magnitude surveys

Geophysical Survey Report

of

Land at Fitzgerald Road

Bramford

For

CgMs Heritage (Part of RPS Group Plc)

On Behalf Of

Hopkins Homes Ltd

Magnitude Surveys Ref: MSTM300

HER Parish Code: BRF 158

OASIS Ref: magnitud1-316416

May 2018

magnitude surveys

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Report Issued:

25 May 2018

Abstract

Magnitude Surveys was commissioned to assess the subsurface archaeological potential of a c. 9ha area of land off Fitzgerald Road in Bramford, Suffolk. A fluxgate magnetometer survey was successfully complete three groups of anomalies classified as archaeological origin have been identified across the northern, north-eastern and eastern ends of site. The archaeological responses are mainly indicative of ditches, enclosures and possible debris. The different groups may also reflect different phases of activity, potentially late prehistoric to Medieval/Post-Medieval. In addition to the archaeological responses, natural variations and agricultural activity have also been identified. A buried service runs through the western end of site, but overall the impact of modern interference on the results is minimal.

Contents

List of Figures

List of Anomaly Numbers

[**1**] Ditches and possible rectilinear enclosure towards the north-east.

[**1a**] Disturbance/spread of material within the ditches to the north-east.

[**2**] Rectilinear enclosures to the east.

[**2a**] Possible eastern extent of enclosure. Unclear due to modern ploughing.

[**2b**] Uncertain ferrous/burnt feature within enclosure to the east.

[**3a**] Possible early field system to the east.

[**4**] Ambiguous configuration of linear responses to the north.

1. Introduction

1.1. Magnitude Surveys Ltd (MS) was commissioned by CgMs Heritage (Part of RPS Group Plc) on behalf of Hopkins Homes Ltd to undertake a geophysical survey on a c.9ha area of land off Fitzgerald Road, Bramford, Ipswich, Suffolk (TM 1228 4602).

1.2. The geophysical survey comprised hand-pulled cart-mounted fluxgate magnetometer survey.

1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David et al., 2008), the Chartered Institute for Archaeologists (CIfA, 2014) and the European Archaeological Council (Schmidt et al., 2015).

1.4. The survey commenced on 11 May 2018 and took one day to complete.

2. Quality Assurance

2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society of Archaeological Prospection).

2.2. Director Graeme Attwood is a Member of CIfA, as well as the Secretary of GeoSIG, the CIfA Geophysics Special Interest Group. Director Finnegan Pope-Carter is a Fellow of the London Geological Society, the chartered UK body for geophysicists and geologists, as well as a member of GeoSIG, the CIfA Geophysics Special Interest Group. Director Chrys Harris has a PhD in archaeological geophysics from the University of Bradford and is the Vice-Chair of the International Society for Archaeological Prospection.

2.3. All MS managers have relevant degree qualifications to archaeology or geophysics. All MS field and office staff have relevant archaeology or geophysics degrees and/or field experience.

3. Objectives

3.1. The geophysical survey aimed to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The site is located c.4km west-northwest from the centre of Ipswich immediately to the south of the village of Bramford (Figure 1). The site lies within the shallow valley of the River Gipping, with the river passing c. 250m to the south-east. Survey was undertaken over an area bound to the north by Fitzgerald Road, Lorraine Way to the west, a farmyard to the south, a pasture field to the southwest, and residential properties of Vicarage Close to the northeast (Figure 2). The survey area was used for arable agriculture and at the time of survey was under young crop.

4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	Young crop. Even underfoot. Gradual slope down from west to east.	Bounded by hedges on all sides, except for the west, which was bounded by trees. A gas pipeline was noted running approximately north to south, just in from the western boundary. Several boreholes were extant in the south. A footpath ran SW-NE through the eastern half of the survey area.

4.3. The underlying geology comprises of chalk from the Newhaven Chalk Formation. Superficial deposits consist of sand and gravel of the Lowestoft Formation to the west, sand and gravel of undifferentiated river terraces in the centre and alluvial clay and silt to the east (British Geological Survey, 2018).

4.4. The soils consist for the most part free draining slightly acid loamy soils, with a sliver of loamy and clayey floodplain soils along the eastern boundary (Soilscapes, 2018).

5. Archaeological Background

5.1. The following archaeological background represents a summary of existing data derived from an HER search obtained in May 2018. Preferred local SMR references are given in brackets.

5.2. Within the survey area several scatters of artefacts have been found, one adjacent the southern and western boundaries (BRF041), one towards the centre (BRF146) and another towards the northeast corner of the survey area (BRF037). The scatter on the western and southern boundaries consists of Anglo Saxon pottery, Medieval artefacts and Post Medieval pottery (BRF041). Towards the centre of the field is a findspot of a bronze medieval token (BRF146), while towards the northeast corner the scatter consists of Roman, Anglo Saxon and Medieval artefacts (BRF037). The northeast corner of the survey area is also the possible location of a Medieval or Post Medieval cottage evidenced by the surface scatter of Medieval and Post Medieval material (BRF054).

5.3. Prehistoric activity in the surroundings of the survey area is evidenced by four ring ditch monuments located c.300m to the south of the survey area (BRF064, BRF065, BRF066, BRF067). Two of these are either truncated or associated with field boundaries (BRF65, BRF67) and another is located adjacent to a possible enclosure (BRF066). Cropmarks located c.300m and c.530m west of the survey area have been postulated to mark out an extraction pit, field boundaries, trackway and ditches (BRF104). Excavations c.500m to the east of the survey area

revealed remains of an Iron Age settlement consisting of roundhouses, a boundary ditch, an enclosure and pits (IPS283).

5.4. Evidence for Anglo Saxon occupation in the surroundings primarily comes from an artefact scatter located c.250m to the north in Bramford (BRF040). Medieval artefact scatters are identified in the same location as the Anglos Saxon artefact scatter (BRF040) and c.200m to the south (BRF136).

5.5. In the 1st ed. OS map from 1884, the survey area is part of a larger field with an irregular and curvilinear boundary to along its eastern edge. A footpath transects the field from the south-eastern corner of the survey area to the north-eastern corner just behind St Mary's church. This remains the same for the 2nd ed OS map in 1905. Change to the field does not appear to occur until 1989 when the eastern curvilinear field boundary appears to have been removed. In present day satellite imagery, the eastern boundary of the field of the survey area is marked by a straight boundary marked by a hedge line; the route of the footpath is also still notable.

6. Methodology

6.1. Data Collection

6.1.1. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.2. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m

6.1.3. The magnetic data were collected using MS' bespoke hand-pulled cart system.

6.1.3.1. MS' cart system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a Hemisphere S321 GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The Hemisphere S321 GNSS Smart Antenna is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.1.3.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

6.1.3.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2.Data Processing

6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to Historic England's standards for "raw or minimally processed data" (see sect 4.2 in David et al., 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen et al. (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3.Data Visualisation and Interpretation

6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the upper and/or lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figure 8). XY trace plots visualise the magnitude and form of the geophysical response, aiding in anomaly interpretation.

6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historic maps, LiDAR data, and soil and geology maps. Google Earth (2018) was consulted as well, to compare the results with recent land usages.

7. Results

7.1.Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports as well as reports of further work in order to constantly improve our knowledge and service.

7.2.Discussion

7.2.1. The geophysical results are presented in consideration with satellite imagery (Figure 6) and historic maps (Figure 7).

7.2.2. The fluxgate magnetometer survey has responded well to the survey area's environment, although the measured responses are generally weak in nature. This weak magnetic enhancement has made it difficult in places to distinguish between anomalies of archaeological origins and anomalies reflecting the natural background or ploughing regimes. Therefore, the basis for the distinction between many of the anomalies relied on analysing patterns or configurations of responses, as many of the archaeological responses appeared to form rectilinear or curvilinear features.

7.2.3. The results primarily reflect the natural background and changes in the superficial geology across the site: towards the western boundary, stronger natural responses appear to be associated with the sands and gravel of the Lowestoft Formation, while weaker curving anomalies and striations appear to associable with the undifferentiated sand and gravel of the river terraces across the centre. The impact of modern activity on the results is relatively low. Metallic features, such as fencing, has produced broad ferrous anomalies along several of the survey area's boundaries, while a buried service runs NNW-SSE through the western end. Agricultural use of the survey area is identifiable by weak, linear trends, which are indicative of ploughing.

7.2.4. Anomalies of a potential archaeological origin have been identified towards the north and east of site. Most of these anomalies exhibit weak magnetic enhancement, which is often associable with sites with chalk geology. Although, this could also be an indicator of a non-domestic usage or the fringe of a settlement. These archaeological responses appear in three clusters to the east, northeast, and northern ends of site; the relationship, if any, between these clusters is uncertain. Many of the anomalies within the clusters occur on similar alignments.

7.2.5. Anomalies towards the northeast and the eastern boundaries of the survey area appear to form possible rectilinear enclosures and ditches. Historic mapping dating back to the

1st ed. OS map in 1884 did not highlight any field boundaries or internal divisions within the survey area, which suggests these features pre-date the map evidence. These anomalies also notably do not relate to any of field boundaries immediately surrounding the survey area. Ditches in the north-eastern corner are close to the location of the Roman, Anglo Saxon and Medieval artefact scatter noted in section 5 (BRF037) and the location of the possible Medieval or Post Medieval cottage (BRF054).

7.2.6. To the south-east, towards the eastern boundary, is a more intelligible rectilinear enclosure with internal subdivision. This enclosure is on a similar alignment as the ditches to the north but is bounded by an arcing curvilinear response to the west. It is possible this group of anomalies at the eastern end reflect an early field system. Excavations c.500m to the east of the survey area identified remains of Iron Age settlement (IPS283), and the ring ditch monuments located c.300m to the south similarly were associated with field boundaries and enclosures (BRF065, BRF066, BRF067). Though not directly related to these monuments, the eastern enclosures and the adjacent field system could potentially be part of this wider prehistoric landscape.

7.2.7. The third cluster of possible archaeological anomalies is located towards the north of the survey area and consists of short linear and curvilinear anomalies on varying alignments. This group is highly ambiguous in nature. Some of the linear anomalies associated with this cluster are noticeably very weak in strength and could reflect possible ploughing regimes that have disturbed archaeological remains.

7.2.8. Several anomalies were identified as being of an undetermined origin, as it was not possible to determine whether the response was representative of a specific natural, agricultural, or archaeological origin.

7.3. Interpretation

7.3.1. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Undetermined** – Anomalies are classified as Undetermined when the anomaly origin is ambiguous through the geophysical results and there is no supporting or correlative evidence to warrant a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally not ferrous in nature.

7.3.1.3. **Ferrous (Discrete/Spread)** – Discrete ferrous-like, dipolar anomalies are likely to be the result of modern metallic disturbance on or near the ground surface. A ferrous spread refers to a concentrated deposition of these discrete, dipolar anomalies. Broad dipolar ferrous responses from modern metallic features, such as fences, gates, neighbouring buildings and services, may mask any weaker underlying archaeological anomalies should they be present.

7.3.2. Magnetic Results - Specific Anomalies

7.3.2.1. **Archaeology (North-Eastern End)** – Weak and short linear anomalies highlight the possible location of rectilinear enclosures near the northeast corner of the survey area [**1**]. The linear responses are either aligned approximately north-south and east-west. A high concentration of small, discrete anomalies and an area of disturbance [**1a**] has been detected within the eastern section of these enclosures. Classified as 'Archaeology Possible (Spread)', the responses of [**1a**] are weak in strength though some are noticeably stronger, and a few appear to be ferrous in origins. The location of [**1a**] corresponds with the area from which Medieval and Post Medieval surface finds have been recovered (BRF054). It is possible that this area of disturbance reflects associated material. Amongst this area of magnetic disturbance are a few weak linear anomalies, which tentatively may reflect the fragmentary outline of features associated with the possible cottage.

7.3.2.2. **Archaeology (Eastern End)** – Towards the eastern boundary of the survey area is a configuration of weak linear anomalies that demarcate at least two rectilinear enclosures [**2**]. These enclosures are aligned NW-SE, on an orientation that is slightly different to the ditches to the north [**1**]. Together, [**2**] may measure c. 77m x 21m, although the eastern limit [**2a**] is less clear and does occur in-line with tramlines and ploughing in recent satellite imagery (Figure 6). Located towards the south-east of [**2**] is as highly magnetic discrete anomaly [**2b**] with a strong negative trough at the centre. The strength and form of the anomaly possibly can be characteristic of intense in situ burning; although the strong negative in the centre could also indicate a ferrous origin. As a result, [**2b**] has been classified as 'Undetermined' as a modern or archaeological origin cannot be determined.

7.3.2.3. **Archaeology (Eastern End)** – Just west of the enclosures of [**2**] is an interrupted weak, curvilinear anomaly [**3**], which curves from up towards the north east from the survey area's southern end. Emanating from this anomaly are several weaker shorter responses; some of which occur in-line with features to the east [**2**]. The configuration of these responses is indicative of a field system. Several amorphous anomalies within [**2 & 3**] may represent associated features; however, their similarity to surrounding natural responses has lead to an uncertain interpretation.

7.3.2.4. **Archaeology (Northern End)** – Towards the north of the survey area is a very weak group of linear and curvilinear anomalies, which may outline the possible location of truncated enclosures or field systems [**4**]. This group is the most ambiguous due to the poor clarity of response against the background. A natural origin may also be possible, but these linear configurations appear distinct from the surrounding natural trends. Agricultural anomalies located towards the northwest of the survey area are slightly stronger than other agricultural anomalies, which would suggest that ploughing may have disturbed an area of enhance magnetisation of unconfirmed origins.

8. Conclusions

8.1. A fluxgate magnetometer survey has been successfully completed across the site and has revealed a range of different types of anomalies. Anomalies of a natural origin are evident throughout. These are typically stronger towards the western boundary and weaker across the centre; these distinctions were noted to potentially reflect the changes in the superficial geological deposits across the survey area. Interference from modern activity on the results is relatively minimal, except for the effect of modern fence structures along the boundary and a buried service. The magnetic enhancement of anomalies is generally low; although weak responses, including ploughing trends and potential archaeological features, have still been identified in the results.

8.2. Anomalies of an archaeological origin have been described in three distinct clusters to the northeast, east, and northern ends. The connectedness between this groups remains uncertain. The most prominent of these anomalies form a rectilinear enclosure located towards the northeastern and eastern boundaries of the survey area. These enclosures notably do not relate to any field boundaries identified in historic mapping strongly suggesting archaeological origins. Enclosures towards the northeast corner are near to Roman, Anglo Saxon and Medieval artefact scatters and are associated with an area of magnetic disturbances that appears to relate to a possible cottage highlighted by the surface spread of Medieval and Post-Medieval material. Other archaeological anomalies appear to reflect a possible field system on the eastern sector and either field systems or enclosures towards the north of the survey area. However, the interpretation of the group towards the centre is the least certain due to the weaker magnetic enhancement and unclear forms. Prehistoric ring ditches (BRF064, BRF065, BRF066, BRF067) are known to the south of site, but there is no indication for similar features within the current site.

8.3. Distinction between the archaeological anomalies and those of agricultural or natural origins in several locations is made difficult by the weak enhancement; although the potential archaeological responses are generally distinct in pattern from the surrounding natural trends. Those that have been classified as ‘Undetermined’ are too ambiguous to warrant a more certain classification and are likely to reflect a combination of processes.

9. Archiving

9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.

9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to the any dictated time embargoes.

10. Copyright

10.1. Copyright and the intellectual property pertaining to all reports, figures, and datasets produced by Magnitude Services Ltd. is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

11. References

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MSTM300 - Land at Fitzgerald Road, Bramford
Figure 1 - Site Location
1:25,000 @ A4

Site Boundary

N

0 0.5 1 km

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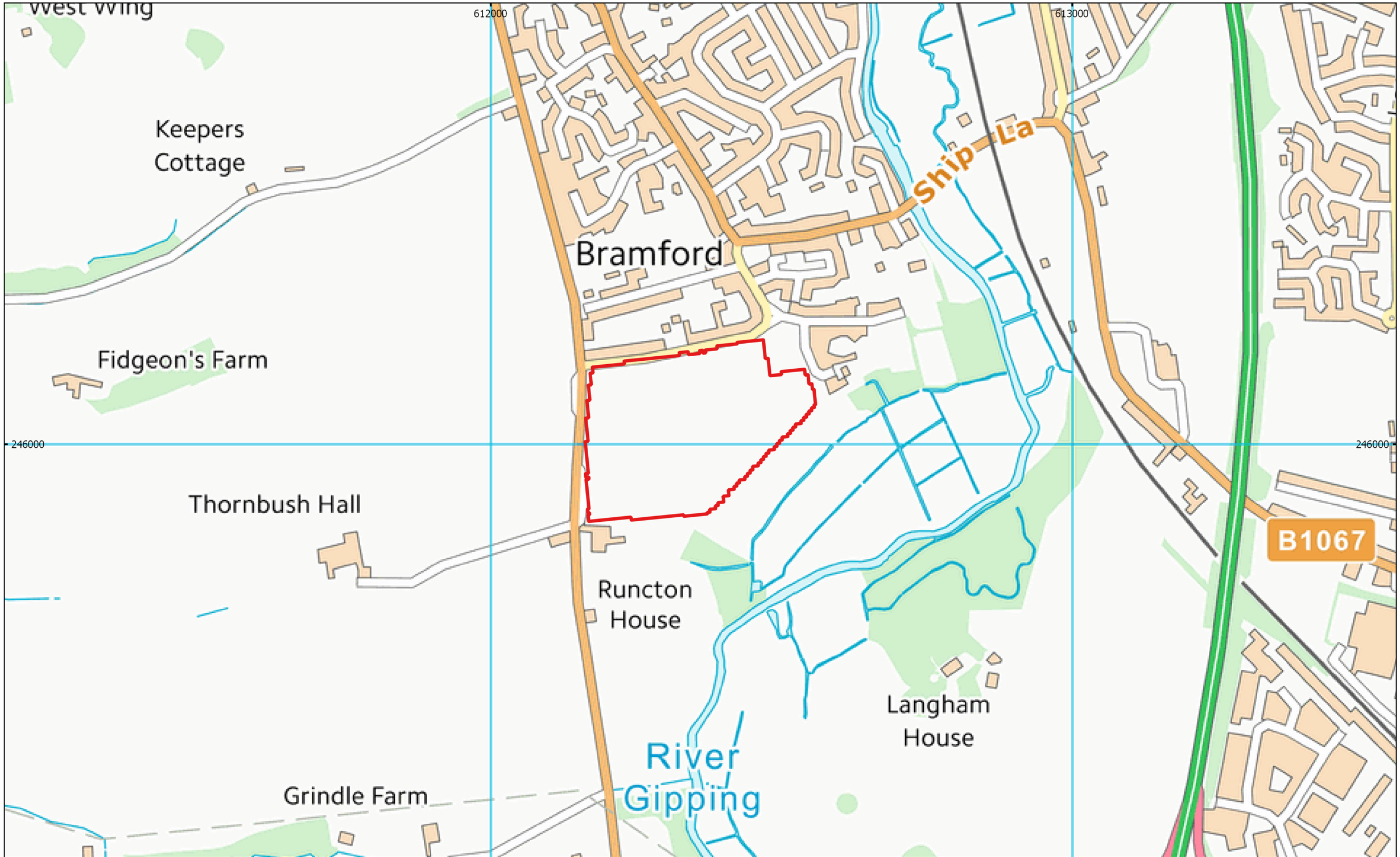

MSTM300 - Land at Fitzgerald Road, Bramford
Figure 2 - Location of Survey Area
1:6000 @ A3

Survey Extent

N

0 100 200 300 m

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612100 612200 612300 612400 612500 612600

246100 246100

246000 246000

245900 245900

MSTM300 - Land at Fitzgerald Road, Bramford
Figure 3 - Magnetic Total Field
1:1500 @ A3

48,998 nT 49,003

N

0 25 50 75 m

magnitude surveys

612100 612200 612300 612400 612500 612600

246100 246100

246000 246000

245900 245900

MSTM300 - Land at Fitzgerald Road, Bramford
Figure 4 - Magnetic Gradient
1:1500 @ A3

-1 nT 2

N

0 25 50 75 m

magnitude surveys

612100 612200 612300 612400 612500 612600

246100

246000

245900

1 1a 2 2a 2b 3 4

MSTM300 - Land at Fitzgerald Road, Bramford
Figure 5 - Magnetic Interpretation
1:1500 @ A3

- Archaeology Possible (Weak)
- Archaeology Possible (Spread)
- Archaeology Probable (Weak)
- Archaeology Possible (Trend)
- Natural (Strong)
- Natural (Weak)
- Natural (Spread)
- Natural (Trend)
- Undetermined (Strong)
- Undetermined (Weak)
- Undetermined (Trend)
- Agricultural (Weak)
- Agricultural (Trend)
- Ferrous (Dipolar)
- Magnetic Disturbance
- Service

N

0 25 50 75 m

magnitude surveys

612100 612200 612300 612400 612500 612600

246100 246000 245900

1 1a 2 2a 2b 3 4

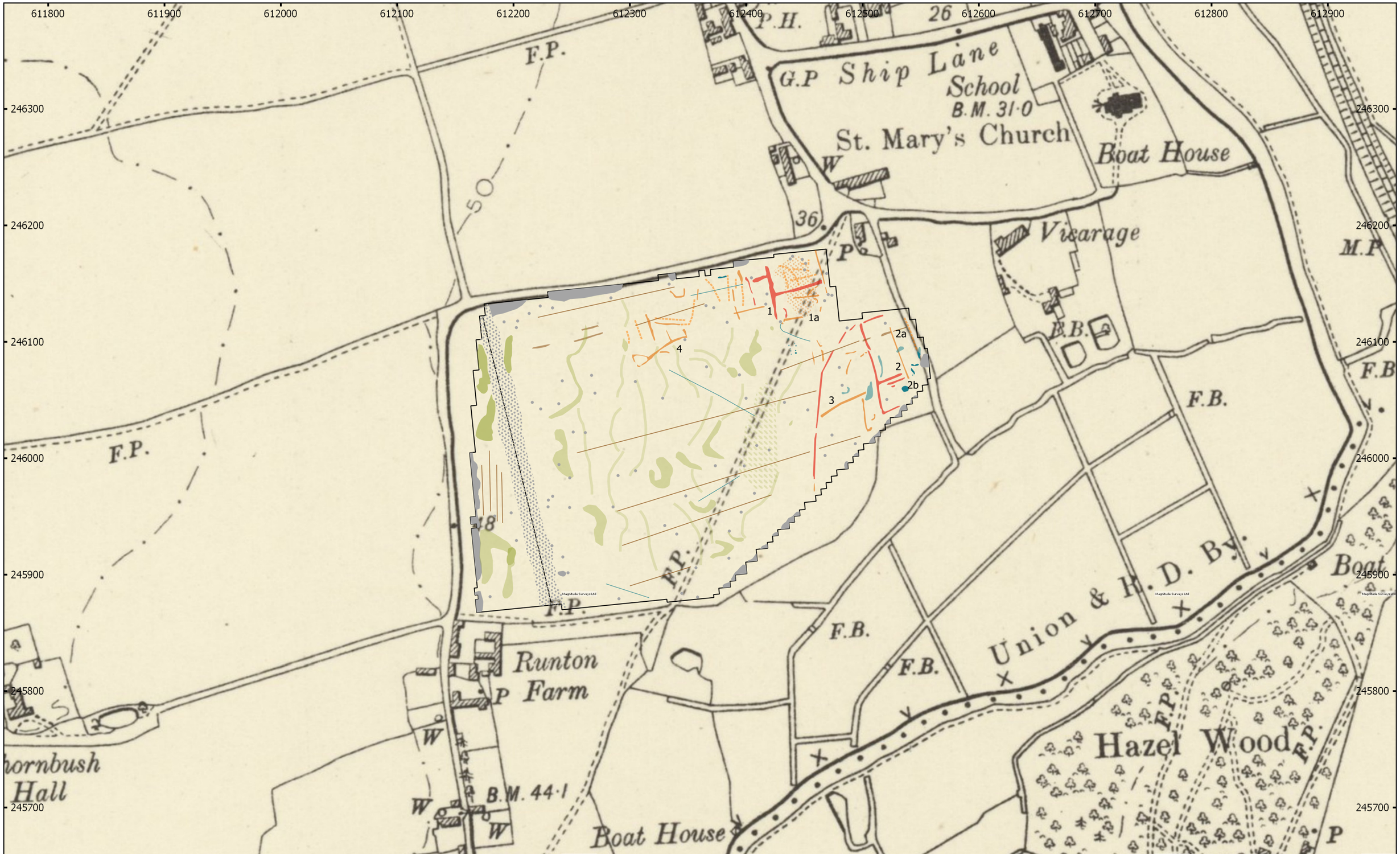
MSTM300 - Land at Fitzgerald Road, Bramford
Figure 6 - Magnetic Interpretation Over Satellite Imagery
1:1500 @ A3

- Archaeology Possible (Weak)
- Archaeology Possible (Spread)
- Archaeology Probable (Weak)
- Archaeology Possible (Trend)
- Natural (Strong)
- Natural (Weak)
- Natural (Spread)
- Natural (Trend)
- Undetermined (Strong)
- Undetermined (Weak)
- Undetermined (Trend)
- Agricultural (Weak)
- Agricultural (Trend)
- Ferrous (Dipolar)
- Magnetic Disturbance
- Service

N

0 25 50 75 m

magnitude surveys



MSTM300 - Land at Fitzgerald Road, Bramford
Figure 7 - Magnetic Interpretation Over Historic Maps
1:3000 @ A3

Contains historic maps: Ordnance Survey, 6" 2nd edition c. 1882-1913 © National Library of Scotland

- Archaeology Possible (Weak)
- Archaeology Possible (Spread)
- Archaeology Probable (Weak)
- Archaeology Possible (Trend)
- Natural (Strong)
- Natural (Weak)
- Natural (Spread)
- Natural (Trend)
- Undetermined (Strong)
- Undetermined (Weak)
- Undetermined (Trend)
- Agricultural (Weak)
- Agricultural (Trend)
- Ferrous (Dipolar)
- Magnetic Disturbance
- Service

N

0 50 100 150 m

magnitude surveys

612100 612200 612300 612400 612500 612600

246100

246000

245900

MSTM300 - Land at Fitzgerald Road, Bramford
Figure8 - XY Trace Plot
30nT/cm at 1:1500 @ A3

N

0 25 50 75 m

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STANDARD MAGNETIC FIELDWORK RISK ASSESSMENT

Likelihood of Accident/Incident Occurring	Severity of Consequences
1. Highly improbable 2. Probable – annually 3. Infrequent – 2-3 times/year 4. Occasional – monthly 5. Frequent – weekly	1. Minor injury minor damage to plant/equipment/buildings 2. Injury (no time lost) damage repair costs are low 3. Injury (time lost) high damage repair costs 4. Major reportable injury very high damage repair costs 5. Fatality major damage and major costs

Details of tasks to be carried out	Potential Hazard	A Likelihood	B Severity Rating	Overall Risk Rating A x B	Control Measures	Action	Revised Risk Rating
Driving company vehicle	Losing control of vehicle, sudden breaking or swerving. Hitting another road user, pedestrian or stationary object.	2 2	5 5	10 Moderate 10 Moderate	Do not drive vehicle if feeling unwell or tired. Take regular breaks on long journeys. Take turns driving when working in groups. Try to avoid driving in adverse weather	If weather is severe pull over. Stay in a hotel if work has been delayed or weather conditions are extreme.	1x5=5 Low 1x5=5 Low
Parking company vehicle	Parking in an unsafe location, such as a blind corner or hidden dip or on the side of a major highway. Pausing while farm gates are opened in order to exit highway.	3 4	5 4	15 High 16 High	Where possible park off-road in car parks, farm yards, fields or lay-bys. If it is not possible to access a survey area in a safe manner, stop and make new arrangements, such as obtaining keys or codes to locked gates. Use vehicle lights, such as dipped headlights, and hazards. Avoid packing or unpacking the vehicles in the dark. When performing reversing procedures while entering or exiting fields, position a colleague in a safe place where they can be seen and heard in order to direct and	Wear high visibility clothing when working around vehicles. Use the floodlight when necessary and safe to do so. Return early during winter months to prevent working in dusk conditions Only stop on highway if safe to do so. Use hazard lights.	1x5=5 Low 1x4=4 Low

STANDARD MAGNETIC FIELDWORK RISK ASSESSMENT

Likelihood of Accident/Incident Occurring	Severity of Consequences
1. Highly improbable 2. Probable – annually 3. Infrequent – 2-3 times/year 4. Occasional – monthly 5. Frequent – weekly	1. Minor injury minor damage to plant/equipment/buildings 2. Injury (no time lost) damage repair costs are low 3. Injury (time lost) high damage repair costs 4. Major reportable injury very high damage repair costs 5. Fatality major damage and major costs

					communicate information on the road traffic.		
Loading and unloading the cart	Muscle strain, dropping equipment, slips trips and falls.	4	2	8 Moderate	Work in a pair, never lift the cart in or out on your own. Move the cart to the edge of the van and then lower to the ground. Never step out the van while lowering to the floor. Follow manual handling training.	Clear both the interior and surrounding van area before attempting to lift the cart in or out the van.	2x1=2 Low
Entering and commencing work in a new survey area	Coming into contact with unknown hazards in a new survey area.	4	2	8 Moderate	Where possible, arrange for livestock to be removed from survey areas before work is begun. Liaise with farmer with regard to livestock. Complete a walkover survey and dynamic risk assessment of the survey area to identify any hidden or unusual hazards, remove or reduce the hazard as best as possible and inform all other staff members of both the hazard and the measures that are being implemented to minimise the risk.	Provide a project questionnaire a to be completed by the client before commencement of fieldwork to reduce or eliminate hazards before commencing fieldwork.	2x1=2 Low
Balancing the magnetic sensors	To complete the sensors' calibration requires the cart to be lifted and turned upside down.	4	3	12 Moderate	When the cart must be lifted, ensure it is set up by two people. Before the cart is lifted, a set of steps and commands should be agreed, who will perform each step and when. If either party feels uncomfortable with the procedure, they should immediately let their partner now and safely put the cart down together.		3x2=6 Low

STANDARD MAGNETIC FIELDWORK RISK ASSESSMENT

Likelihood of Accident/Incident Occurring	Severity of Consequences
1. Highly improbable 2. Probable – annually 3. Infrequent – 2-3 times/year 4. Occasional – monthly 5. Frequent – weekly	1. Minor injury minor damage to plant/equipment/buildings 2. Injury (no time lost) damage repair costs are low 3. Injury (time lost) high damage repair costs 4. Major reportable injury very high damage repair costs 5. Fatality major damage and major costs

					The cart should not be lifted in high winds or when the ground is slippery underfoot.		
Surveying with the cart	Slips, trips and falls while walking with instrument. Strains to muscles while pulling cart.	4	3	12 Moderate	Care taken when working in field. Work not to be undertaken where there are poor field conditions, such as heavy plough or thick vegetation - where a clear view of the underfoot condition is not possible.	Safety survey boots to be worn while walking. Warm up/ down in cold conditions.	3x2=6 Low
Working in all weather conditions.	Hypothermia and heat stroke.	3	3	9 Moderate	Stop survey and take shelter in heavy rain and strong wind to avoid accidents and illness. Take regular breaks in hot weather.	Appropriate PPE to be worn, full waterproofs and safety boots are provided. Make use of the provided, water, sun tan lotion and aftersun. Wear a hat.	3x1=3 Low

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SITE SPECIFIC RISK ASSESSMENT

Project Name: Project No:

Client: Assessor:

Date of Survey: Signature:

Description:

Hazard	Who could be harmed?	Mitigation strategies?	Any further action required?	Who should take action? When?	Has the hazard been resolved?

OASIS DATA COLLECTION FORM: England

OASIS ID: magnitud1-316416

Project details

Project name	Fitzgerald Rd, Bramford
Short description of the project	Magnitude Surveys was commissioned to assess the subsurface archaeological potential of a c. 9ha area of land off Fitzgerald Road in Bramford, Suffolk. A fluxgate magnetometer survey was successfully complete three groups of anomalies classified as archaeological origin have been identified across the northern, north-eastern and eastern ends of site. The archaeological responses are mainly indicative of ditches, enclosures and possible debris. The different groups may also reflect different phases of activity, potentially late prehistoric to Medieval/Post-Medieval. In addition to the archaeological responses, natural variations and agricultural activity have also been identified. A buried service runs through the western end of site, but overall the impact of modern interference on the results is minimal.
Project dates	Start: 11-05-2018 End: 11-05-2018
Previous/future work	Not known / Not known
Any associated project reference codes	BRF 159 - HER event no.
Type of project	Field evaluation
Current Land use	Cultivated Land 4 - Character Undetermined
Monument type	DITCH Uncertain
Monument type	ENCLOSURE Uncertain
Monument type	PIT Uncertain
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Not recorded
Prompt	Unknown
Position in the planning process	Not known / Not recorded
Solid geology	CHALK (INCLUDING RED CHALK)
Drift geology (other)	Sand and gravel, River Terrace, Alluvial clay and silt
Techniques	Magnetometry

Project location

Country	England
Site location	SUFFOLK IPSWICH IPSWICH Fitzgerald Rd, Bramford

Study area	9 Hectares
Site coordinates	TM 1228 4602 52.071263325915 1.097778407572 52 04 16 N 001 05 52 E Point

Project creators

Name of Organisation	Magnitude Surveys Ltd
Project brief originator	n/a
Project design originator	Magnitude Surveys Ltd
Project director/manager	Chrys Harris
Project supervisor	Chrys Harris

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Magnitude Surveys
Digital Contents	"Survey"
Digital Media available	"GIS","Images raster / digital photography","Geophysics"
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Geophysical Survey Report of Land at Fitzgerald Road, Bramford
Author(s)/Editor(s)	Legg, R. and Swinbank, L.
Other bibliographic details	Ref MSTM300
Date	2018
Issuer or publisher	Magnitude Surveys Ltd
Place of issue or publication	Bradford

Entered by	Chrys Harris (info@magnitudesurveys.co.uk)
Entered on	28 August 2018

OASIS: