, with further names added after the Second World War and later conflicts. It is constructed of sandstone and has a three-stepped base and octagonal plinth topped by a tapering octagonal shaft with a pinnacle of a Calvary cross within a stone canopy shelter. The base of the Calvary is carved with a standing figure either side of Christ on the front face. The rear and sides are carved with further figures including St Michael and St George.	Modern	TF5023916823
1237263	Grade II listed building	Table Tomb 13 Metres South of Nave of Church of St Peter	Table Tomb. 1815. Limestone. Plain base supports rectangular tomb, the edges enlarged as pilasters with floral earrings. Main side panels in form of hollow sided diamonds with ribbed spandrels. Overhanging cornice beneath top slab.	Post-Medieval	TF 50212 16858
1237323	Grade II listed building	Memorial 40 Metres South of Nave of Church of St Peter	Headstone. 1736. Limestone. Rectangular with coved segmental set-back top. Pair of Corinthian columns support entablature and frame bowed oval inscription panel. Leaf trails in top spandrels, skull, crossed bones and hourglass in lower spandrels. In coved top flying trumpet-blowing cherub and 3 winged cherub heads.	Post-Medieval	TF 50237 16835
1237325	Grade II listed building	Memorial 20 Metres East of North Gate of Churchyard of St Peter	Headstone. 1708. Limestone. Rectangular with coved head in form of 3- centred arch. Pair of female caryatids support ionic capitals which in turn support skulls. These skulls carry incised linear string course. Bowed square inscription panel. In head of memorial a weathered carving, probably Angel of Death with spread wings.	Post-Medieval	TF 50183 16896
1264173	Grade II listed building	Memorial 21 Metres East of North Gate of Churchyard of St Peter	Headstone. Early C18. Limestone. Rectangular with coved semi-circular tympanum containing winged cherub head. Inscription panel contained within circular arrangement of individual energetically twisted foliate scrolls.	Post-Medieval	TF 50184 16897
1264171	Grade II listed building	Memorial 13 Metres South of Nave of Church of St Peter	Headstone. 1734. Limestone. Coved segmental set-back top. Pair of ionic columns carry entablature and frame fielded squared inscription panel. In head woman with long hair reclines on skull.	Post-Medieval	TF 50231 16859
1237324	Grade II listed building	Memorial 19 Metres South of Chancel of Church of St Peter	Headstone. 1737. Limestone. Rectangular with lugged top and pair of segmental acanthus scrolls. Scrolled cartouche inscription panel below 2 winged cherub heads. Fruit and flower swags left and right.	Post-Medieval	TF 50236 16858
1264172	Grade II listed building	Memorial 1 Metre South of Chancel of Church of St Peter	Headstone. Mid C18. Limestone. Rectangular with coved set-back segmental top. Pair of ionic columns support architrave and contain fielded square inscription panel. In head woman with long hair reclines on skull.	Post-Medieval	TF 50240 16873
1237261	Grade II listed building	Sculpture in Churchyard	Relocated corbel. C15. Limestone. One of opposing pair set into wall at north entrance to churchyard. Square section masonry block carved at (originally) exposed and in form of crouching grotesque.	Medieval	TF 50127 17590
1237302	Grade II listed building	Sculpture in Churchyard	Relocated corbel. C15. Limestone. One of opposing pair set into wall at north entrance to churchyard. Square section masonry block carved at (originally) exposed end in form of coughing grotesque.	Medieval	TF 50132 17592
1264181	Grade II listed building	Daycotts End	House, formerly vicarage, c.1770, altered mid C19. Brick with slate roof. 2 storeys in 3 bays with canted returns. Central panelled door with margin lights below 7-vaned fanlight. Porch supported	Post-Medieval	TF 50208 17529

NHLE No.	Designation and Grade	Name	Description	Period	NGR
			on Roman Doric columns. Flat entablature. Central bay broken forward above porch. Paired thin pilaster strips close elevation to right and left. One sash window right and left of porch with glazing bars beneath gauged skewback arches. 3 smaller but similar sashes to first floor.		
1237262	Grade II listed building	Princess Victoria Public House	Public House. Dated 1651. Brick with pantile roof. 2 storey west facade in 3 bays. C20 central door flanked by one 3-light C20 cross casement right and left. Platband between storeys. 2 leaded 3-light casements to first floor. Gabled roof.	Post-Medieval	TF 50475 17658
1237328	Grade II listed building	St Peters Lodge	House. Dated 1705, improved and extended 1813, restored 1872 and c.1930. Brick with pantile or slate roofs. House of 1705 T shaped. 2 storeys and attic. To north, a cross wing with re-used ashlar quoins	Post-Medieval	TF 52491 15814
1264175	Grade II listed building	Walled garden at St Peters Lodge including dovecote	Walled garden. Wall of 1813 runs west from house to dovecote, returning to south, now of 1872. Brick. 1813 wall of English garden wall bond with ovolo stone coping. Gabled dovecote floored internally. North gable opened and fitted with double doors beneath segmental relieving arch.	Post-Medieval	TF 52454 15816

Table 5A.2 Designated Heritage Assets of high value within the 3-5 km Study Area

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1009984	Scheduled monument	Moated Site and Medieval Field System in Church Field, 60 m North of St John's Church	The monument, which is located towards the northern end of the village of Terrington St John, includes a rectangular moated site overlying, and partly incorporating, a series of four parallel ditches which form part of a medieval field system. It also includes a section of the western side of a medieval drove road which borders the field system. The site lies on Fen silts deposited after the Roman period. The four ditches run east-west and are visible as earthworks approximately 0.5 m deep, 4 m-5 m wide and 80 m in length. They divide field strips, known as `dylings', ranging in width from 17 m to 28 m, and they terminate in a line approximately 50 m from the western edge of the drove, which is visible as a slight scarp in the ground surface. The drove road ran from Terrington St Clement southward to the Smeeth. The moated site measures 44 m north-south overall, and the original dimensions east-west are estimated to be similar. The moat ditches, which contain no water, are 7 m-8 m in width and up to 1.5 m deep.	Medieval	TF 53974 15955
1264266	Grade I listed building	Church Of Saint John	Parish church. Early C14 church, remodelled C15. Tower of late C13 origin. Nave, aisles and chancel. Building first rendered 1835, tower restored 1843, remainder 1853. Rendered Barnack stone and some brick. Slate and lead roofs. South-west tower originally detached.	Medieval	TF 53931 15853
1064536	Grade II* listed building	Cross Keys Bridge (Formerly Including Hydraulic Engine House)	Road and rail hydraulic swing bridge, now road bridge. Opened 1897, erected by A. Handyside & Co. Ltd. Steel, iron and wood. The-swing span has 3 parallel bowstring braced girders carried on a pivot pier. There are 2 fixed spans of steel plate girders at the east end. Bridge topped with wooden podium surmounted by hexagonal wood and glazed viewing chamber.	Post-Medieval	TF 48217 21030
1204796	Grade II* listed building	Hydraulic Engine House	Hydraulic engine house. 1897, the machinery by Sir W. G. Armstrong, Whitworth & Co. Ltd. Iron, red brick. Slate roofs. Ribbed iron tower with hipped roof with overhanging eaves. First floor band. 2 storeys, 2 bays. No ground floor openings. Above, 2 glazing bar sashes with flat heads to front and rear with single similar sash to each side wall. To the rear is the red brick range.	Post-Medieval	TF 48006 20902

Table 5A.3 Non-designated Heritage Assets within the draft Order Limits or the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF2187	Monument	The Sea Bank	A probable Late Saxon and medieval earthen bank built for sea defence, is visible as an earthwork and a cropmark on 1946 RAF aerial photographs. Excavation of section across Sea Bank near Islington Hall Farm, Tilney All Saints, indicated that the bank had been constructed on the boundary between the lower salt marsh and the mud flat.	Early medieval to Medieval	TF 53621 17044	Within the 1 km Study Area
MNF30047	Find Spot	Roman pottery sherds	In 1993 the digging of a new carp lake at this location recovered several sherds of Roman pottery. Finds included the neck/rim of a large white amphora and four sherds of greyware.	Roman	TF 4945 1434	Within the 1 km Study Area
MNF19624	Find Spot	Roman and medieval pottery sherds	Fenland fieldwalking here in 1983 recovered sherds of Roman and medieval pottery.	Roman	TF 5006 1296	Within the 1 km Study Area
MNF63139	Structure	18 th century milestone marking Wisbech 4 miles and Lynn 9 miles	One of 5 surviving milestones along the Wisbech, King's Lynn and Cross Keys Wash turnpike. This turnpike was created in 1765 and ran "from Wisbech to Walsoken, then from Lord's Bridge to Magdalen Bridge across the Ouse at Wiggenhall St Mary Magdalen. From Lord's Bridge a road went northeast to German's Bridge, Saddlebow and South Lynn, while another branch went northwest to Terrington St Clements then west to Cross Keys Wash." The turnpike was extended in 1821 when the Marshland Free Bridge was built, adding routes to Marshland Free Bridge, going "via Tilney St Lawrence and Islington, and Via Clenchwarton and West Lynn", before being dis-turnpiked in 1870.	Post-Medieval	TF 5003 1342	Within the 1 km Study Area
MNF64486	Building	Former United Free Methodist Chapel	Former Primitive Methodist Chapel dated 1849, this is a small brick chapel with a three bay pediment front. This has been converted into a house.	Post-Medieval	TF 4919 1300	Within the 1 km Study Area
MNF18600	Find Spot	Multi-period pottery sherds and Roman objects	Fenland fieldwalking here in 1982-83 recovered sherds of Roman pottery and pieces of briquetage. Subsequent investigations of the site during 1984-93 retrieved sherds of medieval and Roman pottery along with fragments of a Roman steelyard. Identified pottery types from this site included Roman greyware, Samian ware along with Nar and Nene Valley wares.	Roman	TF 49 13	Within the 1 km Study Area
MNF18601	Find Spot	Roman and medieval pottery sherds	Fenland fieldwalking here in 1982 recovered sherds of Roman and medieval pottery.	Roman to Medieval	TF 4978 1321	Within the draft Order Limits
MNF18602	Find Spot	Medieval to post-medieval finds	Fenland fieldwalking here in 1982 recorded a sparse scatter of medieval pottery sherds. Subsequent metal-detecting in 2022 recovered a medieval/post-medieval thimble.	Medieval	TF 4962 1309	Within the draft Order Limits
MNF18603	Find Spot	Medieval pottery sherds	Fenland fieldwalking here in 1982 recorded a scatter of medieval pottery sherds. No real concentrations were noted.	Medieval	TF 4981 1283	Within the 1 km Study Area
MNF18651	Find Spot	Medieval pottery sherds	Fenland fieldwalking here during 1983 recovered a number of medieval pottery sherds.	Medieval	TF 4911 1443	Within the draft Order Limits

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF18977	Monument	World War Two aircraft crash site, Roman pottery sherds and post medieval briquetage	Fenland fieldwalking here 1983 recovered sherds of Roman pottery and post medieval briquetage. Additionally, the landowner reported that during World War Two a bomber crashed in this area.	Modern	TF 4870 1426	Within the draft Order Limits
MNF19066	Find Spot	Medieval pottery sherds	Fenland fieldwalking here during 1983 recovered a couple of sherds of medieval pottery.	Medieval	TF 4880 1401	Within the draft Order Limits
MNF19067	Find Spot	Medieval pottery sherds	Fenland fieldwalking here during 1983 recovered sherds of medieval pottery.	Medieval	TF 4960 1361	Within the draft Order Limits
MNF20088	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered odd medieval pottery sherds from across this field.	Medieval	TF 4825 1550	Within the 1 km Study Area
MNF58809	Monument	Possible Iron Age or Roman ditched enclosure	Between 2006 and 2007 a geophysical survey detected strong anomalies indicating possible ditched enclosures and small magnetic anomalies possibly relating to pit features. Fieldwalking in this area also revealed surface scatters of Iron Age and Roman pottery.	Iron Age	TF 4992 1318	Within the 1 km Study Area
MNF21325	Find Spot	Middle Saxon settlement and medieval pottery sherd concentration	Fieldwalking in 1985 by the Fenland Survey recovered a few medieval pottery sherds from across this field, as well as noting a long sinuous scatter crossing the eastern side. A dispersed scatter of Middle Saxon pottery sherds and bone fragments was also noted, as well as evidence of a roddon.	Early Medieval	TF 4874 1564	Within the draft Order Limits
MNF19860	Monument	Undated mound, medieval object concentration	Fieldwalking in 1983 by the Fenland Survey recovered a scatter of medieval pottery sherds from across this field. A concentration of medieval pottery sherds, animal bone and fired clay fragments was also noted, along with much overlying post medieval debris. An undated mound was also noted.	Post-Medieval	TF 4966 1409	Within the 1 km Study Area
MNF19805	Monument	Undated mound, concentrations of medieval material	Fieldwalking in 1983 by the Fenland Survey recovered a scatter of Roman and medieval pottery sherds from across the field. An artificial mound and the route of a medieval trackway were also recorded. The surface of the mound was covered with brick/fired clay fragments, bone and some shell, as well as fragments of medieval pottery. A small concentration of medieval pottery sherds, bone and shell fragments were also noted.	Medieval	TF 496 139	Within the draft Order Limits
MNF19718	Monument	Undated mound, medieval and post medieval object concentration	Fieldwalking in 1983 by the Fenland Survey recovered a number of medieval pottery sherds from across this area. A concentration of medieval pottery sherds was also noted, along with animal bone and shell fragments, fired clay and post medieval debris. All this material was recovered from a raised mound up, which is not a roddon. Another concentration of medieval and post medieval pottery sherds, bone and fired clay fragments as also noted on flat ground.	Unknown	TF 4991 1360	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF16338	Monument	Possible site of medieval/post medieval mill	An earthen mound is recorded here on the Ordnance Survey. The area is known as Mill Lane but no windmill is recorded on 18 th and 19 th century maps of this location. A local informant suggested a drainage mill may have existed here in the past, but this is a little unlikely before 1797 and could have had no connection with the mound. The mound was still visible when the site was visited in 1996.	Medieval	TF 4865 1375	Within the 1 km Study Area
MNF18974	Find Spot	Medieval pottery sherd	Fenland fieldwalking here in 1983 recovered a single sherd of pottery, possibly of medieval date.	Medieval	TF 4880 1445	Within the draft Order Limits
MNF19863	Find Spot	Roman, Middle Saxon and medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a sparse scatter of medieval pottery sherds, along with six sherds of Middle Saxon pottery and one Roman, from this field, particularly in the western half.	Roman	TF 4902 1569	Within the draft Order Limits
MNF2200	Monument	Cropmark of undated double circular enclosure	It is recorded that the cropmark of an undated double circular enclosure was visible on this site in the past.	Unknown	TF 4868 1558	Within the 1 km Study Area
MNF2207	Monument	Site of medieval moated enclosure and great house	This is the site of a moated enclosure which around 1450 may have been the site of the Rochford mansion. In 1983 the north side of the moat, along with parts of the west and east sides, survived. Brick and fired clay were recovered from the inside of the enclosure, as well as some 14th century pottery sherds. Excavations have taken place in 2011 and 2012.	Medieval	TF 497 139	Within the 1 km Study Area
MNF19696	Find Spot	Roman and medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered one medieval and some Roman pottery sherds from across this field. The Roman pottery sherds were from the western edge of the field and are almost undoubtedly derived from dyke cleaning.	Roman	TF 5010 1335	Within the 1 km Study Area
MNF74666	Monument	Possible saltern, former watercourses and post-medieval field boundaries	<p>A geophysical survey in 2022 identified a small cluster of potentially archaeologically significant discrete anomalies in the south-east corner of this site. The nature of these responses was uncertain but it was suggested that they might represent hearths associated with salt production. Subsequent trial trenching revealed a broad linear feature at this location that was mostly filled with fragments of fired clay. This nature of this material suggests that it may well represent debris from a medieval or earlier salt production site (saltern).</p> <p>The only other responses of note identified by the geophysical survey were a number of linear anomalies that correspond with former field boundaries depicted on 19th- and 20th-century maps. Various sinuous anomalies represent the remains of a network of tidal channels that were present when this area was still a saltmarsh. The nature of these channels was confirmed by the trial trenching, which saw the investigation of two of these features.</p> <p>A geophysical survey of an additional area at the eastern end of this site in 2023 identified two linear anomalies that correspond with former field boundaries depicted on 19th-century maps but no other potentially archaeologically significant responses. There is no evidence for surviving remains associated with two possible saltern</p>	Medieval	TF 4807 1644	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
			mounds previously noted at this location (NHERs 19693 and 19694). Subsequent trial trenching demonstrated that both mounds were overlain by a clay silt layer that also sealed a palaeochannel identified by the geophysical survey. Two ditches were cut into this deposit, both of which were associated with the late post-medieval field boundaries. Single test pits excavated into the two mounds demonstrated that they both consisted of sequences of pale sand deposits. Neither of these small test pits encountered any debris from salt production and no finds were recovered.			
MNF19054	Find Spot	Medieval pottery sherds	Fenland fieldwalking here during 1983 recovered various sherds of medieval pottery.	Medieval	TF 4869 1330	Within the 1 km Study Area
MNF19728	Monument	Possible medieval moated enclosure, pasture field east of Falkner House	Wide ditch on south side marked as pond on 6 inch Ordnance Survey, can only be part of moat, and always known as such to landowners. Small part at west end filled in but otherwise as on Ordnance Survey. Possible traces of west and north sides but nothing definite. Presumed island of moat has undulations, with possible indistinct platforms defined by scarping and slight banks, but none particularly regular. On south side, island is about 1.22 m above base of ditch, exterior about 0.76 m above. Width of south arm about 8 m.	Medieval	TF 4997 1381	Within the 1 km Study Area
MNF19684	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a number of medieval pottery sherds from this field. It is also reported that during the construction of the Wisbech Bypass in the early 1980s a medieval jug was dug up amongst a surface scatter of medieval pottery sherds.	Medieval	TF 5034 1301	Within the 1 km Study Area
MNF19868	Monument	Undated mound, medieval and post medieval object concentration	Large mound based on roddon. Much of it certainly artificial and stands at least 1.2 m above surrounding land. Much of it covered by post medieval debris- pantile, brick, pot, bone, shell fragments, also medieval pottery. In places and in particular core area of about 40 m diameter material is extremely dense. Also, some fine-grained sedimentary rock fragments similar to those on chapel site. On previous visit, occupation area showed as very clear black stain. For full details of wares, flint types etc see Fenland Folders.	Unknown	TF 4996 1432	Within the 1 km Study Area
MNF14903	Monument	Site of Chapel of St Edmund/St Catherine, Walpole Highway	<p>Small plot in Chapelfield Lane marked as Chapel Yard on tithe map. (S1) confirms this site as St Edmunds Chapel and mentions brickwork then visible. House on site 1700 referred to in documents. A font-shaped stone found; (S1) knew the owner but does not name him. He suggests this was the same as St Catherine's chapel mentioned in 1505, rededicated, as the descriptions of the locations are identical.</p> <p>Delimiting dykes now removed but whole area formerly within covered by fragments of brick and fine-grained sedimentary stone. Only the odd sherd of post medieval pottery. Whole plot seems raised about 0.3 m above surrounding land level. Some of pottery recovered in 1983 reidentified as medieval.</p>	Medieval	TF 4999 1424	Within the 1 km Study Area
MNF55113	Find Spot	Post-medieval pottery sherds	Fieldwalking in this area in 2006 recovered post-medieval pottery sherds.	Post-Medieval	TF 50107 13120	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF28453	Find Spot	Medieval metal objects and coin	Metal detecting here in 1991 recovered various medieval metal objects. Finds included a fragment of a bronze barrel padlock, a buckle plate, a fragment of bronze vessel leg and an imitation Sterling penny of Gaucher of Chatillon (1313-1322).	Medieval	TF 48 13	Within the 1 km Study Area
MNF19861	Find Spot	Concentration of medieval objects, scatter of medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey noted a scatter of medieval pottery sherds across this field. A concentration of medieval pottery sherds, bone and pantile fragments and modern debris was also recorded.	Medieval	TF 4976 1462	Within the 1 km Study Area
MNF23523	Find Spot	Roman and medieval pottery sherds, Thornmoor Field	10 April 1987. Part ploughed, part winter wheat. Thornmoor Field. Odd medieval sherds and possibly the odd Roman one. No obvious concentrations (but east part field not walked).	Roman	TF 4927 1516	Within the 1 km Study Area
MNF22145	Monument	Middle Saxon occupation site, Rose Farm	Fieldwalking and excavation work during the 1980s recovered large numbers of Middle Saxon pottery sherds, along with some Early and Late Saxon sherds. A number of substantial linear features and circular and sub-rectangular pits, all of Middle Saxon date, were also recorded, as well as fired clay which may be briquetage. Small finds of Saxon and medieval date were also recovered, including fragments of bone combs and a possible iron spear head.	Early Medieval	TF 4875 1599	Within the 1 km Study Area
MNF20159	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered odd medieval pottery sherds from this field.	Medieval	TF 4919 1537	Within the 1 km Study Area
MNF63803	Negative evidence	Site with no archaeological finds or features	Monitoring of groundworks associated with construction of extension to existing agricultural building. This work revealed a sequence of alluvial and topsoil deposits. No archaeological features, either associated with the nearby moat (NHER 19728) or otherwise, were revealed, and no finds were retrieved.	Undated	TF 4998 1386	Within the 1 km Study Area
MNF19053	Find Spot	Medieval pottery sherds	Fenland fieldwalking here in 1983 recovered sherds of medieval pottery.	Medieval	TF 4890 1325	Within the 1 km Study Area
MNF28050	Monument	Cropmarks of undated trackway and enclosures	An undated aerial photography records the cropmarks of a trackway with enclosures situated off it on this site.	Unknown	TF 501 144	Within the 1 km Study Area
MNF19727	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a number of late medieval pottery sherds from along the west edge of the field and particularly in the southwest corner. This is associated with other medieval sites in adjacent fields making up the West Drove Complex.	Medieval	TF 5008 1404	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF19052	Find Spot	Possible medieval roddon and multi-period pottery sherds	Few sherds in context 1 of early post medieval pottery in field near entrance. Perhaps dumped - lot of modern rubbish accompanying. (Archive says seven medieval sherds, two early post medieval. Context 2 at 4905 1320. Medieval pottery and medium amount of bone. Some post medieval pot adjoins. Forms linear pattern adjacent to old track through former orchard. Could be roddon but bed not pronounced. 90 m west-east x 25-30 north-south at 2.4 m (8 ft) OD.	Roman	TF 4903 1318	Within the 1 km Study Area
MNF18969	Find Spot	Medieval pottery sherds	Fenland fieldwalking here in 1983 recovered several sherds of medieval pottery.	Medieval	TF 4913 1240	Within the 1 km Study Area
MNF19693	Monument	Possible medieval saltern mound	Large mound of earth extending from Sea Bank and covered by farm buildings of Rose Hall. For most part mound can be quite clearly defined despite overlying buildings. However, owner informed R. Silvester (NAU), that when he was young there was another separate mound to north which was levelled by his father. If it can be assumed that this was not originally separate but an integral part of the same mound this would make the breakwater the same shape as those at West Walton, ie. kidney on a stem. In all cases stems difficult to detect owing to overlying buildings. Conceivable but highly unlikely in each case that breakwater originally was detached from bank, and area between the two made up when farms built on them. At least 100 m north to south x 110 m east to west x 1.83 m high.	Medieval	TF 4867 1611	Within the 1 km Study Area
MNF23524	Find Spot	Roman and medieval pottery sherds, Thornmoor Field	Fieldwalking in 1987 by the Fenland Survey recovered sherds of medieval and Roman pottery scattered across this field. One particular spread of Roman pottery sherds was noted in the northeast corner, and odd sherds were noted close to the dyke edge elsewhere.	Roman	TF 4927 1562	Within the 1 km Study Area
MNF42514	Monument	Site of St Paul's Church, West Walton Highway	A church dedicated to St Paul was built here in the mid to late 19 th century. It was demolished in the mid-20 th century and houses were built over the site. It is worth noting that Fen Road was changed to St Paul's Road not long before the church was demolished.	Post-Medieval	TF 49301 12924	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF73569	Monument	Post-medieval/modern pit	Evaluation of proposed development site. Although the north-western part of the site coincides with the northern section of a probable medieval moat visible on (S1) a trench excavated at this location revealed no associated remains. There was though evidence for considerable recent disturbance, with a buried topsoil deposit lying above the natural clay, overlain by a made ground deposit of silt, cinder and crushed ceramic building material. This latter deposit was cut by a large amorphous pit containing pottery of 19 th - to 20 th -century date, ceramic building material and glass. The fill of this pit was overlain by further levelling deposits. The five trenches excavated in the main part of the site to the south-east also revealed no archaeologically significant features. Here there was no evidence for post-medieval or modern disturbance, with an intact subsoil deposit recorded in all of the trenches.	Post Medieval	TF 4924 1281	Within the 1 km Study Area
MNF19859	Find Spot	Medieval object concentration, medieval pottery sherds	Fieldwalking in 1986 by the Fenland Survey recovered a number of medieval pottery sherds from this field.	Medieval	TF 4979 1482	Within the 1 km Study Area
MNF22141	Find Spot	Medieval pottery sherds	Fieldwalking in 1986 by the Fenland Survey recovered a number of medieval pottery sherds from this field.	Medieval	TF 5032 1418	Within the 1 km Study Area
MNF19666	Find Spot	Middle Saxon and medieval pottery sherds	Field, formerly several, with east ditch recut on different alignment. Rough ploughed but weathered. Odd sherd scatter of medieval pottery. Some of the material found has been reidentified as Middle Saxon pottery.	Early Medieval	TF 4907 1615	Within the 1 km Study Area
MNF19864	Find Spot	Roman and medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a number of Roman and medieval pottery sherds.	Roman	TF 4949 1536	Within the 1 km Study Area
MNF62220	Monument	Medieval moated site at West Walton	An evaluation of the adjacent site saw a trench placed across the line of the north-eastern section of the moat, which is depicted on (S1) as a separate feature in an adjacent field. No associated remains were recorded and there was evidence for significant post-medieval or modern disturbance.	Medie	TF 4916 1285	Within the 1 km Study Area
MNF20158	Find Spot	Roman pottery sherd concentration, medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a general scatter of Roman and medieval pottery sherds, mainly from the eastern half of this field. A diffuse scatter of Roman pottery sherds was also noted, as well as evidence of a possible roddon to the south.	Roman	TF 4933 1581	Within the 1 km Study Area
MNF22138	Find Spot	Roman pottery sherd concentration, medieval pottery sherds	Fieldwalking in 1986 by the Fenland Survey recovered a general scatter of medieval pottery sherds. A small concentration of Roman pottery sherds were also noted beside a dyke.	Roman	TF 4949 1551	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF20082	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a number of medieval pottery sherds from this site.	Medieval	TF 5042 1384	Within the 1 km Study Area
MNF19819	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered sherds of medieval pottery from this field, mainly from the northwest corner on the top of a roddon.	Medieval	TF 5039 1470	Within the 1 km Study Area
MNF20072	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered sherds of medieval pottery, almost all from close to the south edge of the field.	Medieval	TF 4965 1492	Within the 1 km Study Area
MNF67223	Monument	Site of post-medieval garden	<p>Excavation of foundation trenches for a new dwelling was monitored. The earliest soil layer observed across the site contained patches of ash and charcoal as well as small fragments of ceramic building material and post-medieval pottery. This has been interpreted as a former garden soil. It is likely that the entirety of the investigated area was formerly part of the garden of the property to the south.</p> <p>In the northern portion of the affected area, the former garden soil was overlain by former topsoil containing fragments of modern pottery which in turn was overlain by a make-up layer for the modern garden. The southern portion of the area was covered by a modern car park. The former car park levels lay directly on the former garden topsoil noted above. The car park also sealed a modern single brick well or former cess pit located in the extreme west of the excavated area. No other archaeological features were identified, and the post-medieval pottery and ceramic building material was not retained.</p>	Post Medieval	TF 4912 1285	Within the 1 km Study Area
MNF58508	Monument	Ditch and pit features associated with nearby saltworking site	In 2006 a geophysical survey detected a number of ditch and pit anomalies that are probably related to the postulated nearby medieval saltern (NHER 19694). In 2008 trial trenching in this area revealed two gullies but no archaeological finds. To the north medieval and post-medieval pottery as well as evidence for a timber structure was recovered (NHER 53706).	Medieval	TF 4873 1636	Within the 1 km Study Area
MNF18580	Monument	Site of possible medieval tofts and paddocks	In 1982 several low earthen banks were noted at this location. Some formed regular enclosures, perhaps toft sites or paddocks of medieval date. Sadly, the field is now almost completely levelled with little trace of these features remaining.	Medieval	TF 4903 1288	Within the 1 km Study Area
MNF19809	Find Spot	Medieval and post medieval objects	Scatter of medieval sherds. North part predominantly medieval with little later contamination. South half has abundant fragments of fired clay, moderate animal bone, shell and sparse grass. Also post medieval sherds in this area, because of this post medieval layer the quantity of medieval material drops. 65 m x 25 m on and beyond a roddon on east edge medieval drove.	Medieval	TF 5061 1312	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF19872	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered sherds of medieval pottery from this field.	Medieval	TF 5014 1487	Within the 1 km Study Area
MNF22142	Find Spot	Medieval pottery sherds	Fieldwalking in 1986 by the Fenland Survey recovered a number of medieval pottery sherds from this field.	Medieval	TF 5051 1355	Within the 1 km Study Area
MNF20884	Monument	Possible medieval trackway, medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a sparse scatter of medieval pottery sherds from the edge of a medieval trackway.	Medieval	TF 5051 1327	Within the 1 km Study Area
MNF19866	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a number of medieval pottery sherds, mainly from near to the line of a medieval drove crossing the west end of this field north to south and continuing from sites NHER 19865 and NHER 19867.	Medieval	TF 4983 1518	Within the 1 km Study Area
MNF22137	Find Spot	Roman pottery sherd concentrations, medieval object concentration	Fieldwalking in 1985 by the Fenland Survey recovered a general scatter of medieval pottery sherds, along with a few Roman and one Late Saxon sherds, from this field. Two concentrations of Roman pottery sherds were also noted, as well as a concentration of medieval pottery sherds with bone and shell fragments.	Roman	TF 4954 1575	Within the 1 km Study Area
MNF19867	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered a fair scatter of medieval pottery sherds from this field, especially along the earthwork of a medieval drove crossing the west end of field.	Medieval	TF 4982 1530	Within the 1 km Study Area
MNF19665	Find Spot	Late Saxon and medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered odd medieval pottery sherds scattered over this field, more in the eastern field than western. This is likely to be because of the proximity to the village core and better fieldwalking conditions. One Late Saxon pottery sherd was also identified.	Early Medieval	TF 4924 1646	Within the 1 km Study Area
MNF20093	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a few medieval pottery sherds from this field.	Medieval	TF 5017 1500	Within the 1 km Study Area
MNF64113	Negative evidence	Site with no archaeological finds or features	No archaeological features were observed and no finds recovered from an archaeological watching brief during groundworks associated with the diversion of an electricity cable at West Drove Road (North), Walpole St Peter.	Undated	TF 4956 1553	Within the 1 km Study Area
MNF19865	Find Spot	Medieval pottery sherds	Fieldwalking in 1983 by the Fenland Survey recovered sherds of medieval pottery, mainly from the earthwork of a medieval drove crossing the west end of this field north to south.	Medieval	TF 4981 1547	Within the 1 km Study Area
MNF20092	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a few sherds of medieval pottery from this field.	Medieval	TF 5028 1507	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
MNF19950	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered odd medieval pottery sherds from this area, mainly in the western half.	Medieval	TF 4988 1568	Within the 1 km Study Area
MNF18578	Find Spot	Medieval pottery sherds	Fenland fieldwalking here in 1982 recorded a scatter of medieval pottery sherds. A thin scatter of medieval sherds was recovered across the field (boundaries not as on Ordnance Survey). Possibly due to manuring. No concentrations, though more sherds on west side than on east.	Medieval	TF 4880 1274	Within the 1 km Study Area
MNF20091	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a few sherds of medieval pottery from this field. Field of young winter wheat in well weathered soil. Odd sherds medieval pottery.	Medieval	TF 5053 1517	Within the 1 km Study Area
MNF20073	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered sherds of medieval pottery from a small roddon close to the western edge of this field. Field under winter wheat; all walked but finds only on small roddon close to west edge.	Medieval	TF 4974 1585	Within the 1 km Study Area
MNF18957	Find Spot	Medieval pottery sherds	Fenland fieldwalking here in 1983 recovered a number of medieval pottery sherds.	Medieval	TF 4853 1470	Within the 1 km Study Area
MNF18978	Find Spot	Possible undated roddon and Roman pottery sherds	Fenland fieldwalking here in 1983 recovered a scatter of Roman pottery sherds, animal bones and fired clay fragments from the top of a possible roddon. Fenland fieldwalking in winter wheat. On a slight hill - possibly but not certainly a roddon. Scatter of Roman pottery, sparse animal bone and fired clay.	Roman	TF 4855 1436	Within the draft Order Limits
MNF20883	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a number of medieval pottery sherds from this field. Fieldwalking when field part bare, part under winter wheat- both parts well weathered.	Medieval	TF 5090 1395	Within the 1 km Study Area
MNF19951	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered sherds of medieval pottery from across this field.	Medieval	TF 5005 1553	Within the 1 km Study Area
MNF19952	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered sherds of medieval pottery from this field.	Medieval	TF 5014 1560	Within the 1 km Study Area
MNF19953	Find Spot	Medieval pottery sherds	Fieldwalking in 1984 by the Fenland Survey recovered a number of medieval pottery sherds from across this field.	Medieval	TF 5029 1569	Within the 1 km Study Area
MNF77069	Monument	Undated possible linear features and late post-medieval field boundaries	Magnetometer survey of proposed development site in April 2021-January 2022 identified little of definite archaeological significance. Although a number of straight linear anomalies were recorded these all correspond with former field boundaries depicted on the Ordnance Survey First Edition Six-inch map. The small number of potentially archaeologically-significance responses include a pair of sinuous linear anomalies in the north-west corner of the larger field. Various other sinuous linear anomalies were almost certainly natural in origin – representing former water channels. Responses of uncertain origin include a small circular cluster of anomalies in the south-east corner of the northern field. These may represent some form of small enclosure, although their anomorphous nature and proximity to a large area of magnetic disturbance means this suggestion is only tentative. Numerous ferrous anomalies were probably caused by material on or near the ground surface – most likely modern debris. Larger areas of magnetic disturbance were caused by a number of electricity pylons.	Undated	TF 4734 1745	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Within the Draft Order Limits or 1km Study Area
AEC700	Geophysical anomaly	Former post-medieval field boundaries	A possible archaeological anomaly (WP4011) comprising a former post-medieval field boundaries has been identified during geophysical survey of the proposed Walpole B substation site.	Post-medieval	TF 4887 1416	Within the draft Order Limits
AEC701	Geophysical anomaly	Undated enclosure west of Stratton Farm	A possible archaeological anomaly (WP4002) comprising a small undated U-shaped enclosure has been identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4906 1405	Within the draft Order Limits
AEC702	Geophysical anomaly	Possible enclosure	A possible archaeological anomaly (WP4003) comprising an L-shaped linear feature interpreted as a potential large enclosure, identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4934 1393	Within the draft Order Limits
AEC703	Geophysical anomaly	Former post-medieval field boundaries	Possible archaeological anomalies (WP4016 and WP4018) comprising former post-medieval field boundaries identified during geophysical survey of the proposed Walpole B substation site.	Post-medieval	TF 4919 1396	Within the draft Order Limits
AEC704	Geophysical anomaly	Possible ditches southwest of Stratton Farm	Possible archaeological anomalies (WP4001) comprising a series of four linear features southwest of Stratton Farm interpreted as possible ditches or water management features.	Undated	TF 4948 1406	Within the draft Order Limits
AEC705	Geophysical anomaly	Possible ditch southwest of Stratton Farm	Possible archaeological anomalies (WP4004) comprising linear feature, possibly a former ditch identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4931 1417	Within the draft Order Limits
AEC706	Geophysical anomaly	Undated ditches	A possible archaeological anomaly (WP4000) comprising two undated linear ditches may represent former field boundaries or part of water management features in the field north of the medieval moated site (MNF2207), identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4974 1407	Within the 1km Study Area
AEC707	Geophysical anomaly	Possible drainage ditch	Possible archaeological anomaly (WP WP4026) comprising a linear ditch, identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4966 1379	Within the draft Order Limits
AEC708	Geophysical anomaly	Natural drainage channels	Possible archaeological anomalies comprising extensive curvilinear anomalies which comprise silted natural drainage channels across the low-lying marshland, identified during geophysical survey of the proposed Walpole B substation site.	Undated	TF 4919 1390	Within the draft Order Limits
AEC709	Geophysical anomaly	Former 20 th century house	Geophysical anomaly (WP4024) recorded in the field to the north of the medieval moat may represent demolition rubble associated with a 20 th century house/building shown on historic Ordnance Survey maps between 1927 and 1968, fronting onto West Drove North.	Modern	TF 4977 1407	Within the 1km Study Area

5B. Preliminary Summary of Likely Non- Significant Effects

Contents

5B.	Preliminary Summary of Likely Non-Significant Effects	1
5B.1	Introduction	1
Table 5B.1 Preliminary Summary of Likely Non-Significant Effects		2

5B. Preliminary Summary of Likely Non-Significant Effects

5B.1 Introduction

- 5B.1.1 This appendix presents the detailed preliminary summary of non-significant effects on heritage assets identified as a result of construction and/or operational activities within the Study Area for Section 7 the New Walpole B Substation (Section 7) of the Grimsby to Walpole Project (the Project).
- 5B.1.2 A number of designated and non-designated heritage assets, which may experience non-significant effects, have been identified as warranting further explanation of their assessment due to particular sensitivities, such as their value, designed views, historic setting or their proximity to works proposed within the draft Order Limits. These are reported in **PEI Report Volume 2 Part B Section 7 Chapter 5 Historic Environment**, under section 5.7.
- 5B.1.3 It should be noted that the assessment which has informed the conclusions presented remains ongoing and is subject to change, due to the ongoing survey activities and further design development of the Project. A full detailed assessment will be included within the Environmental Statement submitted with the Development Consent Order application.

Table 5B.1 Preliminary Summary of Likely Non-Significant Effects

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
Designated Heritage Assets within the 3 km Study Area					
Church of St Peter (NHLE 1264167) grade I listed	Temporary changes to the setting of the asset arising from construction, such as noise and traffic.	High	Negligible	Minor adverse (Not significant)	Changes (negligible magnitude) to the setting of the asset that would have little effect on how it is understood or appreciated, that would hardly affect the value of the heritage asset. This would have a minor adverse effect that would not be significant.
	Permanent changes to the setting of the asset arising from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.	High	Negligible	Minor adverse (Not significant)	The permanency of the infrastructure in the landscape within its wider agricultural setting would have little impact (negligible magnitude) on this heritage asset of high value with no real change in how it is understood or appreciated. This would have a minor adverse effect that would not be significant.
Church of St Andrew (NHLE 1264158) grade I listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No change	Neutral (Not significant)	The Project does not form part of the setting of the heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Old Manor Farmhouse (NHLE 1237330) grade II* listed	Temporary changes to the setting of the asset arising from construction, such as noise and traffic.	High	Negligible	Minor adverse (Not significant)	Changes (negligible magnitude) to the setting of this high value heritage asset would have little effect on how it is understood or appreciated and would hardly affect the value of the asset. This would have a minor adverse effect that would not be significant.

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	Permanent changes to the setting of the asset arising from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.	High	Negligible	Minor adverse (Not significant)	The permanency of the infrastructure in the landscape within its wider agricultural setting would have little effect on an asset of high value with no real change (negligible magnitude) in how it is understood or appreciated. This would have a minor adverse effect that would not be significant.
Shepherds Cottage (NHLE 1264180) grade II listed	Temporary changes to the setting of the asset arising from construction of the Project, such as noise and construction. Traffic.	Medium	Small	Minor adverse (Not significant)	Slight, temporary changes to the setting of this medium value asset would result in a small magnitude of impact to the way in which this listed building is experienced and appreciated. This would have a minor adverse effect that would not be significant.
	The presence of the Project in the landscape from the time of construction and throughout its operational duration will have no impact on the setting or value of the asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the heritage asset and will not alter its value or way in which it is appreciated or understood. The resulting neutral effect would not be significant.
Old Post Office (NHLE 1171829) grade II listed	Temporary changes to the setting of the asset arising from construction, such as noise and traffic.	Medium	Negligible	Negligible adverse (Not significant)	Potential for slight, temporary changes to the setting of the building which may result in changes to the way in which it is experienced and appreciated. This would have a negligible adverse effect that is not significant.
	The presence of the Project in the landscape from the time of construction and	Medium	No Change	Neutral (Not significant)	The presence of the Project within the landscape would not alter (no change) the setting of the asset and will not alter its value or way in which it is

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	throughout its operational duration will have no impact on the setting or value of the asset.				appreciated or understood This would result in a neutral effect which would not be significant.
Mill House (NHLE 1305435) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Windmill (NHLE 1237329) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Townsend House (NHLE 1237361) grade II listed	Temporary changes to the setting of the asset arising from construction (noise, construction traffic, lighting, temporary towers and scaffolds) of the Project.	Medium	Negligible	Negligible adverse (Not significant)	Temporary changes (negligible magnitude) to the setting of this medium value heritage asset that would have little effect on the value of the asset or the way in which it is appreciated or understood. This would result in a negligible adverse effect that would not be significant.
	Permanent changes to the setting of the asset arising	Medium	Negligible	Negligible adverse	The permanency of the infrastructure within the wider setting of this heritage asset of medium value

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.			(Not significant)	would have a negligible magnitude of impact, causing little effect on its value and how it is appreciated. This would result in a negligible adverse effect which would not be significant.
Forecourt Walls of Dovecote Farmhouse (NHLE 1264174) grade II listed	Temporary changes to the setting of the asset arising from construction (noise, construction traffic, lighting, temporary towers and scaffolds) of the Project.	Medium	Negligible	Negligible adverse (Not significant)	Temporary changes (negligible magnitude) to the setting of this medium value heritage asset that would have little effect on the value of the asset or the way in which it is appreciated or understood. This would result in a negligible adverse effect which would not be significant.
	Permanent changes to the setting of the asset arising from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.	Medium	Negligible	Negligible adverse (Not significant)	The permanency of the infrastructure within the wider setting of this heritage asset of medium value would have a negligible magnitude of impact, causing little effect on its value and how it is appreciated. This would result in a negligible adverse effect which would not be significant.
Dovecot Farmhouse (NHLE 1237327) grade II listed	Temporary changes to the setting of the asset arising from construction (noise, construction traffic, lighting, temporary towers and scaffolds) of the Project.	Medium	Negligible	Negligible adverse (Not significant)	Temporary changes (negligible magnitude) to the setting of this medium value asset that would have little effect on the value of the asset or the way in which it is appreciated or understood. This would result in a negligible adverse effect that would not be significant.
	Permanent changes to the setting of the asset arising from the presence of the	Medium	Negligible	Negligible adverse (Not significant)	The permanency of the infrastructure within the wider setting of this heritage asset of medium value would have a negligible magnitude of impact,

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	Project, from the time of construction and throughout its operational duration in the wider landscape.				causing little effect on its value and how it is appreciated. This would result in a negligible adverse effect which would not be significant.
Walpole St Peter War Memorial (NHLE 1440076) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Table Tomb 13 Metres South of Nave of Church of St Peter (NHLE 1237263) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Memorial 40 Metres South of Nave of Church of St Peter (NHLE 1237323) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	impact on the setting or value of this asset.				
Memorial 20 Metres East of North Gate of Churchyard of St Peter (NHLE 1237325) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Memorial 21 Metres East of North Gate of Churchyard of St Peter (NHLE 1264173) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Memorial 13 Metres South of Nave of Church of St Peter (NHLE 1264171) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Memorial 19 Metres South	The construction and presence of the Project in	Medium	No Change	Neutral	The Project does not form part of the setting of this heritage asset and will not alter its value or way in

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
of Chancel of Church of St Peter (NHLE 1237324) grade II listed	the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.			(Not significant)	which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Memorial 1 Metre South of Chancel of Church of St Peter (NHLE 1264172) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Sculpture in Churchyard (NHLE 1237261) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Sculpture in Churchyard (NHLE 1237302) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	temporary or permanent impact on the setting or value of this asset.				
Daycotts End (NHLE 1264181) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Princess Victoria Public House (NHLE 1237262) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
St Peters Lodge (NHLE 1237328) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
Walled garden at St Peters Lodge including dovecote (NHLE 1264175) grade II listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Designated Heritage Assets within the 3 - 5 km Study Area

Moated site and medieval field system in Church Field, 60m north of St John's Church (NHLE 1009984) Scheduled monument	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Church of St John (NHLE 1264266) grade I listed	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
Cross Keys Bridge (Formerly Including Hydraulic Engine House) (NHLE 1064536)	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
Hydraulic Engine House (NHLE 1204796)	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of this heritage asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.

Non-designated heritage assets within the draft Order Limits

Undated mound, concentrations of medieval material (MNF19805)	Topsoil stripping and groundworks required for the proposed landscape mitigation planting would result in partial truncation of the asset	Medium	Negligible	Negligible adverse (Not Significant - following additional mitigation)	Partial truncation or disturbance (negligible magnitude of impact) of this non-designated heritage asset of medium value would result in change to its value (negligible adverse effect), which would not be significant. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording would offset the change to the asset's value resulting in a negligible adverse effect which would not be significant.
---	---	--------	------------	--	---

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
Former post-medieval field boundaries (AEC700, Appendix 5B anomaly WP4011)	Ground reduction associated with the construction of the access road and substation will result in partial truncation of the asset.	Low	Small	Negligible adverse (Not Significant - following additional mitigation)	Partial removal or disturbance (small magnitude of impact) of this non-designated heritage asset of low value would change its value and the way in which the asset is understood (negligible adverse), which would not be significant. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording would result in a negligible adverse effect which would not be significant.
Enclosure (AEC701, Appendix 5B anomaly WP4002)	Topsoil stripping and groundworks required for the construction of the proposed Walpole B substation will likely result in the complete truncation of the asset.	Low	High	Minor adverse (Not Significant - following additional mitigation)	Complete removal or disturbance (High magnitude of impact) of this non-designated heritage asset of low value would result in a permanent and significant change to its value (Moderate adverse effect), which is significant. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording would reduce the significance of the effect to minor adverse which would not be significant.
Linear anomaly and potential enclosure (AEC702, Appendix 5B anomaly WP4003)	Topsoil stripping and ground works for construction of the proposed Walpole B substation will result in partial truncation of the asset	Medium	Medium	Minor adverse (Not Significant - following additional mitigation)	Partial removal or disturbance (medium magnitude of impact) of this non-designated heritage asset of medium value would reduce its value and the way in which the asset is understood or appreciated (moderate adverse), which would be significant. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording would reduce the significance of the effect to minor adverse which would not be significant.
Former post-medieval field	Topsoil stripping and ground works for	Low	Small	Negligible adverse	Partial removal or disturbance (small magnitude of impact) of this non-designated heritage asset of low

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
boundary (AEC703, Appendix 5B anomaly WP4016 and WP4018)	construction of the proposed new Walpole B substation will result in partial truncation of the asset			(Not significant)	value would hardly change its value or the way in which the asset is understood or appreciated (negligible adverse), which would not be significant.
Series of linear features (AEC704, Appendix 5B anomaly WP4001)	Topsoil stripping and ground works associated with the construction of the access haul road, SUDS drainage and landscape planting will result in partial truncation of the asset.	Medium	Small	Negligible adverse (Not significant - following additional mitigation)	Partial removal or disturbance (small magnitude of impact) of this non-designated heritage asset of medium value would change its value and the way in which the asset is understood (minor adverse), which would not be significant. Additional archaeological mitigation measures i.e. appropriate archaeological investigation and recording would reduce the significance of the effect to negligible adverse which would not be significant.
Linear Feature (AEC705, Appendix 5B anomaly WP4004)	Topsoil stripping and ground works associated with the proposed underground cable linking the Sealing End Compound to the new Walpole B substation would result in partial truncation of the asset.	Low	Small	Negligible adverse (Not Significant - following additional mitigation)	Partial removal or disturbance (small magnitude of impact) of this non-designated heritage asset of low value would hardly change its value or the way in which the asset is understood or appreciated (negligible adverse), which would not be significant. Additional archaeological mitigation measures i.e. appropriate archaeological investigation and recording would result in a negligible adverse effect which would not be significant.
Drainage ditch (AEC707, Appendix 5B anomaly WP4026)	Topsoil stripping and ground works associated with the construction of the access haul road will	Low	Small	Negligible adverse (Not Significant - following additional mitigation)	Partial removal or disturbance (small magnitude of impact) of this non-designated heritage asset of low value would hardly change its value or the way in which the asset is understood or appreciated. Resulting in a negligible adverse effect, which would

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
	result in partial truncation of the asset.				not be significant. Additional archaeological mitigation measures i.e. appropriate archaeological investigation and recording would result in a negligible adverse effect which would not be significant.
Curvilinear drainage channels (AEC708, Appendix 5B anomaly WP4003)	Topsoil stripping and ground works for construction of the proposed Walpole B substation, pylon work areas, construction access haul road, construction compound and drainage will result in partial truncation of this extensive asset.	Medium	Small	Negligible adverse (Not Significant - following additional mitigation)	Partial removal or disturbance (small magnitude of impact) of this extensive non-designated heritage asset of medium value would change its value and the way in which the asset is understood. This would result in a minor adverse effect which would not be significant. Additional archaeological mitigation measures i.e. appropriate archaeological investigation and recording would reduce the significance of the effect to negligible adverse which would not be significant.

Non-designated heritage assets within the 1 km Study Area

18th century milestone (MNF63139)	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Low	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which would not be significant.
United Methodist	Temporary changes to the setting of the asset arising from construction (noise, construction traffic,	Low	Negligible	Negligible adverse (Not significant)	Temporary changes to the setting of this low value asset that would have little effect on the value of the asset or the way in which it is appreciated or

Receptor	Impact	Value of Asset	Magnitude of Impact	Significance of Effect	Rationale
Free Chapel (MNF64486)	lighting, temporary towers and scaffolds) of the Project.				understood. This would result in a negligible adverse effect that is not significant.
	Permanent changes to the setting of the asset arising from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.	Low	Negligible	Negligible adverse (Not significant)	The permanency of the infrastructure in the landscape within its wider setting would have a negligible impact causing little effect on its value and how it is appreciated, resulting in a negligible adverse effect on an asset of low value which is not significant.

5C. Detailed Gradiometer Survey Report

Contents

5C.	Detailed Gradiometer Survey Report	1
5C.1	Introduction	1

5C. Detailed Gradiometer Survey Report

5C.1 Introduction

- 5C.1.1 This appendix provides the report detailing the results of geophysical survey (detailed magnetometry) completed for the proposed New Lincolnshire Connection Substations (LCS) A and B. The report presents a brief description of the methodology followed by the survey results and the archaeological interpretation of the geophysical data, accompanied by a series of plans showing both processed survey data as greyscale images and archaeological interpretation.
- 5C.1.2 The survey was undertaken by Wessex Archaeology using a cart-based gradiometer system. The interpretation of the geophysical survey results used by Wessex Archaeology separates anomalies into four main categories: archaeological, modern, agricultural, and uncertain origin/geological.



Grimsby to Walpole Walpole B Substation Norfolk

Gradiometer Survey Report

Document Ref.: 295220.06
May 2025



© Wessex Archaeology Ltd 2025, all rights reserved

Portway House
Old Sarum Park
Salisbury
SP4 6EB

www.wessexarch.co.uk

Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB

Disclaimer

The material contained in this report was designed as an integral part of a report to an individual client and was prepared solely for the benefit of that client. The material contained in this report does not necessarily stand on its own and is not intended to nor should it be relied upon by any third party. To the fullest extent permitted by law Wessex Archaeology will not be liable by reason of breach of contract negligence or otherwise for any loss or damage (whether direct indirect or consequential) occasioned to any person acting or omitting to act or refraining from acting in reliance upon the material contained in this report arising from or connected with any error or omission in the material contained in the report. Loss or damage as referred to above shall be deemed to include, but is not limited to, any loss of profits or anticipated profits damage to reputation or goodwill loss of business or anticipated business damages costs expenses incurred or payable to any third party (in all cases whether direct indirect or consequential) or any other direct indirect or consequential loss or damage

Document Information

Document title Grimsby to Walpole - Walpole B Substation, Norfolk
Document subtitle Gradiometer Survey Report
Document reference 295220.06





Client name Arup (Birmingham)
Address One Centenary Way
 Lyons Queenway
 Birmingham
 B3 3AY

Site location West Drove
 Walton Highway
 Wisbech
 Norfolk
 PE14 7DP

County Norfolk
National grid reference 549264 313946 (TF 49264 13946)

WA project name Grimsby to Walpole
WA project code 295220
Date of fieldwork 09 – 31 October 2024
Fieldwork directed by Daniele Clementi and Bethan Healey
Project management by Patricia Edwards
Document compiled by Alastair Trace
Contributions from Lydia Jones, Cameron Lane and Andrew Marke
Graphics by Alastair Trace

Quality Assurance

Issue	Date	Author	Approved by
1	05/12/2024	 (ADT)	 (TR)
2	01/05/2025	 (ADT)	 (TR)



Contents

Summary	ii
Acknowledgements.....	ii
1 INTRODUCTION	1
1.1 Project background.....	1
1.2 Scope of document.....	1
1.3 The site.....	1
2 ARCHAEOLOGICAL BACKGROUND.....	2
2.1 Introduction.....	2
2.2 Archaeological and historical context.....	2
3 METHODOLOGY	3
3.1 Introduction.....	3
3.2 Project aims.....	3
3.3 Project objectives.....	3
3.4 Fieldwork methodology	3
3.5 Data processing.....	4
4 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION	4
4.1 Introduction.....	4
4.2 Gradiometer survey results and interpretation	4
5 DISCUSSION	6
REFERENCES	7
APPENDICES	8
Appendix 1 Survey equipment and data processing.....	8
Appendix 2 Geophysical interpretation.....	10
Appendix 3 OASIS form.....	11

List of Figures

Figure 1	Site boundary and survey extents
Figure 2	Detailed gradiometer survey results: overall greyscale plot
Figure 3	Detailed gradiometer survey results: overall interpretation
Figure 4	Detailed gradiometer survey results: greyscale plot (LP_021 – LP_023)
Figure 5	Detailed gradiometer survey results: interpretation (LP_021 – LP_023)
Figure 6	Detailed gradiometer survey results: greyscale plot (LP_024 – LP_026)
Figure 7	Detailed gradiometer survey results: interpretation (LP_024 – LP_026)
Figure 8	Detailed gradiometer survey results: greyscale plot (LP_026 and LP_027)
Figure 9	Detailed gradiometer survey results: interpretation (LP_026 and LP_027)
Appendix Figure 1	Detailed gradiometer survey results: Daily Control Lines 09/11/2024
Appendix Figure 2	Detailed gradiometer survey results: Daily Control Lines 10/11/2024
Appendix Figure 3	Detailed gradiometer survey results: Daily Control Lines 11/11/2024
Appendix Figure 4	Detailed gradiometer survey results: Daily Control Lines 14/11/2024- Team 1
Appendix Figure 5	Detailed gradiometer survey results: Daily Control Lines 14/11/2024- Team 2
Appendix Figure 6	Detailed gradiometer survey results: Daily Control Lines 15/11/2024
Appendix Figure 7	Detailed gradiometer survey results: Daily Control Lines 16/11/2024
Appendix Figure 8	Detailed gradiometer survey results: Daily Control Lines 17/11/2024- Team 1
Appendix Figure 9	Detailed gradiometer survey results: Daily Control Lines 17/11/2024- Team 2
Appendix Figure 10	Detailed gradiometer survey results: Daily Control Lines 18/11/2024
Appendix Figure 11	Detailed gradiometer survey results: Daily Control Lines 31/11/2024- Team 1
Appendix Figure 12	Detailed gradiometer survey results: Daily Control Lines 31/11/2024- Team 2



Summary

A gradiometer survey was conducted over land located west of West Drove (North), Walton Highway, Norfolk (centred on NGR 549264 313946). The project was commissioned by ARUP/AECOM with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features in support of the Grimsby to Walpole Project, part of National Grid's Great Grid upgrade and will play an important part in allowing the UK to decarbonise its energy network.

The proposal by National Grid is to reinforce the transmission network with a new 400 kilovolt (kV) electricity transmission line over a distance of approximately 140 km starting from a new 400 kV substation west of the town of Grimsby in North East Lincolnshire and ending at a new 400 kV substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District. The Project also includes the construction two new 400 kV Lincolnshire Connection Substations located south-west of Mablethorpe in East Lindsey, up to two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District and the decommissioning (in full or part) of the existing Grimsby West Substation.

The site comprises arable fields located 500 m north of Walton Highway and 2 km west of Walpole, in the county of Norfolk, covering an area of 43.4 ha. The geophysical survey was undertaken between 9 – 31 October 2024.

The gradiometer survey has been successful in detecting anomalies of possible archaeological origin across the site. In addition the survey has uncovered an intense complex of geomorphological activity, indicative of paleochannels. No evidence of the previously recorded undated mound in the east of the site has been identified.

Possible ditches, potentially forming field boundaries or drainage features have been detected in the east of the site close to a known medieval moated enclosure and house immediately outside the site boundary. In the same area of the site large, ditched features are oriented towards the moated site. Whilst it is likely that these are natural in origin, their straight morphology indicate they may have been altered for water management purposes. Given their proximity both sets of features may be associated with the nearby moated enclosure and be medieval in origin.

Partial ditched enclosures of unknown date have also been identified; however given their location within strong natural variation they may be former water channels.

The survey has detected various features consistent with the known agricultural use of this area through the medieval and post-medieval periods. Mapped and unmapped former field boundaries have been detected across the site, as well as former ponds, a building, and a large drain all previously recorded on the first edition OS mapping.

The sinuous paleochannel network dominates much of the site. The strength and extent of these features has reduced the ability to clearly define and confidently interpret any archaeology present. Recorded as Tidal flats in the Norfolk HER, these areas of geomorphology have the potential to mask additional archaeology in the area as well as preserve peaty, organic rich materials and will require further investigation.

The remaining anomalies are expected to be of modern origin, such as services, drainage and enhanced ploughing.

Acknowledgements



Wessex Archaeology would like to thank ARUP/AECOM for commissioning the geophysical survey. The assistance of Hannah Blacknell and Iain Williamson is gratefully acknowledged in this regard.

The fieldwork was undertaken by Daniele Clementi, Joe Anderson Bethan Healey, Jo Instone-Brewer, Jack Trueman, Manasi Patil, Callum Jervis and Andrew Marke. Alastair Trace processed and interpreted the geophysical data in addition to preparing the illustrations. The final report was written by Alastair Trace. The geophysical work was quality controlled by Lydia Jones. The project was managed on behalf of Wessex Archaeology by Patricia Edwards.



Grimsby to Walpole Walpole B Substation Norfolk

Detailed Gradiometer Survey Report

1 INTRODUCTION

1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by ARUP/AECOM to carry out a geophysical survey at land located west of West Drove (North), Walton Highway, Norfolk, (centred on NGR 549264 313946) (**Figure 1**). The survey forms part of an ongoing programme of archaeological works being undertaken in support of the Grimsby to Walpole Project, part of National Grid's Great Grid upgrade and will play an important part in allowing the UK to decarbonise its energy network.
- 1.1.2 The proposal by National Grid is to reinforce the transmission network with a new 400 kilovolt (kV) electricity transmission line over a distance of approximately 140 km starting from a new 400 kV substation west of the town of Grimsby in North East Lincolnshire and ending at a new 400 kV substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District. The Project also includes the construction two new 400 kV Lincolnshire Connection Substations located south-west of Mablethorpe in East Lindsey, up to two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District and the decommissioning (in full or part) of the existing Grimsby West Substation.

1.2 Scope of document

- 1.2.1 This report presents a brief description of the methodology followed by the detailed survey results and the archaeological interpretation of the geophysical data. In format and content, it conforms to current best practice, as well as to the guidance outlined in *Management of Research Projects in the Historic Environment* (MoRPHE, Historic England 2015), the Chartered Institute for Archaeologists' (CIfA) *Standards and guidance for archaeological geophysical survey* (CIfA 2020), Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015), *Standards for development-led archaeological projects in Norfolk* (Norfolk County Council 2018) and Historic England *Thesauri* (English Heritage 2014).

1.3 The site

- 1.3.1 The proposed geophysical survey area is located 500 m north of Walton Highway and 2 km west of Walpole, in the county of Norfolk.
- 1.3.2 The survey comprises 43.4 ha of agricultural land. The site is bounded by agricultural land to the north and west with Stratton Farm Campsite to the north-east. The road, West Drove (North), runs to the east and south-east with a farmyard containing several greenhouses to the south.
- 1.3.3 Overhead cables traverse north-west to south-east across LP_023 and LP_024 with pylons located in the centre of each land parcel.
- 1.3.4 The site is broadly flat measuring at 2 m above Ordnance Datum (aOD).



- 1.3.5 The solid geology comprises of Mudstone from the Ampthill Clay Formation with overlying superficial geological deposits of clay and silt from tidal flat deposits (BGS 2024).
- 1.3.6 The soils underlying the site are likely to consist of gleyic brown, calcareous alluvial soils of the 832a (Blacktoft) association (SSEW SE Sheet 4 1983). Soils derived from such geological parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

- 2.1.1 The following historical and archaeological background has been compiled using publicly available online resources, combined with the results of Wessex Archaeology's previous investigations in the area, and in-house resources. It considers the recorded historic environment resource within a 500 m of the geophysical survey area. The following archaeological background is not exhaustive but discusses known heritage assets relevant to the interpretation of the geophysical survey data.

2.2 Archaeological and historical context

- 2.2.1 A single designated heritage asset, the Grade II listed early 18th-century Faulkner House (NHLE 1237331) is located 200 m south-east of the survey area. The site of St Edmund's and St Catherine's Chapel has been identified on tithe maps 250 m east of the survey area.
- 2.2.2 There are no recorded prehistoric remains within 500 m of the survey area. The earliest recorded evidence for human activity is provided by a possible ditch or flood defence feature 320 m north-west and findspots of Roman pottery located 120 m west and 220 m east of land parcel 23 (LP_023) (**Figure 1**).
- 2.2.3 Evidence for medieval settlement is more widespread. The parish of West Walton is noted within the Domesday Book, with a fishery, salt houses and a notable quantity of livestock being attributed to the parish. The area is noted to be rich in medieval archaeology. A manor associated with the Bishop of Ely has been suggested to be in the land north of the Grade I St Mary's Church (NHLE 1077676) 1.9 km to the west of the site.
- 2.2.4 The closest recorded medieval remains comprise the site of a 15th-century moated enclosure and house immediately south of LP_027. A number of findspots for medieval artefacts, predominantly pottery possibly derived from manuring practices have been recorded. These are located 500 m east of LP_024 and 400 m north of LP_027
- 2.2.5 Three undated mounds associated with medieval and post-medieval artefact scatters have been recorded, one located within LP_027, a second located 120 m south-east between LP_027 and West Drove (North), and the third located 270 m east of LP_027. It is not clear if the undated mound recorded in LP_027 (which was identified via fieldwalking in 1983) is referring to specifically the land within LP_027 or land outside the site boundary.
- 2.2.6 The tithe map depicts the site to be located within areas of agricultural fields listed as Great Pilmer Field, and this is reflected within the first edition Ordnance Survey (OS) 1886 map, the 1901 OS map, and the 1904 OS map. Several of the post-medieval field boundaries appear to have been removed to allow for larger agricultural fields.
- 2.2.7 A Second World War aircraft crash site is recorded 90 m north-west of the survey area.



- 2.2.8 The Norfolk HER notes that low lying roddons are present within the West Walton parish. These roddons are noted to be made up of “coarse silt” in areas of silty clay, the latter of which presumed to be tidal flat deposits. Tidal Flat deposits comprising clayey silts and silty sand, have potential for preservation of localised peaty or organic-rich units and therefore have geoarchaeological potential.

3 METHODOLOGY

3.1 Introduction

- 3.1.1 The geophysical survey was undertaken by Wessex Archaeology’s in-house geophysics teams between 09 – 31 October 2024. Field conditions at the time of the survey were conducive to the collection of geophysical data throughout the period of survey. An overall coverage of 38.9 ha was achieved, with reductions due to the presence of electrical pylons and overhead powerlines within LP_023 and LP_024.
- 3.1.2 The methods and standards employed throughout the geophysical survey conform to that set out in the Written Scheme of Investigation (WSI) (Wessex Archaeology 2024), as well as to current best practice, and guidance outlined by the Chartered Institute for Archaeologists’ (CIfA 2020) and Europae Archaeologiae Consilium (Schmidt *et al.* 2015).

3.2 Project aims

- 3.2.1 The aims of the survey comprise the following:
- To determine, as far as is reasonably possible, the nature of the detectable archaeological resource within a specified area using appropriate methods and practices; and
 - To inform either the scope and nature of any further archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.3 Project objectives

- 3.3.1 In order to achieve the above aims, the objectives of the geophysical survey were:
- To conduct a geophysical survey covering as much of the specified area as possible, allowing for on-site obstructions;
 - To clarify the presence/absence of anomalies of archaeological potential; and
 - Where possible, to determine the general nature of any anomalies of archaeological potential.

3.4 Fieldwork methodology

- 3.4.1 The cart-based gradiometer system used a Carlson BRX-7 RTK GNSS instrument, which receives corrections from a network of reference stations operated by the OS. Such instruments allow positions to be determined with a precision of 0.02 m in real-time and therefore exceeds Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015).
- 3.4.2 The gradiometer survey was conducted using hand pushed non-magnetic cart fitted with four, Sensys FGM650/03 gradiometers mounted at 1 m intervals with an effective sensitivity of 0.03 nT over a ± 100 nT range.



- 3.4.3 Data was be collected at 0.25 m intervals along transects spaced 1 m apart, in accordance with Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015). Data was collected in the zigzag method
- 3.4.4 One traverse was collected twice for each day of survey to check calibration and demonstrate the repeatability of results. The traverses were not surveyed twice in quick of the traverses are presented as an appendix to the report as raw data in accordance with *Standards for development-led archaeological projects in Norfolk* (2018).
- 3.4.5 succession but were repeated at the start and end of the day. The results of both surveys

3.5 Data processing

- 3.5.1 Where necessary, data from the survey was subject to minimal correction processes. The precise steps typically comprise a zero-mean traverse function (± 5 nT thresholds) to correct for variations in the calibration between the SenSYS sensors used and a de-step function to account for variations in traverse position due to varying ground cover and topography. The data was processed using in-house software which allows greyscale and trace plots to be produced. Interpretation was conducted within the latest version of ESRI ArcGIS Pro. All efforts were made during data collection to limit required processing and no further filtering was applied.
- 3.5.2 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 1**.

4 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

4.1 Introduction

- 4.1.1 The gradiometer survey has identified magnetic anomalies across the site. Results are presented as a series of greyscale plots and archaeological interpretations at a scale of 1:5,000 (**Fig. 2** and **3**) and 1:2,000 (**Fig 4 – 9**). The data are displayed at -2 nT (white) to +3 nT (black) for the greyscale image.
- 4.1.2 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous responses, burnt or fired objects, and magnetic trends (**Fig. 3 – 9**). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.
- 4.1.3 Numerous ferrous anomalies are visible throughout the dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.
- 4.1.4 It should be noted that small, weakly magnetised features may produce responses that are below the detection threshold of magnetometers. It may therefore be the case that more archaeological features may be present than have been identified through geophysical survey.
- 4.1.5 Gradiometer survey may not detect all services present on site. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g., CAT and Genny) should be used to confirm the location of buried services before any trenches are opened on site.

4.2 Gradiometer survey results and interpretation

- 4.2.1 Linear and partially curvilinear positive anomalies have been detected in the eastern portion of the site within LP_027 at **WP.4000 (Figure 9)**. The western-most partially curvilinear anomaly is between 1.5 – 3 m wide and 100 m long orientated NNW to SSE. The additional linear anomaly extends north-east of the western linear from its central point for 50 m. These anomalies are typical of ditches. Given their proximity to the medieval moated site

immediately to the south it is possible these are related and medieval in date. They may be former associated field boundaries or part of water management features. They may also be of a more modern date. Further investigation would be needed to understand these features.

- 4.2.2 In the eastern half of the site, a series of strongly positive linear anomalies have been identified at **WP.4001** in LP_024 and LP_027 (**Figure 9**). They are 168 m to the west of **WP.4000**. Orientated north-west to south-east, these anomalies are between 3 – 5 m wide and 130 – 155 m long. These anomalies look natural in origin given their size, magnetic properties, and the sinuous anomalies extending from them to the north-east and south-west and so may be the remains of natural drainage channels. However, given their proximity to the medieval moated site immediately to their south-east and their ‘straight’ morphology they may have been altered and used as water management during the medieval period associated with the moated enclosure.
- 4.2.3 In the south-eastern corner of LP_021 a small positive anomaly has been identified at **WP.4002** (**Figure 5**). The anomaly is 2 – 3 m wide creating an ‘n’ shape in form. From its south-western corner **WP.4002** extends 20 m north and then 18 m east, before returning 20 m south where it terminates against a paleochannel. This anomaly is representative of a ditch-like feature and, given its almost right-angled form, may have once formed a small enclosure of uncertain date. However, given the anomaly appears to extend from a proposed paleochannel to the south, is it also possible that the anomaly is geological in origin and a small water channel.
- 4.2.4 A similar positive anomaly has been recorded centrally within LP_024 at **WP.4003** (**Figure 7**). The linear anomaly is 45 m long north to south, extending 20 m east from its southern-most point forming a sharp right-angle and ‘L’ shape. This anomaly may also relate to a former ditch, possibly once forming the corner of a small enclosure of uncertain date like **WP.4002**. Again, given the anomalies location within strong geomorphological anomalies its extent and interpretation are difficult to determine, and it could equally be the result of these natural processes.
- 4.2.5 Several positive, linear anomalies have been identified centrally in the site across LP_021 – LP_024 at **WP.4004 – WP.4008** (**Fig. 5 and 9**). These anomalies are between 1 – 1.5 m wide and 20 – 100 m long on a variety of orientations. These anomalies are typical of ditches. In most cases they are on the same orientations as the surrounding mapped former field boundaries detected in the geophysical data. It is therefore likely they are the remnants of a former field system predating available mapping. Given the presence of the nearby medieval moated site, they may have their origins in the medieval period. However, given their exceptionally straight form, it is also possible that they relate to either modern drainage or enhanced ploughing trends as a result of modern agricultural practices.
- 4.2.6 Several strongly positive linear anomalies have been recorded across the site at **WP.4009 – WP.4021** (**Fig. 5 – 9**). They are between 1 – 2 m wide and 80 – 300 m long broadly orientated either NNW – SSE or ENE – WSW. These anomalies correspond with the location of known former field boundaries recorded on first edition OS mapping. Some mild increased magnetic disturbance has also been recorded surrounding some of the former field boundaries, likely associated with their removal.
- 4.2.7 Areas of increased magnetic disturbance at **WP.4022 – WP.4026** correspond with features noted on the first edition OS mapping. Two of the anomalies are ponds (**WP.4022** and **WP.4023**) (**Fig. 7 and 9**). The recorded disturbance at **WP.2024** (**Figure 9**) is likely generated by rubble following the demolition of a building and field boundary that is recorded on the 1951 OS mapping. Anomalies **WP.4025** and **WP.4026** (**Figure 9**) located along the eastern boarder of LP_024 correspond with a large-scale drain, listed on first edition OS mapping as the Walpole West Drain.



- 4.2.8 Strongly positive sinuous anomalies have been recorded across the site, highlighted as geomorphology. They are expected to relate to paleochannels or watercourses that are no longer active. Several areas of weak positive, mottled anomalies surround the watercourses and extend across the site. This likely indicates the deposition of alluvial material spread either side of these watercourses. It should be noted that natural deposits can sometimes mask the detection of weaker archaeological features.
- 4.2.9 Two dipolar linear anomalies have also been identified in the north and south of the site at **WP.4027 (Figure 5)** and **WP.4028 (Figure 7)** respectively. These anomalies are expected to be related to modern services.
- 4.2.10 The remaining anomalies highlighted in this survey are expected to be modern in origin, related to agricultural practises such as drainage and ploughing trends.

5 DISCUSSION

- 5.1.1 The gradiometer survey has been successful in detecting anomalies of possible archaeological origin across the site. In addition, the survey has uncovered an intense complex of geomorphological activity, indicative of paleochannels. No evidence of the previously recorded undated mound in the east of the site has been identified.
- 5.1.2 Possible ditches, potentially forming field boundaries or drainage features have been detected in the east of the site close to a known medieval moated enclosure and house immediately outside the site boundary. In the same area of the site large, ditched features are oriented towards the moated site. Whilst it is likely that these are natural in origin, their straight morphology indicate they may have been altered for water management purposes. Given their proximity both sets of features may be associated with the nearby moated enclosure and be medieval in origin.
- 5.1.3 Partial ditched enclosures of unknown date have also been identified; however, given their location within strong natural variation they may be former water channels.
- 5.1.4 The survey has detected various features consistent with the known agricultural use of this area through the medieval and post-medieval periods. Mapped and unmapped former field boundaries have been detected across the site, as well as former ponds, a building, and a large drain all previously recorded on the first edition OS mapping.
- 5.1.5 The sinuous paleochannel network dominates much of the site. The strength and extent of these features has reduced the ability to clearly define and confidently interpret any archaeology present. Recorded as Tidal flats in the Norfolk HER, these areas of geomorphology house the potential to mask additional archaeology in the area as well as preserve peaty, organic rich materials and will require further investigation.
- 5.1.6 The remaining anomalies are expected to be of modern origin, such as services, drainage and enhanced ploughing.



REFERENCES

Bibliography

Chartered Institute for Archaeologists [CIfA]. 2020 *Standards and guidance for archaeological geophysical survey*. Reading, CIfA.

Norfolk County Council. 2018. *Standards for Development-led Archaeological Projects in Norfolk*.

Schmidt, A., Linford, P., Linford, N., David, A., Gaffney, C., Sarris, A. and Fassbinder, J. 2015. *Guidelines for the use of geophysics in archaeology: questions to ask and points to consider*. EAC Guidelines 2, Belgium: European Archaeological Council.

Wessex Archaeology 2024 *Grimsby to Walpole – Walpole Substation, Norfolk: Written Scheme of Investigation for an Archaeological Geophysical Survey* Ref. 295220.04

Cartographic and documentary sources

Ordnance Survey. 1983 *Soil Survey of England and Wales Sheet 4, Soils of Eastern England*. Southampton.

Online resources

Archaeological Data Service <https://archaeologydataservice.ac.uk/archsearch/browser.xhtml> (accessed November 2024)

British Geological Survey online viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed November 2024)

Google Earth website <http://earth.google.com> (accessed November 2024)

Historic England (HE) <https://historicengland.org.uk> (accessed November 2024)

Historic England. 2024. *Aerial Archaeology Mapping Explorer*.
<https://historicengland.maps.arcgis.com/apps/webappviewer/index.html?id=d45dabecef5541f18255e12e5cd5f85a&mobileBreakPoint=300> (accessed November 2024).

Heritage Gateway website <https://www.heritagegateway.org.uk/gateway/> (accessed November 2024)

National Library of Scotland (NLS) <https://maps.nls.uk/geo/explore/> (accessed November 2024)

Norfolk County Council 2024 *Norfolk Heritage Explorer*: <https://www.heritage.norfolk.gov.uk/home> (accessed November 2024)

APPENDICES

Appendix 1 Survey equipment and data processing

Survey methods and equipment

The magnetic data for this project were acquired using a non-magnetic cart fitted with four SenSys FGM650/3 magnetic gradiometers. The instrument has four sensor assemblies fixed horizontally 1 m apart allowing four traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 0.6 m separation and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.

The gradiometers have an effective resolution of $\pm 8 \mu\text{T}$ over $\pm 1000 \text{ nT}$ range. All of the data are then relayed to a CS35 tablet, running the MONMX program, which is used to record the survey data from the array of FGM650/3 probes at a rate of 20 Hz. The program also receives measurements from a GPS system, which is fixed to the cart at a measured distance from the sensors, providing real time locational data for each data point.

The cart-based system relies upon accurate GPS location data which is collected using a Leica Captivate system with a rover and base station. This receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02m in real-time and therefore exceed the level of accuracy recommended by European Archaeologiae Consilium recommendations (Schmidt *et al.* 2015) for geophysical surveys.

Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. Data may be collected at up to 0.01 m intervals along traverses spaced up to 0.25m apart.

Post-processing

The magnetic data collected during the survey is downloaded from the system for processing and analysis using both commercial and in-house software. This software allows for both the data and the images to be processed to enhance the results for analysis; however, it should be noted that minimal data processing is conducted so as not to distort the anomalies.

The cart-based system generally requires a lesser amount of post-processing than the handheld Bartington Grad 601-2 fluxgate gradiometer instrument. This is largely because mounting the gradiometers on the cart reduces the occurrence of operator error, caused by inconsistent walking speeds and deviation in traverse position due to varying ground cover and topography.

Typical data and image processing steps may include:

- Destripe – Applying a smooth function to remove differences caused by directional effects inherent in the magnetometer;
- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data)

Typical displays of the data used during processing and analysis:



- Greyscale – Presents the data in plan view using a greyscale to indicate the relative strength of the signal at each measurement point. These plots can be produced in colour to highlight certain features but generally greyscale plots are used during analysis of the data.
- XY Plot – Presents the data as a trace or graph line for each traverse. Each traverse is displaced down the image to produce a stacked profile effect. This type of image is useful as it shows the full range of individual anomalies. (XY plots can be made available upon request)

Appendix 2 Geophysical interpretation

The interpretation methodology used by Wessex Archaeology separates the anomalies into four main categories: archaeological, modern, agricultural, and uncertain origin/geological.

The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided into three groups, implying a decreasing level of confidence:

- Archaeology – used when there is a clear geophysical response and anthropogenic pattern.
- Possible archaeology – used for features which give a response, but which form no discernible pattern or trend.

The modern category is used for anomalies that are presumed to be relatively modern in date:

- Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin.
- Modern service – used for responses considered relating to cables and pipes; most are composed of ferrous/ceramic material although services made from non-magnetic material can sometimes be observed.

The agricultural category is used for the following:

- Former field boundaries – used for ditch sections that correspond to the position of boundaries marked on earlier mapping.
- Ridge and furrow – used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow.
- Ploughing – used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries.
- Drainage – used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.

The uncertain origin/geological category is used for features when the form, nature and pattern of the anomaly are not sufficient to warrant a classification as an archaeological feature. This category is further sub-divided into:

- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies.
- Superficial geology – used for diffuse edged spreads considered to relate to shallow geological deposits. They can be distinguished as areas of positive, negative, or broad bipolar (positive and negative) anomalies.



Appendix 3 OASIS form

Project Details:

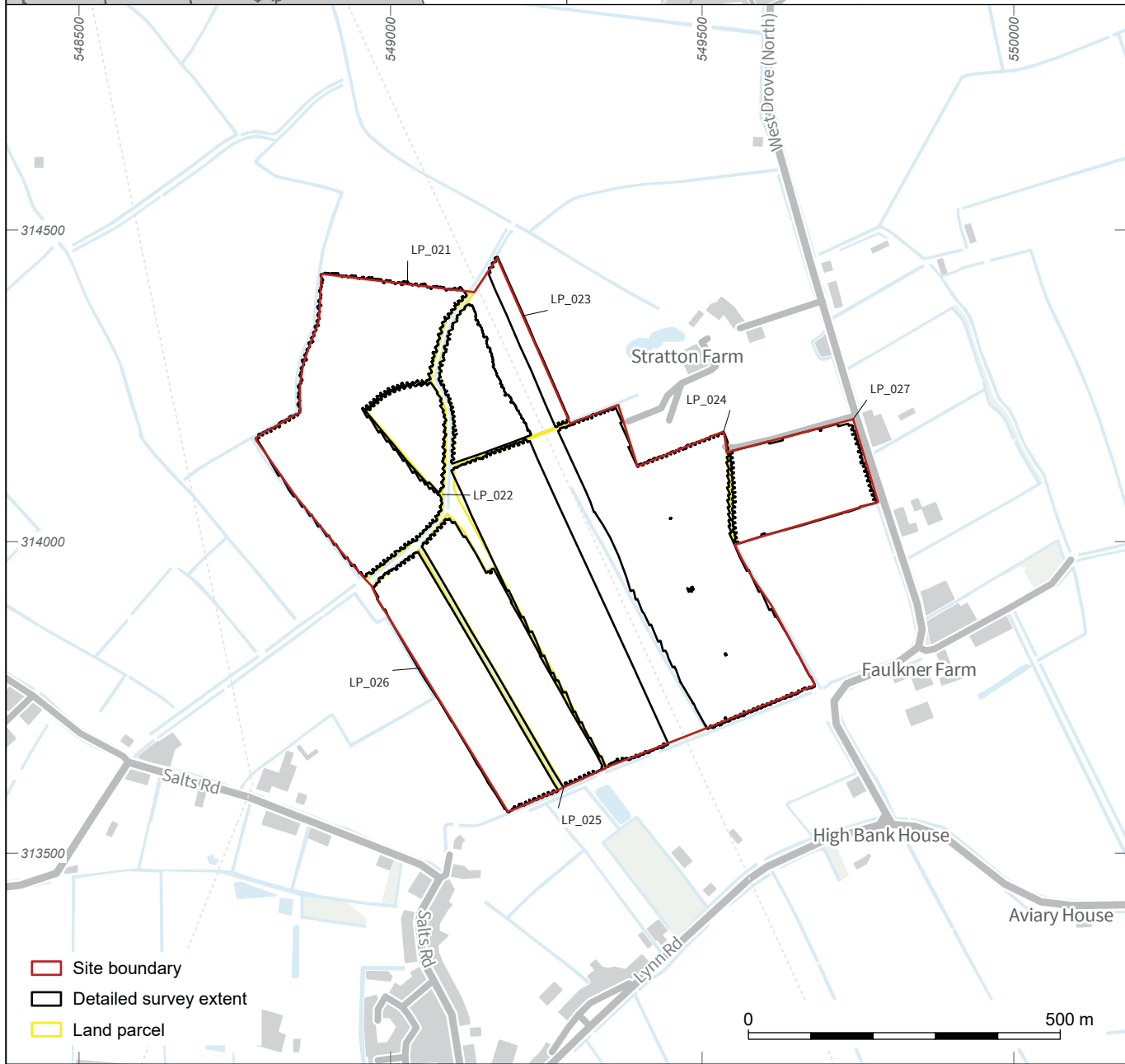
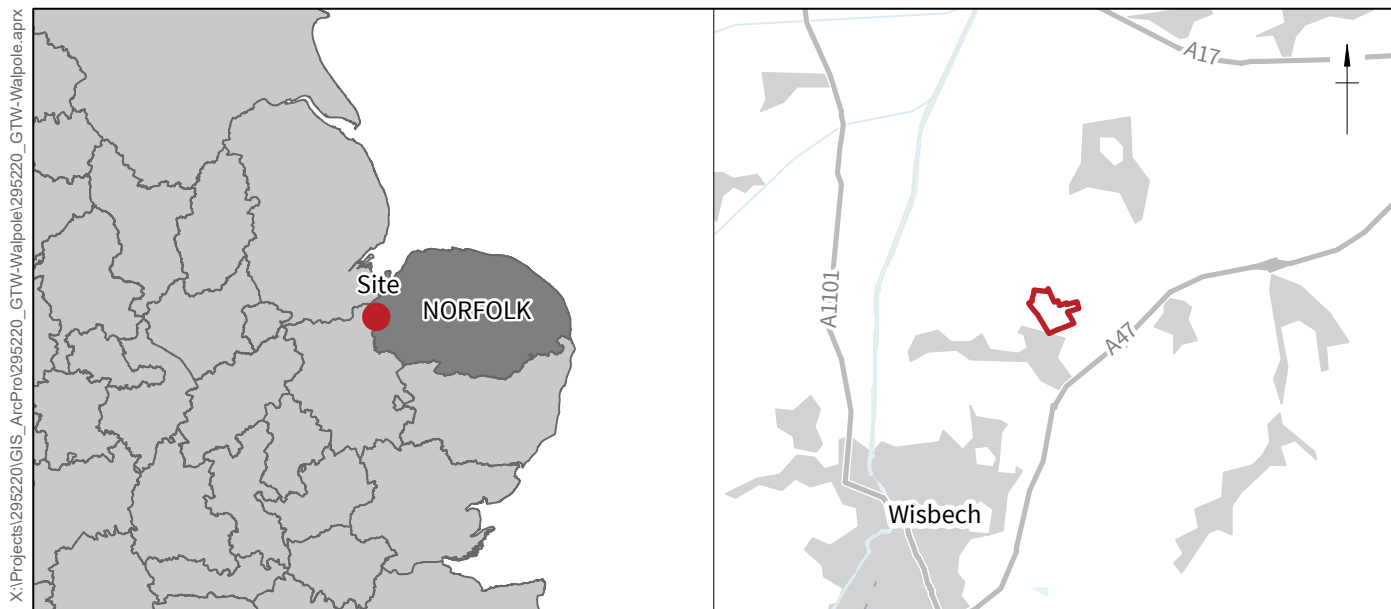
OASIS Summary for wessexar1-530207

OASIS ID (UID)	wessexar1-530207
Project Name	Geophysical Survey at Walpole
Sitename	Walpole
Sitecode	295220
Project Identifier(s)	295220
Activity type	Geophysical Survey, MAGNETOMETRY SURVEY
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	Wessex Archaeology
Project Dates	09-Oct-2024 - 31-Oct-2024
Location	Walpole NGR : TF 49264 13946 LL : 52.7026122175978, 0.207650971621189 12 Fig : 549264,313946
Administrative Areas	Country : England County/Local Authority : Norfolk Local Authority District : King's Lynn and West Norfolk Parish : West Walton
Project Methodology	The geophysical survey was undertaken by Wessex Archaeology's in-house geophysics teams between 09 – 31 October 2024. Field conditions at the time of the survey were conducive to the collection of geophysical data throughout the period of survey. An overall coverage of 38.9 ha was achieved, with reductions due to the presence of electrical pylons and overhead powerlines within LP_023 and LP_024. The methods and standards employed throughout the geophysical survey conform to that set out in the Written Scheme of Investigation (WSI) (Wessex Archaeology 2024), as well as to current best practice, and guidance outlined by the Chartered Institute for Archaeologists' (CIfA 2020) and Europae Archaeologiae Consilium (Schmidt et al. 2015).



Project Results	<p>The gradiometer survey has been successful in detecting anomalies of possible archaeological origin across the site. In addition to the survey has uncovered an intense complex of geomorphological activity, indicative of paleochannels. No evidence of the previously recorded undated mound in the east of the site has been identified.</p> <p>Possible ditches, potentially forming field boundaries or drainage features have been detected in the east of the site close to a known medieval moated enclosure and house immediately outside the site boundary. In the same area of the site large, ditched features are oriented towards the moated site. Whilst it is likely that these are natural in origin, their straight morphology indicate they may have been altered for water management purposes. Given their proximity both sets of features may be associated with the nearby moated enclosure and be medieval in origin.</p> <p>Partial ditched enclosures of unknown date have also been identified; however given their location within strong natural variation they may be former water channels.</p> <p>The survey has detected various features consistent with the known agricultural use of this area through the medieval and post-medieval periods. Mapped and unmapped former field boundaries have been detected across the site, as well as former ponds, a building, and a large drain all previously recorded on the first edition OS mapping.</p> <p>The sinuous paleochannel network dominates much of the site. The strength and extent of these features has reduced the ability to clearly define and confidently interpret any archaeology present. Recorded as Tidal flats in the Norfolk HER, these areas of geomorphology house the potential to mask additional archaeology in the area as well as preserve peaty, organic rich materials and will require further investigation.</p> <p>The remaining anomalies are expected to be of modern origin, such as services, drainage and enhanced ploughing.</p>
Keywords	
Funder	Private or public corporation ARUP
HER	Norfolk HER - unRev - STANDARD
Person Responsible for work	Patricia Edwards
HER Identifiers	
Archives	

Report generated on: 05 Dec 2024, 15:21

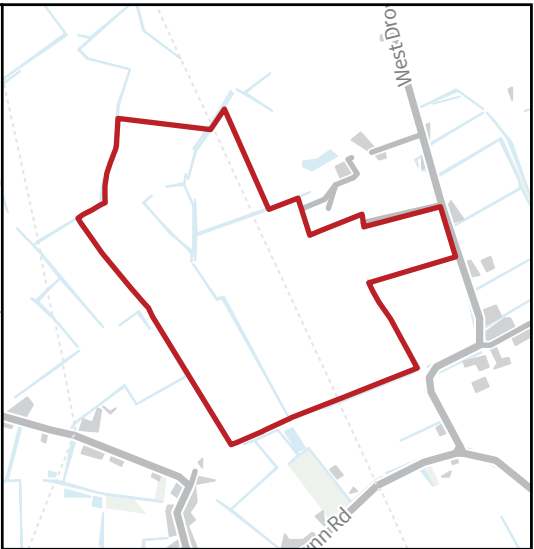
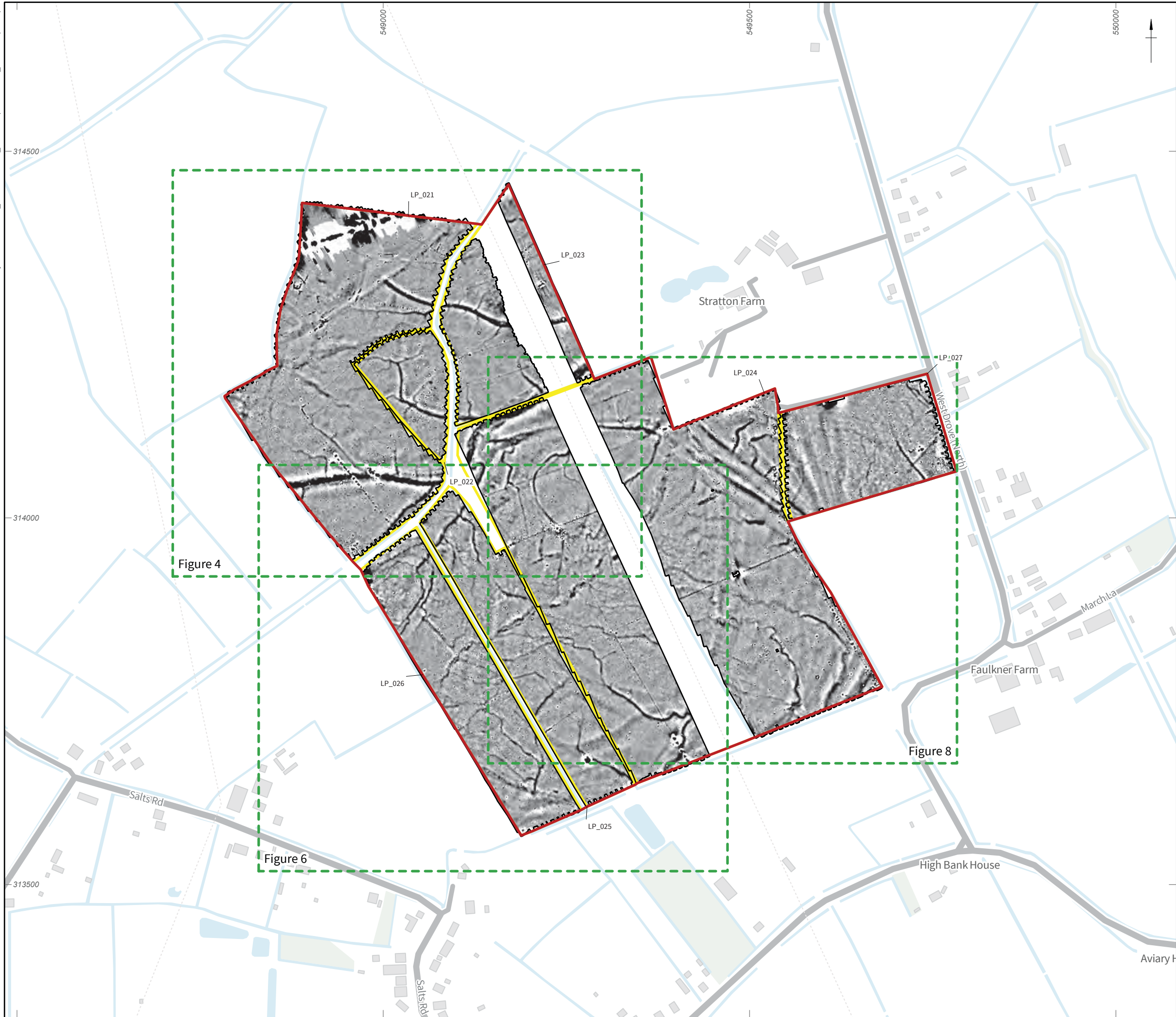


Coordinate system: OSGB 1936 British National Grid
 Contains Ordnance Survey data © Crown copyright and database right 2024.
 This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024 Created by: ADT Revision: 0 Scale: 1:10,000 at A4

Figure 1: Site location and survey extent (Walpole)





- Site boundary
- Detailed survey extent
- Land parcel

-2 nT 3 nT



0 250 m

Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 29/11/2024

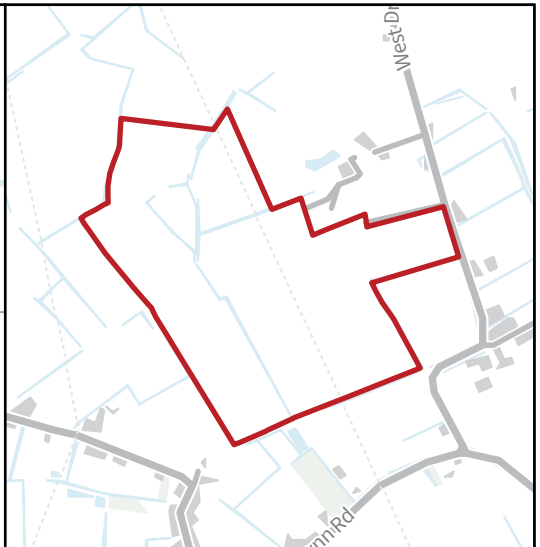
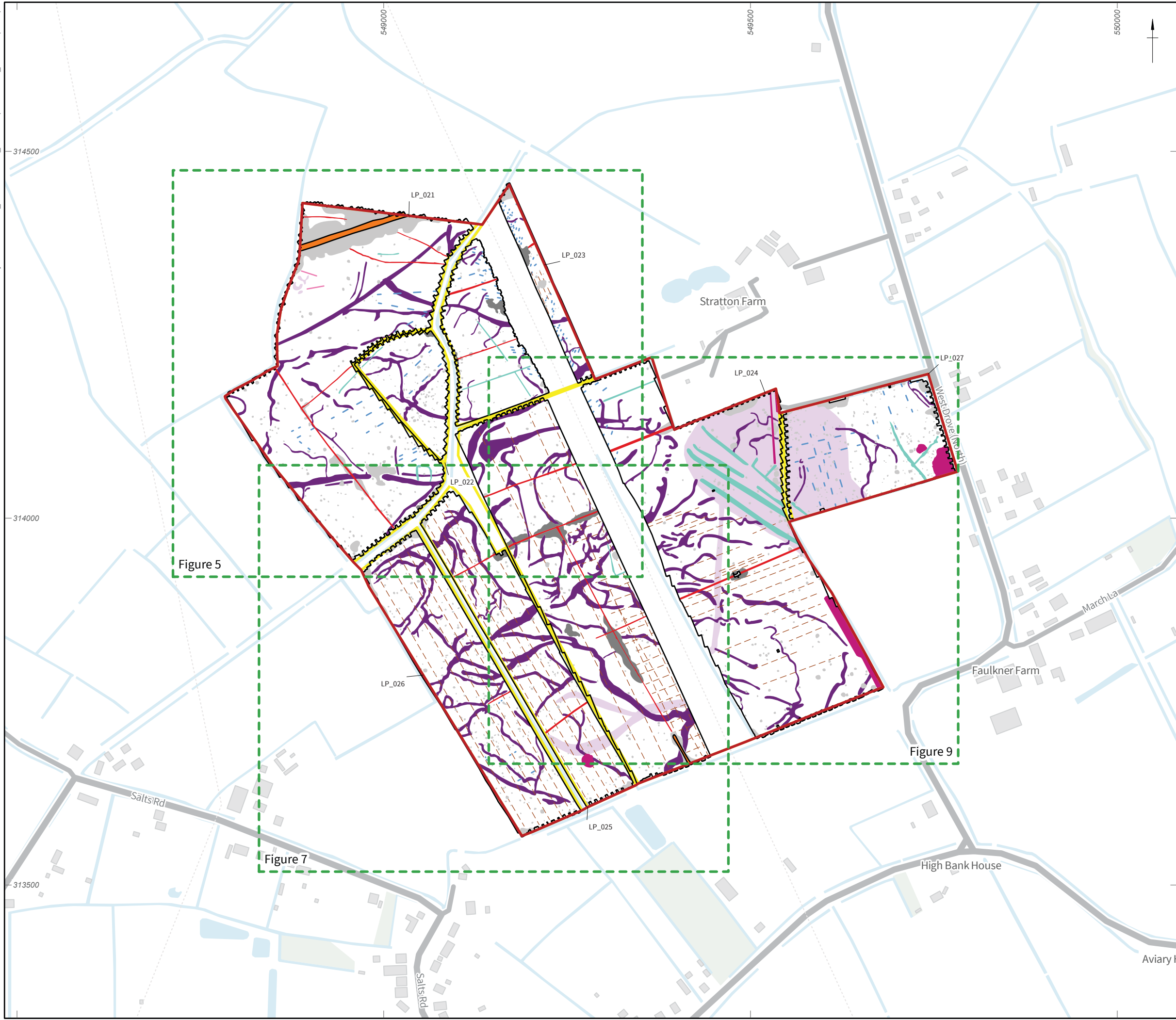
Created by: ADT

Scale: 1:5,000

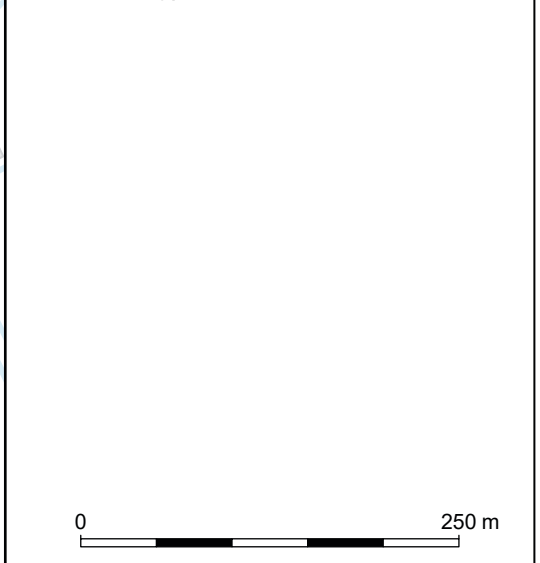
Revision: 0




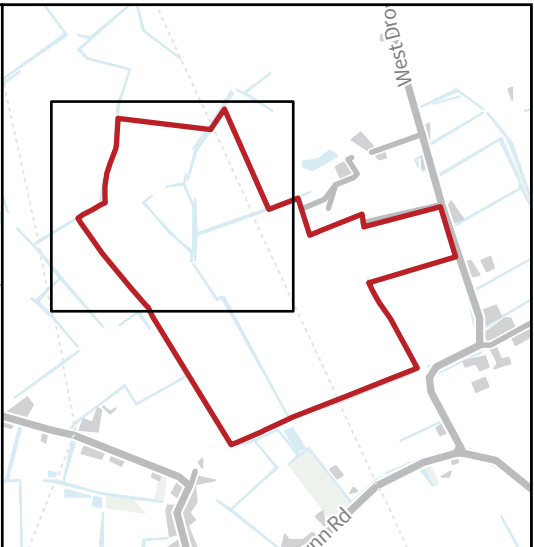
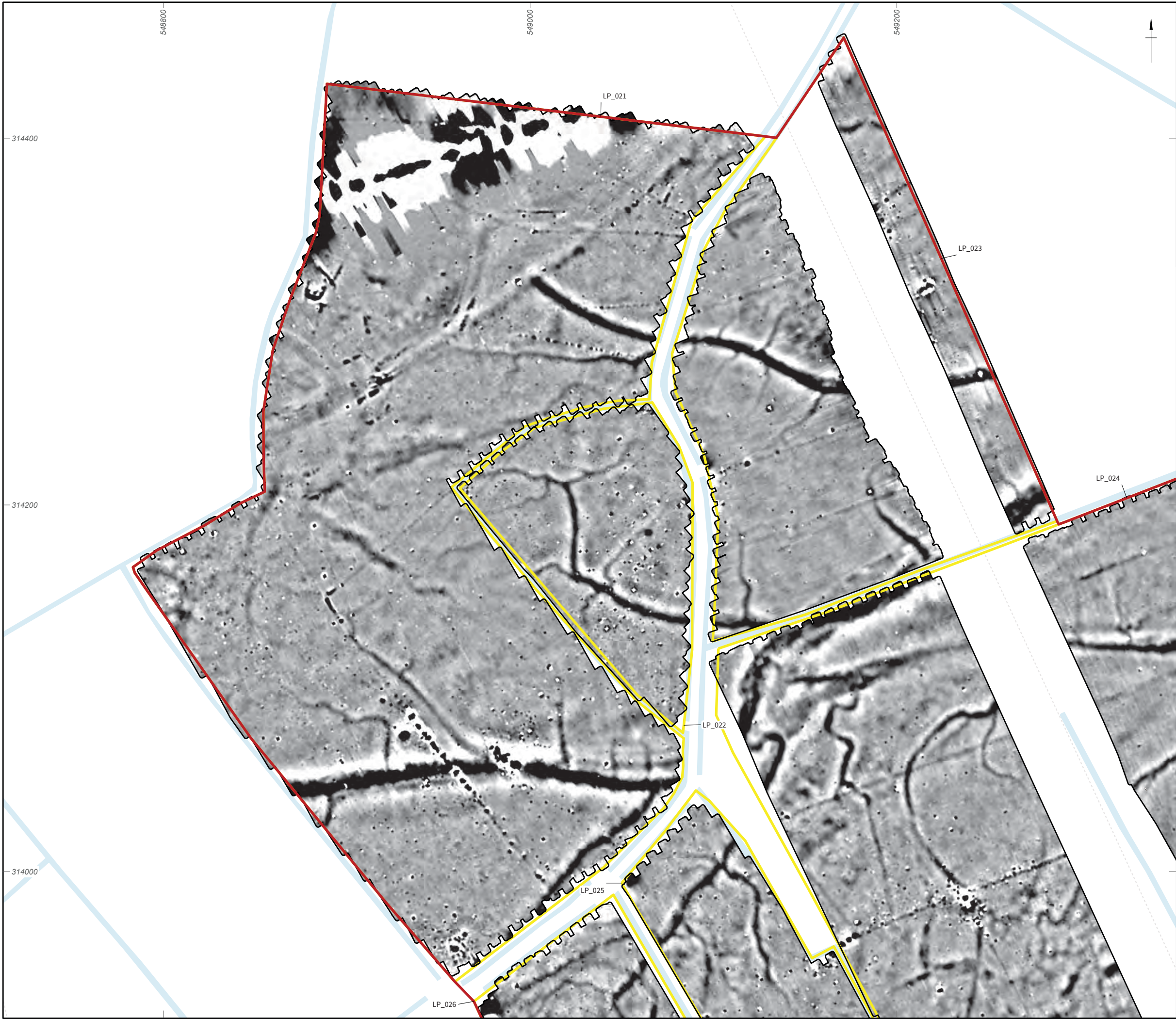
Figure 2: Detailed gradiometer survey results: overall greyscale plots (-2nT to 3nT)



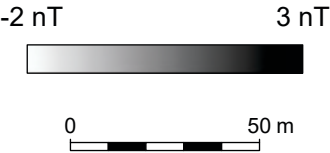
- Site boundary
- Detailed survey extent
- Land parcel
- Possible archaeology
- Historic landscape feature
- Former field boundary
- Agricultural feature
- Drain
- Trend
- Modern service
- Increased response
- Ferrous
- Geomorphology
- Geology



<p>Coordinate system: OSGB 1936 British National Grid. Contains Ordnance Survey data © Crown copyright and database right 2024.</p> <p>This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>			
Date: 04/12/2024		Created by: ADT	
Scale: 1:5,000		Revision: 0	
Figure 3: Detailed gradiometer survey results: overall interpretation			



- Site boundary
- Detailed survey extent
- Land parcel



Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.


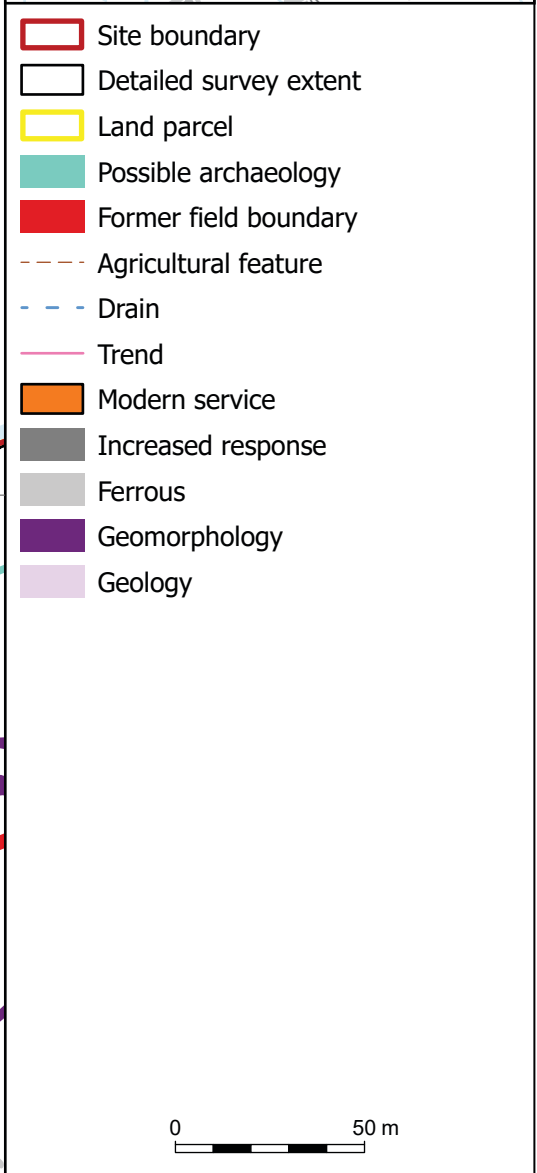

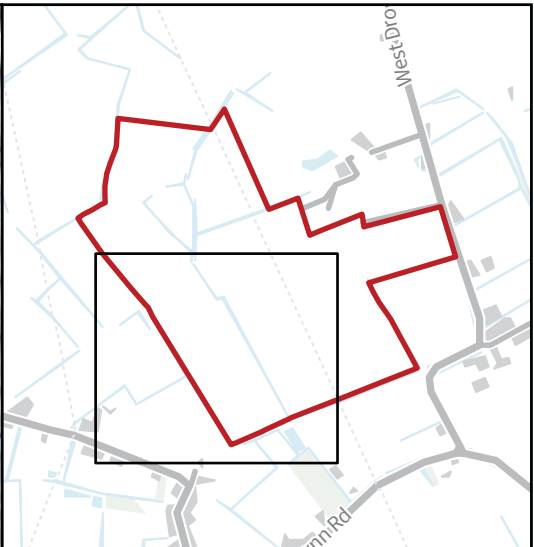
Date: 29/11/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 4: Detailed gradiometer survey results: greyscale plot (LP_021 - LP_023)



Date: 04/12/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	
Figure 5: Detailed gradiometer survey results: interpretation (LP_021 - LP_023)		

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent
- Land parcel

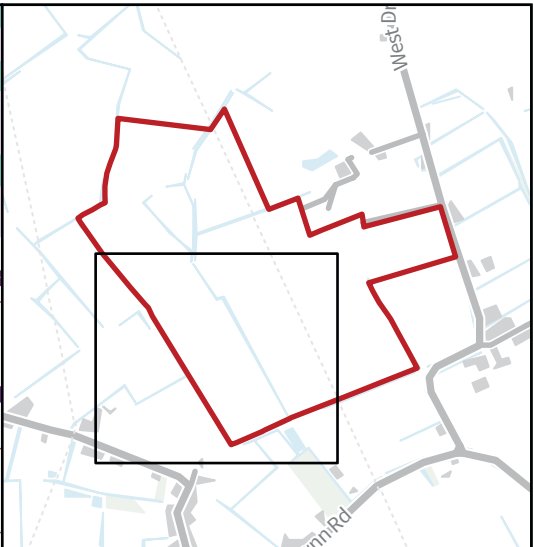
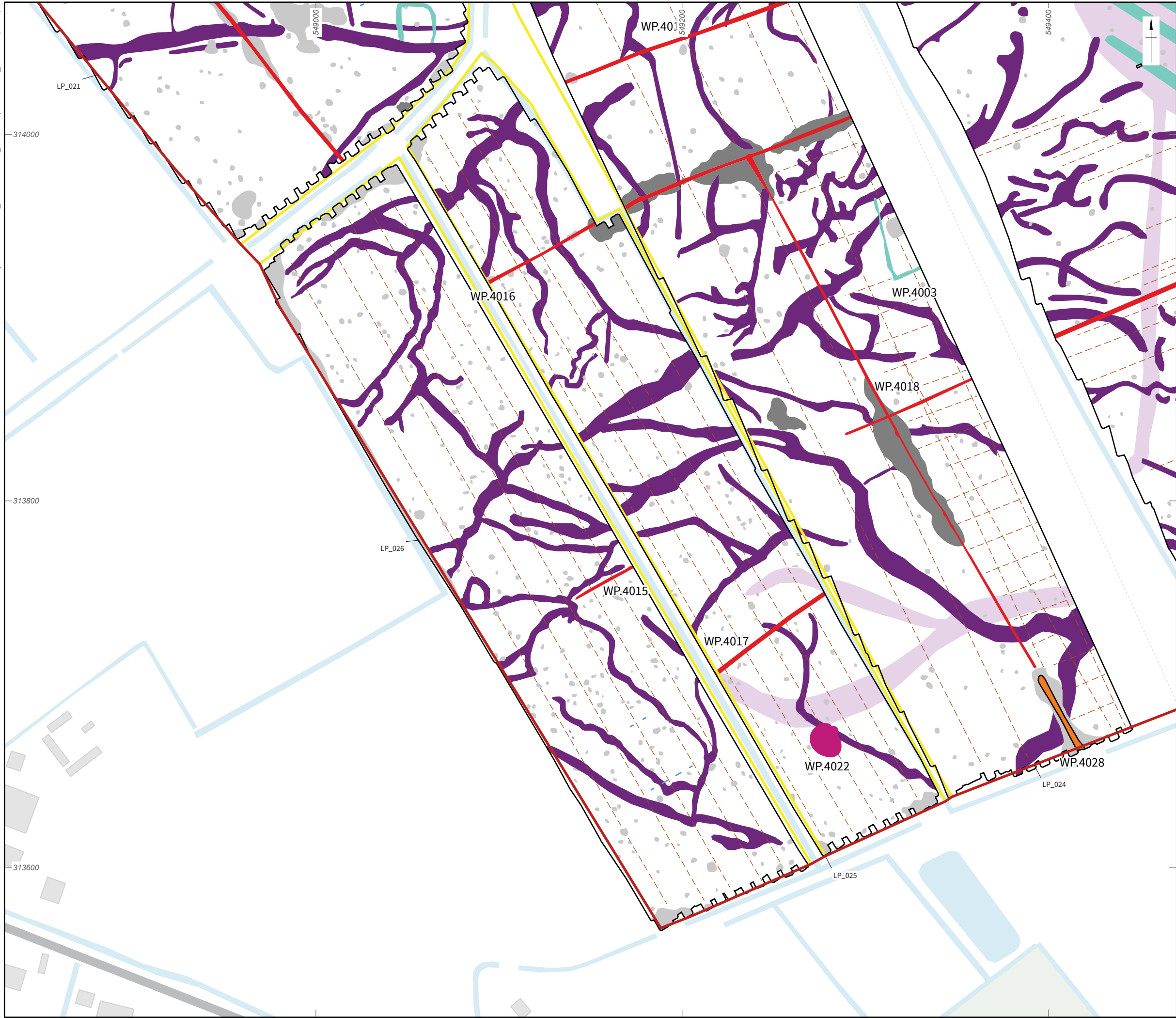


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 29/11/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 6: Detailed gradiometer survey results: greyscale plot (LP_024 - LP_026)

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



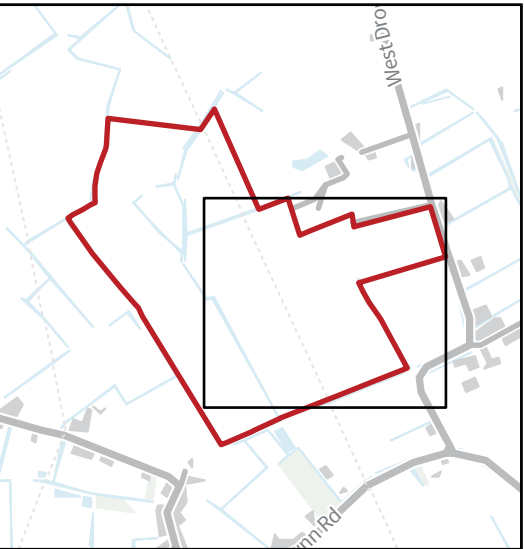
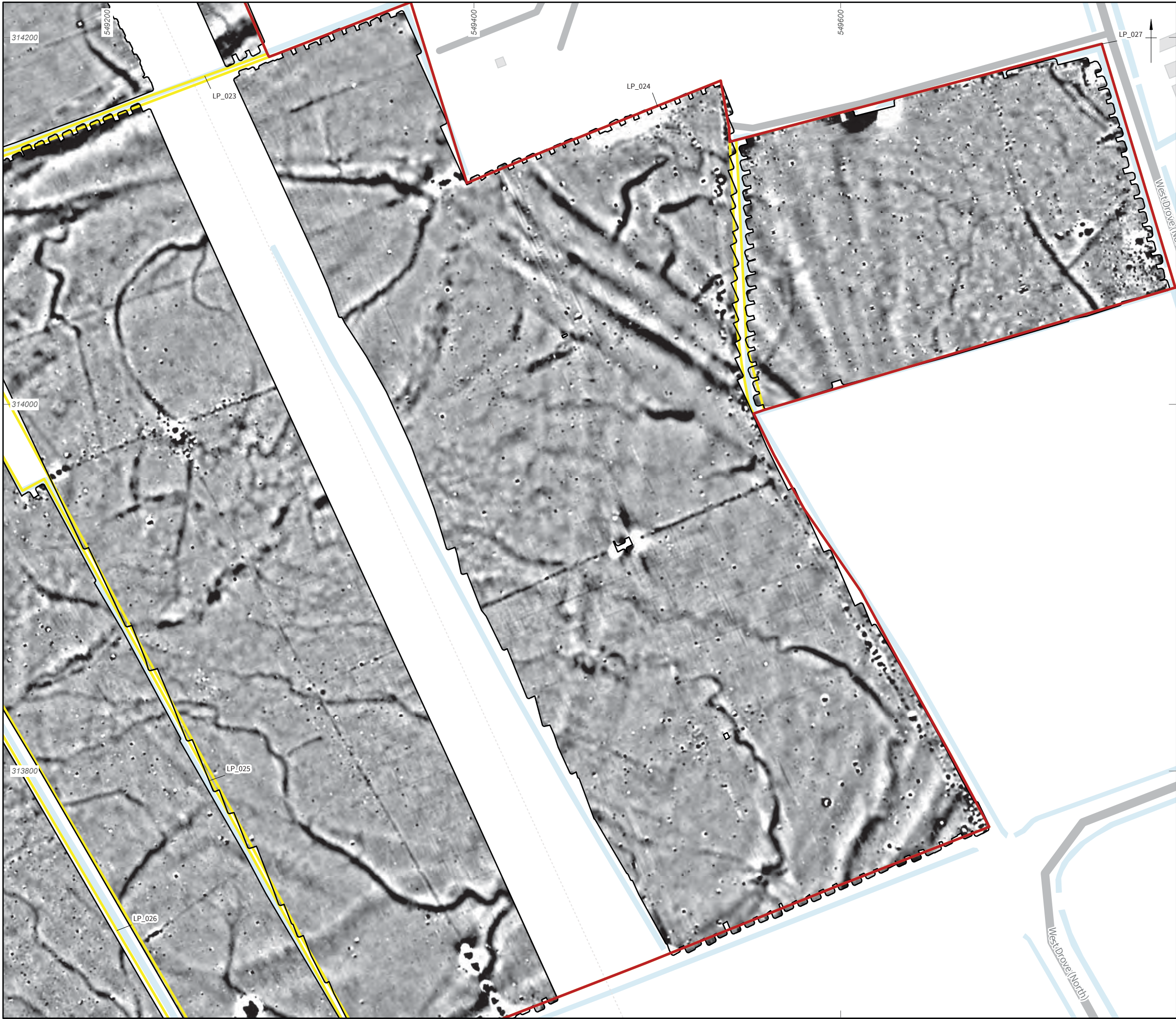
- Site boundary
- Detailed survey extent
- Land parcel
- Possible archaeology
- Historic landscape feature
- Former field boundary
- Agricultural feature
- Drain
- Modern service
- Increased response
- Ferrous
- Geomorphology
- Geology

0 50 m

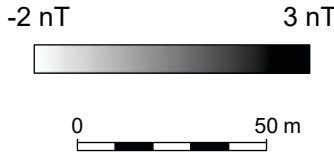
Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 04/12/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 7: Detailed gradiometer survey results: interpretation (LP_024 - LP_026)



- Site boundary
- Detailed survey extent
- Land parcel

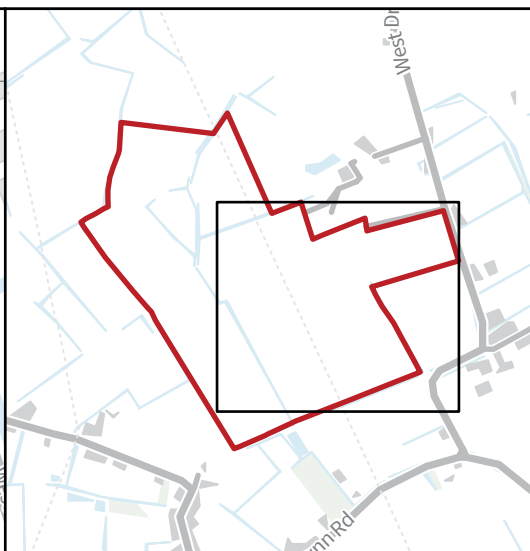
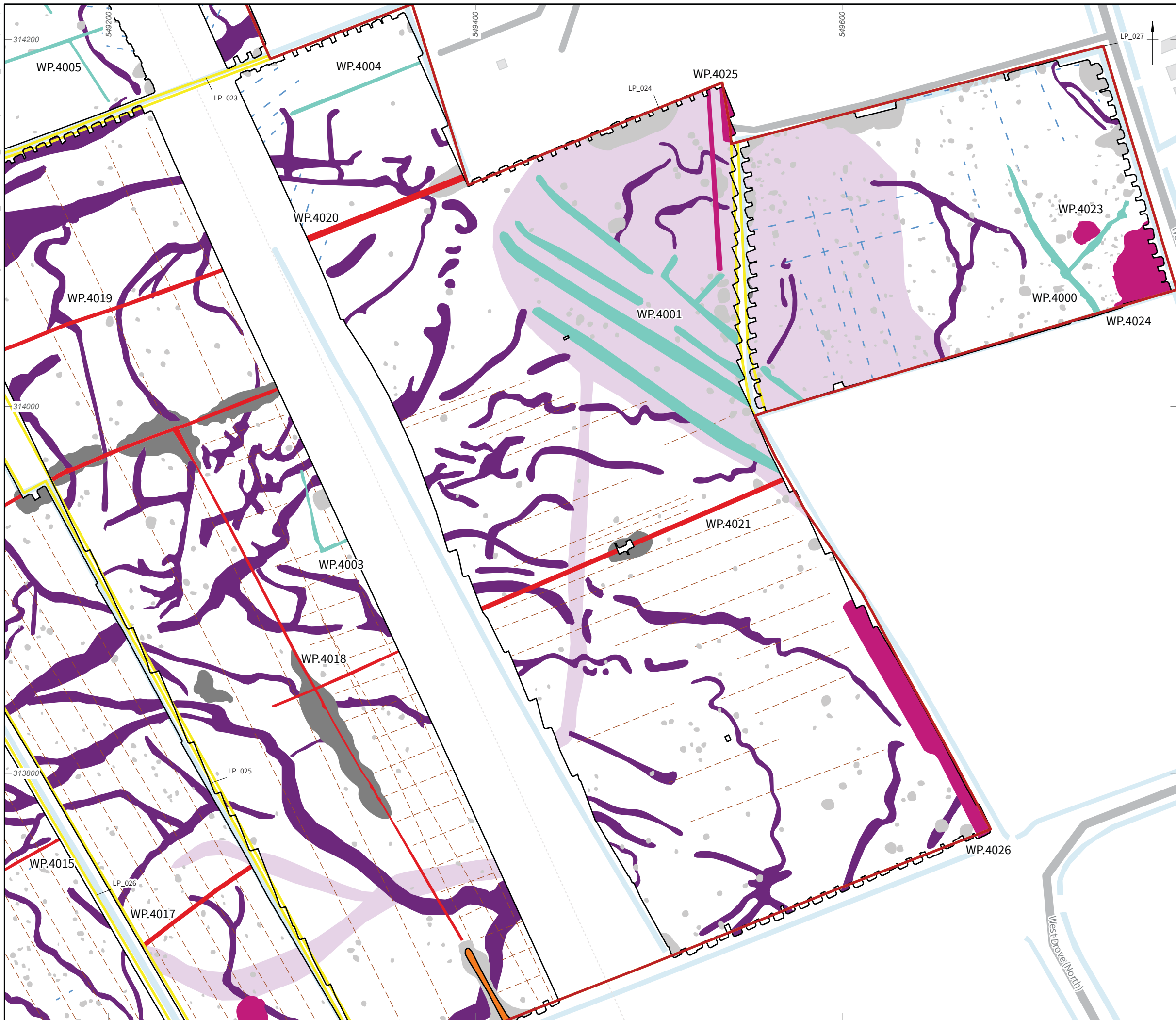


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 29/11/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 8: Detailed gradiometer survey results: greyscale plot (LP_026 and LP_027)

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



Legend:

- Site boundary
- Detailed survey extent
- Land parcel
- Possible archaeology
- Historic landscape feature
- Former field boundary
- Agricultural feature
- Drain
- Modern service
- Increased response
- Ferrous
- Geomorphology
- Geology

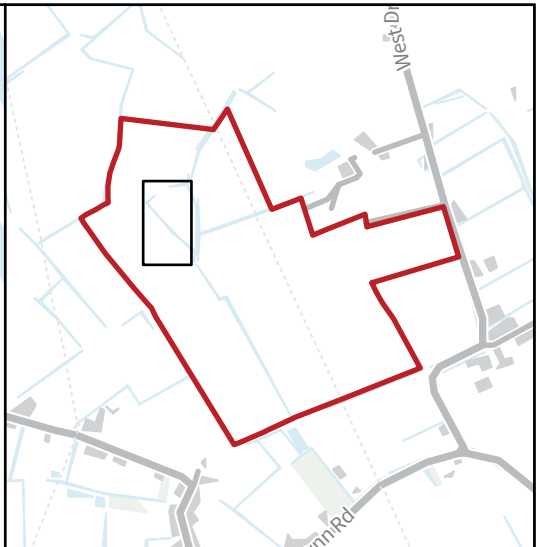
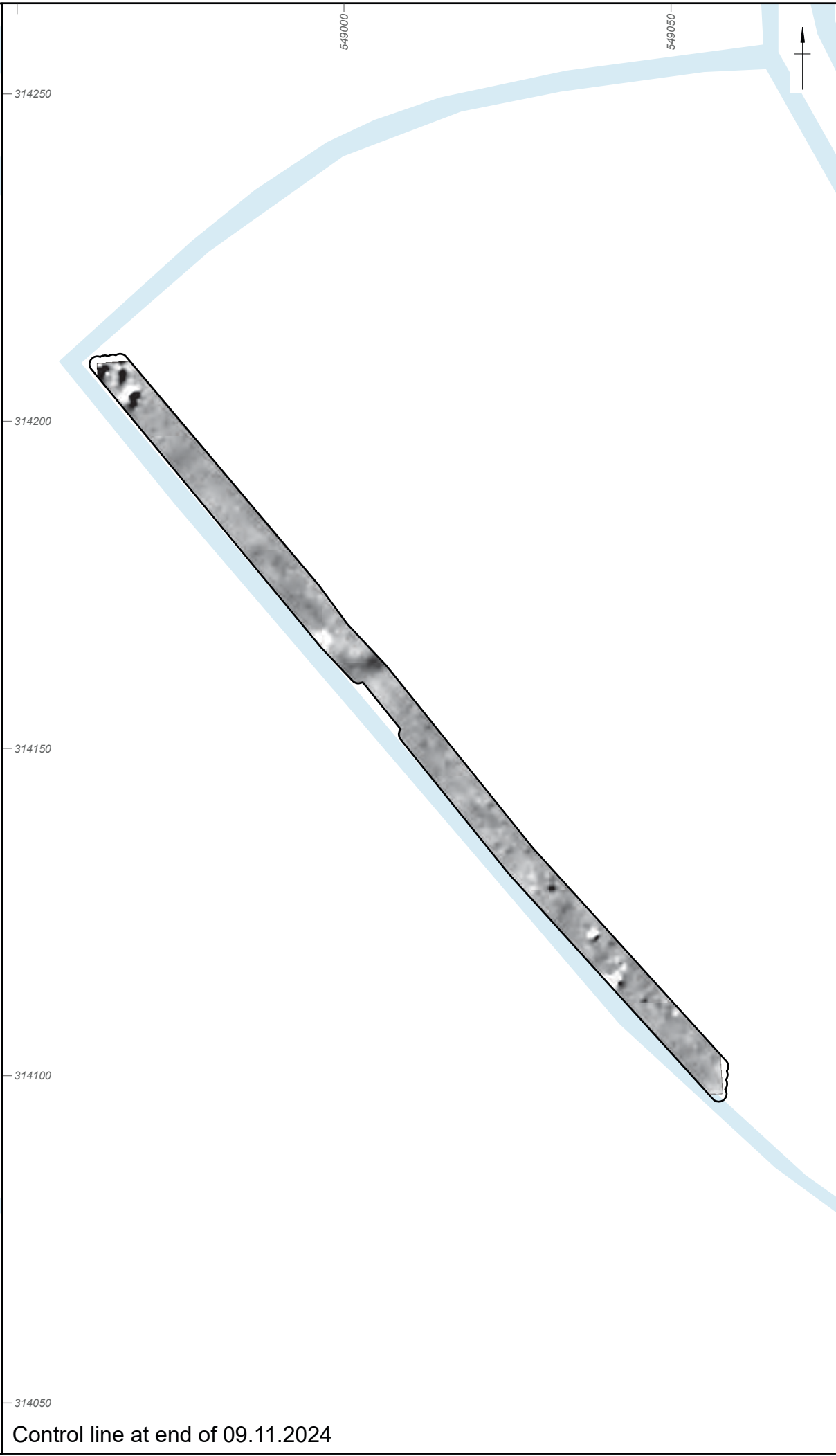
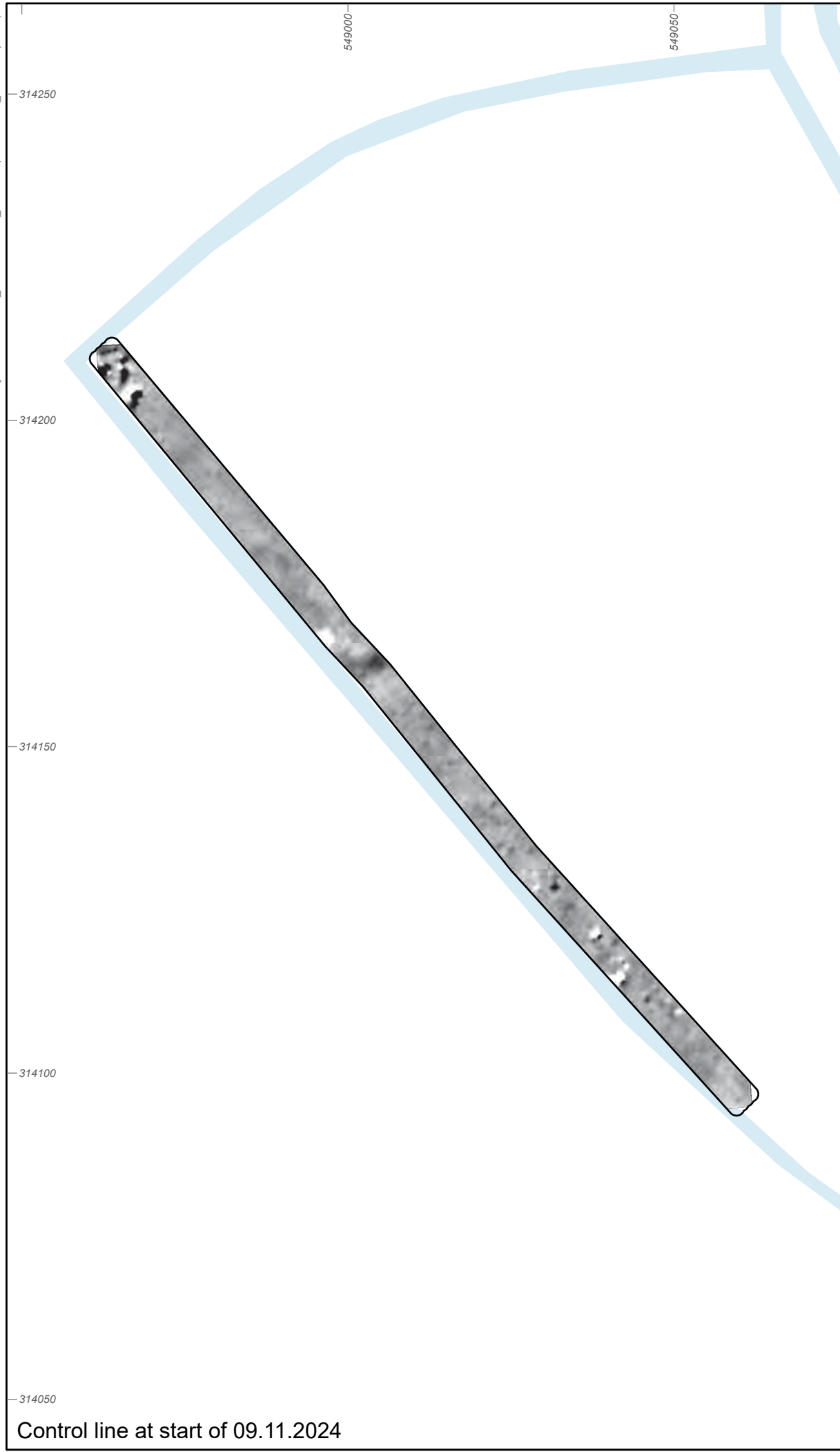
0 50 m

Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

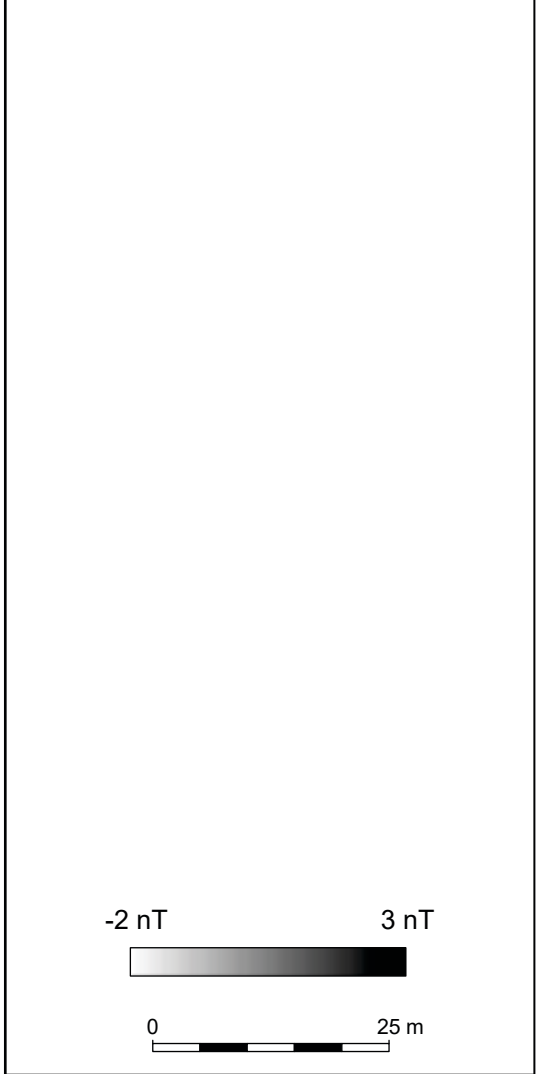
Date: 04/12/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 9: Detailed gradiometer survey results: interpretation (LP_026 and LP_027)

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent

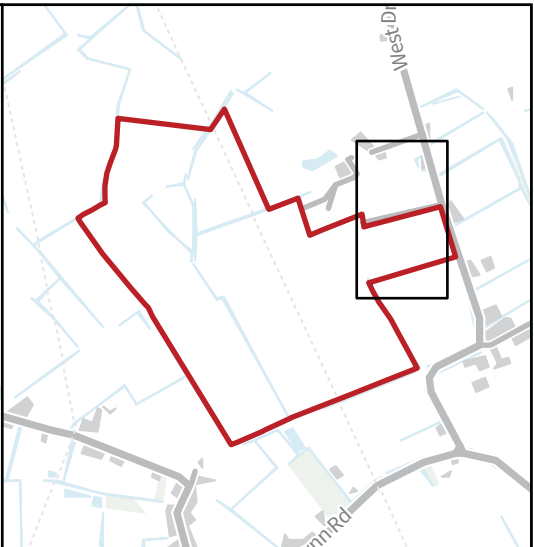
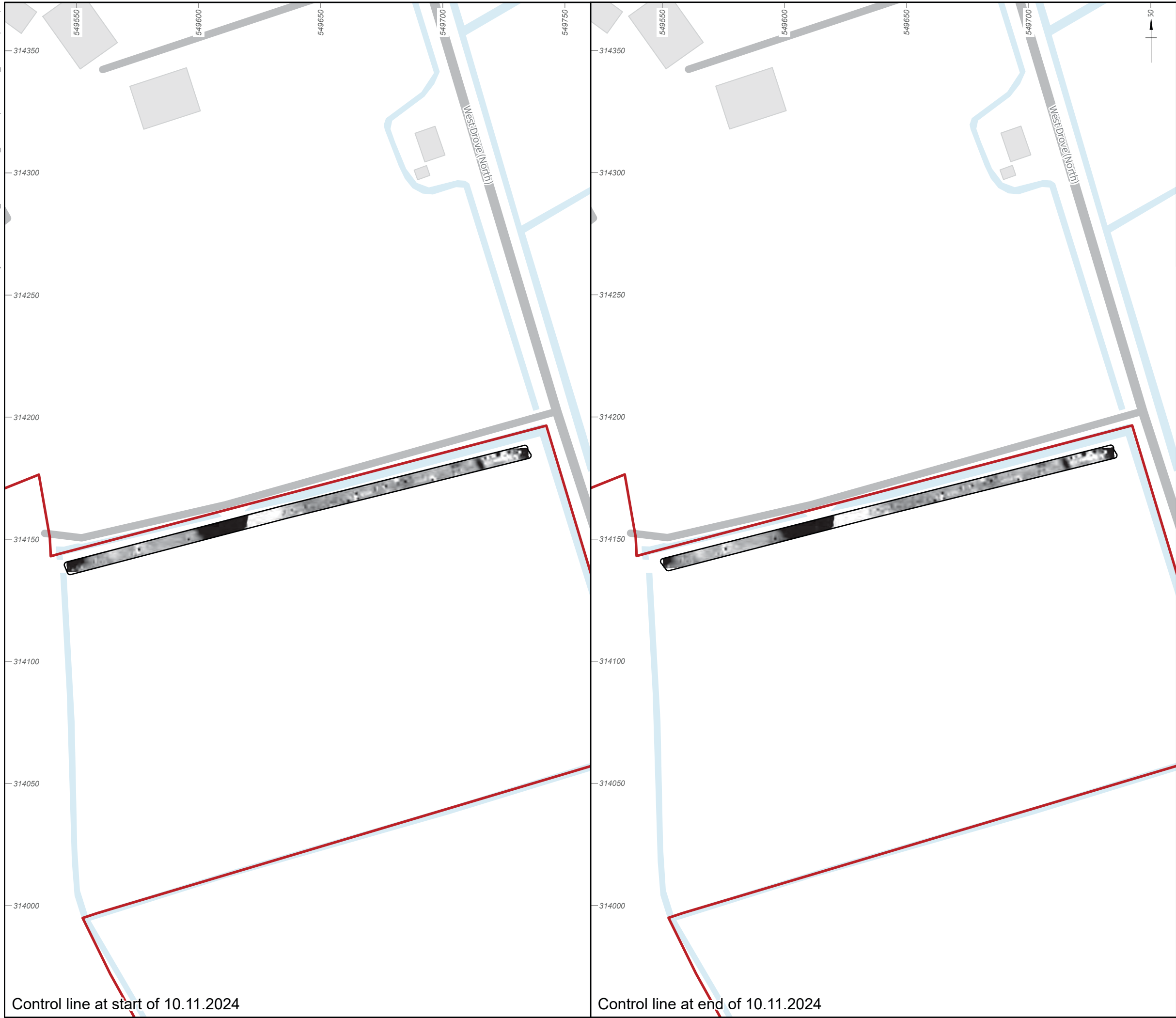


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

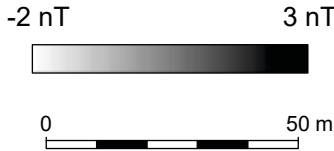
Date: 02/12/2024	Created by: ADT	
Scale: 1:800	Revision: 0	

Appendix Figure 1: Detailed gradiometer survey results:
Daily Control Lines 09/11/2024

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent

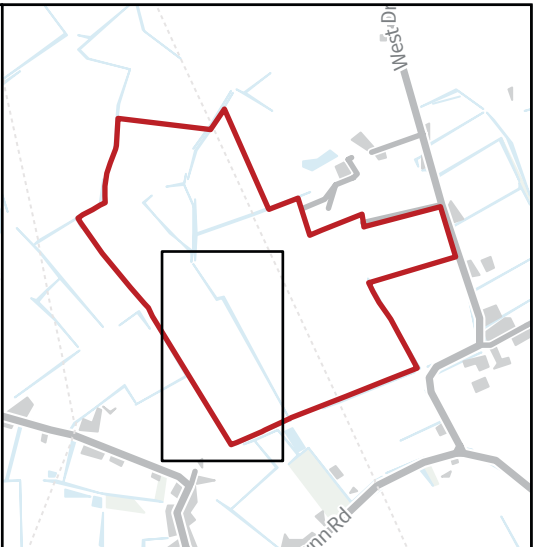
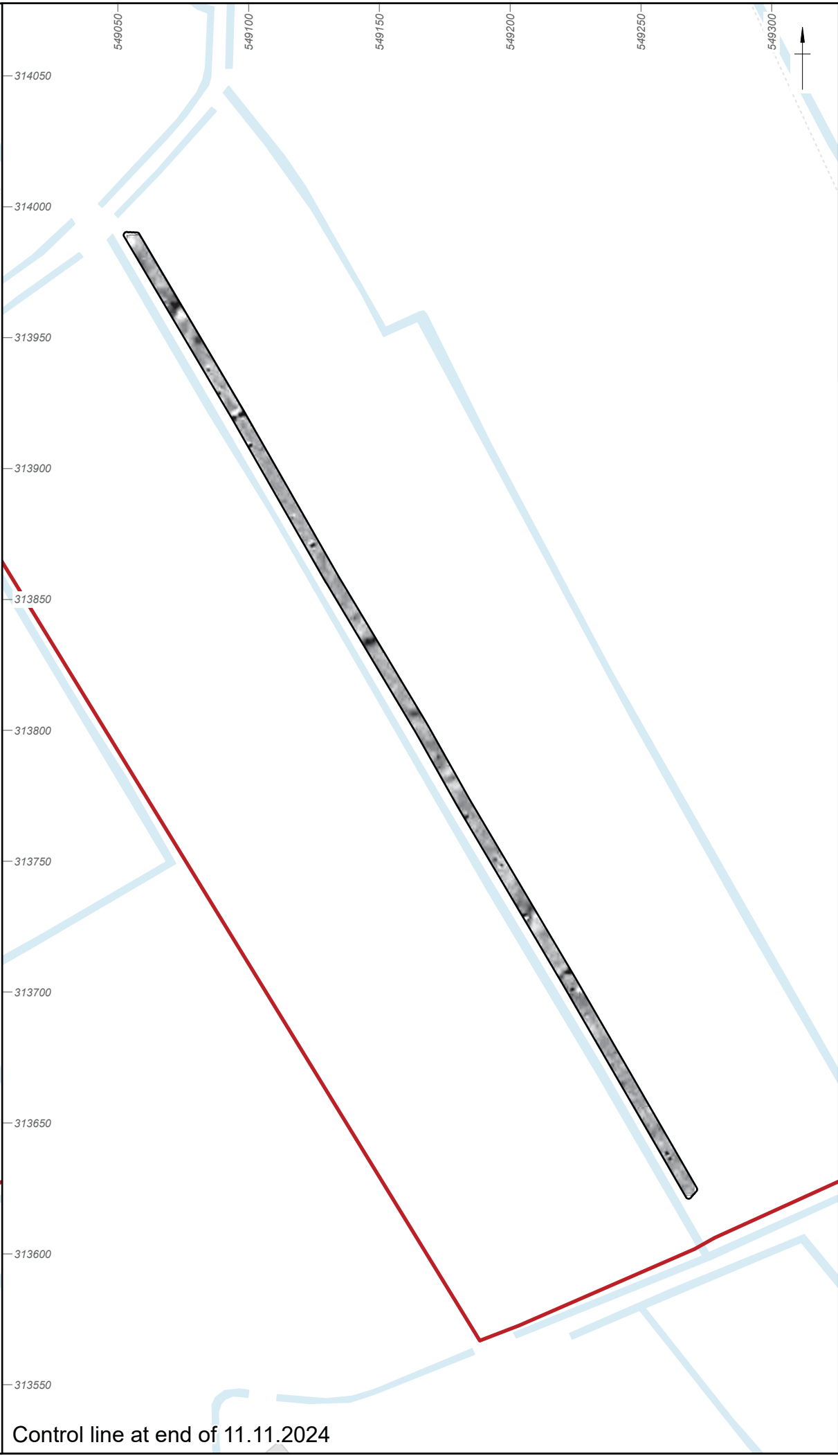
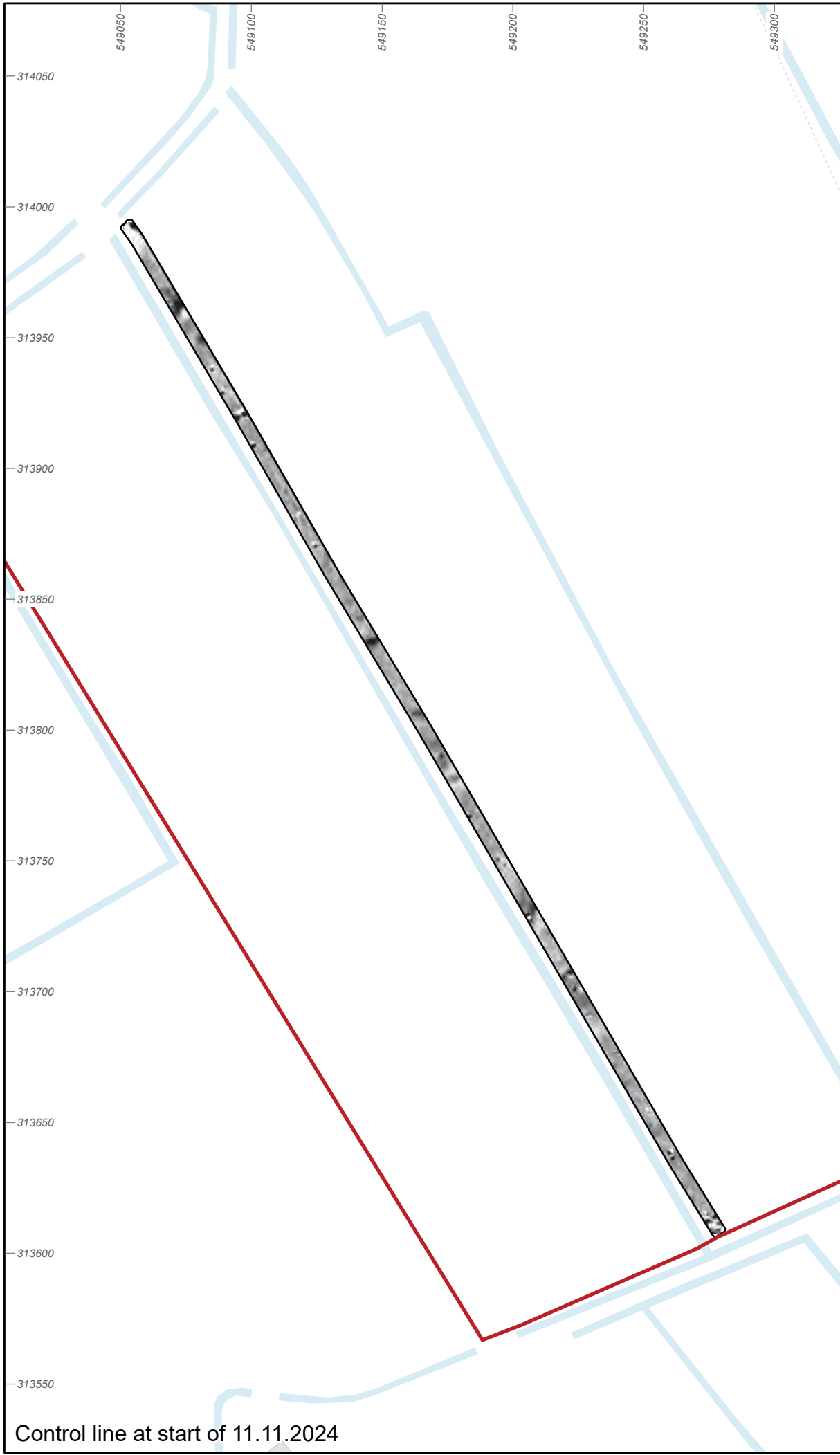


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

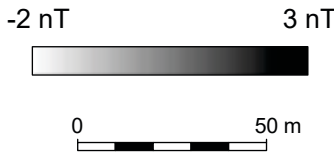
Date: 02/12/2024	Created by: ADT	
Scale: 1:1,500	Revision: 0	

Appendix Figure 2: Detailed gradiometer survey results:
Daily Control Lines 10/11/2024

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



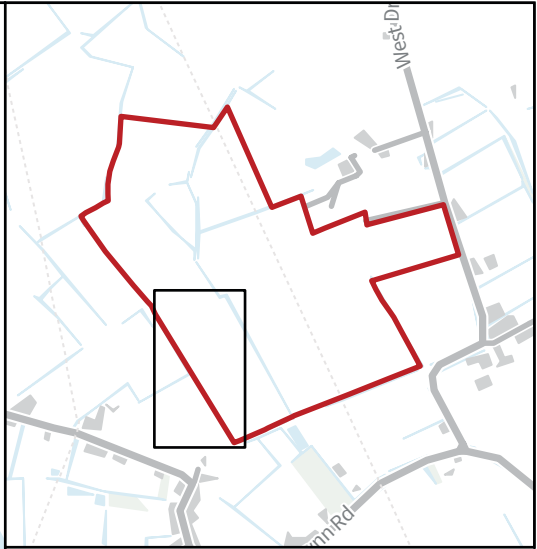
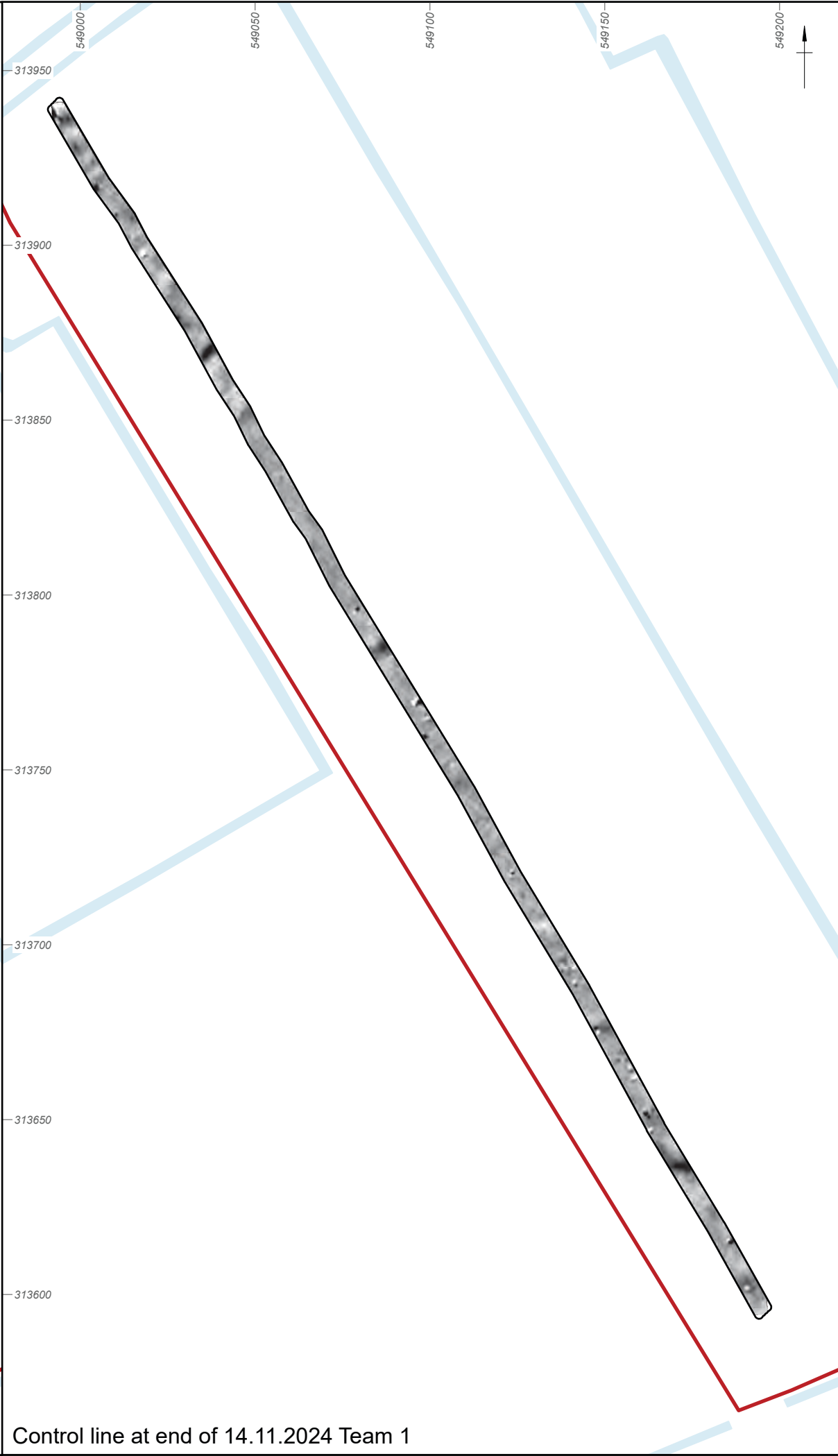
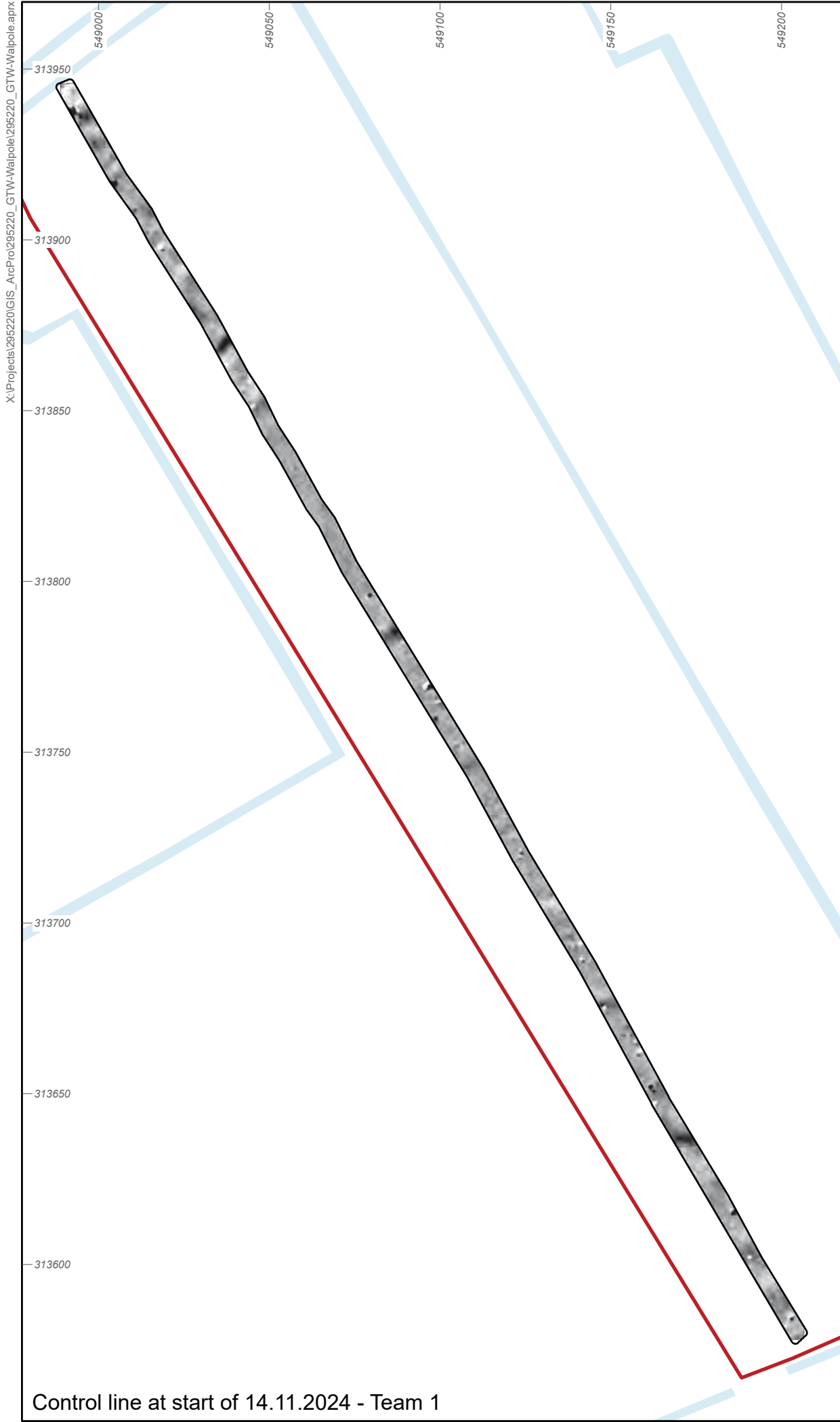
- Site boundary
- Detailed survey extent



Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Appendix Figure 3: Detailed gradiometer survey results:
Daily Control Lines 11/11/2024



Site boundary
Detailed survey extent

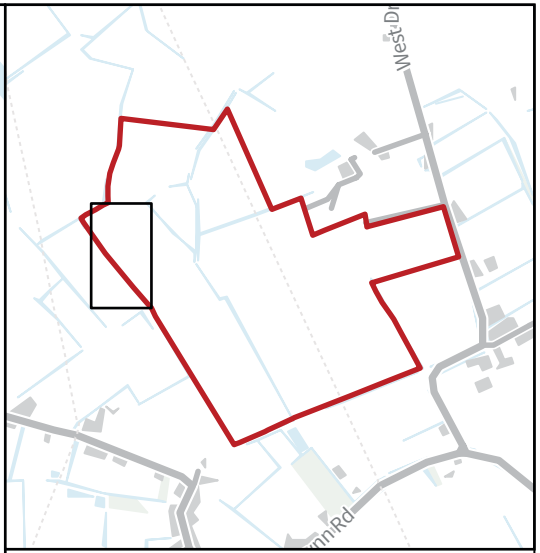
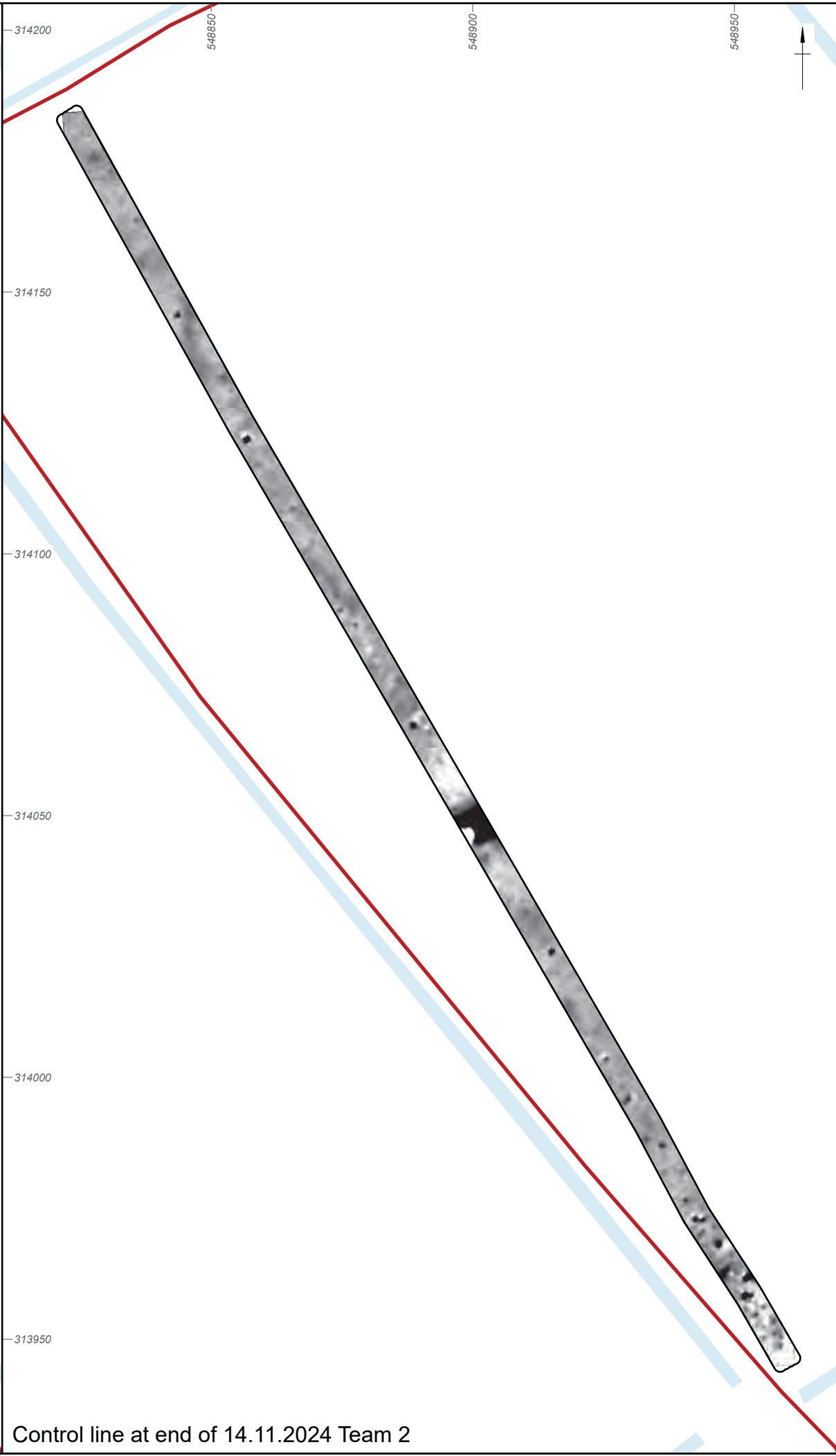
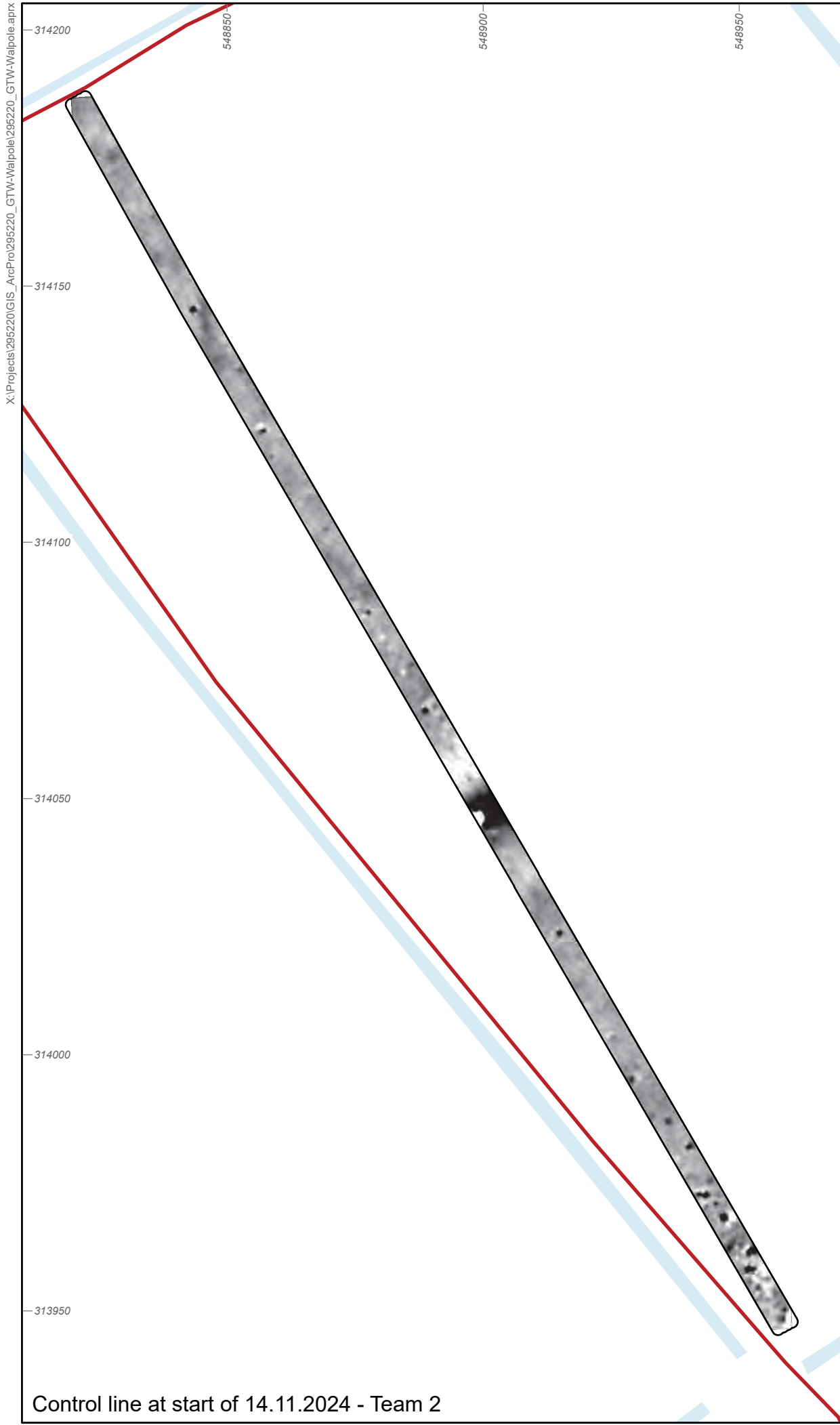
-2 nT 3 nT

0 50 m

Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:1,500	Revision: 0	

Appendix Figure 4: Detailed gradiometer survey results:
Daily Control Lines 14/11/2024 - Team 1



Site boundary
Detailed survey extent

-2 nT **3 nT**

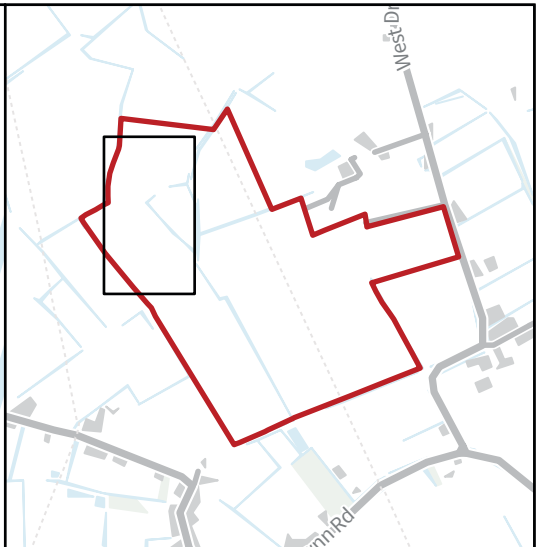
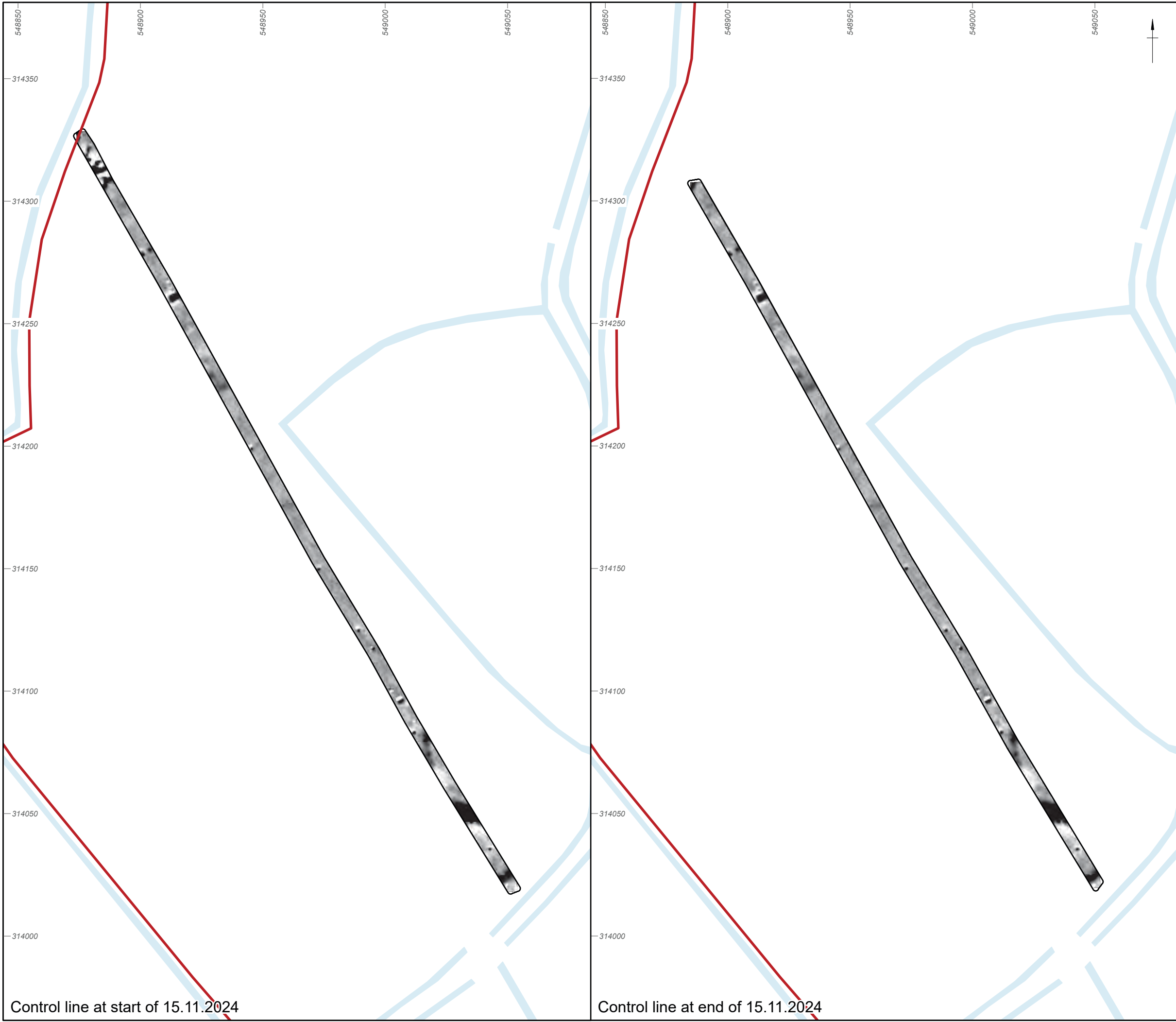
0 **50 m**

Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

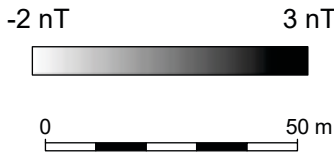
Date: 02/12/2024	Created by: ADT	
Scale: 1:1,000	Revision: 0	

Appendix Figure 5: Detailed gradiometer survey results:
Daily Control Lines 14/11/2024 - Team 2

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent

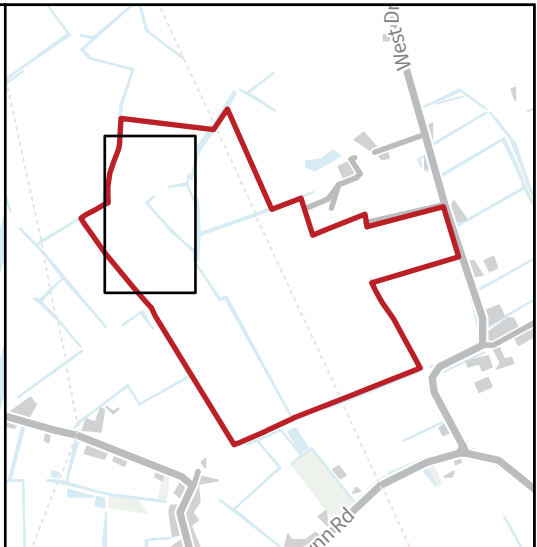
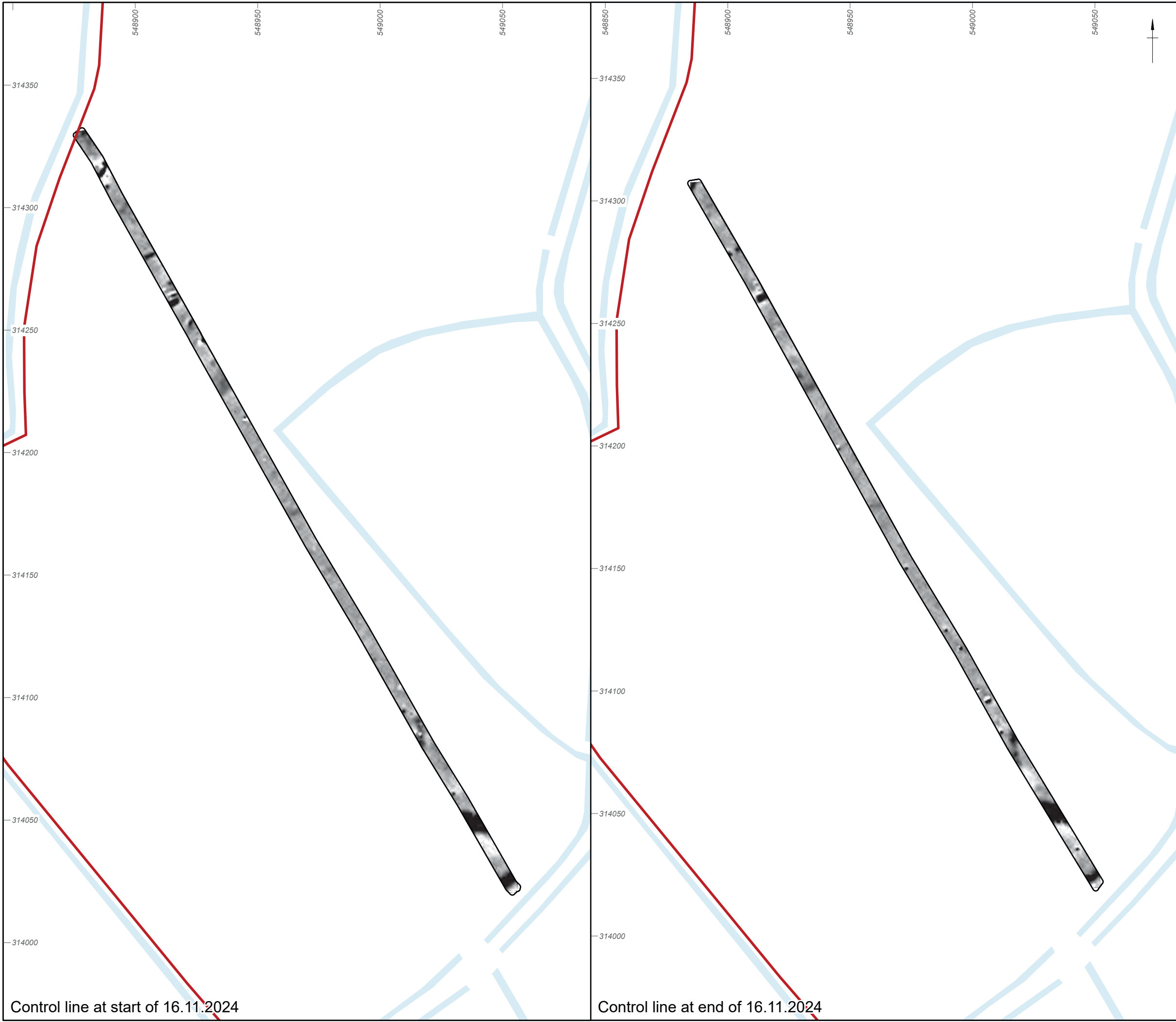


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

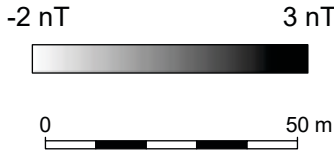
Date: 02/12/2024	Created by: ADT	
Scale: 1:1,500	Revision: 0	

Appendix Figure 6: Detailed gradiometer survey results:
Daily Control Lines 15/11/2024


X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



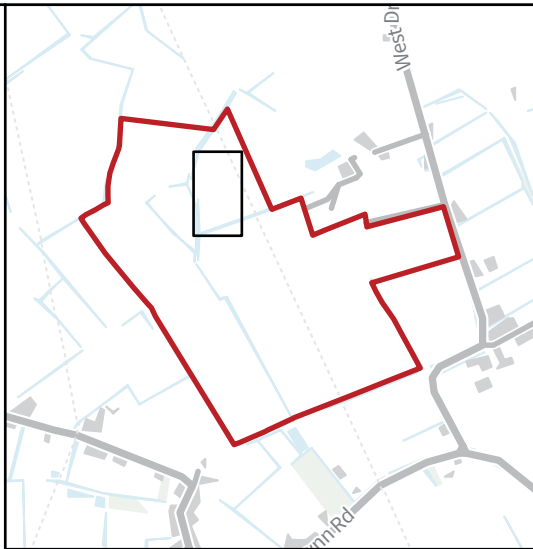
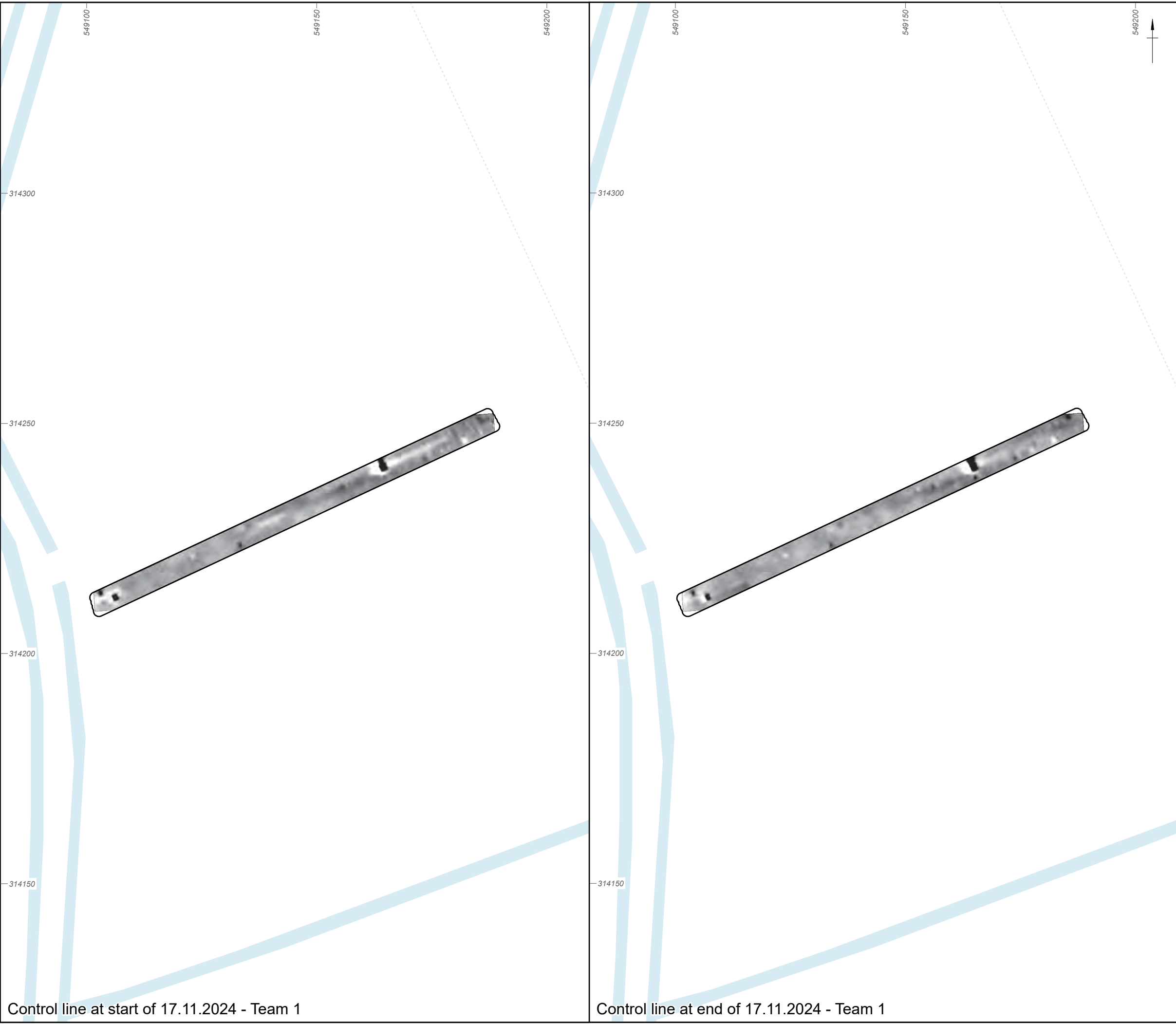
- Site boundary
- Detailed survey extent



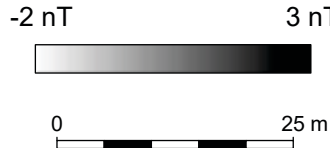
Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:1,500	Revision: 0	
Appendix Figure 7: Detailed gradiometer survey results: Daily Control Lines 16/11/2024		

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent

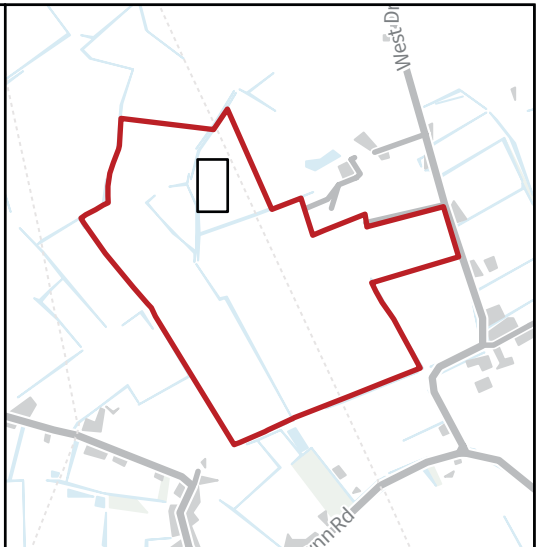
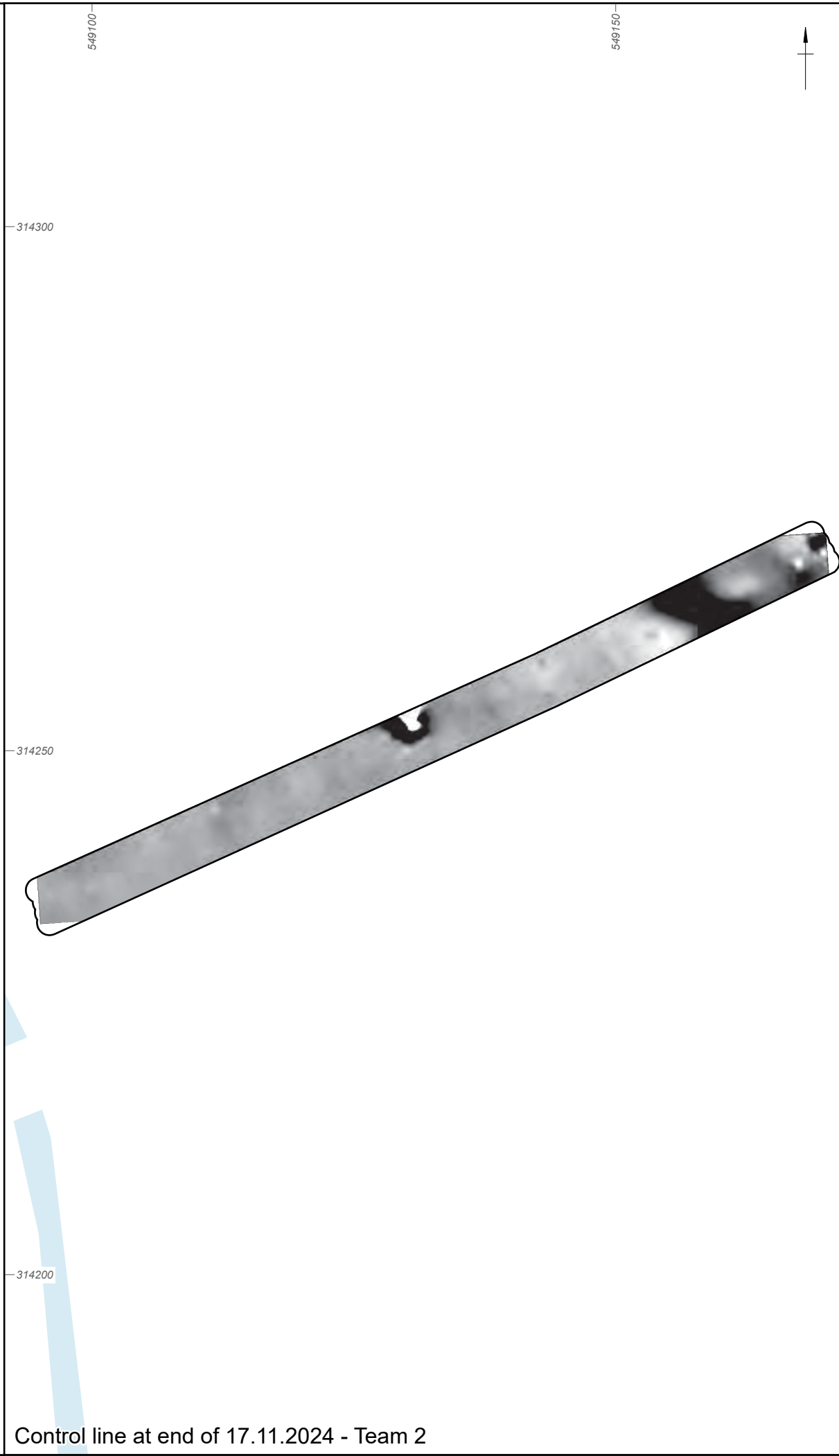
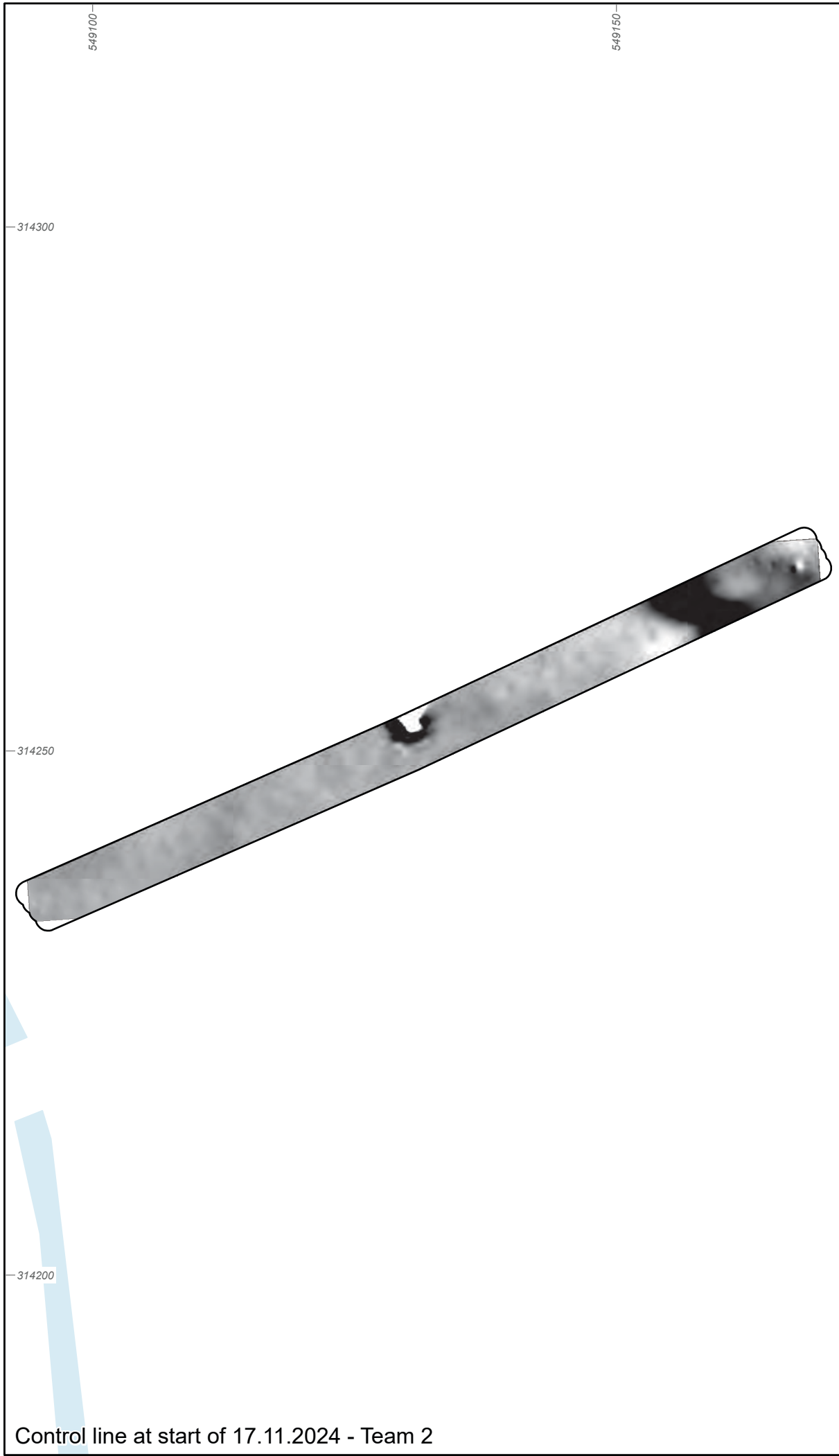


Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

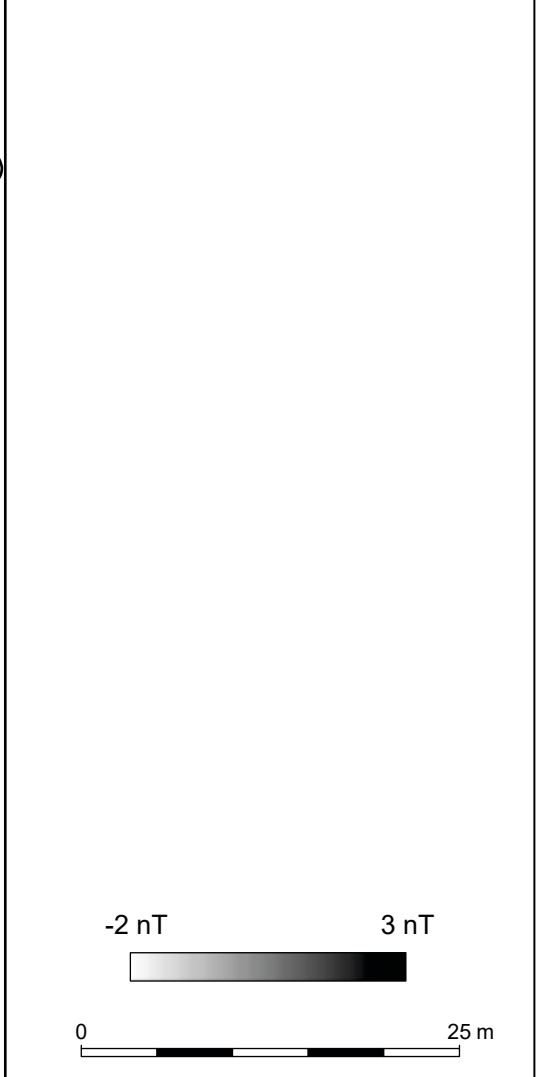
Date: 02/12/2024	Created by: ADT	
Scale: 1:800	Revision: 0	

Appendix Figure 8: Detailed gradiometer survey results:
Daily Control Lines 17/11/2024 - Team 1

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



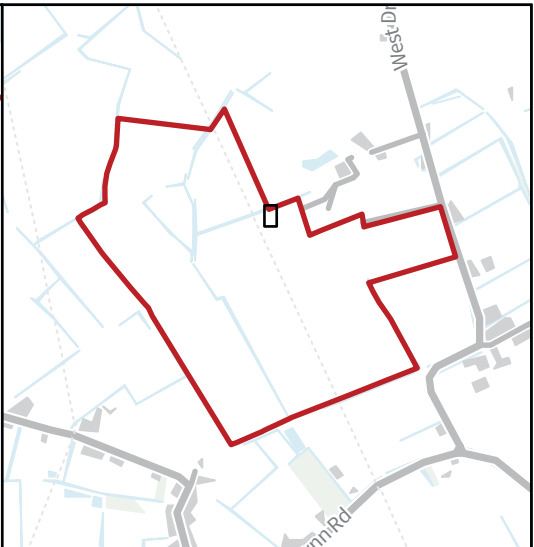
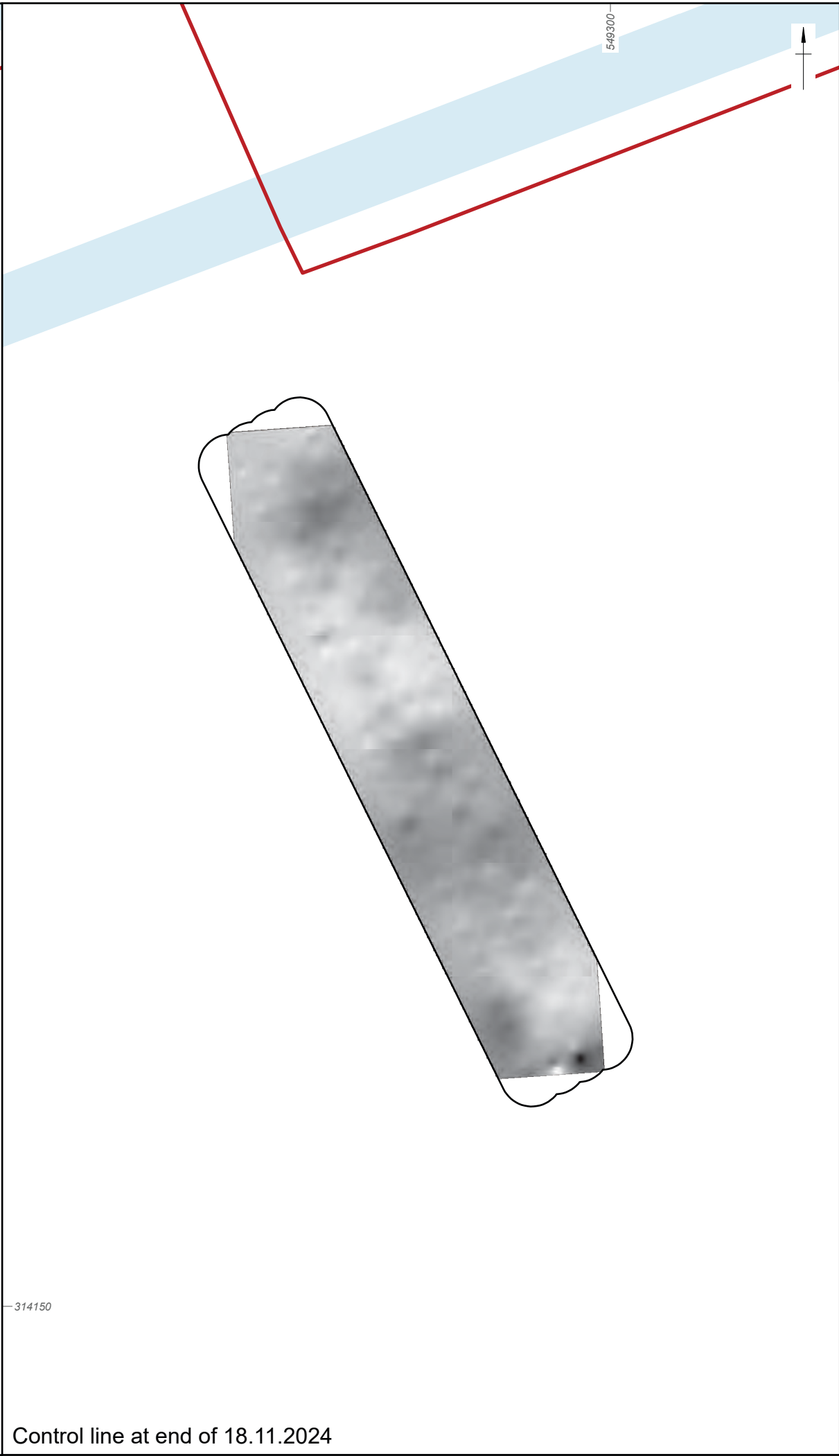
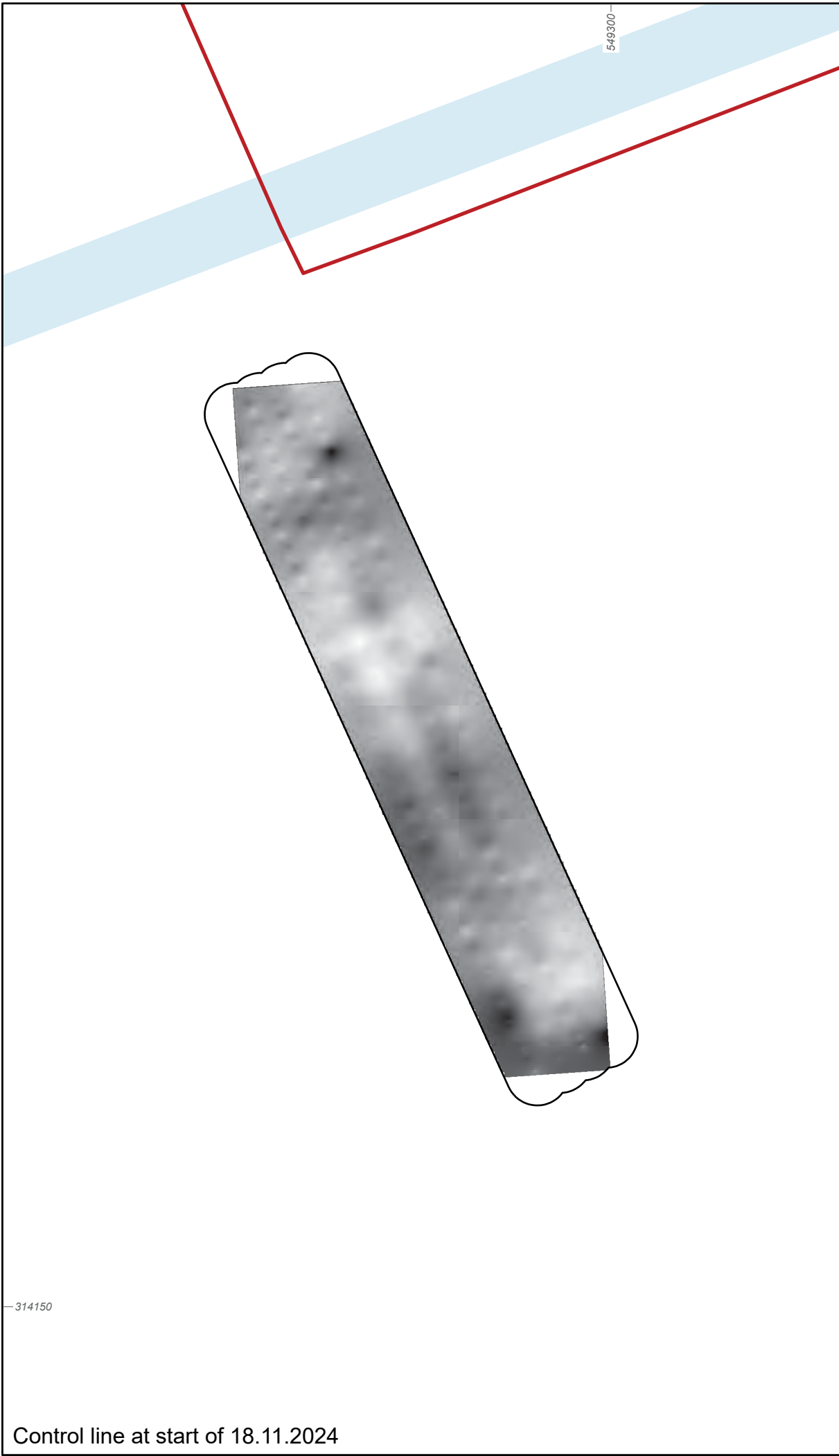
- Site boundary
- Detailed survey extent



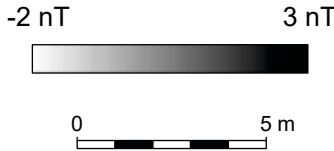
Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:500	Revision: 0	

Appendix Figure 9: Detailed gradiometer survey results:
Daily Control Lines 17/11/2024 - Team 2



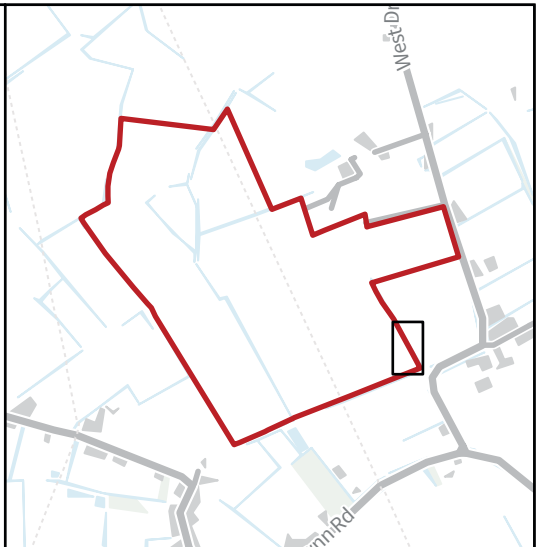
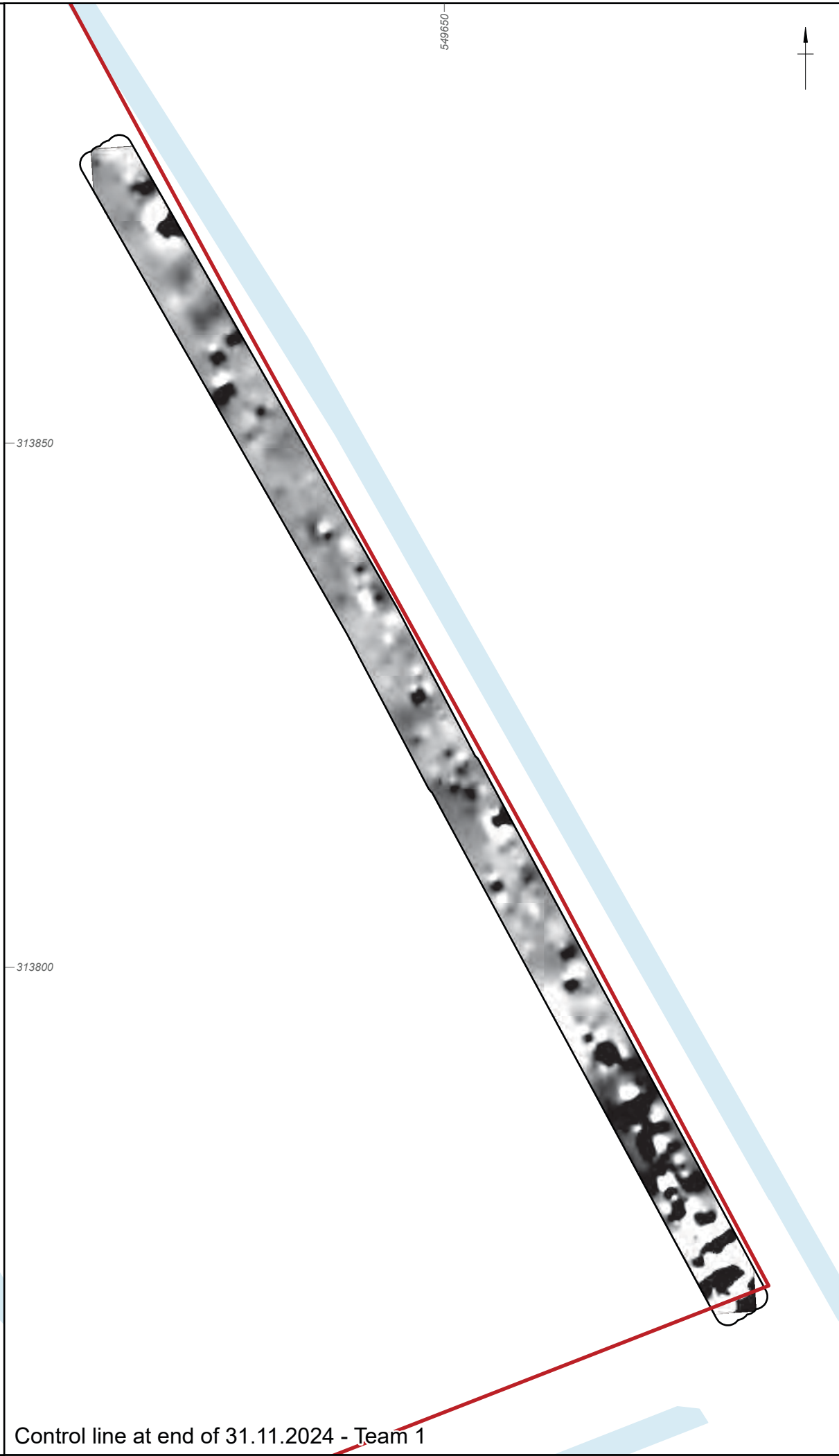
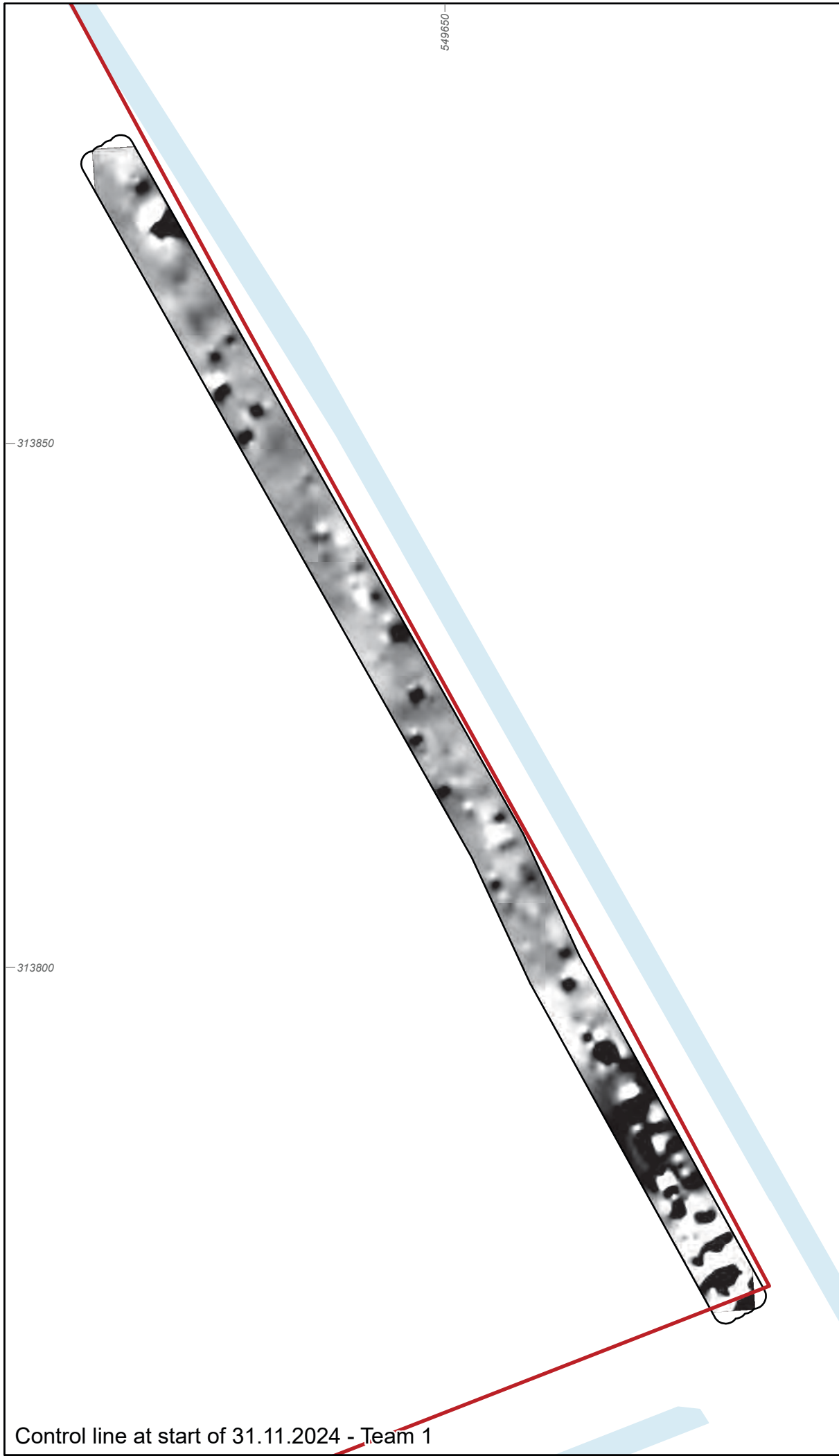
- Site boundary
- Detailed survey extent



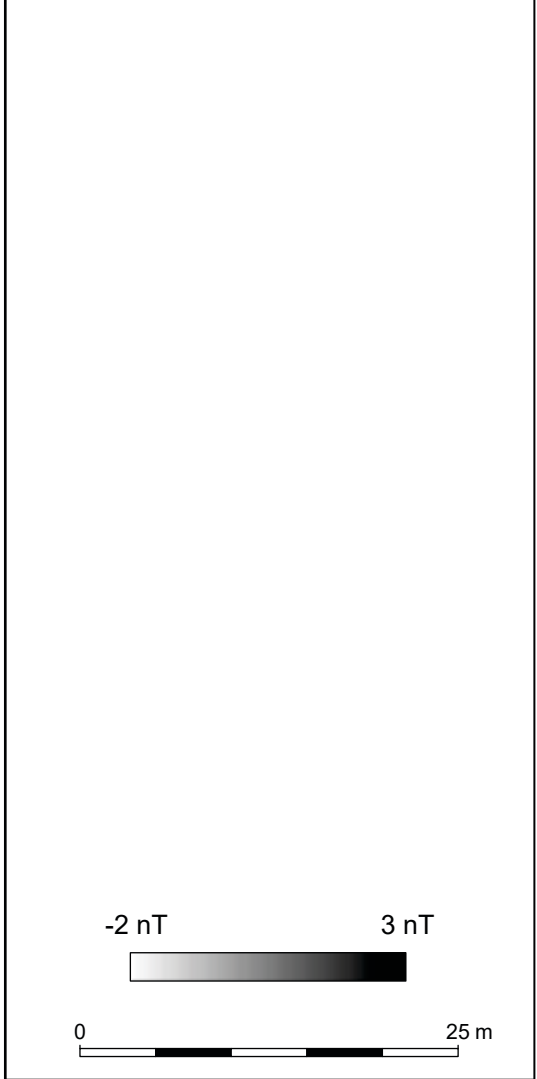
Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:200	Revision: 0	


Appendix Figure 10: Detailed gradiometer survey results:
Daily Control Lines 18/11/2024



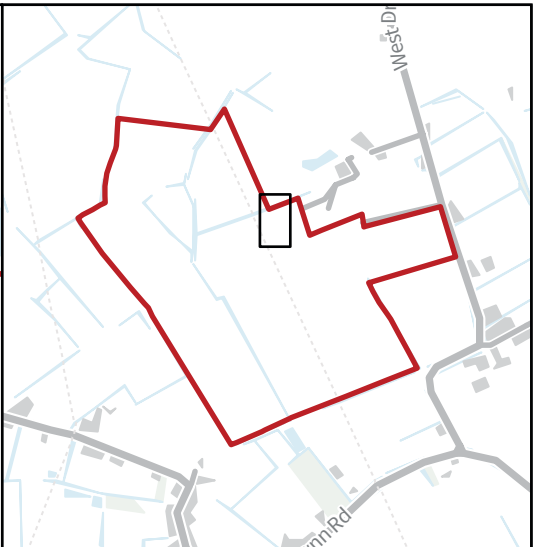
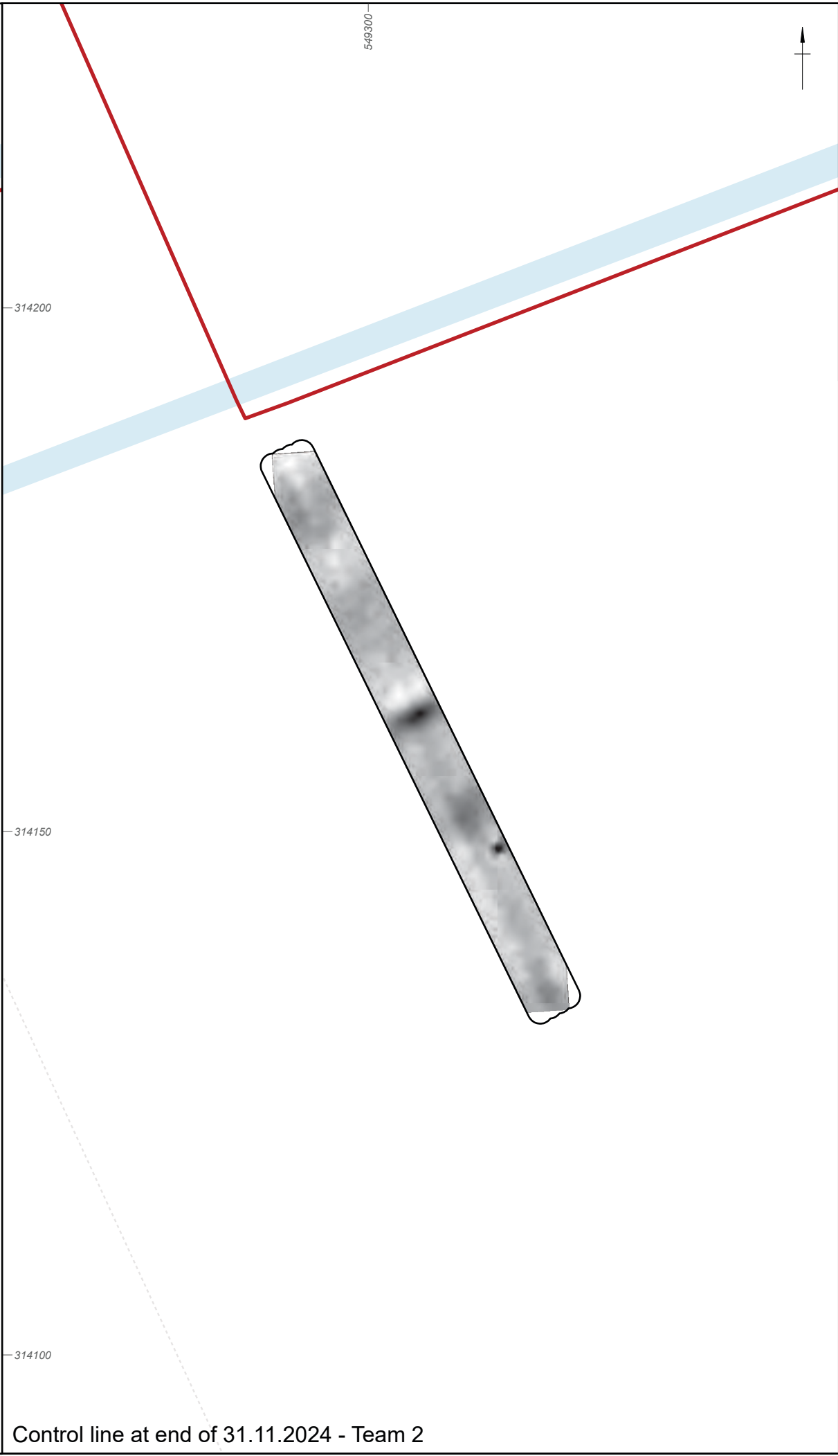
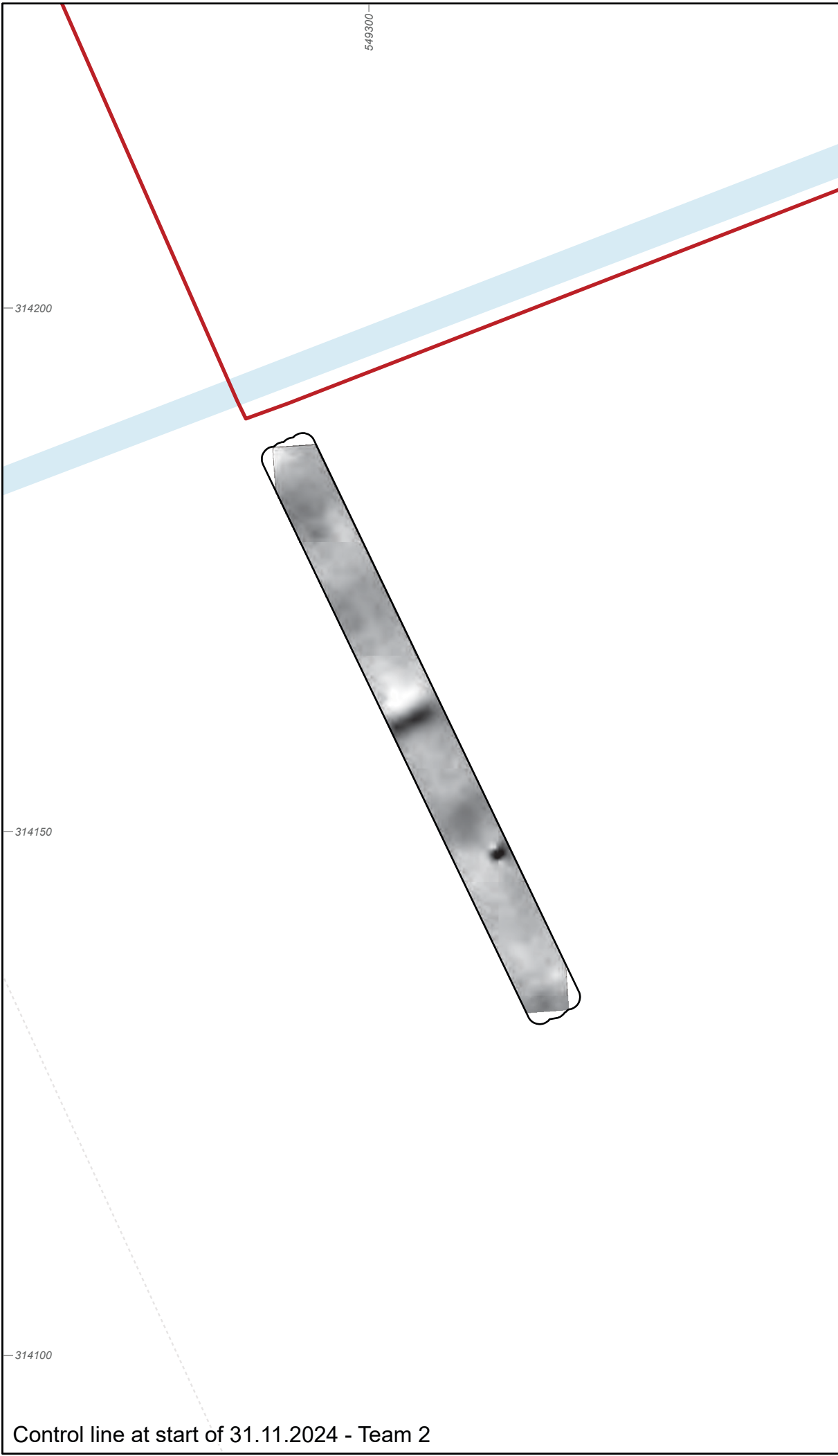
- Site boundary
- Detailed survey extent



Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024	Created by: ADT	
Scale: 1:500	Revision: 0	
Appendix Figure 11: Detailed gradiometer survey results: Daily Control Lines 31/11/2024 - Team 1		

X:\Projects\295220\GIS_ArcPro\295220_GTW-Walpole\295220_GTW-Walpole.aprx



- Site boundary
- Detailed survey extent

-2 nT 3 nT



0 25 m

Coordinate system: OSGB 1936 British National Grid.
Contains Ordnance Survey data © Crown copyright and database right 2024.
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Date: 02/12/2024 Created by: ADT

Scale: 1:500 Revision: 0



Appendix Figure 12: Detailed gradiometer survey results:
Daily Control Lines 31/11/2024 - Team 2



Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk



National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com