

# Archaeology and Built Heritage Assessment

**Braxbess Storage – Land south of Barns Ness Terrace, Innerwick, East Lothian, EH42 1SE**

On behalf of Braxbess Ltd

Date: 19/01/2024 | Pegasus Ref: P23-0094

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## Document Management.

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# 1. Introduction

- 1.1. Pegasus Group have been commissioned by Braxbess Ltd to prepare an Archaeology and Built Heritage Assessment to consider the proposed energy storage development on land south of Barns Ness Terrace, Innerwick, East Lothian, EH42 1SE, as shown on the Site Location Plan provided at Plate 1.

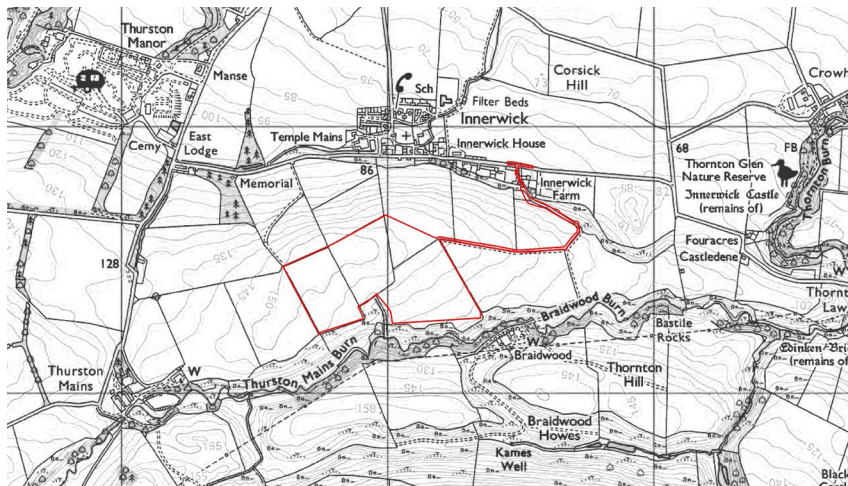


Plate 1: Site Location Plan (not to scale)

- 1.2. No designated heritage assets are recorded within the site, although a number are recorded in the wider vicinity.
- 1.3. This Assessment provides information with regards to the significance of the historic environment to fulfil the requirements of the Scottish Government's *National Planning Framework 4 (NPF4)* which requires:
- "Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place"***
- 1.4. In order to inform an assessment of the acceptability of the scheme in relation to impacts on the historic environment and archaeological resource, following Policy 7 of NPF4, any harm to the historic environment resulting from the proposed development is also described, including impacts on significance through changes to setting.

<sup>1</sup> Scottish Government, *National Planning Framework 4 (NPF4)* (Edinburgh, February 2023), Policy 7 a), p.45.

## 2. Proposed Development

- 2.1. The application seeks consent for the construction and operation of Battery Energy Storage System (BESS), of up to 650 megawatts (MW). The site boundary for the Application allows for all development associated with the proposed development including connection to the grid and landscaping features (Plate 2). The main access will be taken from the north-east of the site from Barns Ness Terrace, via the existing Innerwick Farm entrance, which currently accommodates large farm vehicles and machinery.
- 2.2. A cable route will be subject to further consideration by SPT and will be subject to a separate application. The exact point of connection is to be confirmed by SPT.
- 2.3. The associated equipment will be split between two areas of the site and would comprise:

### Battery Site:

- 300 battery storage units – battery units arranged in rows 7.5m in length, 2.8m wide, and 3.1m in height;
- Switchgear containers – 20m in length, 3.5m wide and 4.1m in height;
- Inverters and transformers local to the batteries will be 2.8m in length, 2.3m wide and 2.9m in height;
- Water storage tanks local to the batteries will be 13.7m in width and 4.7m in height;

- 3 substations and substation equipment, with some elements being in the region of 11.4m in height. Further details are as follows:

### 3 Substations Comprising of:

#### Substation 1 (132kV)

- Control room – 11.4m in length, 3.3m wide and 3m in height;
- 132kV transformers – 11m in length, 9m wide and 5.7m in height;
- Removable panels;
- 132kv switch house enclosure – 11m in length, 15m wide and 8.2m in height;
- Auxiliary transformer – 2.6m in length, 2.5m wide and 2.8m in height; and
- 2.4m high palisade fence with secured access gate.

#### Substation 2 (132kV)

- Control room – 15.5m in length, 3.3m wide and 3m in height;
- 132kV transformers – 12m in length, 9m wide and 5.7m in height;
- Removable panels;



- 132kV switch house enclosure – 19m in length, 15m wide and 8.7m in height;
- Auxiliary transformer – 2.6m in length, 2.5m wide and 2.8m in height; and
- 2.4m high palisade fence with secured access gate.

### Substation 3 (400kV)

- Auxiliary transformer 15.1m in length, 9.2m width and 11.4m in height;
- Customer control room 2.5m in height; and
- 3m high palisade fence.

Other Details:

- Landscape features around the site will include native trees and hedgerow planting;
- Water storage tanks; and
- CCTV and light poles to be 5m high.

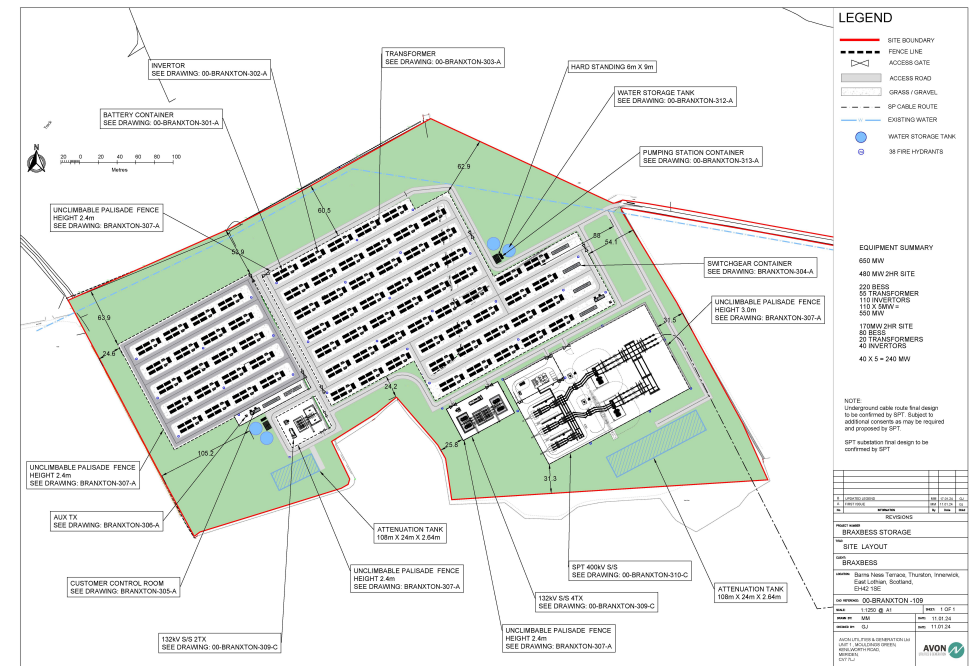


Plate 2: Proposed Site Layout

### 3. Site Description and Planning History

#### Site Description

- 3.1. The site comprises approximately 19.4ha of arable land covering two fields in its western extent the majority of an additional field in the south-east, and a portion of a fourth field to the north-east. Access extends to the east of the site, along an existing farm track. The site is located on land south of Barns Ness Terrace, Innerwick, East Lothian, EH42 1SE.



*Plate 3: Photograph taken from east of site, facing west-south-west, across site.*



*Plate 4: Photograph facing south-west, across western extent of site.*

- 3.2. The site is bound to the west, north, and east by further agricultural land, within the village of Innerwick lying c.200m to the site's north. To the south of the site the land comprises scrub and woodland which slopes downwards towards Thurston Mains Burn, with agricultural land beyond this.

#### Planning History

- 3.3. A review of online planning records has not identified any previous planning applications within the site boundaries.

## 4. Methodology

4.1. The aims of this Report are to assess the significance of the heritage resource within the site/study area, to assess any contribution that the site makes to the heritage significance of the identified heritage assets, and to identify any harm or benefit to them which may result from the implementation of the development proposals, along with the level of any harm caused, if relevant.

4.2. This assessment considers insert archaeological resource and built heritage.

### Sources

4.3. The following key sources have been consulted as part of this assessment:

- The East Lothian Historic Environment Record (HER) for information on the recorded heritage resource within the vicinity of the site;
- Historic Environment Scotland's records of designated heritage assets;
- Historic maps available online;
- The National Library of Scotland's online catalogue and mapping; and,
- Other online resources, including Ordnance Survey Open Source data; geological data available from the British Geological Survey; and, Google Earth satellite imagery.

4.4. For digital datasets, information was sourced for a 1km study area measured from the boundaries of the site. Information gathered is discussed within the text where it is of relevance to the potential heritage resource of the site. A gazetteer of recorded sites and findspots is included as **Appendix 1** and maps illustrating the resource and study area are included as **Appendix 2**.

4.5. Historic cartographic sources and aerial photographs were reviewed for the site, and beyond this where professional judgement deemed necessary.

4.6. Heritage assets in the wider area were assessed as deemed appropriate (see Section 6).

### Site Visit

4.7. Site visits were undertaken by a Principal Heritage Consultant from Pegasus Group on 16<sup>th</sup> March 2023, and 9<sup>th</sup> November 2023 during which the site and its surrounds were assessed.

### Photographs

4.8. Photographs included in the body text of this Report are for illustrative purposes only to assist in the discussions of heritage assets, their settings, and views, where relevant. Unless explicitly stated, they are not accurate visual representations of the site or development proposals nor do they conform to any standard or guidance i.e., the Landscape Institute Technical Guidance Note 06/19. However, the photographs included are intended to be an honest representation and are taken

without the use of a zoom lens or edited, unless stated in the description or caption.

### Assessment Methodology

4.9. Full details of the assessment methodology used in the preparation of this Report are provided within **Appendix 3**. However, for clarity, this methodology has been informed by the following:

- ClfA's *Standard and Guidance for Historic Environment Desk-Based Assessment*;<sup>2</sup>
- Historic Environment Scotland's *Managing Change in the Historic Environment: Setting*;<sup>3</sup> and,
- Historic Environment Scotland's *Managing Change in the Historic Environment: Asset Management*.<sup>4</sup>

### Consideration of Impacts

4.10. It is important to consider whether the proposals will impact historic assets or places. If they do, then one must consider whether this represents a "significant impact" or

to the identified designated heritage assets, in the context of Policy 7 a) of *NPF4*.<sup>5</sup> *NPF4* notes that where impacts cannot be avoided they should be minimised.<sup>6</sup>

4.11. The *Historic Environment Policy for Scotland (HEPS)* states that to understand the likely impact of proposed actions or decisions, it is important to:

- Assess and predict the likely level of the impact of proposals on the historic environment, context, asset or place.
- Make the level of impact clear so that it can inform decision-making.<sup>7</sup>

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<sup>2</sup> Chartered Institute for Archaeologists (ClfA), *Standard and Guidance for Historic Environment Desk-Based Assessment* (revised edition, October 2020).

<sup>3</sup> Historic Environment Scotland, 2019, *Managing Change in the Historic Environment: Setting*.

<sup>4</sup> Historic Environment Scotland, 2020, *Managing Change in the Historic Environment: Asset Management*

<sup>5</sup> Scottish Government, 2023, *NPF4*, p.45.

<sup>6</sup> Scottish Government, 2023, *NPF4*, p.47.

<sup>7</sup> Historic Environment Scotland, 2019, *HEPS*, pp. 15



## 5. Policy Framework

### Legislation

- 5.1. Legislation relating to the built historic environment is primarily set out within the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997*, which provides statutory protection for Listed Buildings and their settings and Conservation Areas.<sup>8</sup>
- 5.2. Scheduled Monuments are protected by the provisions of the *Ancient Monuments and Archaeological Areas Act 1979* which relates to nationally important archaeological sites.<sup>9</sup> Whilst works to Scheduled Monuments are subject to a high level of protection, it is important to note that there is no duty within the 1979 Act to have regard to the desirability of preservation of the setting of a Scheduled Monument.
- 5.3. Full details of the relevant legislation are provided in **Appendix 4**.

### National Planning Policy Guidance

- 5.4. National Planning Policy guidance relating to the historic environment is provided within Part B, Section 7 of the

Scottish Government's *National Planning Framework 4* (NPF4), which was published in February 2022.

- 5.5. The Historic Environment Policy for Scotland (HEPS) (2019) is a policy statement directing decision-making that affects the historic environment. HEPS sits alongside national policies addressing land use matters and decisions and should be used with them.
- 5.6. Full details of the relevant national policy guidance is provided within **Appendix 5**.

### The Development Plan

- 5.7. Applications for Planning Permission in Innerwick are currently considered against the policy and guidance set out within the East Lothian local development plan, adopted 27<sup>th</sup> September 2018.
- 5.8. Details of the policy specific relevant to the application proposals are provided within **Appendix 6**.

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<sup>8</sup> UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.

<sup>9</sup> UK Public General Acts, *Ancient Monuments and Archaeological Areas Act 1979*.

## 6. The Historic Environment

6.1. This section provides a review of the recorded heritage resource within the site and its vicinity in order to identify any extant heritage assets within the site and to assess the potential for below-ground archaeological remains. It has been informed by draft chapters of the South East Scotland Archaeological Research Framework, where available, and by the National Framework, for periods not yet covered by the draft regional framework.

6.2. Designated heritage assets are referenced using their HES references, HER 'event' numbers have the prefix EEL and HER 'monument' numbers have the prefix MEL.

6.3. A gazetteer of relevant heritage data is included as Appendix 1. Designated heritage assets and HER records are illustrated on Figures 1–4 in Appendix 2.

### Previous Archaeological Works

6.4. A geophysical survey of a wider area including the proposed development site has identified anomalies indicative of a possible ring ditch towards the north of the site, with some nearby anomalies potentially indicative of archaeological features. Some uncertain anomalies were also recorded across the wider site (ASWYAS 2023; Appendix 7).

6.5. No other previous archaeological works are recorded as having been undertaken within the site, however a number of previous archaeological works are recorded as having been undertaken within the vicinity of the site, comprising:

- A geophysical survey (ref. EEL1008) and evaluation on land associated with the Neart na Gaoithe onshore cable route (ref. EEL1184), c.150m north-west of the site;
- Evaluations at Temple Mains Farm, and on land north of the church, Innerwick, >245m north of the site (ref. EEL141);
- A watching brief at Tyme Cottage, Innerwick, c.270m north of the site (ref. EEL137);
- A watching brief at Mansewood Lodge, Innerwick, c.355m north of the site (ref. EEL136);
- Earthwork survey, evaluation, and watching brief associated with the Neart na Gaoithe onshore transmission works (ref. EEL1285), c.640m west, and c.730m north of the site; and,
- Evaluation at Thurston Manor Holiday Park, c.950m north-west of the site (ref. EEL706).

6.6. Programmes of building recording (ref. EEL139, EEL142) and a previous desk-based assessment (ref. EEL40) are also recorded as having been undertaken in the wider vicinity.

6.7. The results of these works are discussed below, where relevant to the potential archaeological resource of the site.

## Topography and Geology

- 6.8. The proposed development site lies on the east of a ridge, with a highpoint of c.150m aOD in the north-west of the site, sloping downwards to c.120m aOD in the south-east.
- 6.9. Bedrock geology across the site is mapped as Great Conglomerate Formation – conglomerate and sandstone, interbedded. This sedimentary bedrock formed between 443.8 and 358.9 million years ago during the Silurian and Devonian periods.
- 6.10. Superficial deposits within the site are mapped as Till, Devensian – diamicton. These sedimentary superficial deposits formed between 116 and 11.8 thousand years ago during the Quaternary period.<sup>10</sup>
- 6.11. A number of cropmarks recorded within the site are identified as being of probable geological origin (ref. MEL2180). The geophysical survey did not identify any anomalies potentially indicative of archaeology in these areas, supporting the probable geological nature of these features (ASWYAS 2023; Appendix 7).

## Archaeological Baseline

### Earlier prehistoric (c.12,700 BC – c.800 BC)

- 6.12. Palaeolithic and Mesolithic sites in the region show an apparent focus on riverine and coastal regions, in particular the Tweed valley, and Forth Littoral.<sup>11</sup> Although

the site overlooks a small watercourse to the south, it is not in proximity to any significant river valleys and lies >2.5km from the coast.

- 6.13. No archaeology from these periods is recorded either within the site, or its vicinity, and the site is therefore considered to have low potential for significant archaeological remains from these periods.

Neolithic (c.4,100 BC – c.2,500 BC), Chalcolithic and Bronze Age (c.2,500 BC – c.800 BC), and Iron Age (c.800 BC – c.AD 400)

- 6.14. Two possible ring ditches, identified via aerial photographs, are recorded within the north of the site, on top of the summit of a low hill (ref. MEL1874). The geophysical survey has identified anomalies potentially indicative of archaeological remains in this area, including a possible ring ditch c.11m in diameter (ASWYAS 2023; Appendix 7).
- 6.15. A possible pit alignment is also recorded within the east of the site, having been identified via cropmarks (ref. MEL1859). Little information is provided about these possible features, and only a point location is given, however aerial photographs viewable on Canmore appear to show some linear cropmarks in this area. The geophysical survey has identified some uncertain linear anomalies in the vicinity, some of which extend into the eastern extent of the site, which are tentatively

<sup>10</sup> British Geological Survey, *Geology of Britain Viewer*, <https://www.bgs.ac.uk/map-viewers/geology-of-britain-viewer/>.

<sup>11</sup> SESARF, *Palaeolithic and Mesolithic* (draft chapter), accessed July 2023

interpreted as being drainage-related but may be archaeological (ASWYAS 2023; Appendix 7).

- 6.16. No other later prehistoric archaeology is recorded within site, although a moderate amount of heritage from these periods, or potentially dating to these periods is identified within the wider vicinity.
- 6.17. Our understanding of early Neolithic settlement in South East Scotland is based on a relatively small number of sites, with large timber halls having been identified at Doon Hill, and Sprouston, but evidence otherwise limited to a few sites with pits, along with possible hearths. The distribution pattern of Carinated Bowl pottery, derived from settlement and funerary sites, in the South East is noted as echoing the wider pattern within Scotland as having close correlation with good agricultural land, with many findspots being near the coast or along major rivers.
- 6.18. Evidence for Middle Neolithic settlement in the region is also sparse, with a group of pits recorded at Knowes Farm, and a sub-circular wattlework building and pits identified at Overhailes, with some evidence of activity in coastal areas e.g., at Hedderwick. Some monumental sites are also identified from this period, with a large concentration of flint identified around the henge at Overhowden. Evidence of Late Neolithic settlement is similarly sparse, with pottery having been recovered from a number of coastal sites, and with occasional pits being

identified, although evidence of a light timber structure was identified at Dalkeith.<sup>12</sup>

- 6.19. The Chalcolithic Period in Scotland appears to show a degree of continuity in terms of settlement from the Late Neolithic, although with the introduction of new technologies and artefacts, along with a possible shift in funerary tradition towards individual interment and grave goods. This practice continues into the Earlier Bronze Age, with the construction of cists, often sited in or near pre-existing monuments. Depositions at earlier monuments are also noted during this period, e.g. at Eweford, where barley grains in a container were deposited at a Neolithic long mound. Evidence from this period is heavily biased towards funerary site and artefactual finds, with little identified evidence of settlement activity or land-use. Evidence of Early Bronze Age settlement in Scotland is varied, although there appears to be a degree of continuity from the Chalcolithic in southern Scotland, with unenclosed platform settlements having been identified in the southern uplands, and evidence of a solitary timber roundhouse recorded in the Forth valley.
- 6.20. Evidence for settlement and metalworking activities becomes more prominent from the Middle Bronze Age (c.1,700/1,600 BC), with an apparent greater intensity of settlement in lowland areas. From c.1,400 BC there appears to be a shift in structure types, from ring-banks and post-built structures to ring-groove, and ring-ditch structures, with land-use appearing to be becoming more organised. Monuments from this period probably include

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<sup>12</sup> Sheridan, A. (SESARF), *South East Scotland Archaeological Research Framework: The Neolithic period* (draft chapter), accessed July 2023



four-posters along with short stone rows, and kerb cairns, with cremation burials being the norm.

- 6.21. In the Later Bronze Age post-built structures became a feature, and settlement appears to have become more focussed along the coast, although inland sites are noted in the Lothians, particularly around the Forth. Occupation in the upland areas appears to have declined by c.750 BC, with possible evidence of settlement contraction along the east coast, potentially due to a shift towards mixed pastoralism which characterised the Early Iron Age. There is evidence that at least some enclosed settlement sites in East Lothian were first occupied in the Bronze Age, with evidence of occupation, if not fortification at Traprain Law. Late Bronze Age radiocarbon dates have also been obtained from enclosures at Standingstone, Whittingehame, and East Linton. However, the majority of enclosed settlement sites are likely to be of Iron Age date. The re-use of monuments continues in the Late Bronze Age, and kerb cairns with cremation burials remain the main funerary practice.<sup>13</sup>
- 6.22. Forts and enclosed settlement sites of probable Iron Age date are extensive across much of the region, although there is a degree of uncertainty with regard to the frequency and extent of unenclosed sites, there is a suggestion that unenclosed sites appear to be more frequent in some parts of the landscape rather than others. Towards the end of the first millennium BC, some 'unenclosed settlements' also appear to have been constructed over previously enclosed sites, although

some enclosed sites continued in use into the first millennium AD.<sup>14</sup>

- 6.23. Recorded heritage of later prehistoric, or probable later prehistoric date, in the vicinity of the site appears to follow the general trends noted in the regional and national research frameworks. There is little evidence of Neolithic, Chalcolithic, or Early Bronze Age activity in the vicinity of the site. The only evidence of possible activity from these earlier periods is confined to:
- Cropmarks indicative of a possible cursus and enclosure are recorded c.515m west-south-west of the proposed development site (ref. MEL11386), along with a possibly associated elongated pit (ref. MEL11236), which was recorded in the area during trial trenching; no dating material was recovered from the pit. A further undated pit was recorded c.60m east of the cursus (ref. MEL13035) which contained unarticulated bones of a single immature pig; it is uncertain whether this feature is associated with the cursus or represents a later feature; and,
  - A Bronze Age short cist, found c.695m south-east of the site, during ploughing in 1939 (ref. MEL1847). There was no trace of a cairn, but the cist held the bones of a 3-5 year old child and were accompanied by a beaker.
- 6.24. In the wider vicinity, a large number of undated sites are recorded, some of which potentially date to the later prehistoric periods. This includes a probable enclosed

<sup>13</sup> Scottish Archaeological Research Framework (ScARF), 2012, *Chalcolithic and Bronze Age Scotland: ScARF Panel Report*

<sup>14</sup> Scottish Archaeological Research Framework (ScARF), 2012, *ScARF Summary Iron Age Panel Document*, p.87

prehistoric settlement site is recorded c.200m east of the proposed development site (ref MEL1851). The site is a Scheduled Monument and is discussed in more detail below, however the geophysical survey identified a further possible enclosure c.40m north-west of the monument which may be of similar date.

- 6.25. A series of cropmarks, with at least two apparent sharp changes in direction are noted as representing a possible pit alignment and recorded >20m west of the site (ref. MEL1867).
- 6.26. An area of archaeological interest comprising anomalies potentially indicative of curvilinear ditches and several possible pits was identified during a geophysical survey (ref. EEL1008), c.265m north of the site (ref. MEL11234). Although undated, these could potentially represent later prehistoric features. A further possible curvilinear ditch and pit were recorded during the same survey work c.675m west of the site (ref. MEL11235).
- 6.27. Two well-preserved cairns are noted as having existed in the parish of Innerwick in the early-19<sup>th</sup> century, however these are thought to have been removed during agricultural improvements and their locations are unknown, with only a general grid reference given for these (ref. MEL1846).
- 6.28. A number of enclosures and/or enclosed settlements have been identified in the vicinity of the site through cropmarks. Although these are largely undated, later prehistoric dates are feasible. Recorded sites in the vicinity comprise:
- Cropmarks of a potentially undated enclosed settlement are recorded at Corsick Hill, c.750m

north-east of the site (ref. MEL1898), however a more recent interpretation of these features have noted a geological origin is more likely than an archaeological one;

- Cropmarks indicative of an undated rectilinear enclosure and field boundaries are recorded c.780m north-east of the site (ref. MEL1899);
  - A possible later prehistoric comprising cropmarks indicative of enclosure(s), linear features and a possible ring ditch, >850m north of the site (ref. MEL1857), part of which is Scheduled (ref. SM5870);
  - Castledene enclosure is a Scheduled site, comprising a possible later prehistoric enclosed settlement, identified via cropmarks c.895m east of the site (ref. SM5849); and,
  - The former location of earthworks associated with an enclosed settlement site are recorded at Blackcastle Hill c.935m south of the site (ref. MEL1905). The former earthworks have largely been ploughed out and are noted as being undated by the HER, the remains are however Scheduled and are noted as potentially representing a prehistoric homestead in the designation description (ref. SM3916).
- 6.29. On the basis of the recorded heritage in the vicinity of the site, and the archaeological context of the wider region, the site is considered to have very high potential for archaeological remains of later prehistoric date.

#### Roman (c.AD 77 – c.AD 211)

- 6.30. Excavation and survey work in East Lothian has indicated that, at the majority of later prehistoric settlement sites, occupation continued uninterrupted into the Roman Iron Age, although there appears to be a reduction in the number of occupied settlements by the 3<sup>rd</sup> century, and a greater focus on Traprain Law. No towns developed north of Hadrian's Wall, but civilian settlements are noted outside forts, primarily along the Antonine Wall.<sup>15</sup>
- 6.31. No Romano-British archaeology is recorded within the site. While it is possible that some of the undated features may have been in use during the Roman period, there is no confirmed Roman archaeology in the vicinity of the site.
- 6.32. The site does not lie in proximity to any known forts and is considered to have low potential for significant archaeological remains from the Roman period.

#### Medieval (c.AD 400 – c.AD 1500)

- 6.33. An area of cropmarks indicative of features including ridge and furrow, undated boundaries and a possible trackway, and linear feature are recorded as extending into the north of the proposed development site (ref. MEL1855). The geophysical survey suggests some possible buried, remnant furrows within the site, but no other features relating to these cropmarks.

- 6.34. Several early medieval rural and agrarian settlement sites have been identified in East Lothian, predominantly dating to the 7<sup>th</sup> and 8<sup>th</sup> centuries. Recorded features include several corn drying kilns, sunken-featured buildings, and stone platformed structures. It was traditionally assumed that these represented lower-status farmsteads, supplying higher-status centres, but similar buildings are also recorded at the *urbs regis* of Dunbar, suggesting that all forms of settlement relate to the system of tribute and redistribution. There is evidence of some continuation of use at several hillforts into the 5<sup>th</sup> and 6<sup>th</sup> centuries, e.g., Traprain Law, with some promontory sites being re-used as ecclesiastical sites. Towards the end of the early medieval period there seems to be a greater power shift towards sites which would become occupied by burghs, motte castles, and monastic houses.<sup>16</sup>
- 6.35. The site is likely to have formed part of the agricultural hinterland to nearby settlements from at least the medieval period, as evidenced by the former rig and furrow recorded as extending into the north of the site, and little medieval heritage is recorded in the vicinity. The site of a possible skirmish between William Wallace and Cospatrick is however recorded as having occurred in a field near Innerwick. The exact location of this skirmish is uncertain, but it is given a general location at Innerwick, c.230m north of the site (ref. MEL1901).
- 6.36. A number of stone coffins, representing a possible long cist cemetery is recorded as having been found in 1913 c.760m north-east of the site (ref. MEL1848). The site is

<sup>15</sup> Scottish Archaeological Research Framework (ScARF), 2012, *Scotland: The Roman Presence*, p.37

<sup>16</sup> SESARF, *Early Medieval* (draft chapter), accessed July 2023

recorded as being undated, although is feasibly of early medieval date, albeit such burial practices do have their origins in the Iron Age.

- 6.37. The site is not located in close proximity to any known medieval settlement sites and only a small amount of heritage from these periods is recorded in the wider vicinity. The site is considered to have low potential for significant archaeological remains from this period.

Modern (c.AD 1500 – present)

- 6.38. The site is likely to have been under agricultural use throughout the modern period. A moderate amount of heritage is recorded in the vicinity, predominantly represented by extant buildings. The majority of these lie within Innerwick, >230m north of the site. The town of Innerwick is recorded as being of uncertain date, however was licensed as a burgh of barony in 1630 (ref. MEL2022).
- 6.39. A number of agricultural buildings and dwellings are also recorded in the wider vicinity, as well as other discrete elements of heritage including Second World War crash site, and a post-medieval execution site (Witches Knowe), c.625m east of the site, where a number of 'witches' were reportedly executed (ref. MEL1900).
- 6.40. As the majority of the modern heritage recorded in the vicinity is not considered to be of direct relevance to the site's archaeological potential, it will not be discussed in detail here. However, all elements will be outlined in Appendix 1, with locations provided on Figure 4, Appendix 2.
- 6.41. Historic maps show the site as comprising agricultural land from at least the mid-19<sup>th</sup> century (Plates 5–10).

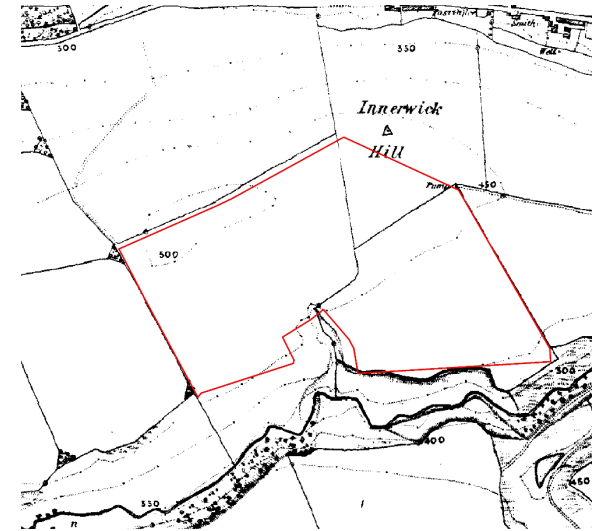


Plate 5: Extract from 1854 OS map – red line showing main site area

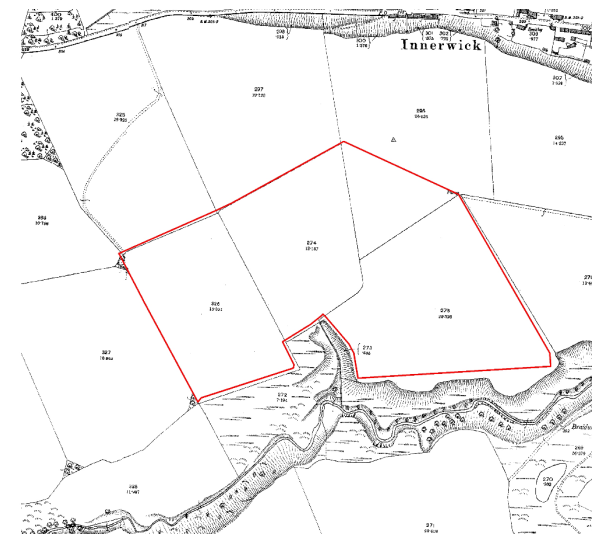


Plate 6: Extract from 1894 OS map – red line showing main site area



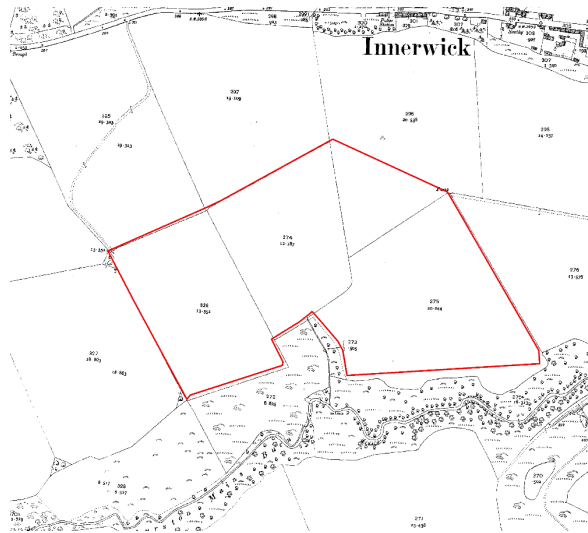


Plate 7: Extract from 1907 OS map – red line showing main site area

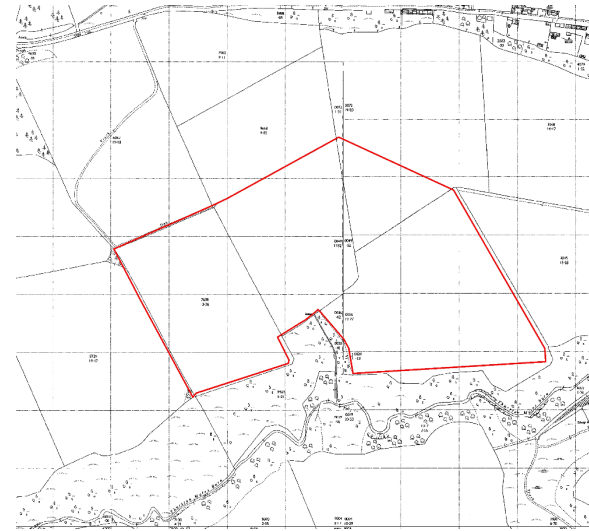


Plate 9: Extract from 1969 OS map – red line showing main site area

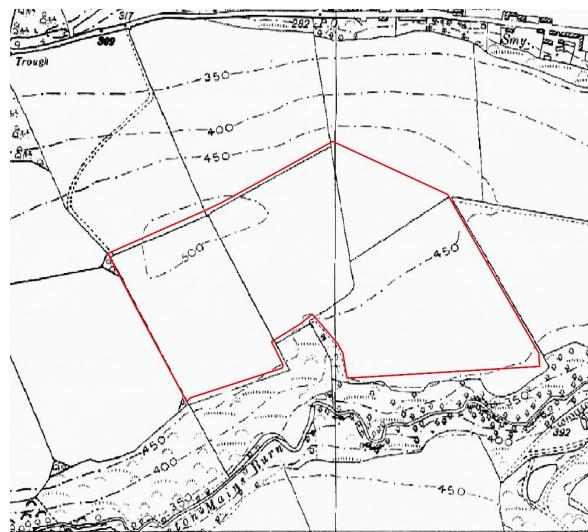


Plate 8: Extract from 1957 OS map – red line showing main site area

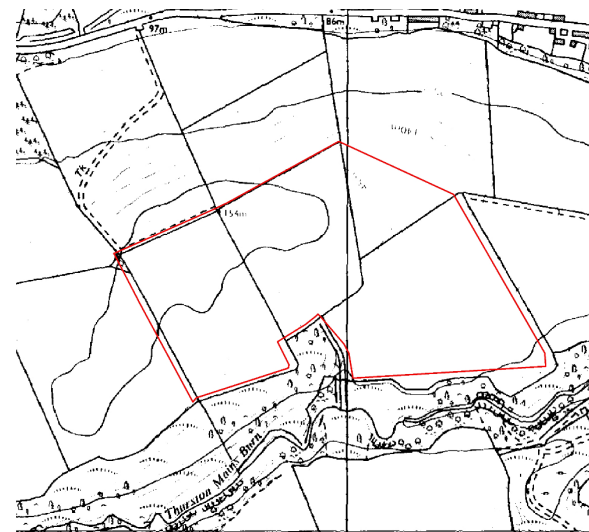


Plate 10: Extract from 1987 OS map – red line showing main site area

### Undated

- 6.42. A large number of undated cropmarks, potentially indicative of archaeological remains, are recorded in the vicinity of the site. Some of these have been tentatively included in one of the chronological periods above, however the remainder comprise:
- A scatter of possible pits on sloping ground south of Thurston Mains Burn, c.175m south of the site (ref. MEL11410);
  - A rectilinear ditch, potentially forming two sides of an enclosure, along with a series of postholes, possibly indicative a former fence line, was recorded during a watching brief (ref. EEL136) c.370m north of the site (ref. MEL8794);
  - An undated bank and ditch, recorded during a field survey (ref. EEL40) c.560m west of the site (ref. MEL8757), thought to potentially represent a former field boundary;
  - Cropmarks indicating a probable trackway are recorded c.675m east of the site (ref. MEL10316). The feature crosses a possible later prehistoric enclosure

(ref. SM5849), but does not appear to respect this, and looks to be a later feature;

- Cropmarks of an enclosure at Thurston Manor, c.765m north-west of the site (ref. MEL9628); and,
- Cropmarks of an undated, rectilinear enclosure c.800m east of the site (ref. MEL2499).
- Cropmarks potentially indicating an undated enclosure c.835m north of the site (ref. MEL2081); and,
- Cropmarks of two partial enclosures, likely representing former plantation banks c.920m north-west of the site (ref. MEL1865).

- 6.43. All undated features are outlined in Appendix 1, with locations provided on Figure 3, Appendix 2.

## 7. Setting Matters

- 7.1. Step 1 of the methodology recommended by the Historic Environment Scotland's guidance 'Managing Change in the Historic Environment: Setting' (see 'Methodology') is to identify which heritage assets might be affected by a proposed development.<sup>17</sup>
- 7.2. Development proposals may adversely impact heritage assets where they remove a feature that contributes to the significance of a heritage asset or where they interfere with an element of a heritage asset's setting that contributes to its significance, such as interrupting a key relationship or a designed view.
- 7.3. Consideration was made as to whether any of the heritage assets present within or beyond the 1km study area include the site as part of their setting, and therefore may potentially be affected by the proposed development.
- 7.4. Assets in the vicinity identified for further assessment on the basis of proximity to the site, intervisibility, and/or historic association comprise:
- Innerwick Conservation Area (ref. CA285), and Listed buildings within, c.175m north of the site;

- The Scheduled enclosure 200m north-east of Braidwood, c.200m east of the site (ref. SM5848); and,
  - Scheduled Monuments on Blackcastle Hill, c.965m south (ref. SM3916), and c.1.5km south-west of the site (ref. SM3933).
- 7.5. Assets excluded on the basis of distance from the site, lack of intervisibility, and/or absence of historical association comprise:
- Category B Listed Jubilee Horse Trough, c.390m north-west of the site (ref. LB7712);
  - Local designed landscapes at Innerwick Farm c.390m north-east of the site, and Thurston c.575m north-west of the site (ref. MEL10904);
  - Thurston House East Lodge, c.625m north-west of the site (ref. LB7710);
  - Listed buildings at Thurston Mains, c.720m west-south-west of the site (refs. LB7713 and LB7714); and,
  - The Scheduled enclosure at Castledene, c.895m east of the site (ref. SM5849);

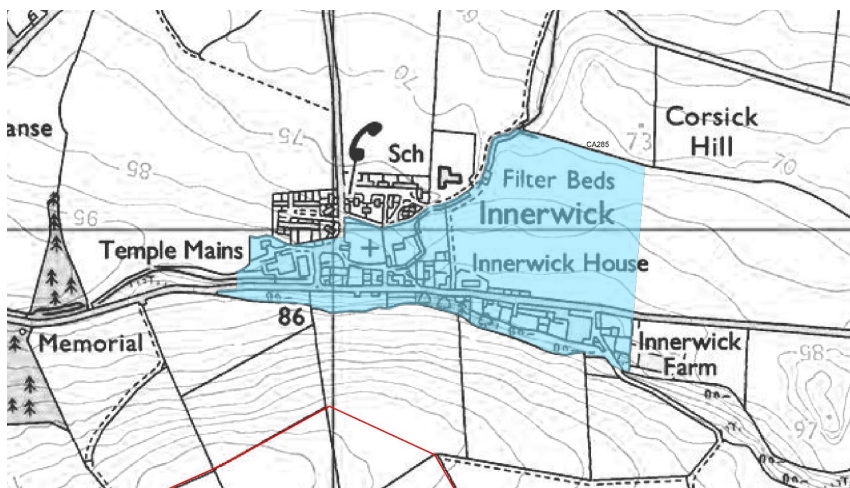
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<sup>17</sup> Historic Environment Scotland, 2016, *Managing Change in the Historic Environment: Setting*, p.8.

- Scheduled enclosures and ring-ditch 600m NE of Thurston, c.950m north of the site (ref. SM5870);
- The Category A Listed Thurston Home Farm, c.985m north-west of the site (ref. LB7711); and,
- Other assets in the wider vicinity of the site.

#### Innerwick Conservation Area

- 7.6. The Innerwick Conservation Area lies c.175m north of the proposed development site and includes 11 Listed buildings (ref. CA285). It was designated in May 1979, with a Character Statement having been prepared by East Lothian Council as part of its Supplementary Planning Guidance in 2018.



#### *Plate 11: Innerwick Conservation Area*

- 7.7. The Conservation Area covers c.18.43ha, and according to the Character Statement, it “encompasses the older part of the village and parts of the surrounding farmland and woodlands that contribute to its setting”.<sup>18</sup>
- 7.8. The Conservation Area is almost entirely bound by agricultural land, except for an area of modern residential development to its north-west, which forms part of the village, but lies beyond the designated boundaries of the Conservation Area.
- 7.9. Views from the edge of the Conservation Area extend across the surrounding agricultural land or along Barns Ness Terrace Road, which bisects the asset. Long distance views are possible across the surrounding landscape to the north and east, with longer distance views to the west and south largely restricted due to local topography and/or vegetation.
- 7.10. The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 states that conservation areas “are areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance”.<sup>19</sup>
- 7.11. The heritage significance of the Innerwick Conservation Area is principally embodied in the physical fabric of the buildings within, which have historic and architectural interest, along with the unique layout and form of the settlement. Collectively, these form the most important

<sup>18</sup> East Lothian Council, 2018, *local development plan supplementary planning guidance: cultural heritage and the built environment*, p.26

<sup>19</sup> UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, 61(1)(a)

elements of the Conservation Area's character and appearance. The setting of the asset also contributes to its character and appearance, although the contribution made by the setting is far less than is derived from its form.

- 7.12. As noted above, the boundaries of the asset include areas of the surrounding landscape that are considered to contribute to its setting (*sic.*). The inclusion of these areas of land makes it clear that they form the key elements of the asset's setting, which allow it to be understood, appreciated, and experienced. The Character Statement also identifies that *"the north-facing slope of a hill whose steep slope to the south offers a backdrop to the village marked by the stone boundary walls at the top and bottom of the slope"*<sup>20</sup>, and that this *"landscape setting is important to the Conservation Area"*.<sup>21</sup> This land is also therefore considered to make contribute to the asset's significance.
- 7.13. At most, the other immediately surrounding agricultural land beyond the asset's boundaries is considered to make a minor contribution to the asset's significance.
- 7.14. Although the site forms part of the wider agricultural surrounds of the Conservation Area, its exclusion from the asset's boundaries confirms that it is not part of the surrounding farmland which is considered to contribute to its significance. It also lies beyond the north-facing slope referenced in the Character Statement.



Plate 12: Photograph taken from northern approach road to Innerwick, facing south, towards settlement and proposed development site beyond (not visible)

- 7.15. No intervisibility was identified between the Conservation Area (and Listed buildings within) and the site during the site visit due to local topography, and this is supported by the ZTV which shows no anticipated intervisibility between the asset and the proposed development. Although the site itself is not visible (Plate 12), the ZTV suggests that the upper extent of the proposed development will be at least partially visible when approaching the Conservation Area from the north. However, it is anticipated that any such views will be

<sup>20</sup> East Lothian Council, 2018, *local development plan supplementary planning guidance: cultural heritage and the built environment*, p.25

<sup>21</sup> *Ibid.*



distant, and glimpsed, with a clear buffer existing between this and the Conservation Area, comprising the north-facing slope beyond the asset. These long-distance views also include existing elements of large-scale, modern built form, such as the large telephone mast on Blackcastle Hill, and large pylons to the north of the proposed development site. Any such views are also anticipated to be largely screened in the longer term, by proposed planting and bunding along the developments northern edge.

- 7.16. The proposed development is anticipated to result in a minor change to the wider surroundings of the Conservation Area, however key elements of the asset's setting will remain unaffected. The minor change is not anticipated to affect our understanding, appreciation or experience of the asset, and therefore a neutral impact is anticipated.

#### Enclosure 200m NE of Braidwood

- 7.17. The enclosure 200m north-east of Braidwood is a Scheduled Monument which comprises a probable enclosed settlement site, identified via cropmarks. There is no trace of the feature at ground level. The heritage asset lies c.350m east of the proposed development site (ref. SM5848). The description of the Scheduled Monument from the Historic Environment Scotland portal states:

#### ***"Description***

***The monument comprises the remains of a small enclosed settlement of prehistoric date represented by cropmarks visible on oblique aerial photographs. It is likely to be of later prehistoric date, and is probably***

***characterised by a single, substantial domestic building.***

***The monument lies at around 120m OD on a relatively level area on a hillside sloping gently to the Braidwood Burn some 150m to the S. The enclosure is defined by a single annular ditch some 4m in width and has an overall diameter of some 40m. A well-defined entrance lies on the E part of the circuit. The interior of the enclosure is dominated by a dense dark cropmark which appears to represent the remains of internal deposits.***

***These deposits, which may relate to the remains of an internal house, are sited just off-centre to the N of the interior. The area to be scheduled encompasses the visible features and an area around them in which traces of associated deposits may be expected to survive. It is circular with a diameter of 90m as marked in red on the accompanying map. For the purpose of maintenance, all existing drains are excluded from the scheduling.***

#### ***Statement of National Importance***

***The monument is of national importance because of its potential to add to our understanding of later prehistoric settlement organisation and economy. The survival of internal deposits suggest that the site will contain detailed information on the nature and construction of internal buildings as well as material relating to the organisation of activities within the settlement and to site economy."***





*Plate 13: 2006 oblique aerial photograph, showing cropmarks of probable enclosed settlement (RCAHMS aerial photography)*

- 7.18. The Scheduled Monument lies within a modern agricultural landscape, towards the east of an arable field, on ground that slopes gradually downwards, from east to west. Agricultural land extends to the west, north, and east of the monument, with a small band of agricultural land to the south, beyond which lies a wooded gorge and watercourse (Thurston Mains/Braidwood Burn).

- 7.19. Views from the monument extend across agricultural land to the north and west, although longer distance views in these directions are limited due to the local topography. Partial, distant views of the eastern extent of the proposed development site possible are possible to the west of the monument, however these include modern features including large electricity pylons (Plate 14). Reciprocal, distant views of the Scheduled area are possible from the eastern extent of the proposed development site. Views southwards from the monument fall upon the wooded river valley and extend to the hillside beyond. Longer distance views are possible facing eastward from the Scheduled monument, extending along the valley to the coastline and sea. These views include modern elements of built form, including large electricity pylons (Plate 15).



*Plate 14: Photograph taken from Scheduled Monument, westwards, towards proposed development site (general location marked by blue arrow).*

interest, with its potential to contribute to our understanding of later prehistoric settlement activity. Setting is only considered to make a minor contribution to the asset's significance.

- 7.21. Key elements of the monument's setting are considered to be the immediately adjacent agricultural land, which has potential to hold associated archaeological remains. This includes the further possible enclosure identified by the geophysical survey to the north-west, and beyond the proposed development site (ASWYAS 2023; Appendix 7). The wider surrounds of the monument are considered to contribute little, however the long-distance views afforded to the east, and extending to the sea and coastline are considered to make a minor contribution to the asset's significance, due to well-defined entrance facing in this direction. The proposed development site is not considered to contribute to the asset's significance.

- 7.20. The significance of the heritage asset is almost entirely derived from its physical fabric and archaeological





*Plate 15: Photograph taken from site of Scheduled Monument, facing eastwards, towards sea and coastline*

- 7.22. The proposed development is anticipated to result in a minor change to the wider settings of the Scheduled Monument with the addition of some distant modern

built form to its west. However, the site is not considered to contribute to the significance of the asset, which is largely derived from its physical fabric, and no key views will be affected. It is therefore considered that development, while resulting in a minor change to the asset's settings, would not dominate the monument, nor detract from our ability to understand or appreciate it, and would not affect the integrity of the heritage asset's settings.

#### Scheduled Monuments on Blackcastle Hill

- 7.23. Two Scheduled Monuments on Blackcastle Hill to the south and south-west of the site were considered for further assessment due to their prominent locations overlooking the site. These comprise:
- Blackcastle Hill, homestead 370m ENE of Post Office Mast, c.965m south of the site (ref. SM3916); and,
  - Blackcastle Hill, homestead 1300m SSE of Thurston Mains, c.1.5km south-west of the site (ref. SM3933).
- 7.24. Both monuments are probable prehistoric settlement sites. The former appears to have been an enclosed homestead, comprising an oval area enclosed by an earthen wall visible on historic aerial photographs. The earthworks have been largely destroyed by deep ploughing during the mid-20<sup>th</sup> century, and are only very faintly visible at ground level (Plate 16). The latter comprises a probable late Iron Age enclosed homestead, containing traces of two stone-founded round houses, along with the arc of another ditch of unknown purpose. Earthworks associated with the monument are still legible at ground level but have suffered some degradation due to modern agriculture (Plate 17).



*Plate 16: Photograph facing eastwards towards largely ploughed out homestead SM3916*



*Plate 17: Photograph facing north-eastwards towards homestead SM3933*

- 7.25. The monuments lie towards the eastern and western ends of Blackcastle Hill, respectively. They are both surrounded by agricultural land, with their prominent locations affording long distance views, particularly to the north. In both cases, long distance views fall across modern, predominantly agricultural landscapes, which include large elements of modern built form, such as settlements, a power station, cement works, wind turbines, and pylons. From SM3916, views northwards include the majority of the proposed development site. The site is obscured from much of SM3933, although parts of the site can be observed from its northern extent (Plates 18 and 19).





*Plate 18: Photograph taken from SM3916, facing northwards*



*Plate 19: Photograph taken from SM3933, facing north-eastwards*

- 7.26. The significance of both heritage assets is almost largely derived from their physical fabric and archaeological interest, with their potential to contribute to our understanding of later prehistoric settlement activity. Setting is only considered to make a minor contribution to the assets' significance.
- 7.27. In both cases, the immediately surrounding land is considered to form the most important element of the assets' setting, due to the potential for associated archaeological remains. The prominent location, and long range views that it affords the monuments is also considered to make a contribution to the assets

significance, as it was likely why these locations were selected for settlement.

- 7.28. The proposed development is anticipated to result in the addition of some visible, distant, modern built form within the wider surrounds of these assets. However, this will not interrupt any key relationships or views to/from the assets, and will be seen in the context of a modern landscape, and alongside other elements of largescale, modern built form in the wider surrounds. The proposals are not therefore anticipated to affect our ability to understand, appreciate, or experience the monuments. A neutral effect to their significance is therefore anticipated.



## 8. Conclusions

### Archaeology

- 8.1. No earlier prehistoric archaeology is recorded in the vicinity of the site, which is considered to have low potential for archaeological remains from these periods.
- 8.2. A geophysical survey of land including the site recorded anomalies indicative of likely archaeological remains in the north of the site, in a location where possible ring ditches had been identified via cropmarks. Some uncertain anomalies were also recorded across the wider site, and a relatively large amount of possible later prehistoric archaeology is identified within the vicinity. There is considered to be very high potential for earlier prehistoric archaeological remains, within the north of the site. However, it is anticipated that any such remains would be discrete and localised.
- 8.3. No Roman archaeology is identified in the vicinity and the site is considered to have low potential for archaeological remains from this period.
- 8.4. The site is likely to have formed part of the agricultural hinterland to nearby settlements from at least the later medieval period and is considered to have low potential for significant medieval archaeology.
- 8.5. The site is likely to have continued in predominantly agricultural use through the modern period. The site is therefore considered to have low potential for significant modern archaeological remains.

### Heritage Assets

- 8.6. No designated heritage assets lie within the site, although several are recorded in the wider vicinity. The proposed development is anticipated to result in a change to the wider surroundings of several of these assets. However, the changes are not anticipated to affect our understanding, appreciation, or experience of the assets a neutral impact is anticipated.
- 8.7. The proposals are not anticipated to impact any historic assets identified in the vicinity through changes to setting.

## 9. Sources

Legislation
UK Public General Acts, Ancient Monuments and Archaeological Areas Act 1979.
UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.
UK Public General Acts, Town and Country Planning (Scotland) Act 1997.
Scottish Statutory Instruments, The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013.

Policy and Guidance
Chartered Institute for Archaeologists (CIfA), <i>Standard and Guidance for Historic Environment Desk-Based Assessment</i> (revised edition, October 2020).
Scottish Government, <i>National Planning Framework 4 (NPF4)</i> (Edinburgh, February 2023).
Historic Environment Scotland (HES), <i>The Historic Environment Policy for Scotland (HEPS)</i> (April 2019).
Historic Environment Scotland, <i>Managing Change in the Historic Environment: Setting</i> (updated February 2020).
Historic Environment Scotland, <i>Interim Guidance on the Designation of Conservation Areas and Conservation Area Consent</i> (April 2019).

Historic Environment Scotland, Managing Change in the Historic Environment: Historic Battlefields (updated February 2020).
Historic Environment Scotland, Managing Change in the Historic Environment: Asset Management (updated February 2020).

Cartographic Sources	
1854	1:10560 OS map
1894	1:2500 OS map
1907	1:2500 OS map
1957	1:10000 OS map
1969	1:2500 OS map
1987	1:10000 OS map

# Appendix 1: Gazetteer

## Heritage Data

### HER Event Data

Ev UID	Name	Record Type
EEL1285	Neart na Gaoithe onshore transmission works, amendments to onshore works	EVT
EEL40	Desk-based assessment and field survey of the Crystal Rig Windfarm, Northern Access Route	EVS
EEL136	Watching Brief at Mansewood Lodge, Innerwick	EVT
EEL137	Watching Brief at a site north of Tyme Cottage, Innerwick	EVT
EEL139	Building Recording at Thurston Home Farm	EVS
EEL141	Evaluation at Temple Mains Farm and an area north of the churchyard, Innerwick	EVT
EEL142	Historic Building Recording at Temple Mains Farm, Innerwick	EVS
EEL706	Evaluation at Thurston Manor Holiday Park, Innerwick	EVT
EEL1008	Geophysical survey for Neart na Gaoithe onshore works, Thorntonloch to Crystal Rig II Wind Farm	EVS
EEL1184	Evaluation of the Neart na Gaoithe onshore cable route	EVT
EEL1285	Neart na Gaoithe onshore transmission works, amendments to onshore works	EVT

## HER Monument Data

Mon UID	Pref Ref	Name	Mon Type	Period
MEL1847	MEL1847	THORNTON	CIST	Pre
MEL11386	MEL11386	THURSTON MAINS	CURSUS?; ENCLOSURE	Pre?
MEL1901	MEL1901	CORSIKILL PARK / INNERWICK VILLAGE	BATTLEFIELD	Med
MEL1855	MEL1855	INNERWICK	RIDGE AND FURROW; LINEAR FEATURE; TRACKWAY; FIELD BOUNDARY	Und and Med
MEL10375	MEL10375	INNERWICK, MAIN STREET, STABLES	STABLE	PM-Mod
MEL1876	MEL1876	TEMPLE MAINS, INNERWICK	FARMSTEAD	PM-Mod
MEL1879	MEL1879	INNERWICK FARM	FARMHOUSE	PM-Mod
MEL1880	MEL1880	THURSTON HOUSE , EAST LODGE / THURSTON HOUSE, EAST LODGE, RETAINING WALL AND GATEPIERS	GATE PIER; GATE LODGE	PM-Mod
MEL1881	MEL1881	THURSTON MAINS FARMHOUSE	FARMHOUSE	PM-Mod
MEL1885	MEL1885	TEMPLE MAINS, QUEEN VICTORIA JUBILEE FOUNTAIN	FOUNTAIN	PM-Mod

Mon UID	Pref Ref	Name	Mon Type	Period
MEL1900	MEL1900	WITCHES KNOWE / INNERWICK FARM HOUSE, SINGLE KNOWES FIELD	EXECUTION SITE	PM-Mod
MEL1902	MEL1902	INNERWICK PARISH CHURCH	CHURCH	PM-Mod
MEL1903	MEL1903	MANSEWOOD, INNERWICK / FORMER PARISH MANSE, STABLES, BOUNDARY WALLS AND GATEPIERS	GATE PIER; STABLE; WALL; MANSE	PM-Mod
MEL2169	MEL2169	BRAIDWOOD / BROADWOOD	HOUSE	PM-Mod
MEL2771	MEL2771	THURSTON HOME FARM	FARMSTEAD	PM-Mod
MEL3622	MEL3622	INNERWICK, SAWMILL / THURSTON	SAW MILL	PM-Mod
MEL4068	MEL4068	INNERWICK PARISH CHURCH, CHURCHYARD	CHURCHYARD	PM-Mod
MEL4070	MEL4070	INNERWICK, SCHOOL AND SCHOOLHOUSE	SCHOOL; SCHOOL HOUSE	PM-Mod
MEL4074	MEL4074	INNERWICK, TEMPLE MAINS HOUSE / TEMPLE MAINS COTTAGES	HOUSE	PM-Mod
MEL4076	MEL4076	INNERWICK, KNOCK COTTAGE	HOUSE	PM-Mod
MEL4077	MEL4077	INNERWICK, TYME COTTAGE / TOLLHOUSE, POST OFFICE	TOLL HOUSE	PM-Mod
MEL4078	MEL4078	INNERWICK, BIRRELL'S HOUSE	HOUSE	PM-Mod



Mon UID	Pref Ref	Name	Mon Type	Period
MEL4314	MEL4314	THURSTON MAINS, STEADING COTTAGE	FARM LABOURERS COTTAGE	PM-Mod
MEL4319	MEL4319	INNERWICK, JUBILEE HORSE TROUGH / THURSTON HOUSE	TROUGH	PM-Mod
MEL6691	MEL6691	INNERWICK, MANSEWOOD, THE STABLES	STABLE	PM-Mod
MEL7399	MEL7399	INNERWICK, TEMPLE MAINS FARM, ENGINE HOUSE, MILL AND CHIMNEY STALK	CHIMNEY; ENGINE HOUSE; MILL	PM-Mod
MEL7400	MEL7400	INNERWICK, TEMPLE MAINS FARM, CARTSHED AND GRANARY	CART SHED; GRANARY	PM-Mod
MEL7401	MEL7401	INNERWICK, TEMPLE MAINS FARM, EAST RANGE	FARMSTEAD	PM-Mod
MEL7402	MEL7402	THURSTON MAINS, WALLED GARDEN	WALLED GARDEN	PM-Mod
MEL7403	MEL7403	THURSTON MAINS, FARMSTEADING	FARMSTEAD; PIGGERY	PM-Mod
MEL9282	MEL9282	OLD KENNELS, MID LODGE, THURSTON	KENNELS	PM-Mod
MEL9792	MEL9792	INNERWICK FARM	HURRICANE; AIRCRAFT CRASH SITE	PM-Mod
MEL11373	MEL11373	INNERWICK, BARNS NESS TERRACE, WAR MEMORIAL	WAR MEMORIAL	PM-Mod

Mon UID	Pref Ref	Name	Mon Type	Period
MEL12189	MEL12189	INNERWICK FARM	FARMSTEAD	PM-Mod
MEL4805	MEL4805	INNERWICK HOUSE WITH GATEPIERS AND PARAPET	HOUSE	PM-Mod
MEL10904	MEL10904	THURSTON MANOR, WALLED GARDEN	WALLED GARDEN	PM-Mod
MEL11410	MEL11410	THURSTON MAINS BURN	PIT?	Und
MEL13035	MEL13035	OGLE LODGE, INNERWICK	PIT	Und
MEL1846	MEL1846	INNERWICK PARISH	CAIRN	Und
MEL1848	MEL1848	INNERWICK	CIST; LONG CIST CEMETERY?	Und
MEL1859	MEL1859	INNERWICK FARM	PIT ALIGNMENT	Und
MEL2022	MEL2022	INNERWICK, GENERAL	TOWN; VILLAGE	Und
MEL2081	MEL2081	INNERWICK	ENCLOSURE?	Und
MEL8757	MEL8757	THURSTON, INNERWICK	BANK (EARTHWORK)	Und
MEL8794	MEL8794	MANSEWOOD LODGE, INNERWICK	BOUNDARY DITCH	Und
MEL10316	MEL10316	THORNTON LAW / CASTLEDENE	TRACKWAY	Und

Mon UID	Pref Ref	Name	Mon Type	Period
MEL1851	MEL1851	INNERWICK / BRAIDWOOD	ENCLOSURE; ENCLOSED SETTLEMENT	Und
MEL1855	MEL1855	INNERWICK	RIDGE AND FURROW; LINEAR FEATURE; TRACKWAY; FIELD BOUNDARY	Und and Med
MEL1857	MEL1857	THURSTON	ENCLOSURE; LINEAR FEATURE; PIT	Und
MEL1865	MEL1865	TEMPLE MAINS	PLANTATION BANK	Und
MEL1867	MEL1867	THURSTON MAINS	PIT ALIGNMENT	Und
MEL1874	MEL1874	INNERWICK	SITE; RING DITCH?	Und
MEL1888	MEL1888	CORSICK HILL	ENCLOSED SETTLEMENT?; GEOLOGICAL MARKS	Und
MEL1899	MEL1899	CORSWICK HILL	ENCLOSURE; FIELD BOUNDARY	Und
MEL1899	MEL1899	CORSWICK HILL	ENCLOSURE; FIELD BOUNDARY	Und
MEL1905	MEL1905	BLACKCASTLE HILL	ENCLOSED SETTLEMENT	Und

Mon UID	Pref Ref	Name	Mon Type	Period
MEL2180	MEL2180	THURSTON / INNERWICK	GEOLOGICAL MARKS?	Und
MEL2499	MEL2499	THORNTON LAW	ENCLOSURE	Und
MEL9628	MEL9628	THURSTON MANOR	SETTLEMENT?; ENCLOSURE	Und
MEL11234	MEL11234	INNERWICK	DITCH?; PIT?	Und
MEL11235	MEL11235	OGLE LODGE, INNERWICK	DITCH?; PIT?	Und
MEL11236	MEL11236	OGLE LODGE, INNERWICK	PIT	Und

## Historic Environment Scotland Data (within 1km of site, and other identified assets)

### Listed Buildings

Des Ref	Des Title	Category	Eastings	Northings
LB7704	Innerwick House With Gatepiers And Parapet	C	372212	673908
LB7705	Birrell's House, Innerwick	C	372061	673905
LB7710	East Lodge, Thurston House	C	371189	673938
LB7711	Thurston Home Farm	A	371447	674487
LB7712	Jubilee Horse Trough, Innerwick	B	371440	673827
LB7713	Walled Garden, Thurston Mains	C	371022	673048
LB7713	Thurston Mains	C	371002	673081
LB7714	Steading Cottage, Thurston Mains	B	370988	673005
LB7716	Knock Cottage, Innerwick	C	372160	673907
LB7717	The Stables, Mansewood, Innerwick	B	372101	673950
LB7717	Mansewood, Innerwick	B	372121	673971
LB7718	Innerwick Parish Church	C	372069	673967

Des Ref	Des Title	Category	Eastings	Northings
LB7719	Temple Mains House, Innerwick	C	372019	673976
LB7720	Cartshed And Granary, Temple Mains Farm, Innerwick	B	371915	673925
LB7720	East Range, Temple Mains Farm, Innerwick	B	371924	673946
LB7720	Mill And Chimney Stalk, Engine House, Temple Mains Farm, Innerwick	B	371899	673926
LB7721	Tyme Cottage, Innerwick	B	371987	673906

#### Scheduled Monuments

Des Ref	Des Title	Area (sqm)	Eastings	Northings
SM3916	Blackcastle Hill,homestead 370m ENE of Post Office Mast	2214.284876	372071	672309
SM3933	Blackcastle Hill,homestead 1300m SSE of Thurston Mains	5805.515183	371272	671752
SM5848	Braidwood,enclosure 200m NE of	6481.786099	372557	673398
SM5849	Castledene,enclosure SW of	6545.47044	373279	673448
SM5870	Thurston,enclosures and ring-ditch 600m NE of	16970.29291	371978	674701



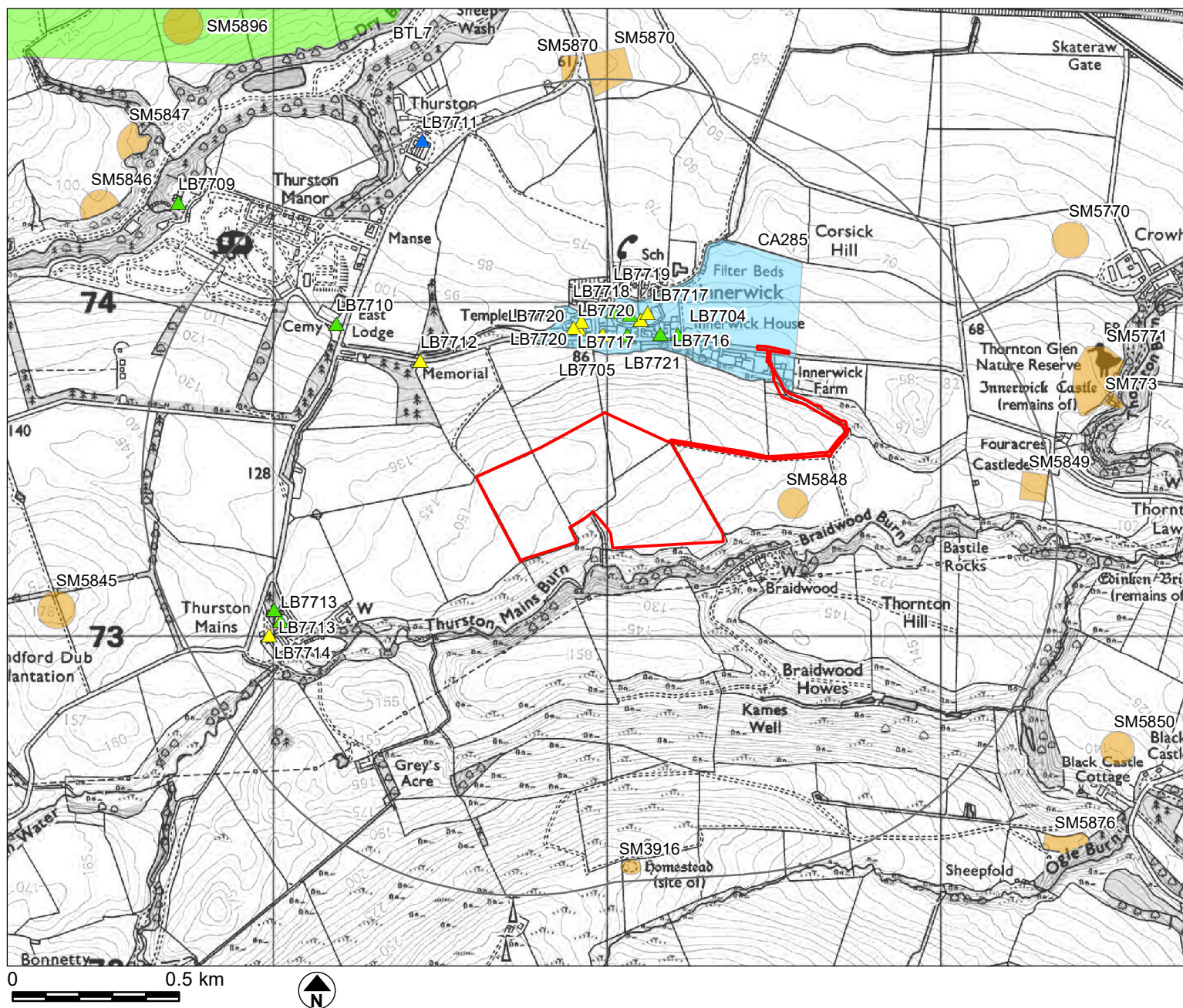


Conservation Areas









Des Ref	Des Title	Area (sqm)	Eastings	Northings
CA285	INNERWICK	184265.528	372293	673959



## Appendix 2: Figures



## KEY

-  Site
-  1km Buffer
-  Category A Listed Building
-  Category B Listed Building
-  Category C Listed Building
-  Scheduled Monument
-  Battlefield
-  Conservation Area

Revisions:  
First Issue- 16/03/2023 DS

### Figure 1: Designated Heritage Assets

## Braxbess Storage

Client: Braxbess Ltd

DRWG No:P23-0094\_1 Sheet No: - REV:-

Drawn by: DS

Approved by: -

Date: 28/11/2023

## Pegasus

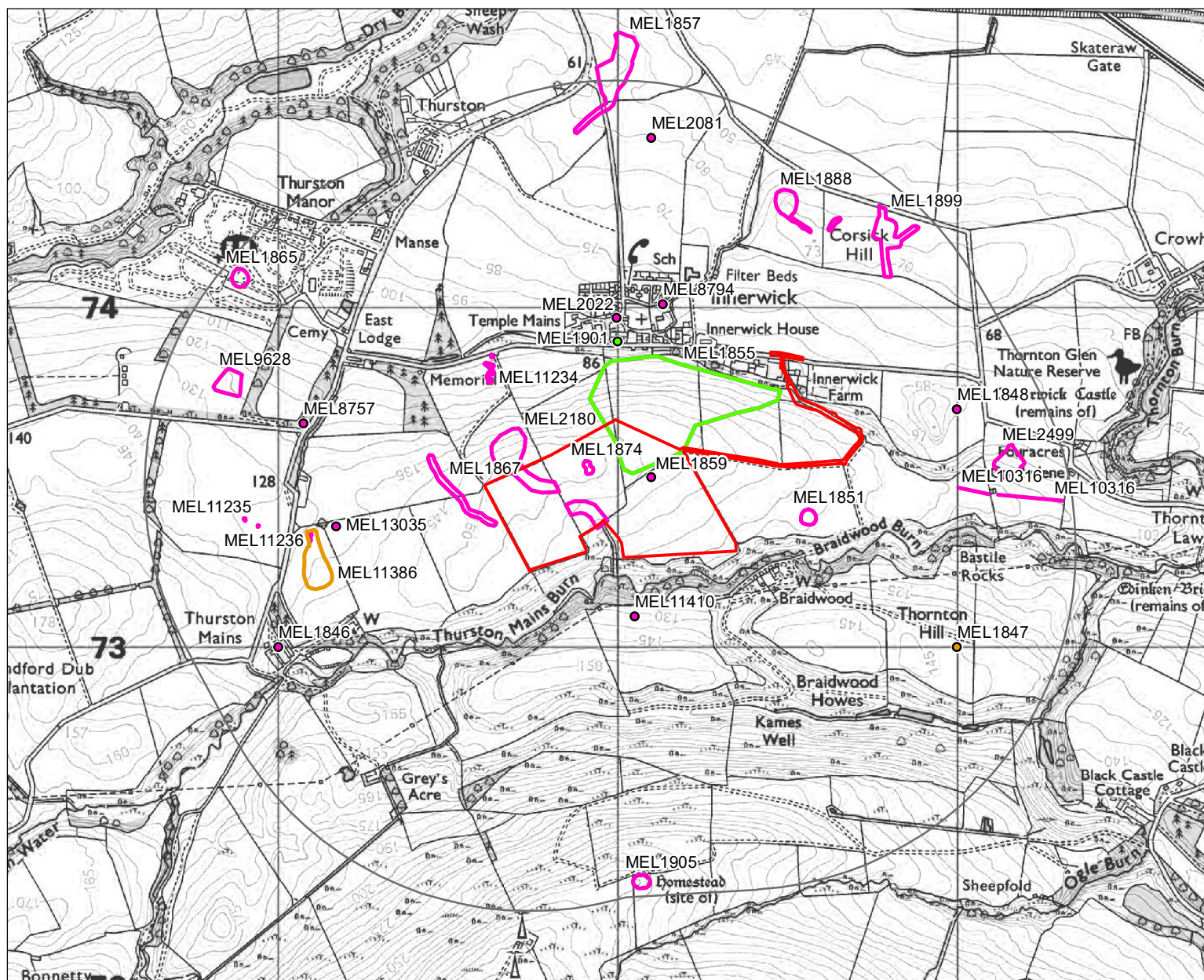
Scale: 1:17,500 @ A4

Group









## KEY

- Site
- 1km Buffer
- HER Monument Point - Prehistoric
- HER Monument Polygon - Prehistoric
- HER Monument Point - Medieval
- HER Monument Polygon - Medieval
- HER Monument Point - Undated
- HER Monument Line - Undated
- HER Monument Polygon - Undated

Revisions:  
First Issue- 16/03/2023 DS

## Figure 3: HER Monuments - Prehistoric to Medieval

### Braxbess Storage

Client: Braxbess Ltd

DRWG No: **P23-0094\_3** Sheet No: - REV: -

Drawn by: DS

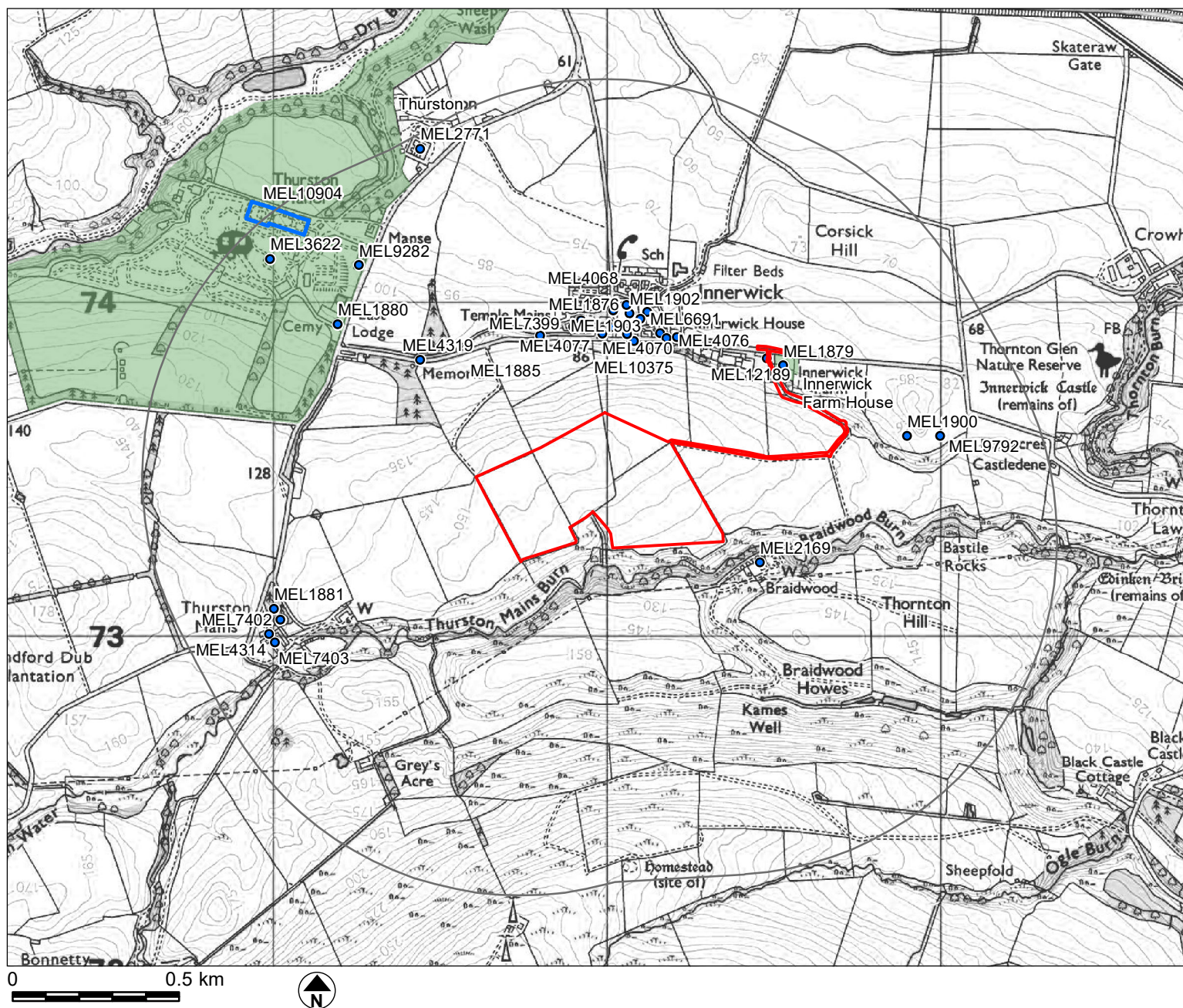
Approved by: -

Date: 28/11/2023






Scale: 1:17,500 @ A4

**Pegasus**  
Group





## KEY

-  Site
-  1km Buffer
-  HER Monument Point - Modern
-  HER Monument Polygon - Modern
-  Local Designed Landscape

Revisions:  
First Issue- 16/03/2023 DS

### Figure 4: HER Monuments - Modern

## Braxbess Storage

Client: Braxbess Ltd

DRWG No:P23-0094\_4 Sheet No: - REV:-

Drawn by: DS

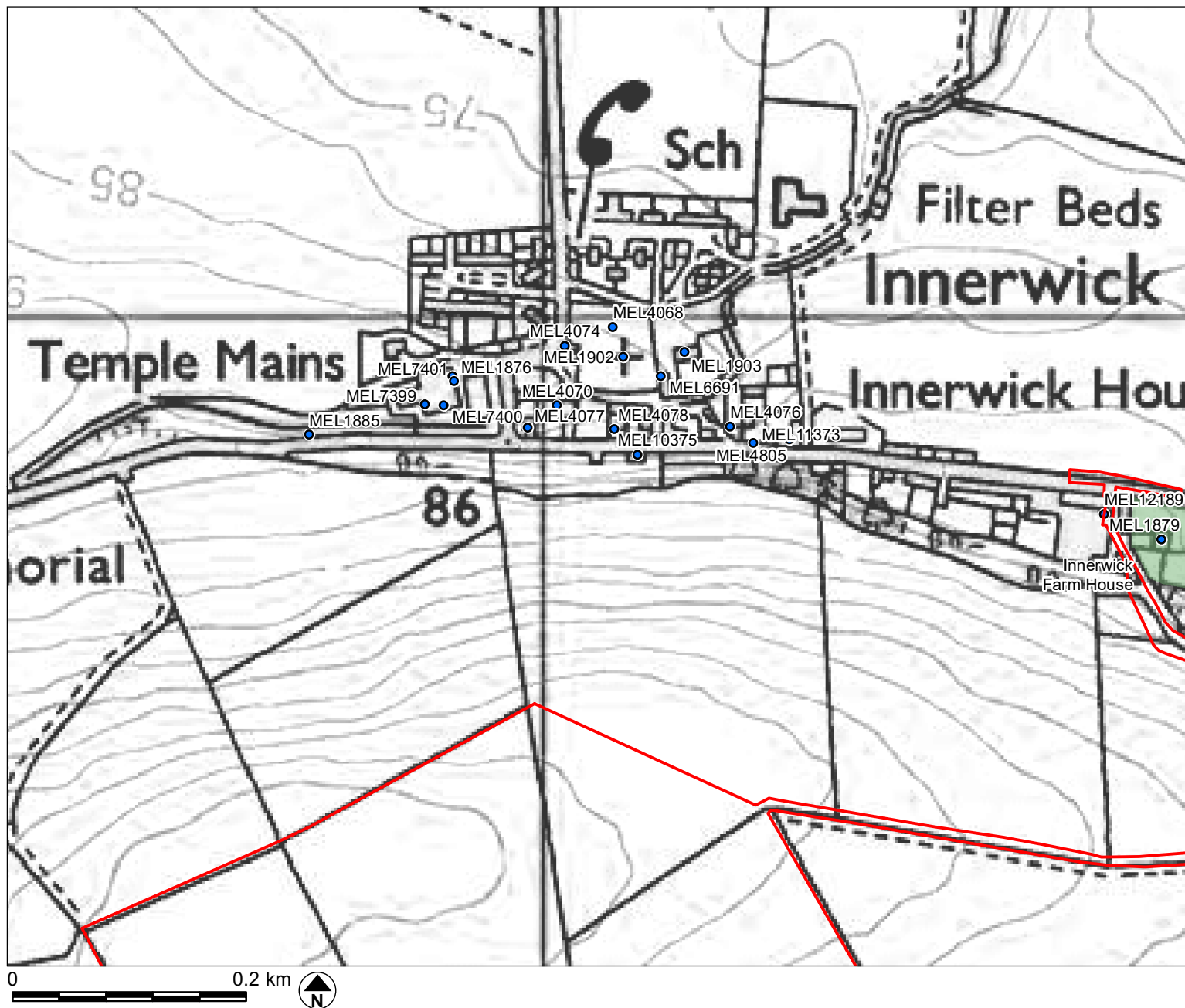
Approved by: -

Date: 28/11/2023

## Pegasus

Scale: 1:17,500 @ A4

Group



## KEY

- Site
- 1km Buffer
- HER Monument Point - Modern
- HER Monument Polygon - Modern
- Local Designed Landscape

Revisions:  
First Issue- 16/03/2023 DS

## Figure 5: HER Monuments - Modern in Innerwick

### Braxbess Storage

Client: Braxbess Ltd

DRWG No: **P23-0094\_5** Sheet No: - REV: -

Drawn by: DS

Approved by: -

Date: 28/11/2023

Scale: 1:5,000 @ A4

**Pegasus**  
Group



## Appendix 3: Assessment Methodology

### Assessment of significance

In NPF4 historic environment assets are defined as:

***“An asset (or ‘historic asset’ or ‘heritage asset’) is a physical element of the historic environment – a building, monument, site, place, area or landscape identified as having cultural significance.”<sup>22</sup>***

Cultural significance is defined as:

***“Cultural significance means aesthetic, historic, scientific or social value for past, present or future generations. Cultural significance can be embodied in a place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.”<sup>23</sup>***

The Historic Environment Policy for Scotland (HEPS), 2019, advises that decisions affecting the historic environment should be based on careful consideration of cultural significance, and states that:

***“To understand a place’s cultural significance, we have to understand the place itself. This involves thinking about its physical and material elements – how much of it has survived or how much of it has changed through time, as well as its wider context and setting. Elements of places which may not have a physical presence but which contribute to cultural significance need to be recognised. These intangible qualities***

***include the knowledge and associations people have with a particular place; they might involve elements such as language and poetry, stories and song, and skills and traditions.”<sup>24</sup>***

### Setting and significance

Setting is defined in NPF4 as:

***“Setting is more than the immediate surroundings of a site or building, and may be related to the function or use of a place, or how it was intended to fit into the landscape or townscape, the view from it or how it is seen from areas round about, or areas that are important to the protection of the place, site or building.***

***‘Setting’ is the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced.”<sup>25</sup>***

### Assessing change through alteration to setting

How setting might contribute to these values has been assessed within this Report with reference to Historic Environment Scotland’s *Managing Change in the Historic Environment: Setting*, particularly

<sup>22</sup> Scottish Government, 2023, *NPF4*, pp. 150.

<sup>23</sup> Scottish Government, 2023, *NPF4*, pp. 147.

<sup>24</sup> Historic Environment Scotland, 2019, *HEPS*, pp. 13.

<sup>25</sup> Scottish Government, 2023, *NPF4*, pp. 156.

the guidance and questions to help define a setting given on pages 9–10.<sup>26</sup>

In the guidance, a stepped approach is recommended, of which Stage 1 is to identify which heritage assets and their settings are affected. Stage 2 is define and analyse the setting, by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced. The guidance includes a (non-exhaustive) series of questions to help define a setting.

Stage 3 is to evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated.

### Assessment of impact

Assessment of any impact to historic asset will be articulated in terms of the policy and law that the proposed development will be assessed against, such as whether a proposed development preserves or enhances the character and appearance of a Conservation Area and its setting, and articulating the likely level of any impact in order to inform decision making, as per HEPS and NPF4 guidance.

HEPS identifies that the following is required to understand the likely impact of proposed actions or decisions:

- Assess and predict the likely level of the impact of proposals on the historic environment, context, asset or place; and,

- Make the level of impact clear so that it can inform decision-making.<sup>27</sup>

HEPS defines impact as follows:

***“The effect of changes on the historic environment is often referred to as the impact. This can be neutral, positive or negative. There can be impact on the physical elements of a place or on its setting, if its surroundings are changed so that our understanding, appreciation or experience is altered. Changes in the historic environment can also affect people’s associations with a place or its setting, and their responses to it.”<sup>28</sup>***

---

<sup>26</sup> Historic Environment Scotland, 2016, *Managing Change in the Historic Environment: Setting*, p.9–10

<sup>27</sup> Historic Environment Scotland, 2019, HEPS, pp. 15

<sup>28</sup> Historic Environment Scotland, 2019, HEPS, pp. 5

## Appendix 4: Legislative Framework

Legislation relating to the built historic environment is primarily set out within the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997*, which provides statutory protection for Listed Buildings and Conservation Areas. It does not provide statutory protection for non-designated or Locally Listed heritage assets. Planning authorities are required to have special regard for the desirability of preserving Listed Buildings and their settings and any features of special architectural or historic importance they possess.<sup>29</sup> Section 14(2) of the Act states that:

***“In considering whether to grant listed building consent for any works, the planning authority or the Secretary of State, as the case may be, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.”<sup>30</sup>***

With regards to development within Conservation Areas, Section 64(1) of the *Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997* states:

***“In the exercise, with respect to any buildings or other land in a conservation area, of any powers under any***

***of the provisions in subsection (2), special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.”<sup>31</sup>***

Unlike Section 14(2), Section 72(1) of the Act does not make reference to the setting of a Conservation Area. This makes it plain that it is the character and appearance of the designated Conservation Area that is the focus of special attention.

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<sup>29</sup> UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.

<sup>30</sup> UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, Section 14(2).

<sup>31</sup> UK Public General Acts, Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. Section 64(1).

## Appendix 5: National Policy Guidance

### The National Planning Framework for Scotland (NPF4)

The National Planning Framework for Scotland (NPF4), adopted 13<sup>th</sup> February 2023, sets out the Scottish Government's spatial principles, regional priorities, national developments, and national planning policy; it replaced NPF3 and the Scottish Planning Policy (SPP). Policy 7 of the Framework relates to heritage:

#### **Policy 7**

***a) Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place. The assessment should identify the likely visual or physical impact of any proposals for change, including cumulative effects and provide a sound basis for managing the impacts of change.***

***Proposals should also be informed by national policy and guidance on managing change in the historic environment, and information held within Historic Environment Records.***

***b) Development proposals for the demolition of listed buildings will not be supported unless it has been demonstrated that there are exceptional circumstances and that all reasonable efforts have been made to retain, reuse and/or adapt the listed building. Considerations include whether the:***

***i. building is no longer of special interest;***

***ii. building is incapable of physical repair and re-use as verified through a detailed structural condition survey report;***

***iii. repair of the building is not economically viable and there has been adequate marketing for existing and/or new uses at a price reflecting its location and condition for a reasonable period to attract interest from potential restoring purchasers; or***

***iv. demolition of the building is essential to delivering significant benefits to economic growth or the wider community.***

***c) Development proposals for the reuse, alteration or extension of a listed building will only be supported where they will preserve its character, special architectural or historic interest and setting. Development proposals affecting the setting of a listed building should preserve its character, and its special architectural or historic interest.***

***d) Development proposals in or affecting conservation areas will only be supported where the character and appearance of the conservation area and its setting is preserved or enhanced. Relevant considerations include the:***

***i. architectural and historic character of the area;***

***ii. existing density, built form and layout; and***

*iii. context and siting, quality of design and suitable materials.*

*e) Development proposals in conservation areas will ensure that existing natural and built features which contribute to the character of the conservation area and its setting, including structures, boundary walls, railings, trees and hedges, are retained.*

*f) Demolition of buildings in a conservation area which make a positive contribution to its character will only be supported where it has been demonstrated that:*

*i. reasonable efforts have been made to retain, repair and reuse the building;*

*ii. the building is of little townscape value;*

*iii. the structural condition of the building prevents its retention at a reasonable cost; or*

*iv. the form or location of the building makes its reuse extremely difficult.*

*g) Where demolition within a conservation area is to be followed by redevelopment, consent to demolish will only be supported when an acceptable design, layout and materials are being used for the replacement development.*

*h) Development proposals affecting scheduled monuments will only be supported where:*

*i. direct impacts on the scheduled monument are avoided;*

*ii. significant adverse impacts on the integrity of the setting of a scheduled monument are avoided; or*

*iii. exceptional circumstances have been demonstrated to justify the impact on a scheduled monument and its setting and impacts on the monument or its setting have been minimised.*

*i) Development proposals affecting nationally important Gardens and Designed Landscapes will be supported where they protect, preserve or enhance their cultural significance, character and integrity and where proposals will not significantly impact on important views to, from and within the site, or its setting.*

*j) Development proposals affecting nationally important Historic Battlefields will only be supported where they protect and, where appropriate, enhance their cultural significance, key landscape characteristics, physical remains and special qualities.*

*k) Development proposals at the coast edge or that extend offshore will only be supported where proposals do not significantly hinder the preservation objectives of Historic Marine Protected Areas.*

*l) Development proposals affecting a World Heritage Site or its setting will only be supported where their Outstanding Universal Value is protected and preserved.*

*m) Development proposals which sensitively repair, enhance and bring historic buildings, as identified as being at risk locally or on the national Buildings at Risk Register, back into beneficial use will be supported.*

*n) Enabling development for historic environment assets or places that would otherwise be unacceptable in planning terms, will only be supported when it has been demonstrated that the enabling development proposed is:*

*i. essential to secure the future of an historic environment asset or place which is at risk of serious deterioration or loss; and*

*ii. the minimum necessary to secure the restoration, adaptation and long-term future of the historic environment asset or place.*

*The beneficial outcomes for the historic environment asset or place should be secured early in the phasing of the development, and will be ensured through the use of conditions and/or legal agreements.*

*o) Non-designated historic environment assets, places and their setting should be protected and preserved in situ wherever feasible. Where there is potential for non-designated buried archaeological remains to exist below a site, developers will provide an evaluation of the archaeological resource at an early stage so that planning authorities can assess impacts. Historic buildings may also have archaeological significance which is not understood and may require assessment.*

*Where impacts cannot be avoided they should be minimised. Where it has been demonstrated that avoidance or retention is not possible, excavation, recording, analysis, archiving, publication and activities to provide public benefit may be required through the use of conditions or legal/planning obligations. When new archaeological discoveries are*

*made during the course of development works, they must be reported to the planning authority to enable agreement on appropriate inspection, recording and mitigation measures.*

## **The Historic Environment Policy for Scotland (HEPS)**

The Historic Environment Policy for Scotland (HEPS) (2019) is a policy statement directing decision-making that affects the historic environment. HEPS sits alongside national policies addressing land use matters and decisions and should be used with them. It includes the following policies:

### **HEP1**

*Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance.*

### **HEP2**

*Decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations.*

### **HEP3**

*Plans, programmes, policies and strategies, and the allocation of resources, should be approached in a way that protects and promotes the historic environment.*

*If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be*

*taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.*

#### **HEP4**

*Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate.*

*If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.*

#### **HEP5**

*Decisions affecting the historic environment should contribute to the sustainable development of communities and places.*

#### **HEP6**

*Decisions affecting the historic environment should be informed by an inclusive understanding of the potential consequences for people and communities. Decision-making processes should be collaborative, open, transparent and easy to understand.*



## Appendix 6: Relevant Development Plan Policies

Planning applications within Cockenzie are currently considered against the policy and guidance set out in the East Lothian local development plan, adopted 27<sup>th</sup> September 2018. Relevant heritage policy is reproduced below:

### ***Policy CH1: Listed Buildings***

*Internal or external alterations or extensions to listed buildings will only be permitted where they do not harm the architectural or historic character of the building. The demolition of a listed building will not be permitted unless the building is no longer of special interest, is incapable of repair or there are overriding environmental or economic reasons, and it must be satisfactorily demonstrated that every effort has been made to continue the present use or to find a suitable new use. New development that harms the setting of a listed building will not be permitted.*

### ***Policy CH2: Development Affecting Conservation Areas***

*All development proposals within or affecting a Conservation Area or its setting must be located and designed to preserve or enhance the special architectural or historic character or appearance of the Conservation Area. Proposals for new development should accord with the size, proportions, orientation, alignment, density, materials, and boundary treatment of nearby buildings and public and private spaces. Parking requirements of new*

*developments must accord with the Council's adopted parking standards unless it can be demonstrated that a reduced level of parking (which in exceptional circumstances could be no parking provision) will achieve positive townscape benefits without compromising road safety.*

*The Council will set out in supplementary planning guidance more detailed policies on the circumstances in which it would support proposals for alterations to shop fronts, external security, external wall treatment and the display or installation of advertisements in Conservation Areas.*

### ***Policy CH4: Scheduled Monuments and Archaeological Sites***

*Where a proposed development might affect any Scheduled Monument or archaeological site (of known or suspected archaeological interest), the developer must undertake and make available to the planning authority a professional archaeological assessment and, if necessary, a field evaluation.*

*Development that adversely impacts on a scheduled monument, or its setting, will not be permitted.*

*Development that would harm a site of regional or local archaeological interest, or its setting, will only be permitted in exceptional circumstances, where the Council accepts that archaeological advice that the*

*significance of the remains is not sufficient to justify their physical preservation in situ when weighed against other material considerations (including the benefits of the proposed development). In such situations, the developer must make proper provision for the excavation, recording and analysis of the archaeological remains in advance of the commencement of development, the results of which must be reported and any subsequent post-excavation work undertaken should also be reported and, if warranted, published. Appropriate conditions may be applied to any planning permission to achieve this.*

*Where it is feasible within a proposed development to accommodate, preserve or enhance a Scheduled Monument or archaeological remains, interpretation and integration of these features and where appropriate, public access, will be expected.*

#### **Policy CH5: Battlefields**

*Development within a site listed in the Inventory of Historic Battlefields will not be permitted where it would have a significant adverse affect on the key features of the battlefield, including its key landscape characteristics and special qualities, unless it can be demonstrated that the overall integrity and character of the battlefield area will not be compromised. Any new development supported in such areas must provide appropriate mitigation that conserves or enhances the key features of the battlefield, including through siting, scale, design and landscape treatment and, where relevant, contributes to the understanding of the battle and historic assets, particularly with respect to any archaeological deposits found in situ (See Policy CH4).*



## Appendix 7: Geophysical Survey Report



## **Land South of Innerwick East Lothian**

### **Geophysical Survey**

Report no. 3958  
November 2023

**Client:** Braxbess Ltd



# Land South of Innerwick East Lothian

## Geophysical Survey

### *Summary*

*A geophysical (magnetometer) survey was undertaken on approximately 50 hectares of land located to the south of Innerwick, East Lothian. Anomalies of both a definite and a possible archaeological origin have been detected including settlement features and ring ditches. Uncertain anomalies within the dataset include multiple linear responses which may be of some archaeological interest. Due to the geology within the Site many of the uncertain anomalies have been difficult to interpret, they may be of an archaeological origin but also equally likely to be geological or agricultural. Along with the high background levels of geology, further natural occurrences can be seen within the dataset which reflect lightning strikes. Modern ploughing and medieval or post-medieval ridge and furrow has also been recorded along with service pipes, disturbance associated with possible green waste manuring and magnetic disturbance associated with field boundaries and adjacent tracks.*

## Report Information

Client: Braxbess Ltd  
Report Type: Geophysical Survey  
Location: Innerwick  
County: East Lothian  
Grid Reference: NT 7231 7341  
Period(s) of activity: Prehistoric - modern  
Report Number: 3958  
Project Number: XI78  
Site Code: LSI23  
OASIS ID: archaeol11-520869  
Date of fieldwork: February - April 2023  
Date of report: November 2023  
Project Management: Emma Brunning BSc MCIfA  
Fieldwork: Jake Freeman BA  
Amy Chatterton BSc MA  
Jacob Hurst-Myszor  
Cameron Whitley BA  
Illustrations: Emma Brunning  
Photography: Amy Chatterton  
Report: Emma Brunning

Authorisation for  
distribution: \_\_\_\_\_



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## 1 Introduction

Archaeological Services ASWYAS has been commissioned by Pegasus Group on behalf of Braxbess Ltd to undertake a geophysical survey at land to the south of Innerwick, East Lothian. This was undertaken in line with current best practice (CIfA 2020; Schmidt *et al.* 2015). The survey was carried out over three separate mobilisations between 20th February and 4th April 2023 due to crops and changes in the development plan. The survey was conducted to provide additional information on the archaeological resource of the Site.

### Site location, topography and land-use

The Site is located at NT 7231 7341 (approximate centre), comprising c. 50ha over eleven areas, (some of which are now no longer in the application area) situated to the south of Innerwick (see Fig. 1).

The Site is situated to the north and south of the water course Braidwood Burn and tree cover, the survey areas consist of arable fields (see Plates 1-11). It is bounded on all sides by further arable land. The village of Innerwick lies to the north of the Site. The topography of the Site varies with higher ground at 152m (above Ordnance Datum) aOD in the northwest, which falls to approximately 99m aOD in the east and towards Braidwood Burn. The southern areas, to the south of the water course lie between 140m aOD and 144m aOD.

### Soils and geology

The underlying bedrock of the western half of the Site comprises conglomerate and sandstone of the Great Conglomerate Formation, a sedimentary bedrock formed approximately 443 to 358 million years ago in the Silurian and Devonian periods. Bedrock geology in the eastern half is of the Ballagan Formation - sandstone, siltstone and dolomitic limestone, a sedimentary bedrock formed between 358.9 and 344.5 million years ago during the Carboniferous period. The overlying superficial deposits consist of Till (Diamicton) which formed between 116 and 11 thousand years ago during the Quaternary Period (BGS 2023). Soils of the area belong to the Lauder association consisting of brown soils (SS 2023).

## 2 Archaeological Background

The following archaeological background has been taken from online resources (Canmore 2023) (HES 2023) while awaiting Pegasus Group's forthcoming heritage desk-based assessment. The locations of the sites below have been marked on Fig. 2.

Cropmarks of a settlement, which lie within the survey area, have been recorded on oblique aerial photographs (58920). This site is also a scheduled monument (SM5848). It is likely to be of later prehistoric date, and is probably characterised by a single, substantial domestic building. The monument lies at around 120m aOD on a relatively level area on a hillside sloping gently to the Braidwood Burn some 150m to the south. The enclosure is defined by a

single annular ditch some 4m in width and has an overall diameter of some 40m. A well-defined entrance lies on the eastern part of the circuit. The interior of the enclosure is dominated by a dense dark cropmark which appears to represent the remains of internal deposits. These deposits, which may relate to the remains of an internal house, are sited just off-centre to the north of the interior.

A second scheduled monument (SM5849) lies in the east of the survey area and comprises the remains of an enclosed settlement of later prehistoric date represented by cropmarks visible on oblique aerial photographs. The monument appears to belong to a class of rectilinear and square, defended domestic settlements widely believed to represent native settlements dating to the period around the time of the Roman invasion of Scotland. It comprises a sub-square enclosure defined by a ditch some 3-4m wide enclosing an area approximately 45m by 45m. The northeast quadrant of the interior is occupied by a diffuse, dark, circular cropmark which appears to represent the remains of occupation deposits associated with a substantial structure. The enclosing ditch does not seem to be continuous at this point and it appears that the wall of the structure may have formed this part of the enclosure (58921).

Cropmarks of two ring ditches have been recorded on oblique aerial photographs in the northwest of the survey area (58943). Other linear cropmarks seen in this area may be geological in origin.

To the north of the survey area a pit alignment (58928) is recorded in the HER. No other information is available.

Cropmarks of a rectilinear enclosure (130413) are recorded in the east of the survey area, to the west of SM5849. No other information is available.

Innerwick Castle, fort and ring ditch (SM5771) (58923) lies to the northeast of the survey area and comprises the remains of a multivallate fort and external ring ditch of prehistoric date represented by cropmarks visible on oblique aerial photographs. The fort is semi-circular, defined by a series of five ditches backing onto the break of slope above Thornton Burn. The outermost ditch has a diameter of approximately 180m while the innermost encloses an area approximately 80m across. The ditches measure from 5 to 8m in width with similar spaces between them. There are no visible indications of an entrance or of internal features. Some 30-40m north of the fort is a ring ditch with a diameter of approximately 10m, defined by a broad penannular ditch. Between the fort and the burn, on an outcrop on the sharply sloping banks, is Innerwick Castle, a medieval fortification destroyed in 1547. This lies adjacent to the centre of the fort suggesting that the defences of the latter were extant at the time of the castle's construction.

To the northeast of the survey area, a slightly raised piece of ground is known as Witches Knowe. A number of witches are said to have been burnt here (58969). This site is classified in the HER as a post-medieval execution site.

In the south of the survey area, a short cist was found on 18th May 1939 by Mr W Macnaughton, tenant of the Board of Agriculture's Lot 114 at Thornton when ploughing. The findspot was on the crest of a low ridge running parallel to the Thornton Burn about 18m south of the stream, but not quite at the highest point of the ridge, which rises to about a metre to the west. There was no trace of a cairn. The cist contained the bones of a child, 3 to 5 years old, accompanied by a beaker, of Clarke's N2 type, which was donated to the National Museum of Antiquities of Scotland (58916). The location of the site on Fig 2 is an approximate location according to the HER and is likely to be much closer to the stream.

### **3 Aims, Methodology and Presentation**

The aims and objectives of the programme of geophysical survey were to gather sufficient information to establish the presence/absence, character and extent, of any archaeological remains within the specific area and to inform an assessment of the archaeological potential of the site. To achieve this aim, a magnetometer survey covering all amenable parts of the Site was undertaken (see Fig. 2).

The general aims of the geophysical survey were:

- to provide information about the nature and possible interpretation of any magnetic anomalies identified;
- to therefore determine the presence/absence and extent of any buried archaeological features; and
- to prepare a report summarising the results of the survey.

#### **Magnetometer survey**

The cart-based survey was undertaken using an eight channel SenSYS MX V3 system containing eight FGM650 sensors. Readings are taken every 20MHz (between 0.05 and 0.1m). Data were recorded onto a device, using a Carlson GNSS Smart antenna, for centimetre accuracy. These readings were stored in the memory of the instrument and downloaded for processing and interpretation. DLMGPS and MAGNETO software, alongside bespoke in-house software was used to process and present the data. Further details are given in Appendix 1.

#### **Reporting**

A general site location plan, incorporating the 1:50000 Ordnance Survey (OS) mapping, is shown in Figure 1. Figure 2 displays processed magnetometer data at a scale of 1:5000 whilst Figure 3 shows an overview of the interpretation at the same scale. Processed and minimally processed data, together with interpretation of the survey results are presented in Figures 4 to 24 inclusive at a scale of 1:1500.

Technical information on the equipment used, data processing and survey methodologies are given in Appendix 1. Technical information on locating the survey area is provided in Appendix 2. Appendix 3 describes the composition and location of the archive. A copy of the completed OASIS form is included in Appendix 4.

The survey methodology, report and any recommendations comply with guidelines outlined by the European Archaeological Council (Schmidt *et al.* 2015) and by the Chartered Institute for Archaeologists (CIfA 2020). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of His Majesty's Stationery Office (© Crown copyright).

*The figures in this report have been produced following analysis of the data in processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.*

## **4 Results and Discussion (see Figures 4 to 24)**

### **Ferrous anomalies and magnetic disturbance**

Ferrous anomalies, as individual 'spikes', or as large discrete areas are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris or material is common on rural sites, often being present as a consequence of manuring or tipping/infilling. There is no obvious pattern or clustering to their distribution in this survey to suggest anything other than a random background scatter of ferrous debris in the plough-soil.

The data from Areas 1 and 2 have produced large areas of disturbance which is possibly a result of 'green manuring'. The green waste is produced from organic and biodegradable household waste as a fertiliser and soil conditioner, but up to 0.25% of this material can be from non-organic waste including metal fragments and batteries (Gerrard *et al.* 2015). The result of this is a 'speckled' appearance and unfortunately it will have masked the majority of anomalies, if present.

Bisecting Areas 8 and 9, a linear dipolar trend has been recorded which has produced a large magnetic halo. According to the local farmer this is a water mains service. Smaller linear dipolar trends have been recorded in Area 9. These services will have masked any archaeological remains that may be present in the immediate vicinity, particularly over the enclosure site in the east of Area 9.

Large circular ferrous responses have been recorded in Areas 1 and 6, it is possible that these represent the foundations of former electricity pylons or other modern buried features.

Magnetic disturbance along the limits of the survey areas is due to metal fencing within the field boundaries and interference from the adjacent tracks.

### **Geological anomalies**

The survey has detected a number of anomalies that have been interpreted as geological in origin, many of which have been recorded as swathes across the survey area, making interpretation of any smaller anomalies difficult. Archaeological features have been recorded within these swathes of geology and without the HER data, they may have been missed or interpreted differently.

A number of anomalies (**G1 - G8**) within the dataset have produced strong positive and negative responses in the appearance of multiple rays extending out from a central point. These are likely to be as a result of lightning strikes when compared to known examples in research papers (Bates *et al.* 2019; Burks *et al.* 2015). According to Bates *et al.* (2019) lightning strikes recorded in geophysical data as magnetic anomalies in the UK are not common. Within this dataset there are at least seven examples of multiple rays and one consisting of only two rays (**G4** in Area 7). The latter anomaly is almost identical to the one published in Burks *et al.* (2015) from a dataset in Ohio, USA.

### **Agricultural anomalies**

A former field boundary has been detected in Area 7 which is recorded on first edition Ordnance Survey mapping published in 1895 (NLS 2023).

Parallel linear trends can be seen within a number of the areas and are associated with both modern ploughing and medieval or post-medieval ridge and furrow cultivation.

Linear trends located in the northwest of Area 7 may be associated with land drains.

### **Uncertain anomalies**

A number of responses have been recorded throughout the dataset which have proved difficult interpret, including the magnetically strong linear anomalies which have been recorded in Areas 3, 6 and 7. It is unclear what these features represent. While they may be some sort of drainage, they do not follow the conventional patterns of land drains. There is nothing to suggest an origin within the fields or on aerial imagery but they are almost certainly of an anthropogenic origin.

Linear trends (**U1** and **U2**) in Area 1 are likely to represent land drains due to their magnetic signature, but they do look similar to the stronger responses mentioned above and may be



associated. The possible green waste manuring in this area is also masking the anomalies a little, making interpretation less confident.

Linear trend (**U3**) in Area 2 may be associated with a former field boundary that pre-dates the available historic mapping. It is possible that it is a continuation of the boundary to the south of the area.

Fragmentary ditch-like anomalies and possible pits (**U4** and **U5**) in Area 3 may be of some archaeological interest. Within this field, a pit alignment has been recorded in the HER (58928) and it is possible that some of these features are associated. It is also possible that they have a geological origin.

A number of pit-like responses (**U6**) have been recorded in Area 6, to the immediate north of a lightning strike (**G3**) and within the strong linear responses. It has been difficult to ascertain an interpretation for these anomalies. They may possibly be associated with the background geology or the strong uncertain linear responses.

Similar pit-like responses (**U7**) have been recorded to the immediate east of the archaeological feature **A2**. They appear in a band and may be associated with the geology in the area. Due to the proximity of the enclosure, however, an archaeological origin cannot be ruled out.

Curving responses (**U8**) located in the west of Area 9 may have some archaeological potential due to the cropmarks nearby, but they may also be associated with the topography of the Site.

Areas 10 and 11 are both dominated by strong responses reflecting the background geology. Within the geological response, however, a number of anomalies have been highlighted, particularly those at **U9** in Area 11. They may represent stronger geological variations, although they do have some rectilinearity to them and appear to coincide with a higher area of ground. As a result, an archaeological origin cannot be ruled out.

### **Possible and definite archaeological anomalies**

Anomalies of both a definite and possible archaeological origin have been recorded within the dataset. A circular feature (**A1**) in Area 2 measures approximately 14m in diameter with some internal features is a definite archaeological response. Despite the disturbed magnetic background from the possible green waste manuring, this response shows up well. A similar but more fragmented response (**P1**) can be seen to the immediate north of **A1**. **P1** has been downgraded to probable archaeology due to its fragmented response within the background disturbance. These two circular responses are likely to be the ring ditches that are recorded in the HER (58943). To the southwest of **A1** a large pit-like response (**P2**) is visible which may be of archaeological interest. It is also possible that it is of a geological origin and as such the interpretation is cautious.

A number of anomalies within Area 5 have been recorded as possible archaeology, which include sections of linear trends (**P3**), a group of magnetically strong responses and ditch-like responses (**P4**) and a group of weaker ditch-like responses (**P5**). A service pipe has been recorded along the southern boundary of this area and the geology in the east is very strong, both of which may well have masked any further archaeological responses. The group of responses (**P4**) may indicate a rectilinear enclosure with possible burnt interior features due to their magnetic strength. There is also a hint of a circular response within the 'enclosure'. Responses (**P5**) may also be associated with an enclosure, again with internal features.

Circular response (**A2**) within Area 7 corresponds to the scheduled monument (SM5848). The circular ditch measures approximately 30m in diameter, with some magnetically strong interior features. The geology of the area may have masked further responses associated with the monument. Another circular response (**P6**) has been recorded to the west, again measuring approximately 30m in diameter. Small pit-like responses can be seen within the outer response. **P6** is not as magnetically strong as **A2**, hence the possible archaeological interpretation. The geology is likely to be a factor in this and as mentioned above may be masking further archaeological anomalies within this area. Ditch response **P7** can be seen to the south of the monument **A1** and may reflect a boundary ditch, but it is also possible it is of a geological origin. Further recorded possible archaeology (**P8**) has been recorded in the east of Area 8. It consists of a ditched response with a 'hook' to the north. It is unclear what this feature represents.

In the far east of the survey area, response (**A3**) in Area 9 represents the north-western corner of a rectilinear enclosure which is recorded as a scheduled monument (SM5849). The monument sits within the strong geological background and the location of a large service pipe has masked any further associated features. To the northeast of the enclosure, a handful of possible pits (**P11**) have been recorded.

A further rectilinear enclosure recorded in the HER (130413) is situated in the east of Area 9. The geophysical data has recorded some linear trends and pit-like features (**P9**) within this area but as before the geology is making interpretation difficult. A linear trend (**P10**) located in the east of Area 9 may be indicative of a boundary ditch or part of a field system.

## 5 Conclusions

The geophysical survey has detected a number of magnetic anomalies associated with archaeological and possible archaeological origins in the forms of circular enclosures with internal features, ring ditches, square enclosures, ditches and pits.

A number of uncertain anomalies have been recorded throughout including magnetically strong linear trends which cross through some of the areas. It is unclear what these reflect but are likely to be anthropogenic, albeit of uncertain date. Due to the geology within the Site many of the uncertain anomalies have been difficult to interpret, they may be of an archaeological origin but also equally likely to be geological or agricultural.

Along with the high background levels of geology, further natural occurrences can be seen within the dataset which reflect lightning strikes. These responses recorded within geophysical datasets are not common and there are at least seven examples within the survey area.

Modern ploughing and medieval or post-medieval ridge and furrow has also been recorded along with service pipes, disturbance associated with possible green waste manuring and magnetic disturbance associated with field boundaries and adjacent tracks.

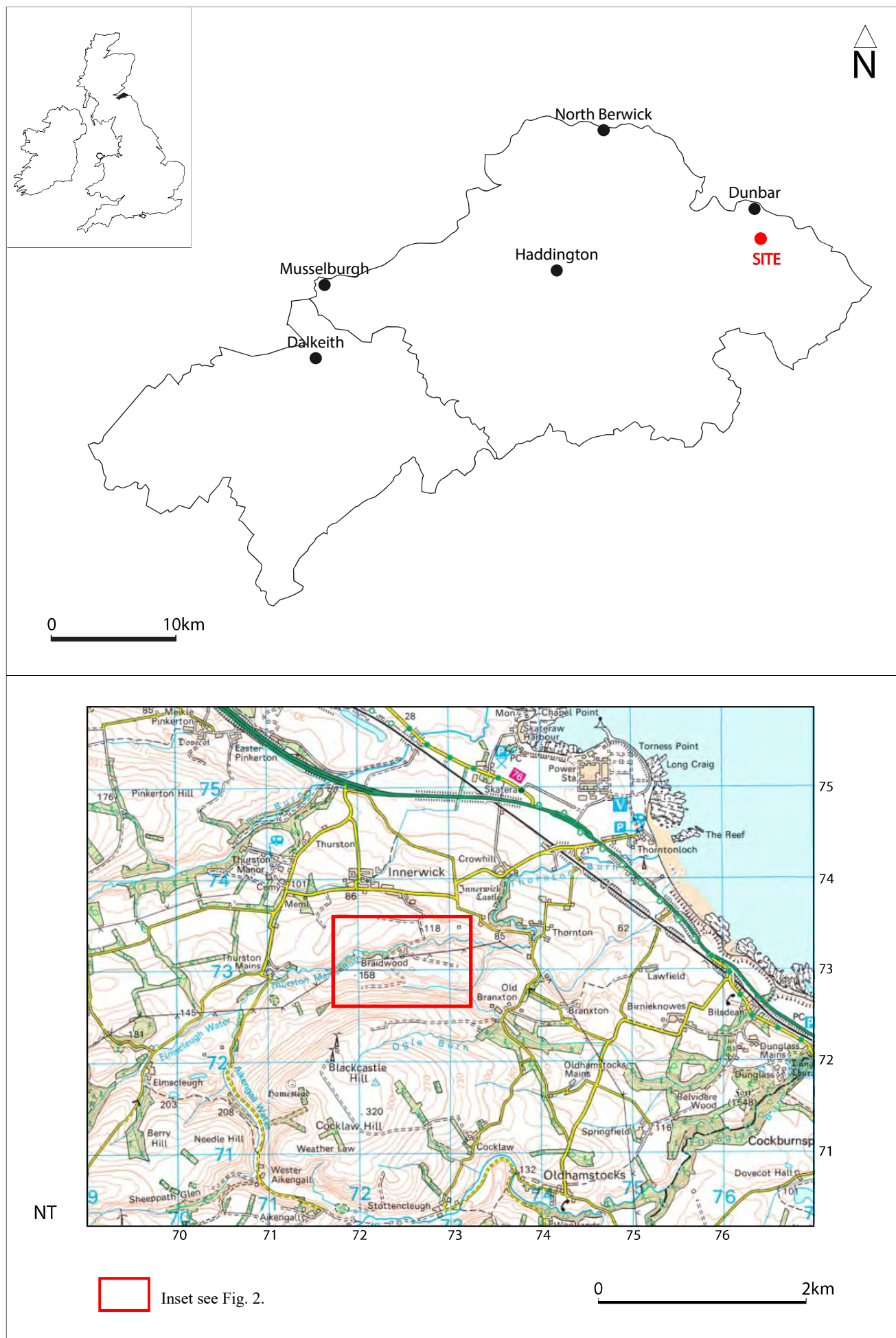
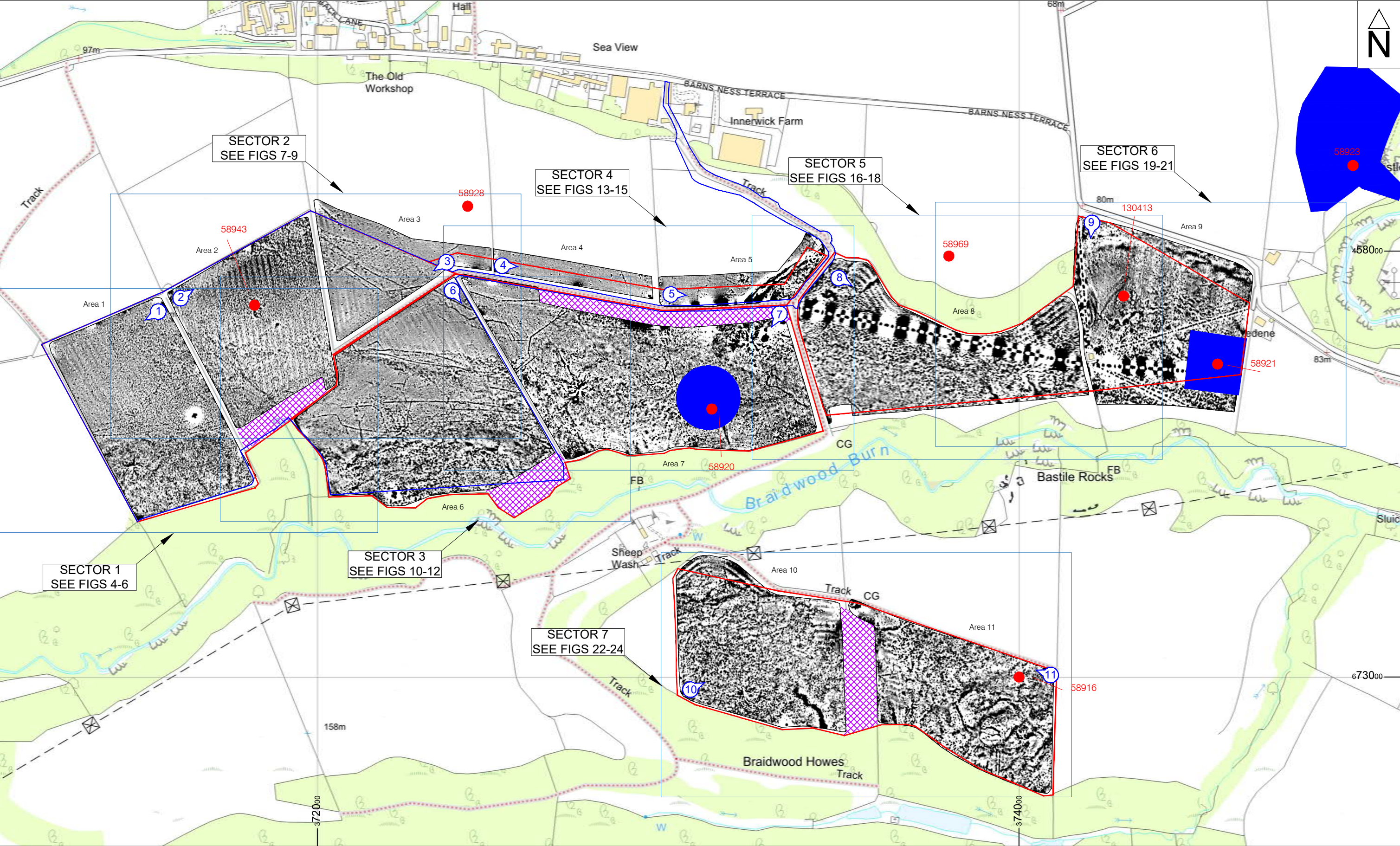



Fig. 1. Site location














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Survey location showing processed greyscale magnetometer data

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Title			
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	APPLICATION SITE		HER SITE
	SECTOR BOUNDARY		SCHEDULED MONUMENT
	UNSUITABLE FOR SURVEY		

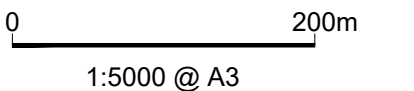
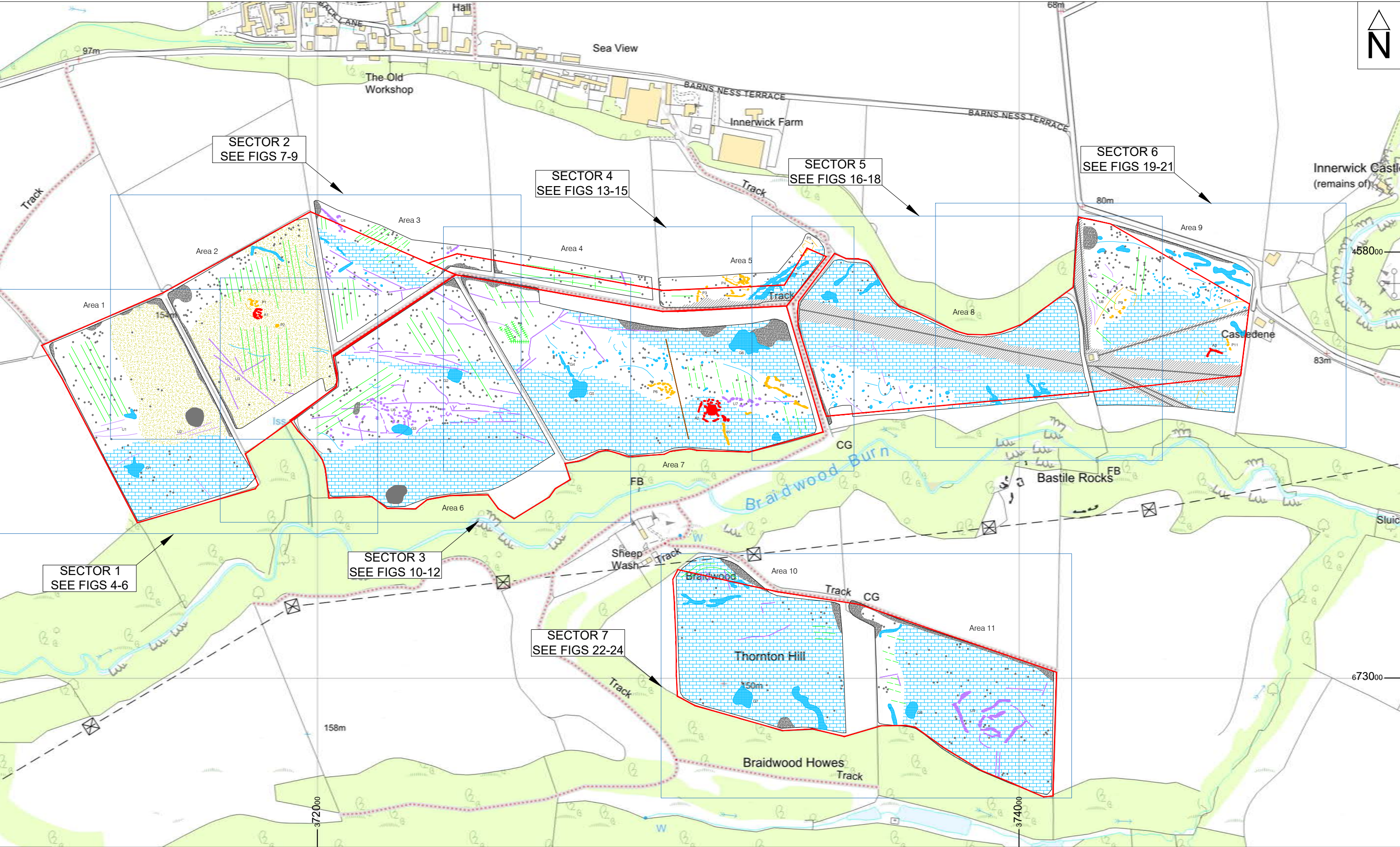



Fig. 2





















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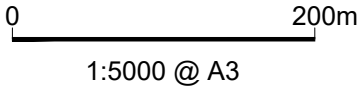
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Overall interpretation of magnetometer data

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Fig. 3

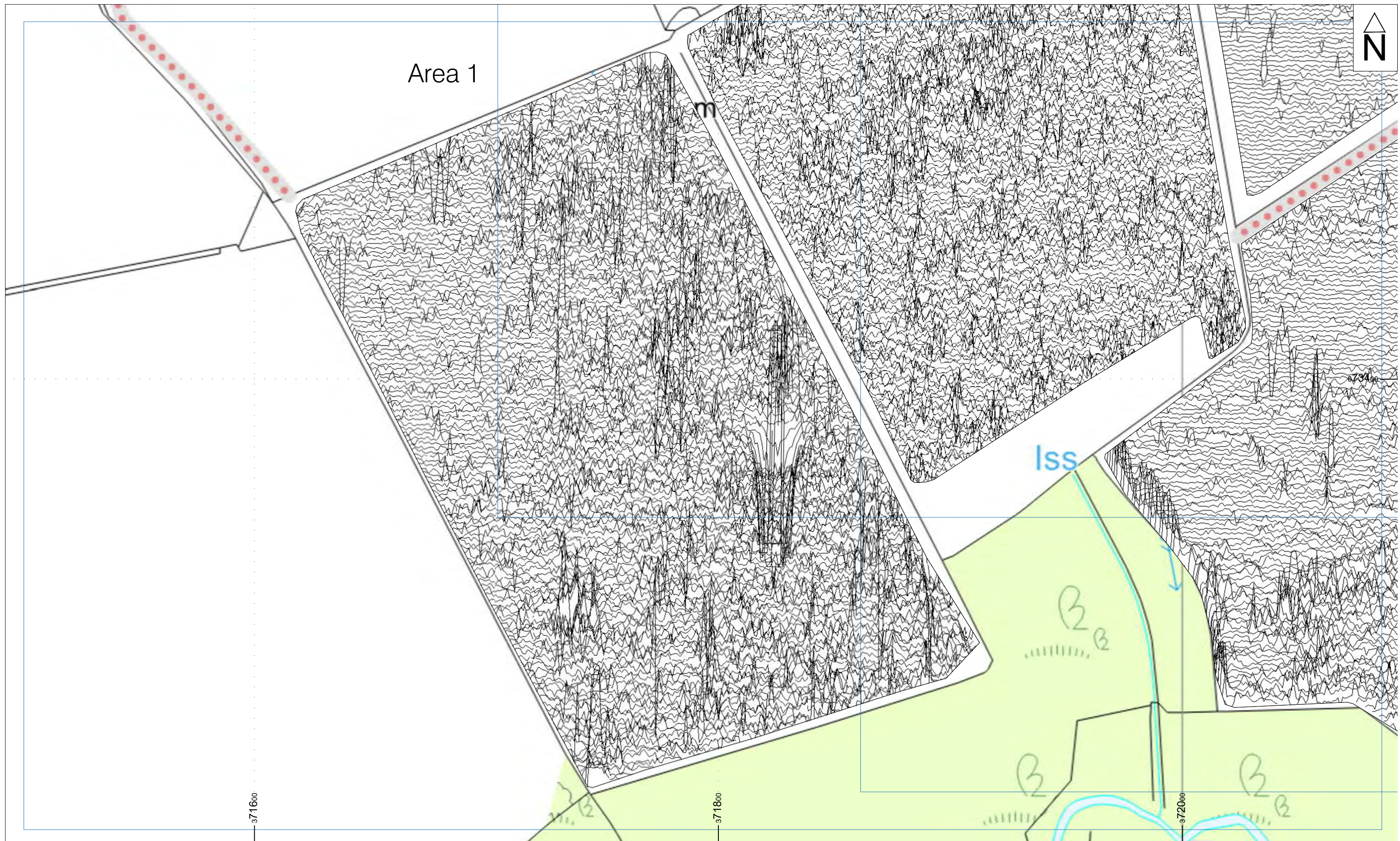
Title		Interpretation			
	SURVEY AREA		FERROUS		FIELD DRAIN
	SECTOR BOUNDARY		SERVICE PIPE		RIDGE & FURROW
			MAGNETIC DISTURBANCE		AGRICULTURAL
			GREEN WASTE?		FORMER FIELD BOUNDARY
					GEOLOGY
					UNCERTAIN
					ARCHAEOLOGY?
					ARCHAEOLOGY



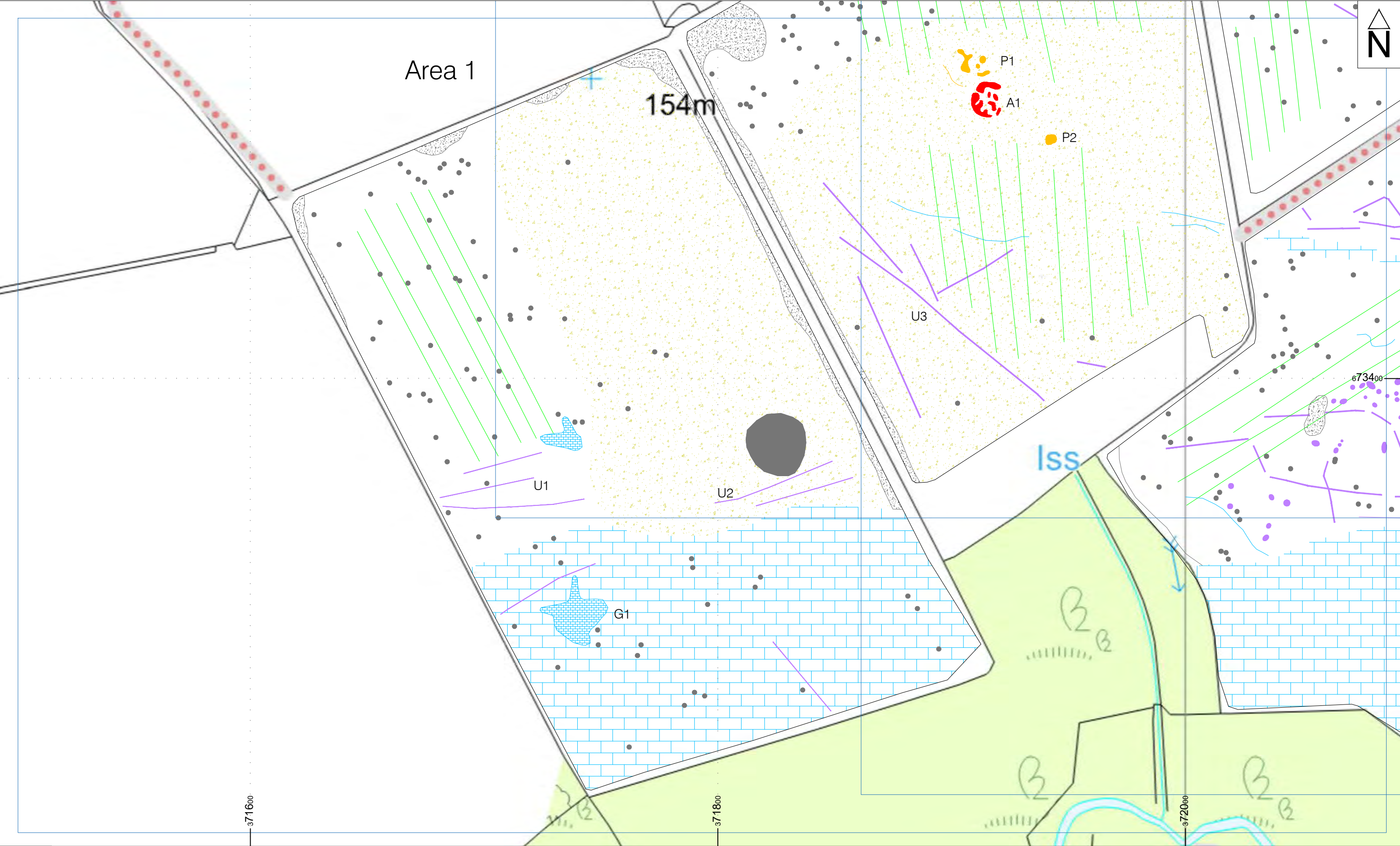

























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Interpretation of magnetometer data; Sector 1

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Fig. 6

Title		Interpretation			
	SECTOR BOUNDARY	 FERROUS	 AGRICULTURAL	 ARCHAEOLOGY	
	SERVICE PIPE	 GEOLOGY	 UNCERTAIN		
	MAGNETIC DISTURBANCE	 ARCHAEOLOGY?			
	GREEN WASTE?				

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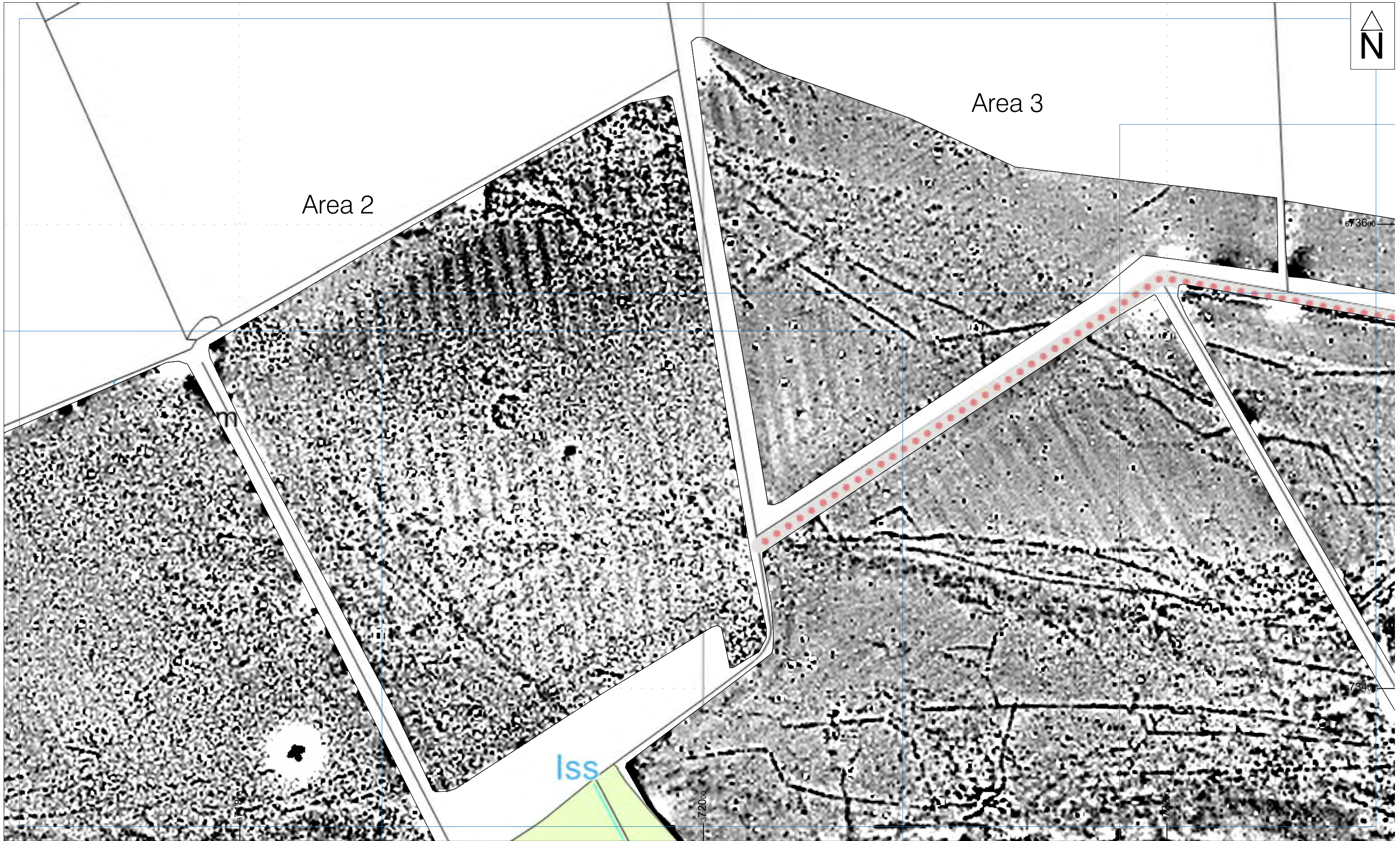
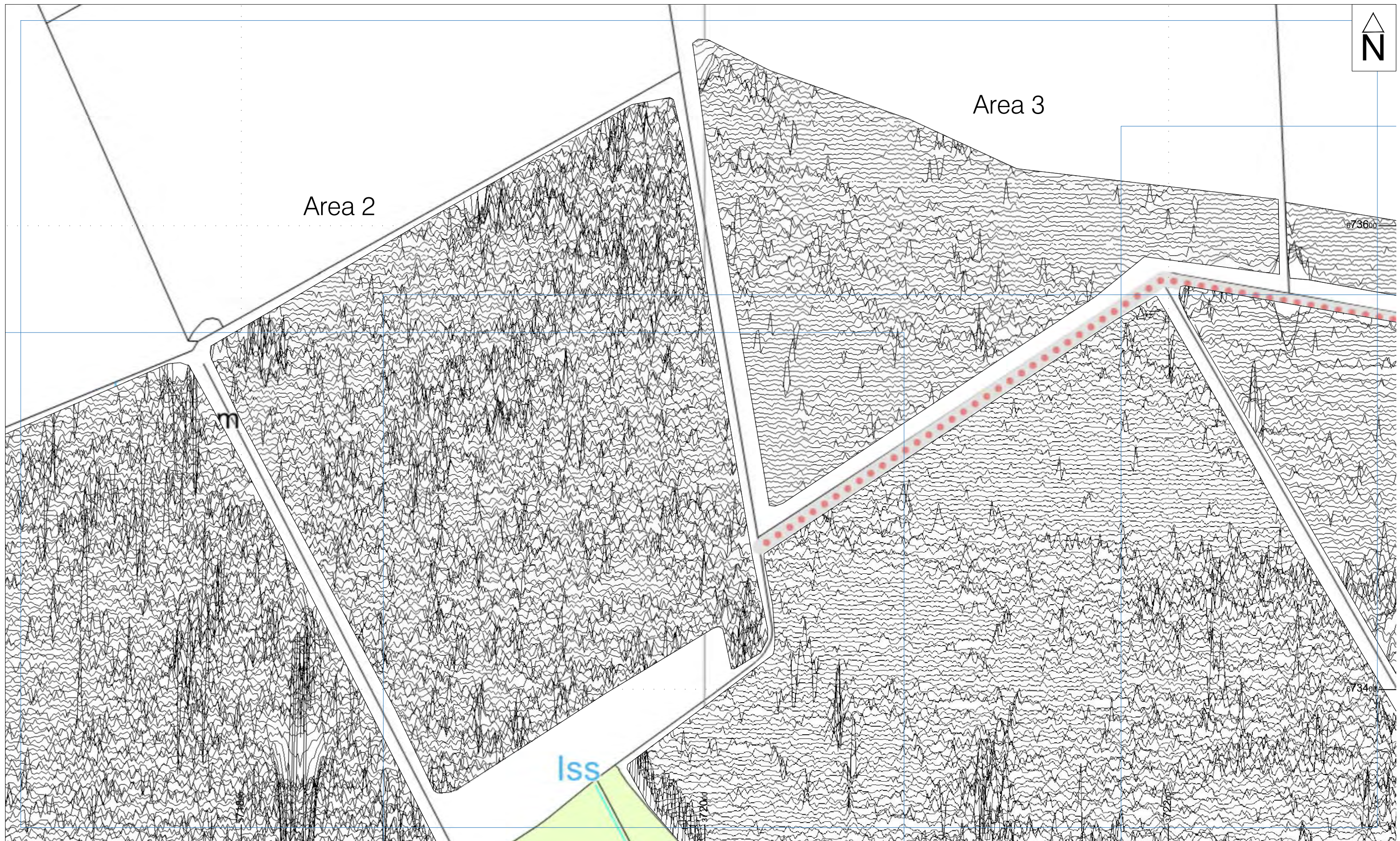
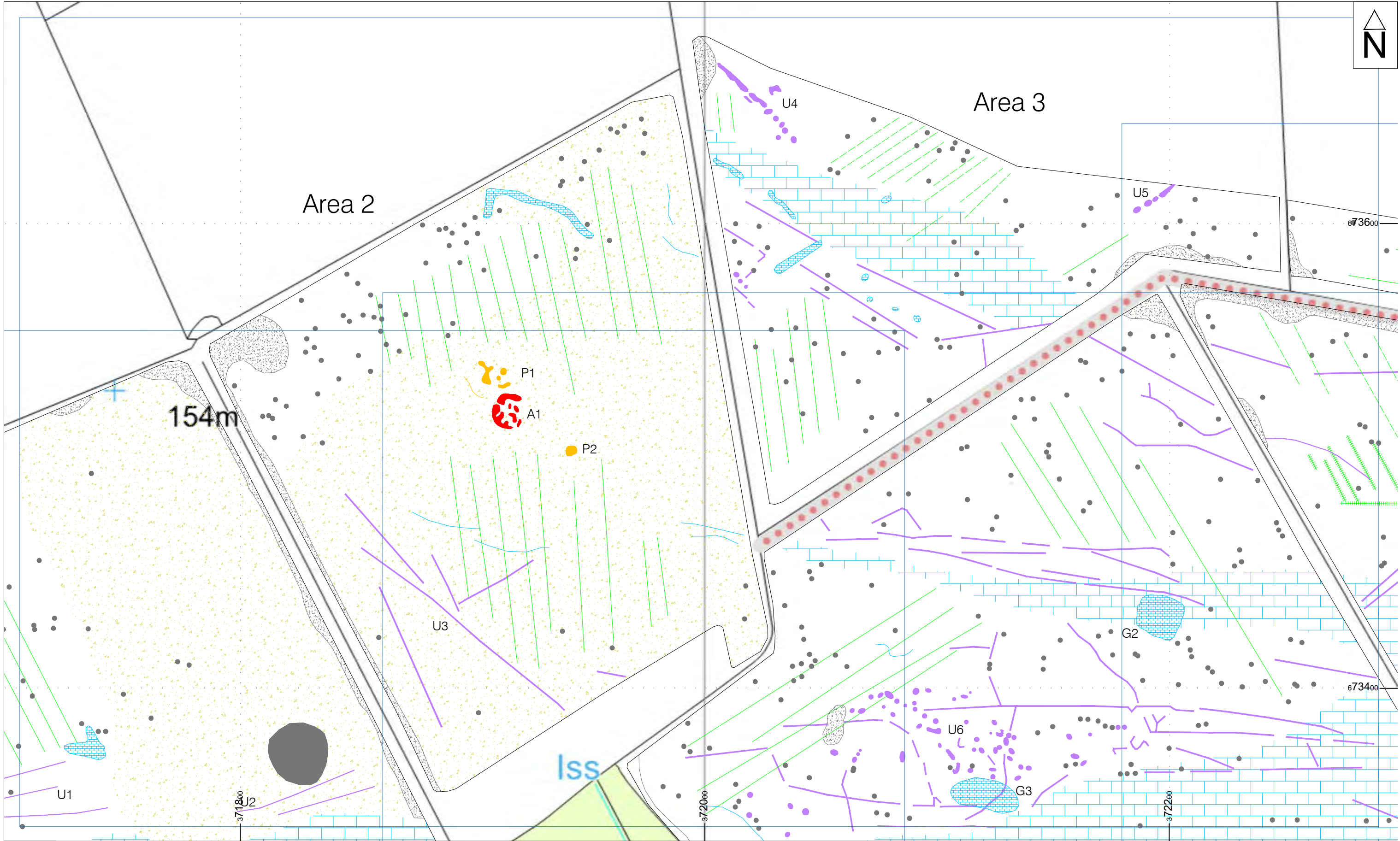


Fig. 7









Title	
	SECTOR BOUNDARY

Interpretation					
	FERROUS		FIELD DRAIN		UNCERTAIN
	SERVICE PIPE		RIDGE & FURROW		ARCHAEOLOGY?
	MAGNETIC DISTURBANCE		AGRICULTURAL		ARCHAEOLOGY
	GREEN WASTE?		GEOLOGY		





Title

SECTOR BOUNDARY

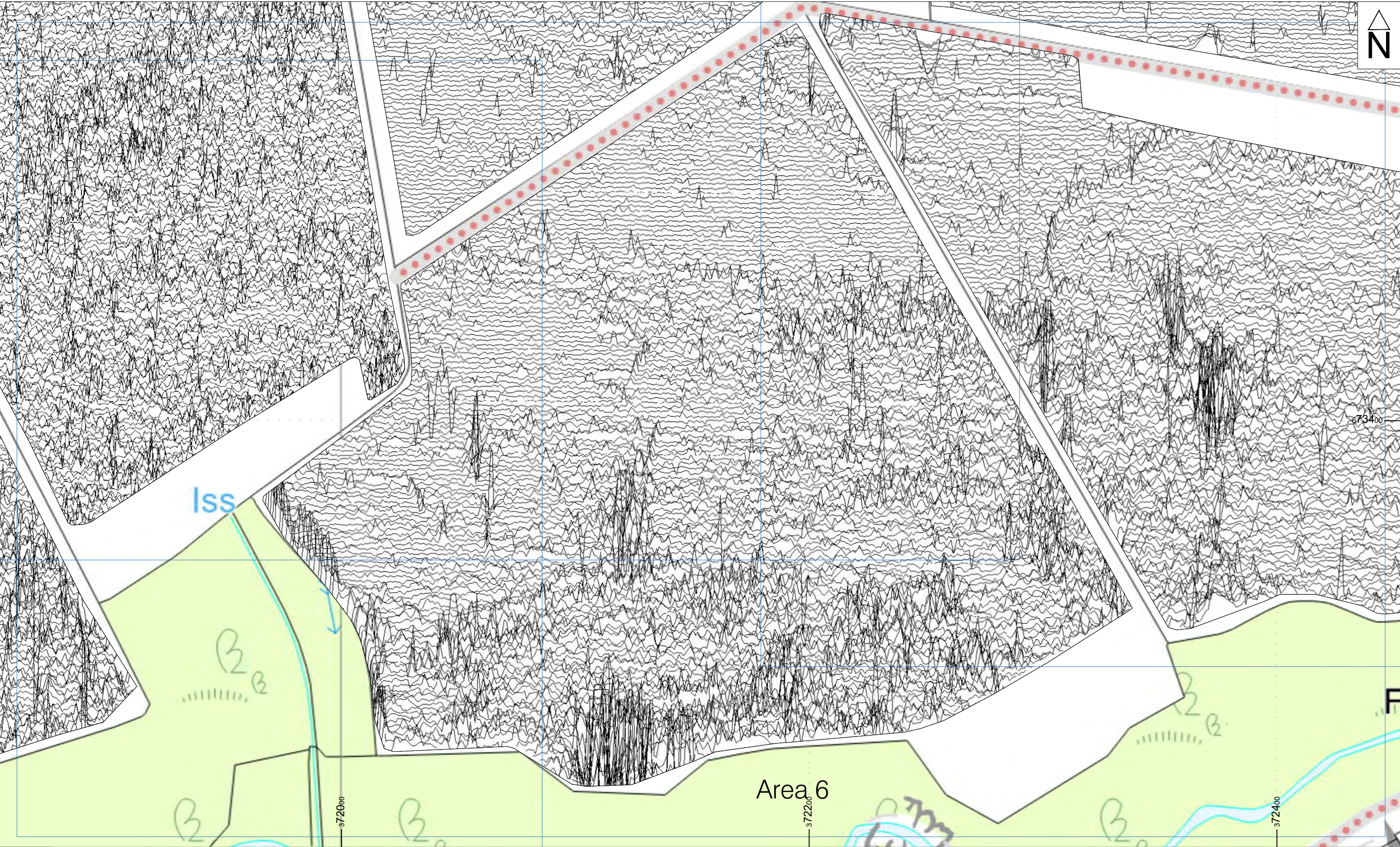



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Fig. 10








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XY trace plot of minimally processed magnetometer data;  
Sector 3

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Title

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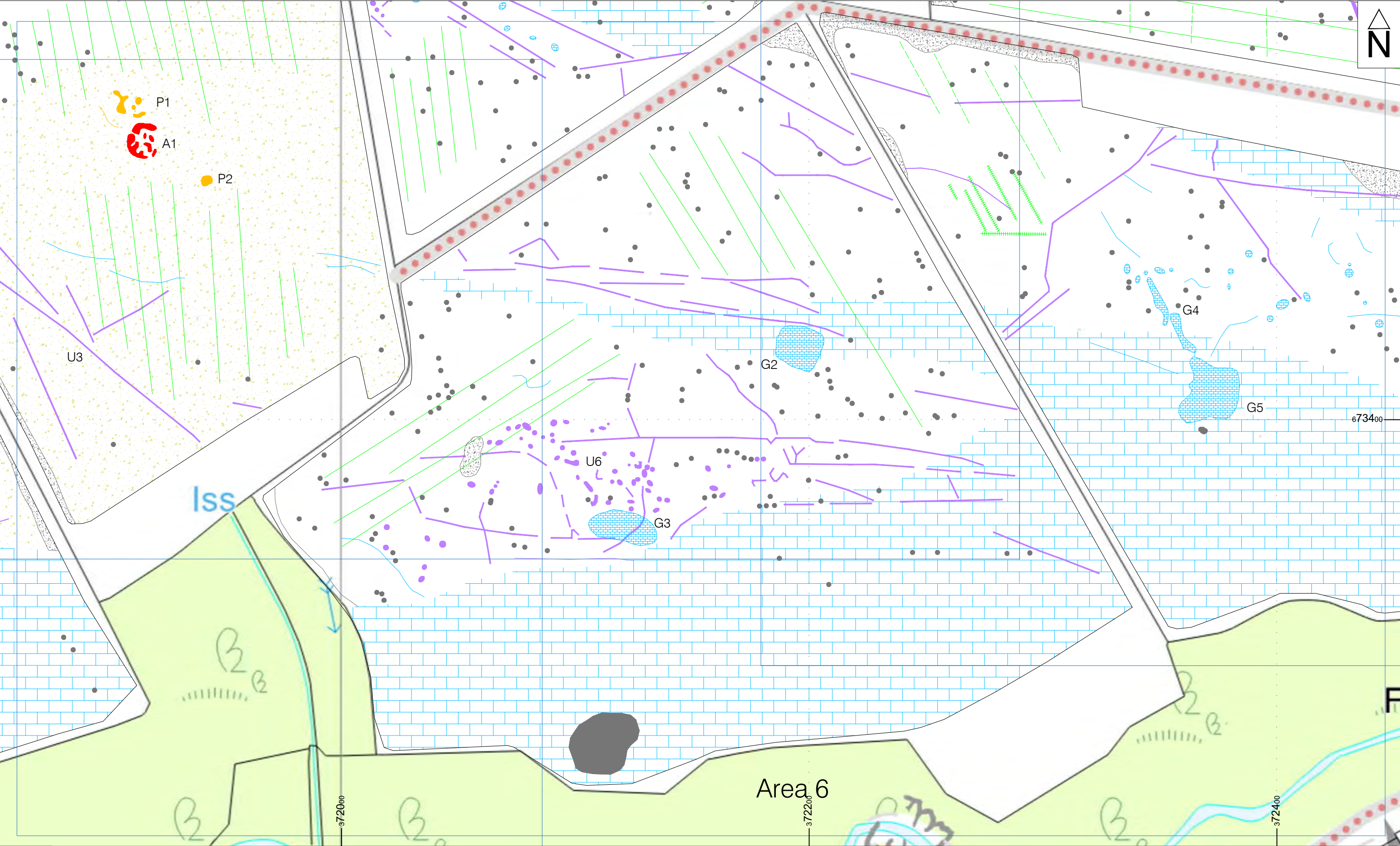
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Fig. 11






Title	
	SECTOR BOUNDARY

Interpretation					
	FERROUS		FIELD DRAIN		UNCERTAIN
	SERVICE PIPE		RIDGE & FURROW		ARCHAEOLOGY?
	MAGNETIC DISTURBANCE		AGRICULTURAL		ARCHAEOLOGY
	GREEN WASTE?		GEOLOGY		








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Processed greyscale magnetometer data; Sector 4

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Title

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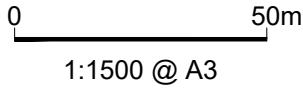
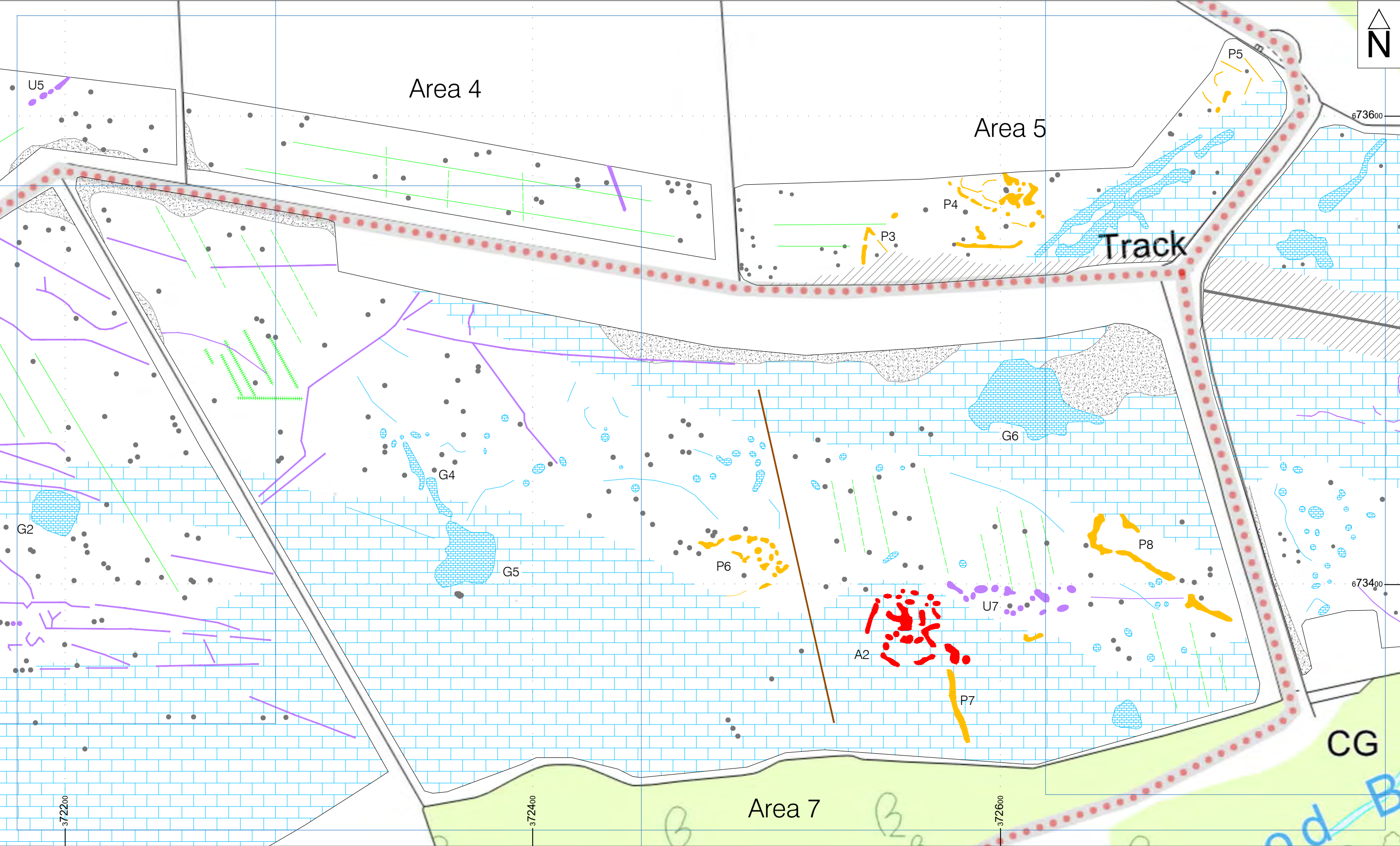



Fig. 13























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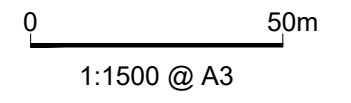
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Interpretation of magnetometer data; Sector 4

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Fig. 15


Title		Interpretation					
	SECTOR BOUNDARY		FERROUS		RIDGE & FURROW		UNCERTAIN
	SERVICE PIPE		AGRICULTURAL		ARCHAEOLOGY?		ARCHAEOLOGY
	MAGNETIC DISTURBANCE		FORMER FIELD BOUNDARY		GEOLOGY		
	FIELD DRAIN						







Title

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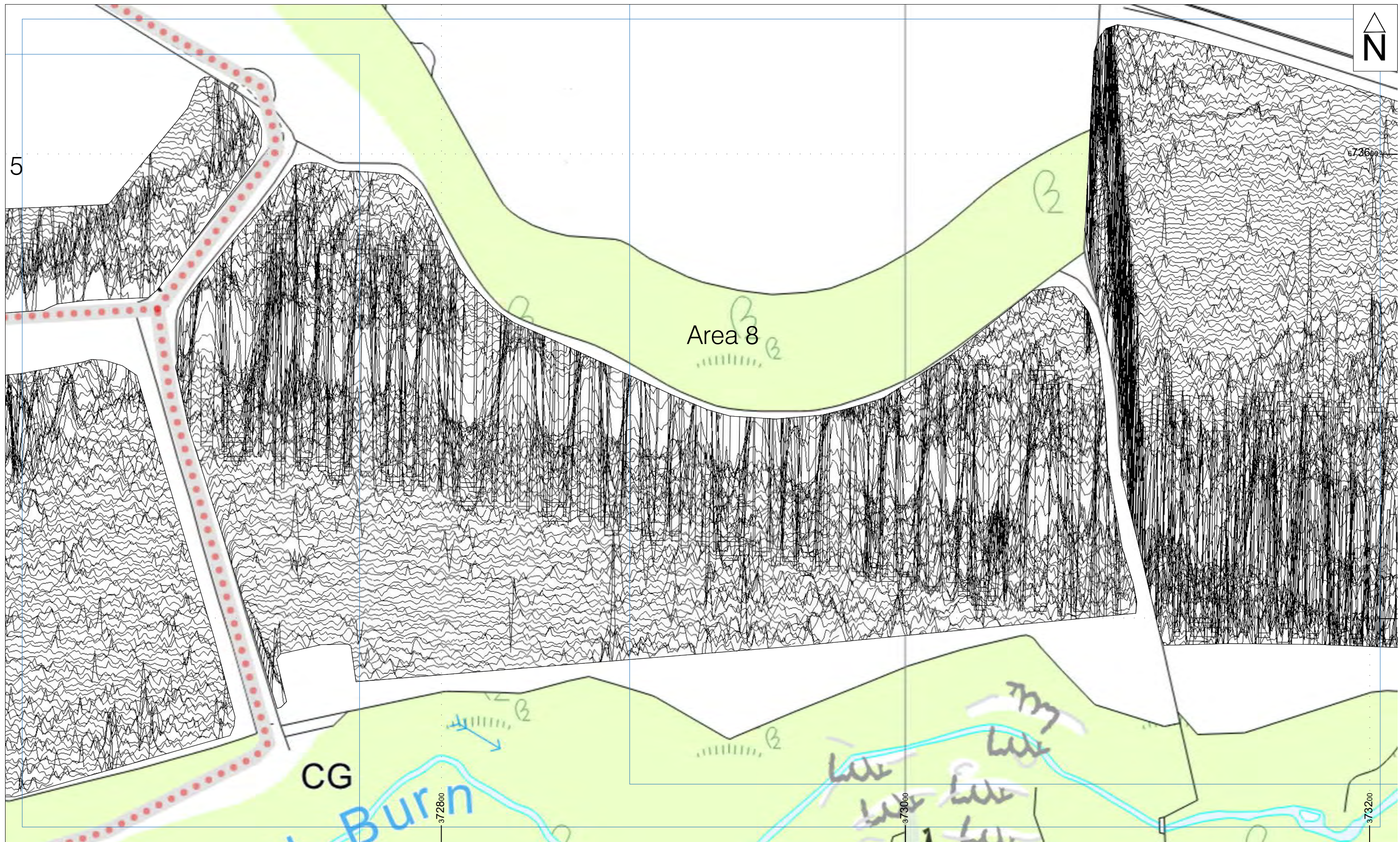


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Fig. 16





Title

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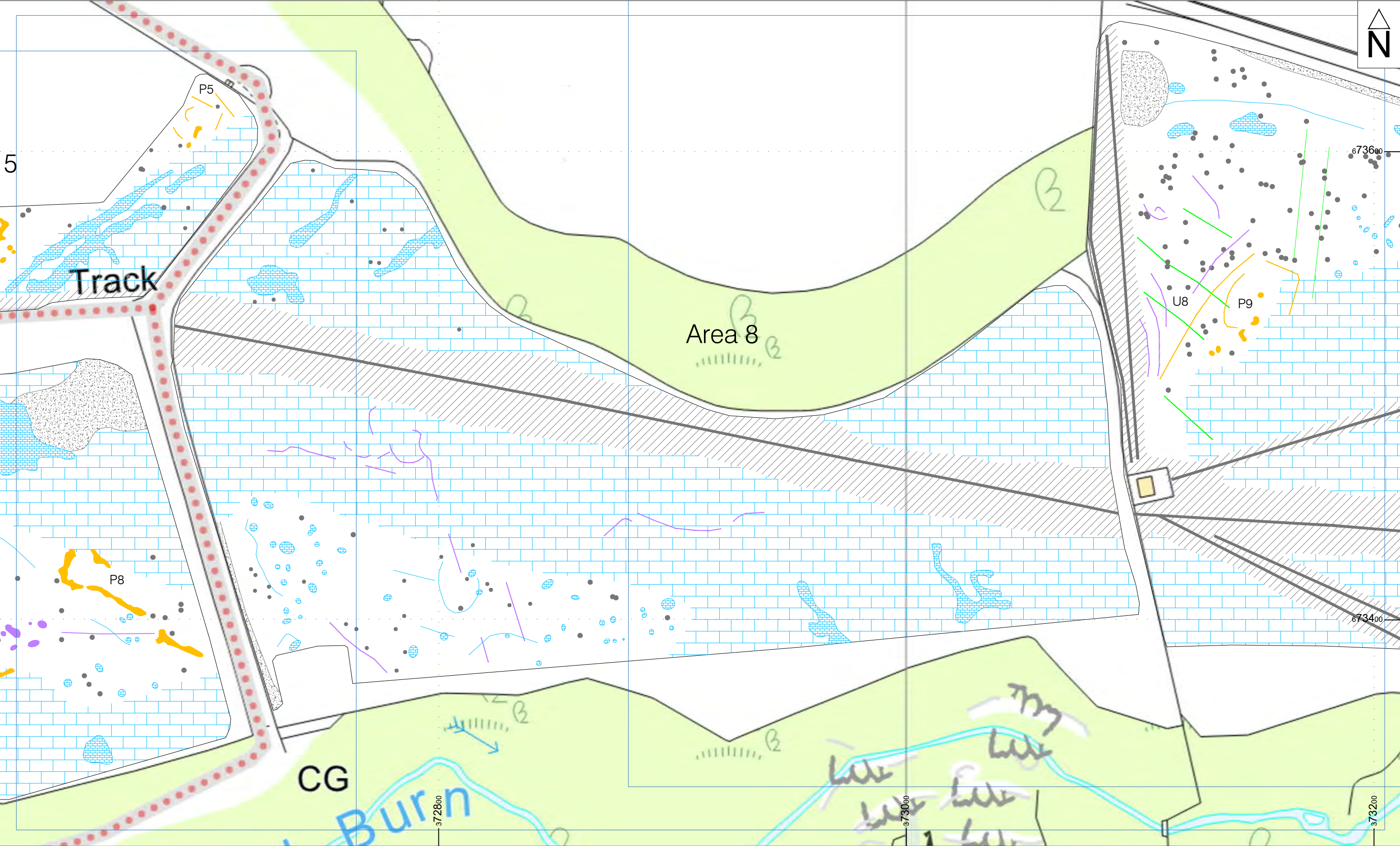
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Fig. 17
















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Interpretation of magnetometer data; Sector 5

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Fig. 18

Title		Interpretation					
	SECTOR BOUNDARY		FERROUS		RIDGE & FURROW		UNCERTAIN
	SERVICE PIPE		AGRICULTURAL		ARCHAEOLOGY?		
	MAGNETIC DISTURBANCE		GEOLOGY				

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Title

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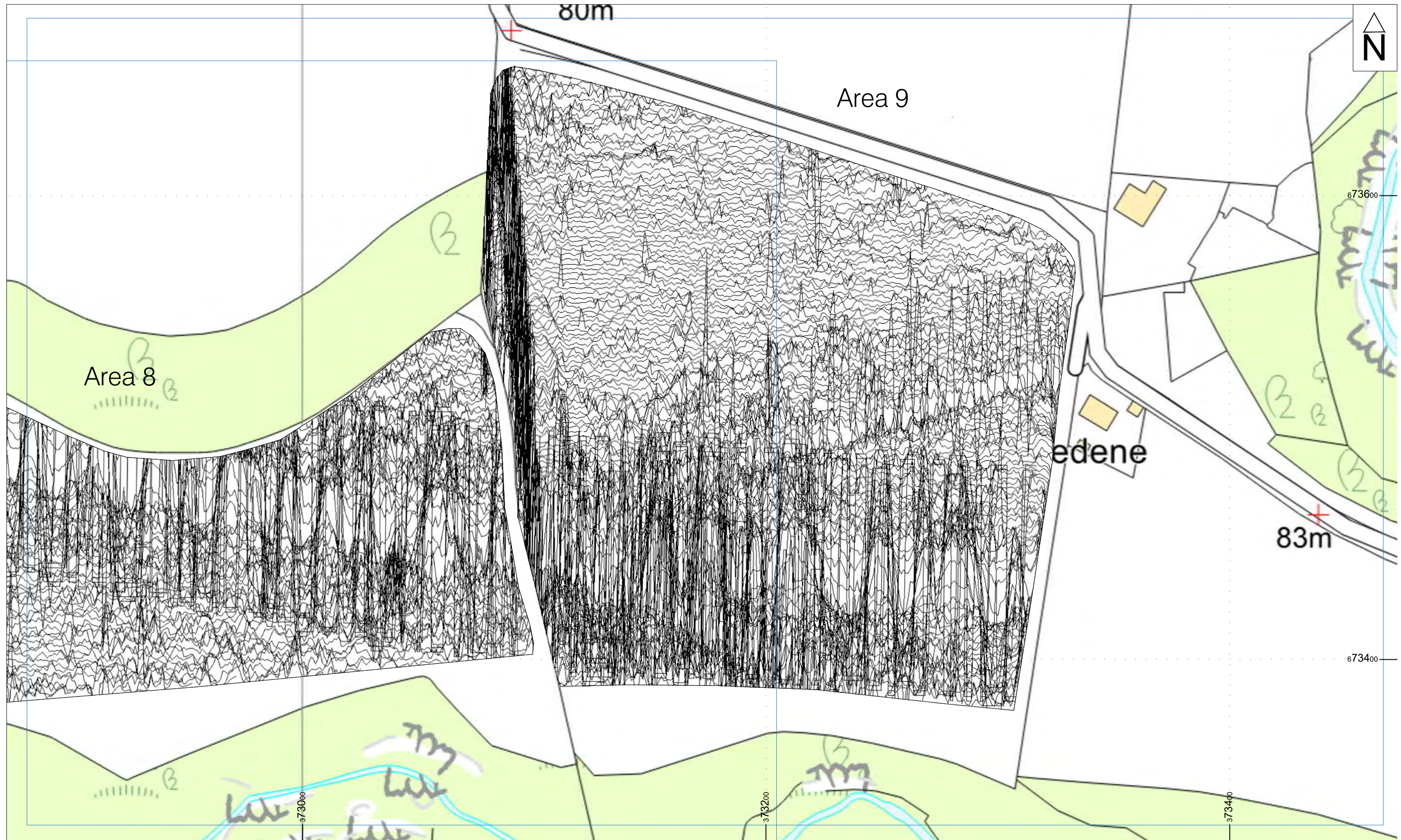


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Fig. 19





Title

SECTOR BOUNDARY

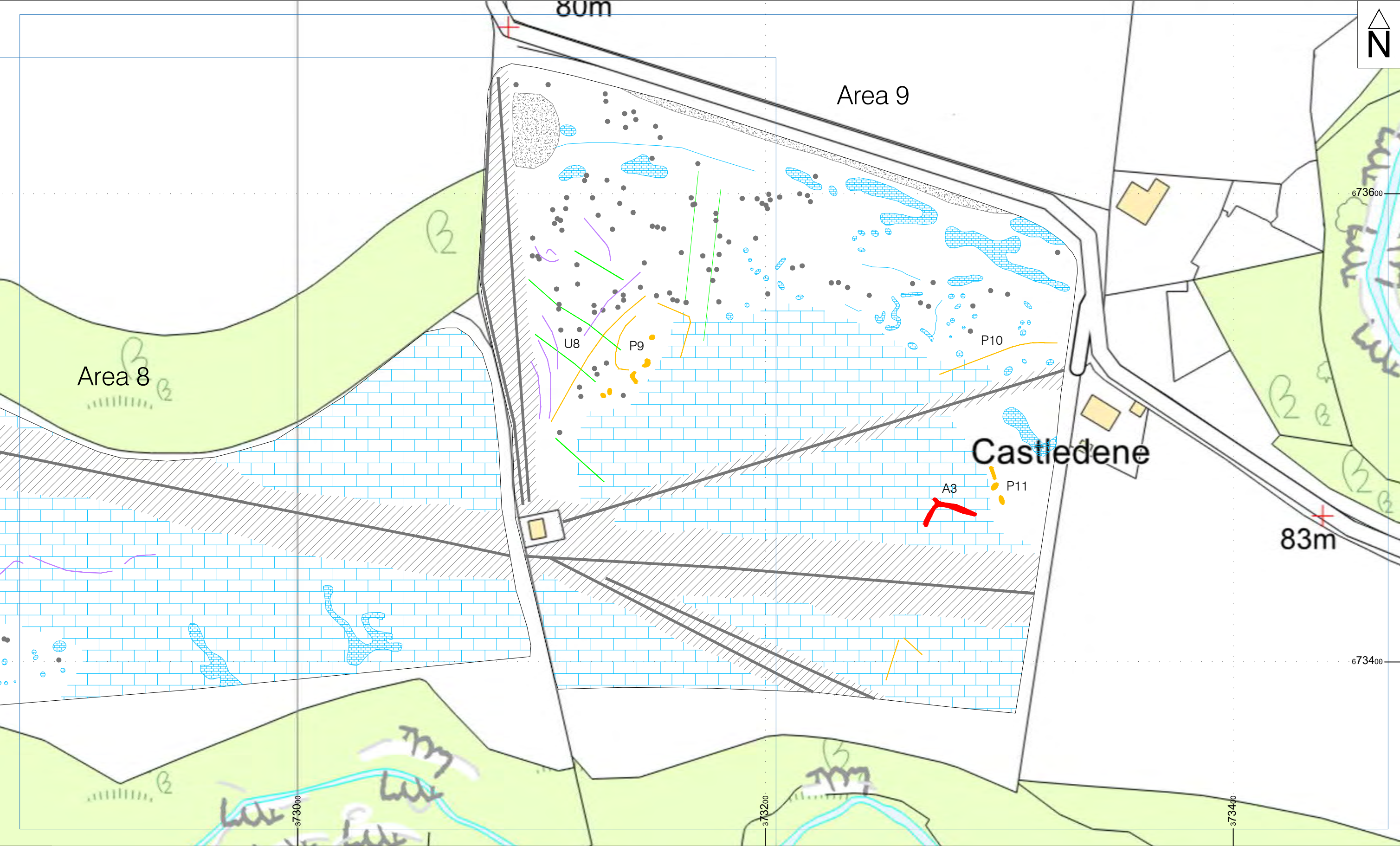
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Fig. 20
















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Interpretation of magnetometer data; Sector 6

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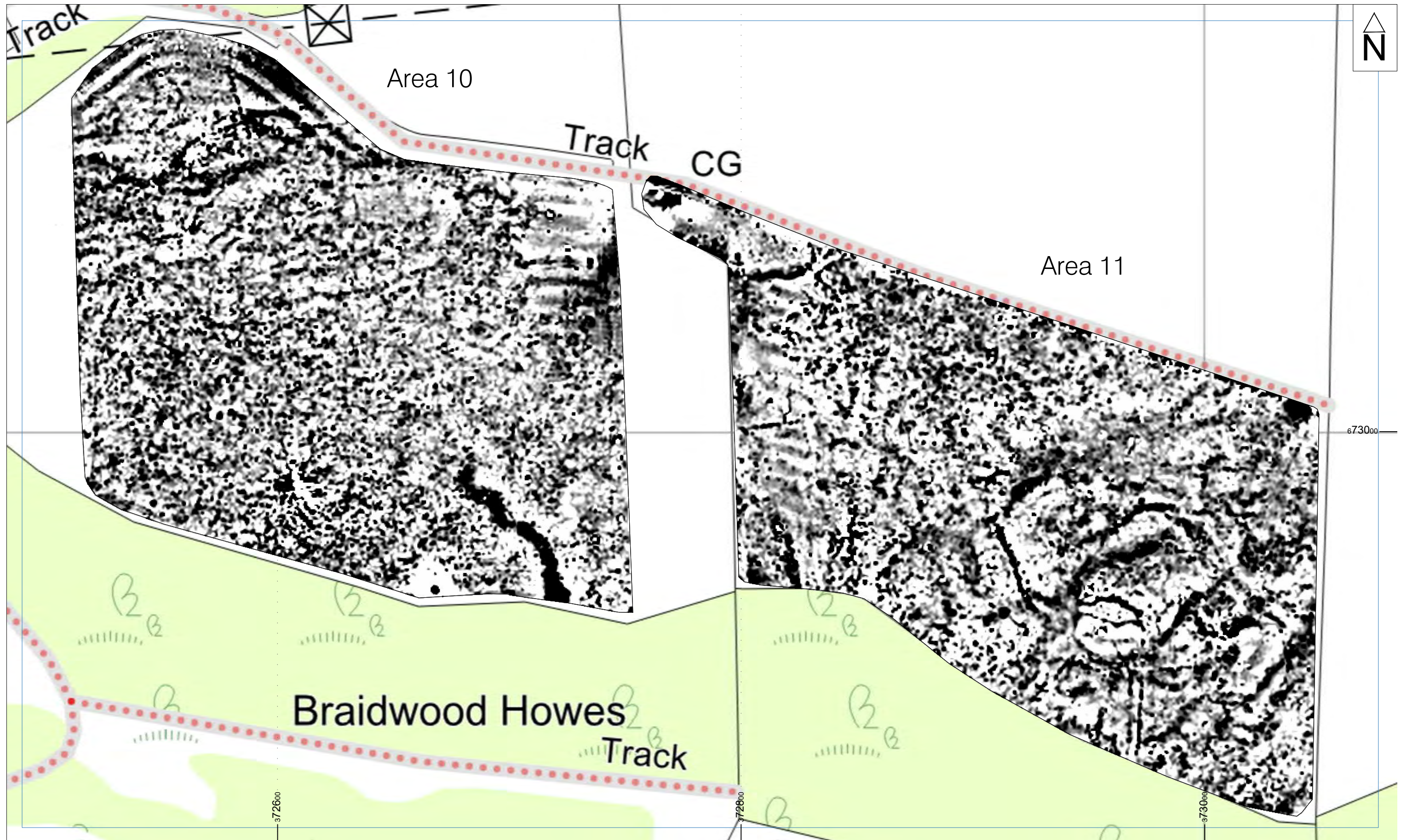
Title		Interpretation					
	SECTOR BOUNDARY		FERROUS		AGRICULTURAL		ARCHAEOLOGY?
	SERVICE PIPE		GEOLOGY		ARCHAEOLOGY		
	MAGNETIC DISTURBANCE		UNCERTAIN				

0 50m

1:1500 @ A3

Fig. 21





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Nepshaw Lane South, Morley, LS27 7JQ  
Tel: 0113 535 0163 Email: archaeology@wyjs.org.uk www.aswyas.com

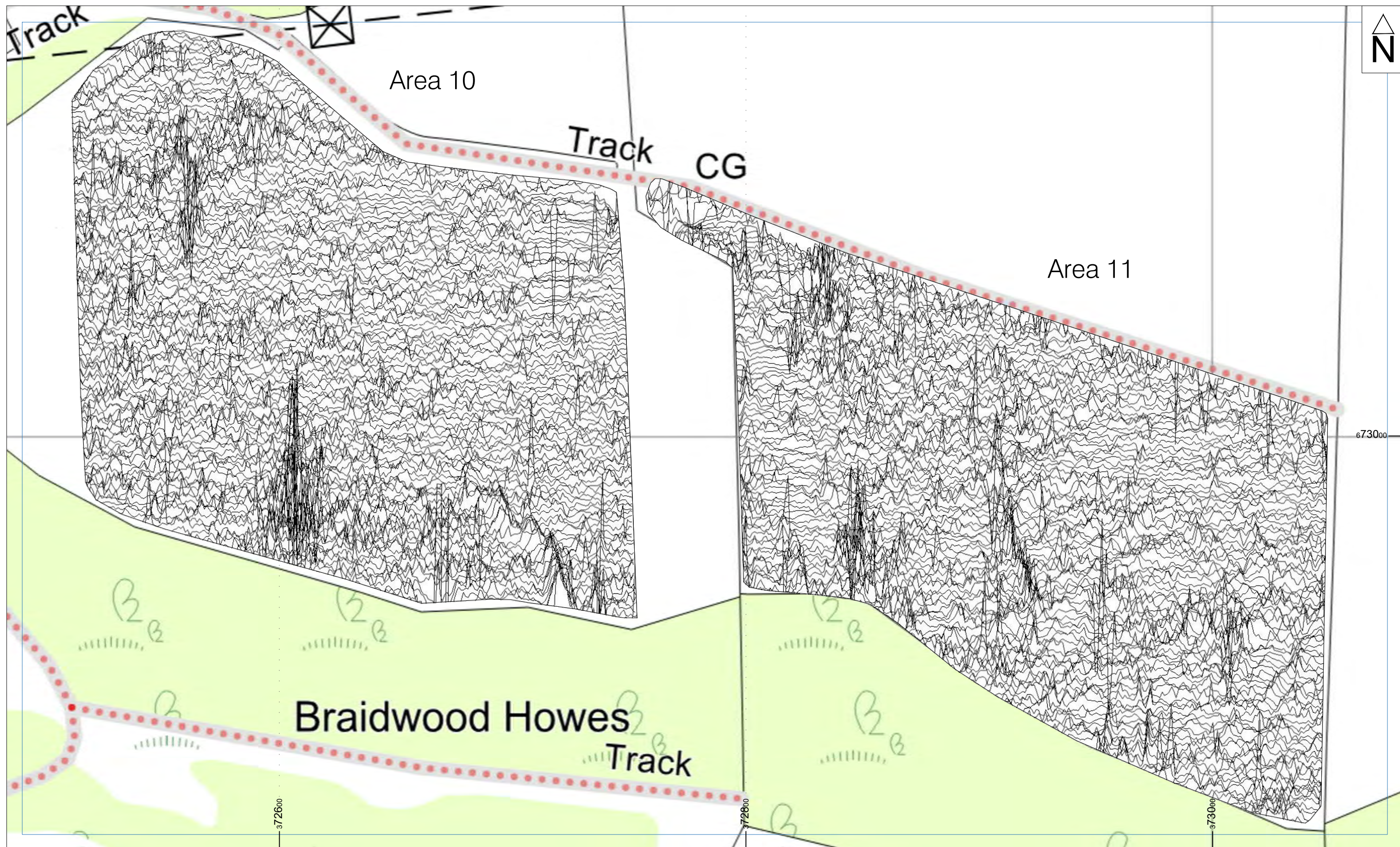
Project ID: XI78\_GES21

Processed greyscale magnetometer data; Sector 7

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Fig. 22





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Project ID: XI78\_GES21

XY trace plot of minimally processed magnetometer data;  
Sector 7

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Fig. 23

Title

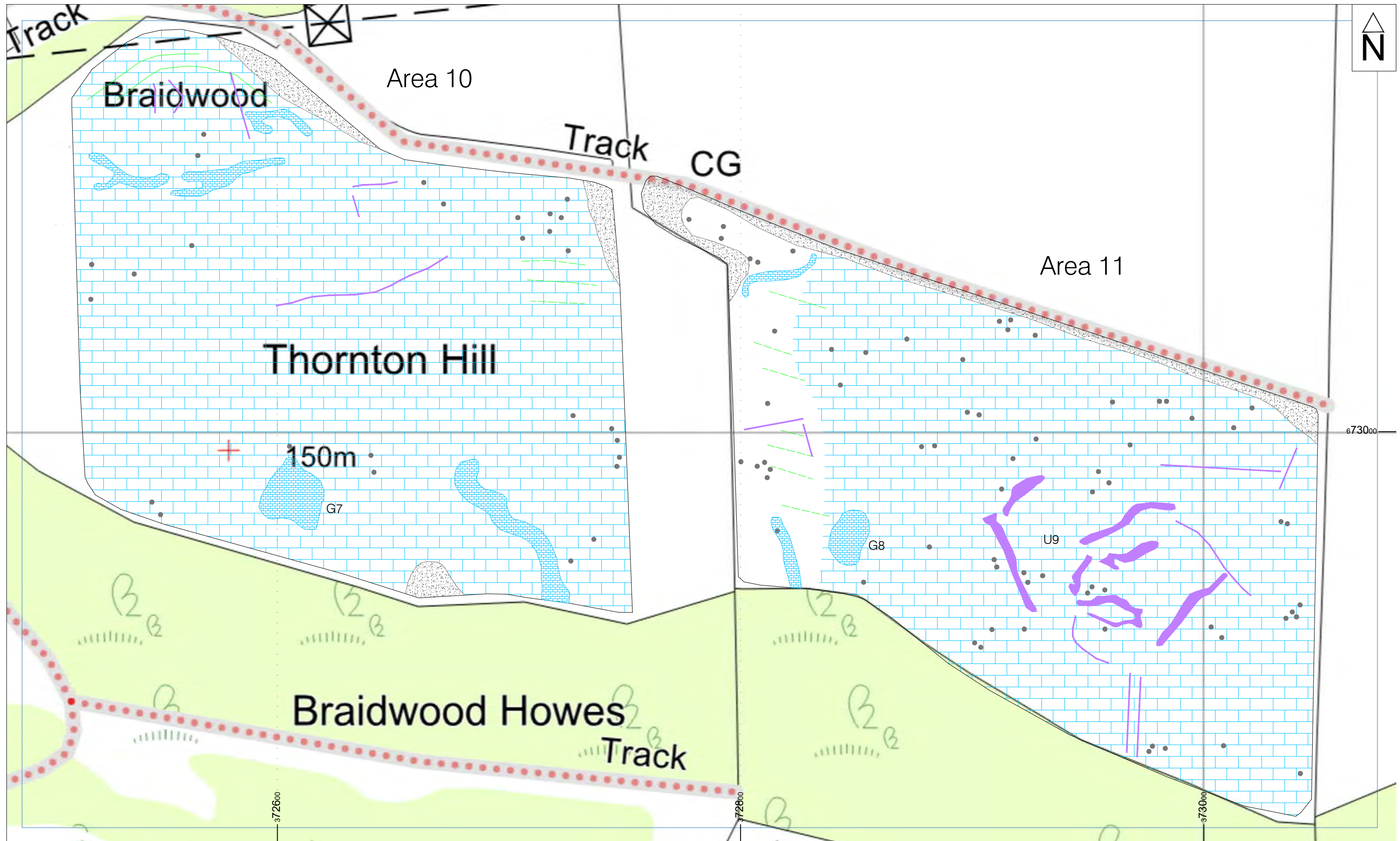
SECTOR BOUNDARY

15.0 nT/cm

0 50m

1:1500 @ A3









*Plate 1. General view of Area 1, looking southwest*



*Plate 2. General view of Area 2, looking northeast*



*Plate 3. General view of Area 3, looking west*



*-Plate 4. General view of Area 4, looking east*





*Plate 5. General view of Area 5, looking east*



*Plate 6. General view of Area 6, looking southeast*



*Plate 7. General view of Area 7, looking southwest*



*Plate 8. General view of Area 8, looking southeast*





*Plate 9. General view of Area 9, looking south*



*Plate 10. General view of Area 10, looking northeast*



*Plate 11. General view of Area 11, looking west*

## **Appendix 1: Magnetic survey - technical information**

### **Magnetic Susceptibility and Soil Magnetism**

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haemetite. These minerals have a weak, measurable magnetic property termed magnetic susceptibility. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms. Areas of human occupation or settlement can then be identified by measuring the magnetic susceptibility of the topsoil because of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently comes to fill features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is the contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of topsoils, subsoils and rocks into which these features have been cut, which causes the most recognisable responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or the bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. The magnetic susceptibility of a soil can also be enhanced by the application of heat and the fermentation and bacterial effects associated with rubbish decomposition. The area of enhancement is usually quite large, mainly due to the tendency of discard areas to extend beyond the limit of the occupation site itself, and spreading by the plough.

### **Types of Magnetic Anomaly**

In the majority of instances anomalies are termed 'positive'. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as 'negative' anomalies that, conversely, means that the response is negative relative to the mean magnetic background.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories that are used in the graphical interpretation of the magnetic data:



*Isolated dipolar anomalies (iron spikes)*

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic ‘spiky’ trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

*Areas of magnetic disturbance*

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

*Linear trend*

This is usually a weak or broad linear anomaly of unknown cause or date. These anomalies are often caused by agricultural activity, either ploughing or land drains being a common cause.

*Areas of magnetic enhancement/positive isolated anomalies*

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response on two or three successive traverses. In neither instance is there the intense dipolar response characteristic exhibited by an area of magnetic disturbance or of an ‘iron spike’ anomaly (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post-holes or by kilns. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

*Linear and curvilinear anomalies*

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

**Methodology: Gradiometer Survey**

The main method of using the fluxgate gradiometer for commercial evaluations is referred to as *detailed survey* and requires the surveyor to walk at an even pace carrying the instrument within a grid system. A sample trigger automatically takes readings at predetermined points, typically at 0.25m intervals, on traverses 1m apart. These readings are stored in the memory of the instrument and are later dumped to computer for processing and interpretation.

During this survey an eight channel Sensys MX V3 system containing eight FGM650 sensors was also used which was towed across the area using an ATV. Readings were taken every 20MHz (between 0.05 and 0.1m). Data was be recorded onto a device, using a Carlson GNSS Smart antenna, for centimetre accuracy. These readings were stored in the memory of the instrument and downloaded for processing and interpretation.

The gradiometer data have been presented in this report in processed greyscale format. The data in the greyscale images have been interpolated and selectively filtered to remove the effects of drift in instrument calibration and other artificial data constructs and to maximise the clarity and interpretability of the archaeological anomalies.



## **Appendix 2: Survey location information**

Data was recorded onto a device, using a Carlson GNSS BRx7 Smart antenna, for centimetre accuracy. These readings were stored in the memory of the instrument and downloaded for processing and interpretation. The accuracy of the BRx7 is between 0.15cm – 0.8cm. The BRx7 has a built-in tilt sensor to correct collected point coordinates to within 2cm.

The survey data were then super-imposed onto a base map provided by the client to produce the displayed locations. However, it should be noted that Ordnance Survey positional accuracy for digital map data has an error of 0.5m for urban and floodplain areas, 1.0m for rural areas and 2.5m for mountain and moorland areas. This potential error must be considered if co-ordinates are measured off hard copies of the mapping rather than using the digital co-ordinates.

***Archaeological Services WYAS cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party.***

### **Appendix 3: Geophysical archive and metadata**

The geophysical archive comprises:-

- an archive disk containing compressed (WinZip 8) files of the raw data, report text (Microsoft Word 2003), and graphics files (Adobe Illustrator CS6 and AutoCAD 2017) files; and
- a full copy of the report.

At present the archive is held by Archaeological Services WYAS although it is anticipated that it may eventually be lodged with the Archaeology Data Service (ADS). Brief details may also be forwarded for inclusion on the English Heritage Geophysical Survey Database after the contents of the report are deemed to be in the public domain (i.e. available for consultation in the East Lothian Historic Environment Record).



## **Appendix 4: Oasis form**

# OASIS Summary for archaeol11-520869

OASIS ID (UID)	archaeol11-520869
Project Name	Geophysical Survey at Land south of Innerwick
Sitename	Land south of Innerwick
Sitecode	LSI23
Activity type	Geophysical Survey, MAGNETOMETRY SURVEY
Reason For Investigation	Planning: Pre application
Organisation Responsible for work	Archaeological Services WYAS
Project Dates	20-Feb-2023 - 04-Apr-2023
Location	Land south of Innerwick NGR : NT 72310 73410 LL : 55.95291502888609, -2.445005200367436 12 Fig : 372310,673410
Administrative Areas	Parish : Innerwick Local Authority District : East Lothian Country : Scotland
Project Methodology	The cart-based survey was undertaken using an eight channel SenSYS MX V3 system containing eight FGM650 sensors. Readings are taken every 20MHz (between 0.05 and 0.1m). Data were recorded onto a device, using a Carlson GNSS Smart antenna, for centimetre accuracy. These readings were stored in the memory of the instrument and downloaded for processing and interpretation. DLMGPS and MAGNETO software, alongside bespoke in-house software was used to process and present the data.
Project Results	A geophysical (magnetometer) survey was undertaken on approximately 50 hectares of land located to the south of Innerwick, East Lothian. Anomalies of both a definite and a possible archaeological origin have been detected including settlement features and ring ditches. Uncertain anomalies within the dataset include multiple linear responses which may be of some archaeological interest. Due to the geology within the Site many of the uncertain anomalies have been difficult to interpret, they may be of an archaeological origin but also equally likely to be geological or agricultural. Along with the high background levels of geology, further natural occurrences can be seen within the dataset which reflect lightning strikes. Modern ploughing and medieval or post-medieval ridge and furrow has also been recorded along with service pipes, disturbance associated with possible green waste manuring and magnetic disturbance associated with field boundaries and adjacent tracks.
Keywords	ENCLOSED SETTLEMENT - Late Prehistoric - Monument Type Thesaurus (Scotland) RING DITCH - Period Unknown - Monument Type Thesaurus (Scotland)
Funder	Private or public corporation Braxbess Ltd
Person Responsible for work	Emma Brunning
Archives	
DES description	
NGR	NT 72310 73410
Previous Work	No
Future Work	No



Caption(s) for illustrations	
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## Bibliography

- Bates, C.R., Bates, M., Gaffney, C., Gaffney, V. and Raub, T., 2019. Geophysical Investigation of the Neolithic Calanais Landscape. *Remote Sensing* 11 (24):2975
- BGS, 2023. [www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html](http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html). British Geological Survey (viewed April 2023)
- Burks, J., Viberg, A., and Bevan, B., 2015. Lightning strikes in archaeological magnetometry data. A case study from the High Bank Works site, Ohio, USA. *Archaeological Prospection* 256-260
- Canmore, 2023. <https://canmore.org.uk/site/search/result?SITECOUNTRY=0&view=map> site map search (viewed April 2023)
- CIfA, 2020. *Standard and Guidance for Archaeological Geophysical Survey*. Chartered Institute for Archaeologists
- HES, 2023. <https://hesportal.maps.arcgis.com/apps/Viewer/index.html> Designations Map Search, Historic Environment Scotland (viewed April 2023)
- Gerrard, J., Caldwell, L and Kennedy, A. 2015. 'Green Waste and Archaeological Geophysics', *Archaeological Prospection* 22(2), 139-142
- MHCLG, 2019. *National Planning Policy Framework*. Ministry of Housing, Communities and Local Government.
- NLS, 2023. <https://maps.nls.uk/index.html>. National Library of Scotland (viewed April 2023)
- Schmidt, A. Linford, P., Linford, N., David, A., Gaffney, C., Sarris, A, and Fassbinder, J. 2015. *EAC Guidelines for the Use of Geophysics in Archaeology*. English Heritage
- SS, 2023. [https://map.environment.gov.scot/Soil\\_maps/?layer=1#](https://map.environment.gov.scot/Soil_maps/?layer=1#) Scotland's soils (viewed April 2023)



Ancient Monuments and Archaeological Areas Act 1979  
Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997  
Town and Country Planning (Scotland) Act 1997  
The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

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