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RNAS Yeovilton, Somerset Waste Management Centre

Detailed Gradiometer Survey
and Archaeological Watching Brief Report



Planning Application Number: 15/03197
Accession Code: TTNM: 63/2015
HER Number: 32913
Ref: 109960.03
August 2015



**RNAS Yeovilton
Somerset**

Waste Management Centre

**Detailed Gradiometer Survey
and Archaeological Watching Brief Report**

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* I= Internal Draft; E= External Draft; F= Final

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Detailed Gradiometer Survey And Archaeological Watching Brief Report

Summary

Wessex Archaeology were commissioned by Bridgeway Consulting Ltd, acting on behalf of Mott MacDonald, to undertake a detailed gradiometer survey and subsequent archaeological watching brief on land near Stockwitch Farm, Podimore, Somerset (centred on NGR 556160 243860). The project was commissioned, with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features prior to the construction of a waste management centre.

The site comprises a pastoral field located approximately 8 km north of Yeovil, and is bounded by the B3151 to the south, Royal Naval Air Station (RNAS) Yeovilton to the west and Stockwitch Farm to the east. The site is flat, at an elevation of 20 m above Ordnance Datum (aOD) and covers an area of 0.88 ha.

The detailed gradiometer survey was undertaken on 20th July 2015 and has demonstrated the presence of a number of anomalies of potential archaeological interest including a series of rectilinear features located in the centre of the survey area. These may represent a large, rectangular ditch-like feature, possibly associated with the late Iron Age/Romano-British agricultural settlement excavated approximately 600 m to the west of the site within the limits of RNAS Yeovilton. Ploughing trends also appear within the survey area, as well as other linear and curvilinear trends of uncertain origins. These may be evidence of other ancient or historic agricultural activity.

Following preliminary analysis of the results of the gradiometer survey, an archaeological watching brief was undertaken on 22nd July 2015 when three geotechnical pits were excavated within the site. No archaeological remains were observed during the excavation of these pits. Groundwater contamination of hydrocarbons (probably kerosene) was encountered in Test Pit 1. Due to this contamination none of the test pits were dug to their anticipated 3 m depth.



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The geophysical fieldwork was undertaken by Diana Chard and Rebecca Hall. The archaeological watching brief was undertaken by Benjamin Cullen. Rebecca Hall processed and interpreted the geophysical data and also wrote this report, under the supervision of Lizzie Richley. Benjamin Cullen and Jen Smith edited this report. The geophysical work was quality controlled by Gareth Davey and Lucy Learmonth. Illustrations were prepared by Richard Milwain and Karen Nichols. The project was managed on behalf of Wessex Archaeology by Gareth Chaffey.



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Detailed Gradiometer Survey And Archaeological Watching Brief Report

1 INTRODUCTION

1.1 Project background

- 1.1.1 Wessex Archaeology (WA) was commissioned by Bridgeway Consulting Ltd to carry out a geophysical survey and archaeological watching brief at RNAS Yeovilton, Podimore, Somerset (hereafter “the Site”, centred on NGR 556160 243860) (**Figure 1**). The survey and watching brief were undertaken to inform proposals for new waste management centre.
- 1.1.2 The development proposals (planning application number 15/03197) comprise the construction of a new recycling and waste management centre for the reception, segregation, storage and enabling of onward movement of recycling and general waste.
- 1.1.3 A Method Statement (MS) (WA 2015a) which set out the methodologies and standards that were employed by WA in order to undertake the detailed gradiometer survey and archaeological watching brief was submitted to, and approved by, the client prior to any fieldwork being undertaken. The MS presented a brief description of the methodology followed, the detailed survey results and the archaeological interpretation of the geophysical data and watching brief observations.
- 1.1.4 In format and content the MS conformed with current best practice and to the guidance outlined in *Management of Research Projects in the Historic Environment* (MoRPHE, Historic England 2015) and the Chartered Institute for Archaeologists’ (ClfA) *Standard and guidance for geophysical survey* (ClfA 2014a) and *Standard and guidance for an archaeological watching brief* (ClfA 2014b).
- 1.1.5 The geophysical survey was undertaken on 20th July 2015, whilst the watching brief was undertaken on 22nd July 2015. The fieldwork was assigned the event number 32913 by the Somerset Historic Environment Record (HER).

1.2 Site location and topography

- 1.2.1 The Site is located immediately to the east of RNAS Yeovilton, south of the village of Podimore (**Figure 1**). Detailed gradiometer survey was undertaken over the Site, a total of 0.88 ha, the full survey extents.
- 1.2.2 The Site occupies an area of agricultural land, currently utilised as a grassed field. The Site is bounded by the B3151 to the south and Stockwitch Farm to the east with RNAS Yeovilton military complex immediately to the west.
- 1.2.3 The centre of the Site is virtually flat and lies approximately 20 m above Ordnance Datum (aOD).



1.3 Soils and geology

- 1.3.1 The solid geology comprises Langport Member, Blue Lias Formation and Charmouth Mudstone Formation (undifferentiated) with overlying superficial geological deposits of River Terrace Deposits (undifferentiated) (BGS 2015).
- 1.3.2 The soils underlying the Site are most likely typical brown calcareous earths of the 511h (Badsey 1) association (SSEW SE Sheet 5-2 1983). Soils derived from such geological parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.

1.4 Archaeological background

- 1.4.1 A detailed archaeological background for the Site (Mott MacDonald 2015a) has previously been presented in the form of a Desk-Based Assessment (DBA), and as such will not be repeated here.
- 1.4.2 In summary, RNAS Yeovilton lies within the Yeo Valley on the edge of the upland area fringing the Somerset Levels to the north, and to the immediate east of Ilchester. Although there is limited evidence for Neolithic or Bronze Age activity within the river valley, extensive cropmarks were observed in 1949 and 1970 at Podimore, approximately 1 km to the north of the Site. Further cropmarks indicative of field systems, enclosures and droeways were identified in 1990 and 1997 to the north-east of the Site.
- 1.4.3 In the early Roman period a military presence was established at Ilchester (*Lindinis*), which stimulated civil settlement and urbanisation. The Roman settlement at Ilchester expanded to cover an area of approximately 20 hectares at the junction of the Fosse Way, the Roman road to Dorchester and the crossing of the River Yeo. There are six identified 1st to 2nd century villas within a 5 km radius of Ilchester (Leech 1982), and the nearest known site is at Ilchester-Mead, located to the south of the town and west of the Site.
- 1.4.4 Previous excavations at RNAS Yeovilton conducted by Wessex Archaeology (WA) have identified the presence of Romano-British, late Bronze Age/early Iron Age field systems, and a small number of discrete features, including two burials (WA 2015b).
- 1.4.5 The map regression exercise undertaken as part of the DBA indicated that the Site area has been in use as arable fields from at least the mid-19th century to present, however field boundaries have changed significantly over time, partly as a result of the expansion of RNAS Yeovilton to the immediate west of the Site.

2 AIMS

- 2.1.1 The aims of the geophysical survey, as provided in the specification (Mott MacDonald 2015a), were to:
- *Locate and identify archaeological features, in particular any possible continuation of the Iron Age or Romano British settlement previously identified by geophysical survey in the field adjacent to the west;*
 - *Establish the potential level of preservation of archaeological features; and*
 - *Identify areas of modern disturbance.*
- 2.1.2 The aims of the watching brief, as provided in the specification (Mott MacDonald 2015a), were to:



- *Establish the presence and extent of modern truncation or disturbance across the proposed development area; and*
- *Determine the stratigraphy across the proposed development area to establish the likelihood of archaeological remains being present.*

3 METHODOLOGY

3.1 Introduction

3.1.1 All fieldwork was conducted with due regard to the *RNAS Yeovilton Waste Management Centre: Archaeological Specification for Watching Brief and Geophysical Survey* (Mott MacDonald 2015a) and in accordance with *RNAS Yeovilton, Somerset: Method Statement for Geophysical Survey and Archaeological Watching Brief* (WA 2015a).

3.2 Geophysical Methodology

3.2.1 The detailed gradiometer survey was conducted using a Bartington Grad 601-2 dual fluxgate gradiometer system. The survey was conducted in accordance with Historic England (formerly English Heritage) guidelines (English Heritage 2008) and the specification as provided (Mott MacDonald 2015a).

3.2.2 The geophysical survey was undertaken by WA's in-house geophysics team on the 20th July 2015. Field conditions at the time of the survey were good, with dry conditions throughout the period of survey. An overall coverage of 0.88 ha was achieved.

3.2.3 Individual survey grid nodes were established at 30 m x 30 m intervals using a Leica Viva RTK GNSS instrument, which is precise to approximately 0.02 m and therefore exceeds English Heritage recommendations (2008).

3.2.4 The detailed gradiometer survey was conducted using two Bartington Grad601-2 fluxgate gradiometer instruments, which have a vertical separation of 1 m between sensors. Data were collected at 0.25 m intervals along transects spaced 1 m apart with an effective sensitivity of 0.03 nT, in accordance with English Heritage guidelines (2008). Data were collected in the zigzag method.

3.2.5 Data from the survey was subject to minimal data correction processes. These comprise a zero mean traverse function (± 5 nT thresholds) applied to correct for any variation between the two Bartington sensors used, and a de-step function to account for variations in traverse position due to varying ground cover and topography. These two steps were applied throughout the survey area, with no interpolation applied.

3.2.6 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 1**.

3.3 Watching Brief Methodology

3.3.1 The archaeological watching brief was undertaken on 22nd July 2015. Ground conditions were good and the weather was dry barring a brief heavy downpour.

3.3.2 All test pit locations were scanned by the principal contractor for the presence of UXOs and buried services and intrusive works were monitored by a UXO specialist. No evidence for any UXO material or services was observed in any of the test pits in this Site.



- 3.3.3 The geotechnical works consisted of the excavation of three 0.6 m by 3.0 m test pits to a proposed depth of 3.0 m. This excavation was undertaken in discrete spits by a JCB backhoe mechanical excavator using a toothless bucket. Excavation was paused at various depths for the collection of geotechnical samples and at the top of the natural geology to allow for archaeological inspection for remains. The entirety of the excavation was monitored by an experienced archaeologist until it was clear that the potential for archaeological remains to be encountered was exhausted.
- 3.3.4 All exposed archaeological deposits were recorded using WA's *pro forma* recording system.
- 3.3.5 A complete drawn record of archaeological features and deposits was compiled. This includes both plans and sections, drawn to appropriate scales (generally 1:20 for plans, 1:10 for sections), and with reference to a Site grid tied to the Ordnance Survey National Grid. The Ordnance Datum (OD) height of all principal features and levels was calculated and plans/sections were annotated with OD heights.
- 3.3.6 A photographic record was maintained during the archaeological investigations using digital cameras equipped with an image sensor of not less than 10 megapixels. Digital images were subject to managed quality control and curation processes which embedded appropriate metadata within the image and ensure long term accessibility of the image set.
- 3.3.7 An accession code (TTNCM: 63/2015) was obtained from Somerset County Council and was marked on all paperwork relating to this watching brief.

4 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

4.1 Introduction

- 4.1.1 The detailed gradiometer survey has been successful in identifying anomalies of likely, probable and possible archaeological interest across the Site, along with an area of increased magnetic response, trends of uncertain origin and several ploughing trends. Results are presented as a series of greyscale plots, XY plots and archaeological interpretations at a scale of 1:1500 (**Figures 2 to 4**). The data are displayed at -2 nT (white) to +3 nT (black) for the greyscale image and ± 25 nT at 25 nT per cm for the XY trace plots.
- 4.1.2 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous/burnt or fired objects, and magnetic trends (**Figure 4**). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.
- 4.1.3 Numerous ferrous anomalies are visible throughout the dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.
- 4.1.4 Although no modern services detected within the survey area, it should also be noted that gradiometer survey may not detect all services present on Site. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g. CAT and Genny) should be used to confirm the location of buried services before any excavations are undertaken on Site.



4.1.5 It should be noted that small, weakly magnetised features may produce responses that are below the detection threshold of magnetometers. It may therefore be the case that more archaeological features may be encountered than have been identified through geophysical survey.

4.2 Gradiometer survey results and interpretation

4.2.1 The most significant anomalies are several positive linear anomalies oriented northeast to southwest at **4000** to **4004** and interpreted as ditches. Their similarity in magnetic response, shape and orientation suggest that they are interpreted overall as a possible area of enclosure of unknown date.

4.2.2 These positive linear anomalies are of varying magnetic strength and have therefore been interpreted accordingly as Archaeology and Possible Archaeology. Anomalies **4000** to **4003** are likely to be a pair of parallel ditches oriented southwest to northeast with approximately 10 m separation with **4001** likely to be a continuation of **4000** and **4003** a continuation of **4002**. These linear anomalies are interrupted in approximately the same areas along their length possibly suggesting truncation or lower survival of features here. Anomaly **4000** is potentially crossed by another possible parallel ditch feature at **4005** to **4006**.

4.2.3 A further single linear positive ditch feature is in the same orientation as **4000** to **4003** and runs for approximately the same length (less than 40 m) at **4004**. It is extremely weak at its south-western end and has been identified as Possible Archaeology because of its more ephemeral response.

4.2.4 Two narrowly spaced positive linear anomalies at **4005** and **4006** are ditch-type features. They are parallel to current field boundaries and are in the same north-west to south-east orientation as several surrounding ploughing trends. These have therefore been interpreted as Probable Archaeology. They truncate or are partially truncated at their north-western end by a ditch at **4000**, the relationship between these features has not been unequivocally demonstrated by the dataset.

4.2.5 A curvilinear positive anomaly at **4007** is possibly a surviving section of ditch relating to **4006**. However it has a weak response of less than +1 nT and is possibly agricultural or natural in origin.

4.2.6 Three larger and approximately oval-shaped positive anomalies at **4008**, **4009** and **4010** are possibly pit type features and have been interpreted as Possible Archaeology. Anomaly **4008** is in the vicinity of **4007** and may be associated whereas **4009** and **4010** are single, more isolated anomalies. They may prove to be natural in origin such as a tree-throw or a change in the superficial geology on further investigation.

4.2.7 Anomaly **4011** is an extremely weak linear trend that is less than +0.5 nT and is singled out here from other similar weak linear and curvilinear trends such as at **4012** because it is parallel to the possible enclosure ditches of **4000** to **4004**. It may prove to be archaeological in origin but its ephemeral nature prevents further characterisation.

4.2.8 An area of increased magnetic response in the eastern corner of the Site shows an elevated level of magnetic values which could prove to be anthropogenic origin. This area could indicate a spread of debris containing magnetically enhanced material such as ceramic, brick, tile and/or ferrous. It cannot be characterised further from the dataset as to whether it is modern or due to agricultural practice. The amount of dipolar ferrous anomalies in this area does not significantly increase compared to the rest of the Site but



the background levels do, they also increase in proximity to the crossroads adjacent to here. However this potential feature may prove to be geological in origin on further investigation

- 4.2.9 A number of positive linear anomalies, such as at **4014**, are closely spaced and oriented in the same direction as the current field boundaries and interpreted as ploughing trends, or other agricultural activity. They are likely to be post-medieval to modern in origin.
- 4.2.10 The strong dipolar readings along the south-west edge of the survey area indicate a large amount of ferrous and are in response to a large chain link fence separating farm land from RNAS Yeovilton. No anomalies have been identified within the ferrous 'halo' area as the stronger response will mask weaker features of potential archaeological interest.

5 WATCHING BRIEF RESULTS

- 5.1.1 The location of the three excavated test pits is shown in **Figure 5**. No archaeological features or deposits were encountered in any of the test pits.
- 5.1.2 **Test Pit 1** was excavated to a depth of 1.50 m. At 1.40 m below ground level the water table was reached and there was a very strong hydrocarbon odour (**Plate 1**). It was considered that this was a result of fuel leakage from nearby tanks. With this in mind, the decision was taken to halt excavation and backfill this pit. After consultation with Mott MacDonald's on-site engineer the decision was made to halt excavation in **Test Pits 2** and **3** at 1.0 m below ground level to avoid encountering further contamination.
- 5.1.3 All three test pits showed the same stratigraphic sequence of deposits, although the depth of these deposits varied. Initially encountered was a sandy clay loam topsoil, between 0.18 m and 0.26 m thick, which overlay between 0.34 m and 0.44 m of subsoil (**Plate 2**). Beneath this lay the gravels of the river terrace deposits first observed at around 0.6 m to 0.8 m below ground level. In **Test Pit 1** there was the suggestion that a clay rich deposit was reached beneath the gravels, but this was impossible to determine due to contaminated water ingress. For full description of the stratigraphic sequence refer to **Appendix 3**.
- 5.1.4 Three boreholes were also excavated within the Site by Bridgeway Consulting Ltd (**Appendix 4**), these recorded a similar stratigraphic sequence to that recorded in the test pits and confirmed the presence of a sandy clay layer beneath the river terrace gravels, first encountered at between 1.2 m and 2.2 m below ground level. Hydrocarbon contamination was noted in the ground water in Borehole 2 at 1.4 m below ground level and Borehole 3 at 1.15 m below ground level.

6 CONCLUSIONS

6.1 Geophysical survey

- 6.1.1 The detailed gradiometer survey has been successful in detecting anomalies of likely, probable and possible archaeology as well as an area of increased magnetic response, ploughing and agricultural trends and numerous linear and curvilinear trends of unknown origin which could prove to be archaeological in origin.



- 6.1.2 Previous archaeological work, including geophysical survey, undertaken approximately 600 m to the west of the Site identified the presence of Romano-British, and late Bronze Age/early Iron Age field systems, and a small number of discrete features, including two burials (WA 2015b; Lovell 2005). The features of possible significance in relating to the already identified enclosures and field systems to the west of the Site are the linear ditch-type anomalies from **4000** to **4006**. In addition to these there are a possible curvilinear ditch and three pit-type features identified at **4007** to **4010**.
- 6.1.3 The variation in magnetic response between the ditch-type features could indicate the state of survival of the features but magnetic strength on its own is not always a clear indicator of this. What is worthy of note here is the gap or break at a similar point across two ditch anomalies at **4000** to **4003** possibly indicating an area of truncation or previous disturbance.
- 6.1.4 The two parallel linear positive anomalies at **4005** and **4006** interpreted as Probable Archaeology are more typical in response of ditch-type features but their similar orientation to ploughing trends and to a current field boundary could also suggest an agricultural origin.
- 6.1.5 Ploughing trends are on the same north-west to south-east orientation as the current Site field boundaries and are likely to be post-medieval and modern in provenance. There are several linear and curvilinear trends of uncertain origin across the Site which may prove to be archaeological in origin but their weak and ephemeral magnetic response in the data cannot be characterised further. One very weak linear trend in particular though at **4011** is on a similar parallel alignment to the ditches at **4000** to **4004** and could potentially be associated.

6.2 Watching Brief

- 6.2.1 The archaeological watching brief found no archaeological remains. However, it should be considered that based upon the results of the geophysical survey there are likely to be archaeological remains present on this site. Geotechnical pits offer a very small window into the archaeological potential of a site and cannot be used to guarantee either the presence or absence of archaeology on the site.
- 6.2.2 The top of the natural geology was encountered at 0.6 m to 0.8 m below ground level and it is at this level that any archaeological remains are primarily anticipated. Previous excavations at RNAS Yeovilton encountered archaeology at similar depths.

7 STORAGE AND CURATION

7.1 Museum

- 7.1.1 It is recommended that the project archive resulting from the excavation be deposited with the Somerset County Museum, Taunton. The Museum has agreed in principle to accept the project archive on completion of the project, under the accession code TTNCM: 63/2015. Deposition of any finds with the Museum will only be carried out with the full agreement of the landowner.

7.2 Preparation of Archive

- 7.2.1 The complete site archive, which will include paper records, photographic records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard



conditions for the acceptance of excavated archaeological material by Somerset County Museum, Taunton, and in general following nationally recommended guidelines (SMA 1995; ClfAc 2014; Brown 2011; ADS 2013).

- 7.2.2 All archive elements will be marked with the accession code, and a full index will be prepared.

7.3 Discard Policy

- 7.3.1 WA follows the guidelines set out in *Selection, Retention and Dispersal* (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. Any discard of artefacts will be fully documented in the project archive.

- 7.3.2 The discard of environmental remains and samples follows nationally recommended guidelines (SMA 1993; 1995; English Heritage 2002).

7.4 Security Copy

- 7.4.1 In line with current best practice (e.g. Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

7.5 OASIS

- 7.5.1 An OASIS (Online AccesS to the Index of archaeological investigationS) online record <http://ads.ahds.ac.uk/projects/oasis/> will be initiated and key fields completed on Details, Location and Creators Forms (**Appendix 5**). All appropriate parts of the OASIS online form will be completed for submission to the HER. This will include an uploaded .pdf version of the entire report.

7.6 Copyright

- 7.6.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms with the *Copyright and Related Rights regulations 2003*.

- 7.6.2 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of the report.



8 REFERENCES

8.1 Bibliography

- ADS, 2013, *Caring for Digital Data in Archaeology: a guide to good practice*, Archaeology Data Service & Digital Antiquity Guides to Good Practice
- Brown, D.H., 2011, *Archaeological archives; a guide to best practice in creation, compilation, transfer and curation*, Archaeological Archives Forum (revised edition)
- CIfA, 2014a, *Standard and Guidance for archaeological geophysical survey*, Chartered Institute for Archaeologists
- CIfA, 2014b, *Standards and Guidance for an archaeological watching brief*, Chartered Institute for Archaeologists
- CIfA, 2014c, *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives*, Chartered Institute for Archaeologists
- English Heritage, 2002, *Environmental Archaeology; a guide to theory and practice of methods, from sampling and recovery to post-excavation*
- English Heritage, 2008, *Geophysical Survey in Archaeological Field Evaluation, Research and Professional Service Guideline No 1, 2nd edition*
- Historic England, 2015, *Management of Research Projects in the Historic Environment: The MoRPHE Project Manager's Guide*
- Lovell, J. 2005, Excavation of a Romano-British Farmstead at RNAS Yeovilton, *Somerset Archaeology and Natural History*, Volume 149 (2005), pp7-70
- Mott MacDonald, 2015a, *RNAS Yeovilton Waste Management Centre: Heritage Statement*
- Mott MacDonald, 2015b, *RNAS Yeovilton Waste Management Centre: Archaeological Specification for Watching Brief and Geophysical Survey*
- SMA, 1993, *Selection, Retention and Dispersal of Archaeological Collections*, Society of Museum Archaeologists
- SMA, 1995, *Towards an Accessible Archaeological Archive*, Society of Museum Archaeologists
- Wessex Archaeology, 2015a, *RNAS Yeovilton, Somerset: Method Statement for Geophysical Survey and Archaeological Watching Brief*, unpublished client report
- Wessex Archaeology, 2015b, *RNAS Yeovilton, Somerset, Project WINFRA –Contract 2 Interim statement*, unpublished client report



8.2 Cartographic and documentary sources

1886 First Edition without contours Ordnance Survey 6 inch map / 1:10,560 (Sheet LXXIV.SW)

1904 Second Edition Ordnance Survey 6 inch map / 1:10,560 (Sheet LXXIV.SW)

1959 Ordnance Survey 1:25,000 Provisional Series (Sheet ST52)

Soil Survey of England and Wales, 1983, *Sheet 5, Soils of Midland and Western England*.
Ordnance Survey: Southampton.

8.3 Online resources

British Geological Survey, <http://www.bgs.ac.uk> [accessed July 2015]

Old Maps Online, <http://www.oldmapsonline.org> [accessed July 2015]

Ordnance Survey, <http://www.ordnancesurvey.co.uk> [accessed July 2015]

UK Soil Observatory, <http://www.ukso.org> [accessed July 2015]



APPENDIX 1: SURVEY EQUIPMENT AND DATA PROCESSING

Survey methods and equipment

The magnetic data for this project was acquired using a Bartington 601-2 dual magnetic gradiometer system. This instrument has two sensor assemblies fixed horizontally 1m apart allowing two traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 1m separation, and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.

The gradiometers have an effective resolution of 0.03 nT over a ± 100 nT range, and measurements from each sensor are logged at intervals of 0.25 m. All of the data are stored on an integrated data logger for subsequent post-processing and analysis.

Wessex Archaeology undertakes two types of magnetic surveys: scanning and detail. Both types depend upon the establishment of an accurate 20 m or 30 m site grid, which is achieved using a Leica Viva RTK GNSS instrument and then extended using tapes. The Leica Viva system receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02 m in real-time and therefore exceed the level of accuracy recommended by English Heritage (2008) for geophysical surveys.

Scanning surveys consist of recording data at 0.25 m intervals along transects spaced 10 m apart, acquiring a minimum of 80 data points per transect. Due to the relatively coarse transect interval, scanning surveys should only be expected to detect extended regions of archaeological anomalies, when there is a greater likelihood of distinguishing such responses from the background magnetic field.

The detailed surveys consist of 20 m x 20 m or 30 m x 30 m grids, and data are collected at 0.25 m intervals along traverses spaced 1m apart. These strategies give 1600 or 3600 measurements per 20 m or 30 m grid respectively, and are the recommended methodologies for archaeological surveys of this type (EH 2008).

Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. Data may be collected at up to 0.125 m intervals along traverses spaced up to 0.25 m apart, resulting in a maximum of 28800 readings per 30 m grid, exceeding that recommended by English Heritage (2008) for characterisation surveys.

Post-processing

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

As the scanning data are not as closely distributed as with detailed survey, they are georeferenced using the GPS information and interpolated to highlight similar anomalies in adjacent transects. Directional trends may be removed before interpolation to produce more easily understood images.

Typical data and image processing steps may include:



- Destripe – Applying a zero mean traverse in order to remove differences caused by directional effects inherent in the magnetometer;
- Destagger – Shifting each traverse longitudinally by a number of readings. This corrects for operator errors and is used to enhance linear features;
- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data)

Typical displays of the data used during processing and analysis:

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



APPENDIX 2: GEOPHYSICAL INTERPRETATION

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

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

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

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

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

The agricultural category is used for the following:

- Former field boundaries – used for ditch sections that correspond to the position of boundaries marked on earlier mapping.
- Agricultural ditches – used for ditch sections that are aligned parallel to existing boundaries and former field boundaries that are not considered to be of archaeological significance.
- Ridge and furrow – used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow.
- Ploughing – used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries.
- Drainage – used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.

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

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



APPENDIX 3: TRENCH TABLES

KEY: bgl = below ground level

Test pit 1		site sub-division	WMC
		test pit dimensions (m)	2.40 by 0.60 by 1.50
context number	context type	Description	depth bgl (m)
101	Layer	Topsoil: Dark yellow brown sandy clay loam. Heavily bioturbated. Rare sub-angular limestone and quartzite <0.06m. Friable. Distinct horizon.	0-0.26
102	Layer	Subsoil: Mid-dark yellow brown clayey sand. Sparse sub-angular limestone <0.06m. Friable. Distinct horizon.	0.26-0.60
103	Natural	Mid yellow brown sandy clay. Abundant sub-rounded mudstone, limestone and quartzite <0.10m. Compact, clear horizon.	0.60-1.50
104	Natural	Mid grey sandy clay. Abundant sub-rounded mudstone, flint and quartzite <0.10m. Compact, clear horizon.	1.50-
comments	Water table reached at 1.45m bgl. As this was contaminated with diesel or aviation fuel, the test pit was abandoned. Context 104 may just be a contaminated part of context 103.		

Test pit 2		site sub-division	WMC
		test pit dimensions (m)	3.00 by 0.60 by 1.00
context number	context type	Description	depth bgl (m)
201	Layer	Topsoil: Dark yellow brown sandy clay loam. Heavily bioturbated. Rare sub-angular limestone and quartzite <0.06m. Friable. Distinct horizon.	0-0.20
202	Layer	Subsoil: Dark orange brown sandy silt, sparse sub-angular limestone and quartzite <0.06m, friable, distinct horizon.	0.20-0.64
203	Natural	Mid yellow brown/grey brown sandy clay, very abundant mudstone, quartzite, limestone and flint <0.10m, compact, distinct horizon.	0.64-
comments	Dug only to 1m bgl due to contamination in TP1		

Test pit 3		site sub-division	WMC
		test pit dimensions (m)	3.10 by 0.60 by 1.00
context number	context type	Description	depth bgl (m)
301	Layer	Topsoil: Dark yellow brown sandy clay loam. Bioturbated. Rare sub-angular limestone and quartzite <0.05m. Friable. Distinct horizon.	0-0.18
302	Layer	Subsoil: Mid orange brown sandy silt, sparse sub-	0.18-0.58



		angular limestone and quartzite <0.08m, friable, distinct horizon.	
303	Natural	Mid yellow brown with patches of light grey clayey sand, very abundant mudstone, quartzite, limestone and flint <0.10m, compact, distinct horizon.	0.58-0.82
304	Natural	Mid reddish brown clayey sand, near complete mudstone, limestone, quartzite and flint <0.16m,- predominantly gravel, compact, distinct horizon.	0.82-
comments	Dug only to 1m bgl due to contamination in TP1		



APPENDIX 4: TEST PIT AND BOREHOLE LOGS



WINDOWLESS SAMPLER LOG

Project RNAS Yeovilton		Site Waste Transfer Site		Consultant Mott MacDonald		EXPLORATORY HOLE No BH01
Job No J14504	Date 20-07-15 21-07-15	Ground Level (m) 69.16		Co-Ordinates () LAT: 51.017234, LONG: -2.634175		
Contractor Bridgeway Consulting Ltd						Sheet 1 of 2

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Field Test kPa HSV PP	Instrument Backfill
0.00-0.50	B			68.96		0.20	TOPSOIL: Brown slightly clayey gravelly fine to coarse SAND with many rootlets. Gravel is angular to rounded fine to coarse quartzite and mudstone. 0.10 Rare angular medium gravel of bituminous material.		
0.10	ES					(0.60)			
0.20	ES								
0.30-0.40	D								
0.50	ES			68.36		0.80	Brown slightly clayey gravelly fine to coarse SAND with some rootlets. Gravel is angular to rounded fine to coarse quartzite and mudstone.		
0.80-1.20	B								
0.90-1.00	D								
1.00	ES								
1.20-1.30	D					(1.00)	Dense light brown slightly clayey very sandy subangular to rounded fine to coarse GRAVEL of quartzite and limestone. Sand is fine to coarse. 1.20 Becoming sandy.		
1.20-1.65	S	N41							
1.30-1.80	B								
1.60	W			67.36		1.80			
1.80-2.00	D								
2.00	ES								
2.00-2.45	S	N15		66.96		(0.40) 2.20	Light blueish grey slightly sandy very clayey very angular to subangular fine to coarse GRAVEL of mudstone with occasional subangular cobbles of mudstone.	87	
2.20-2.50	B								
2.50-2.60	D								
2.60-3.05	UT100								
						(1.40)			
2.95-3.05	D								
3.00	ES								
3.05-3.10	D								
3.05-3.50	S	N19							
3.20-3.30	D								
3.30-3.60	B			65.56		3.60			
----- Borehole continued as a Cored Drillhole -----									
								112	
								140+	
								140+	

Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth (m)	Hole Dia. (mm)	Recovery (%)
20-07-15	1.20	0.00	N/A	DRY		
20-07-15	2.60	2.60	160	2.06	128	100
20-07-15	3.05	2.60	160	1.40	128	100
21-07-15	3.05	2.60	160	1.40	128	100
21-07-15	3.60	3.60	140	1.40	116	100
21-07-15	4.60	3.60	140	1.00	116	100
21-07-15	5.73	3.60	140	1.00	116	100

GENERAL REMARKS

- Position scanned with CAT and Genny prior to excavation.
- Pit hand dug to 1.20mbgl prior to drilling.
- Dynamic sampling from 1.20mbgl to 3.60mbgl.
- Rotary core completed from 3.60 to 5.73mbgl.

All dimensions in metres
Scale 1:50

Client **Mott MacDonald**

Method/
Plant Used **Commachio 305**

Logged By
HW

Report ID: BCL WS FIELD TEST || Project: J14504 - RNAS YEOVILTON (WTS) GPU || Library: GINT STD AGS 4_0_GLB || Date: 10 August 2015



BOREHOLE LOG

Project RNAS Yeovilton		Site Waste Transfer Site		Consultant		BOREHOLE No BH01
Job No J14504	Date 20-07-15 21-07-15	Ground Level (m) 69.16		Co-Ordinates () LAT: 51.017234 LONG: -2.634175		
Contractor Bridgeway Consulting Ltd						Sheet 2 of 2

RUN DETAILS			SAMPLES & TESTING			STRATA				
Depth	TCR (SCR) RQD	Fracture Spacing min(ave)max	Depth	Type	Result	Red'cd Level	Legend	Depth (Thickness)	DESCRIPTION	
									Discontinuities	Main
3.60	100 (69) 69					65.56		3.60		Weak thinly bedded bluish grey very fine grained weathered MUDSTONE. 3.60 - 3.77 Recovered as blueish grey very clayey very angular to subangular fine to coarse gravel with some cobbles of mudstone. 3.86 - 3.96 Zone of drilling induced fractures. 4.28 - 4.60 Becoming strong. 4.60 - 5.50 Zone of drilling induced fractures. 4.60 - 5.73 Recovered as very angular to angular medium to coarse gravel with some very angular cobbles of mudstone.
4.60			4.60-4.69	S	N50/20 mm			(2.13)		
5.50	22 (0) 0		5.50	C	N50/85 mm	63.43		5.73		

Drilling Progress and Water Observations							Rotary Flush				GENERAL REMARKS
Date	Depth	Time	Casing	Core Dia mm	Strike	Water Standing	From	To	Type	Returns	
21-07-15	3.60	09.00	3.60	116			4.60	5.50	Water		
21-07-15	4.60	10.00	3.60	116							
21-07-15	5.73	11.00	3.60	116							

1. Position scanned with CAT and Genny prior to excavation.
 2. Pit hand dug to 1.20mbgl prior to drilling.
 3. Dynamic sampling from 1.20mbgl to 3.60mbgl.
 4. Rotary core completed from 3.60 to 5.73mbgl.

All dimensions in metres Scale 1:50	Client Mott MacDonald	Method/ Plant Used Commachio 305	Logged By HW
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WINDOWLESS SAMPLER LOG

Project RNAS Yeovilton		Site Waste Transfer Site		Consultant Mott MacDonald		EXPLORATORY HOLE No BH02
Job No J14504	Date 30-07-15 31-07-15	Ground Level (m) 69.10		Co-Ordinates () LAT: 51.017166, LONG: -2.634395		
Contractor Bridgeway Consulting Ltd						Sheet 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Field Test kPa HSV PP	Instrument Backfill
0.10-0.20	D	N28	↓	68.76		0.34	<p>TOPSOIL: Brown slightly clayey gravelly fine to coarse SAND with some roots and rootlets and occasional subangular cobbles of limestone and quartzite. Gravel is subangular to rounded fine to coarse quartzite and limestone.</p> <p>Yellowish brown slightly clayey gravelly fine to coarse SAND with some roots and rootlets and occasional subangular cobbles of limestone and quartzite. Gravel is subangular to rounded fine to coarse quartzite and limestone.</p> <p>Yellowish brown slightly clayey sandy subangular to well rounded fine to coarse GRAVEL of quartzite, limestone and mudstone with occasional cobbles of quartzite. Sand is fine to coarse.</p> <p>0.90 - 1.20 Becomes greyish yellowish brown. Odour of hydrocarbons.</p> <p>Firm brownish bluish grey slightly sandy CLAY. Sand is fine to coarse.</p>		
0.10	ES			68.63	0.47				
0.20-0.40	B			(0.73)					
0.20	ES								
0.50-1.00	B								
0.50	ES								
0.60-0.70	D			67.90	1.20				
1.00-1.10	D			(1.45)					
1.00	ES								
1.20-1.65	S								
1.40	W								
1.65-1.75	D	N18							
2.00	ES								
2.20-2.65	S	66.45	2.65						

Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth (m)	Hole Dia. (mm)	Recovery (%)
30-07-15	1.20	0.00	000	DRY		
31-07-15	2.00	0.00	000	1.40	128	100
31-07-15	2.65	0.00	000	1.05	128	100

GENERAL REMARKS

- Position scanned with CAT and Genny prior to excavation.
- Pit hand dug to 1.20mbgl prior to drilling.
- Groundwater encountered at 1.40mbgl had strong hydrocarbon odour.

All dimensions in metres
Scale 1:50

Client **Mott MacDonald**

Method/
Plant Used **Commachio 305**

Logged By
HW



WINDOWLESS SAMPLER LOG

Project RNAS Yeovilton		Site Waste Transfer Site		Consultant Mott MacDonald		EXPLORATORY HOLE No BH03
Job No J14504	Date 30-07-15 31-07-15	Ground Level (m) 69.21		Co-Ordinates () LAT: 51.017184, LONG: -2.634196		
Contractor Bridgeway Consulting Ltd						Sheet 1 of 1

SAMPLES & TESTS			STRATA						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thickness)	DESCRIPTION	Field Test kPa HSV PP	Instrument Backfill
0.10-0.50	B		↓	68.91		0.30	TOPSOIL: Brown clayey gravelly fine to coarse SAND with some roots and rootlets. Gravel is angular to subrounded fine to coarse of quartzite, limestone and mudstone.		
0.10	ES			68.71		0.50			
0.20-0.30	D					(1.00)	Yellowish brown clayey gravelly fine to coarse SAND with some roots and rootlets. Gravel is angular to subrounded fine to coarse of quartzite, limestone and mudstone.		
0.20	ES								
0.50	ES								
0.60-1.00	B					1.50	Dense yellowish brown slightly clayey sandy subangular to well rounded fine to coarse GRAVEL of quartzite, mudstone and limestone with occasional subangular cobbles of quartzite. Sand is fine to coarse.		
0.70-0.80	D								
1.00	ES								
1.20	W								
1.20-1.65	S	N41			67.71				
1.65-1.75	D								
2.00	ES				(1.05)		Firm brownish bluish grey slightly sandy CLAY. Sand is fine to medium.		
2.10-2.55	S	N29		66.66		2.55			

Progress and Water Observations

Date	Depth	Casing	Casing Dia (mm)	Water Depth (m)	Hole Dia. (mm)	Recovery (%)
30-07-15	1.20	0.00		1.15		
31-07-15	2.00	2.00	140	1.15	128	100
31-07-15	2.55	2.00	140	1.15	128	100

GENERAL REMARKS

- Position scanned with CAT and Genny prior to excavation.
- Pit hand dug to 1.20mbgl prior to drilling.
- Groundwater encountered at 1.15mbgl had strong hydrocarbon odour.

All dimensions in metres
Scale 1:50

Client **Mott MacDonald**

Method/
Plant Used

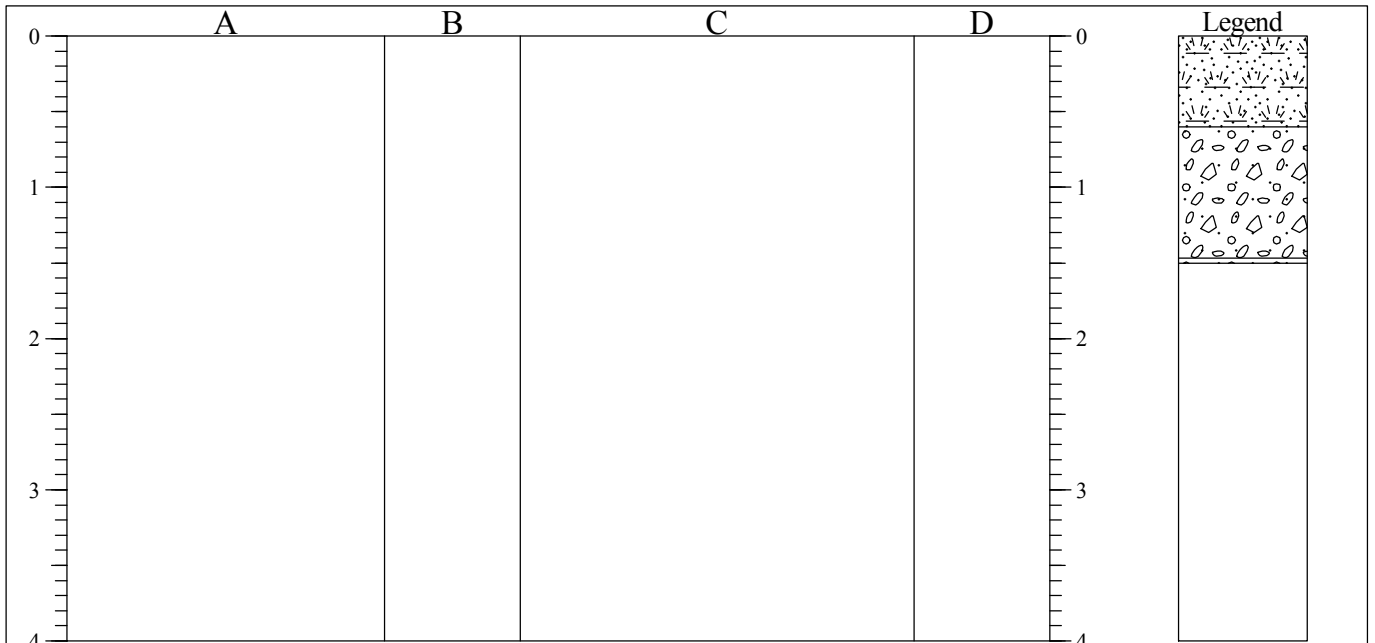
Commachio 305

Logged By
HW



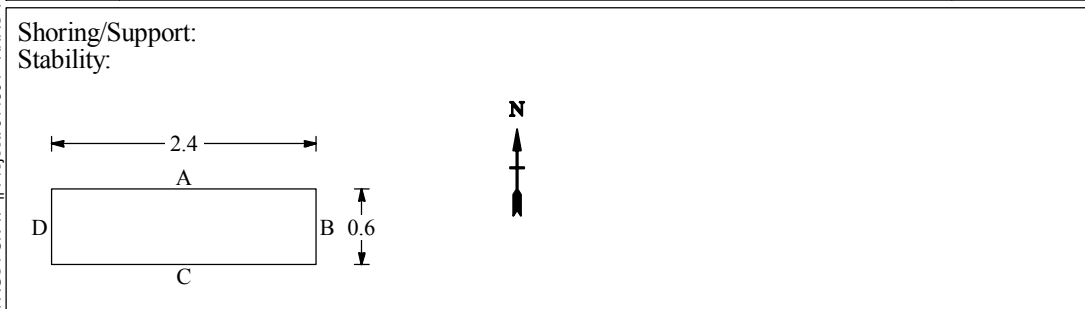
TRIAL PIT LOG

Project RNAS Yeovilton		Site Waste Transfer Site	Consultant Mott MacDonald	TRIAL PIT No TP01
Job No J14504	Date 22-07-15 22-07-15	Ground Level (m)	Co-Ordinates ()	
Contractor Bridgeway Consulting Ltd				Sheet 1 of 1



STRATA		SAMPLES & TESTS			
Depth	DESCRIPTION	Depth	Type	Field Tests (kPa)	
				HSV	PP
0.00-0.60	TOPSOIL: Brown slightly clayey gravelly fine to coarse SAND with occasional roots and rootlets. Gravel is very angular to subrounded fine to coarse of limestone and quartzite.	0.10 0.20-0.60	ES B		
0.60-1.47	Yellowish brown clayey sandy subangular to subrounded fine to coarse GRAVEL of limestone, quartzite and mudstone. Sand is fine to coarse. Very strong hydrocarbon odour.	0.20 0.40-0.50 0.50	ES D ES		
1.47-1.50	1.40 Significant water ingress.	0.80-1.20 1.00	B D ES		
	Grey slightly clayey sandy subangular to rounded fine to coarse GRAVEL of quartzite, flint and mudstone. Sand is fine to coarse. Very strong hydrocarbon odour.	1.50 1.50 1.50 1.50	B D ES W		

Report ID: AGS4 UK TP || Project: J14504 - RNAS YEOVILTON (WTS).G.P.U || Library: GINT STD AGS 4_0_GLB || Date: 29 July 2015



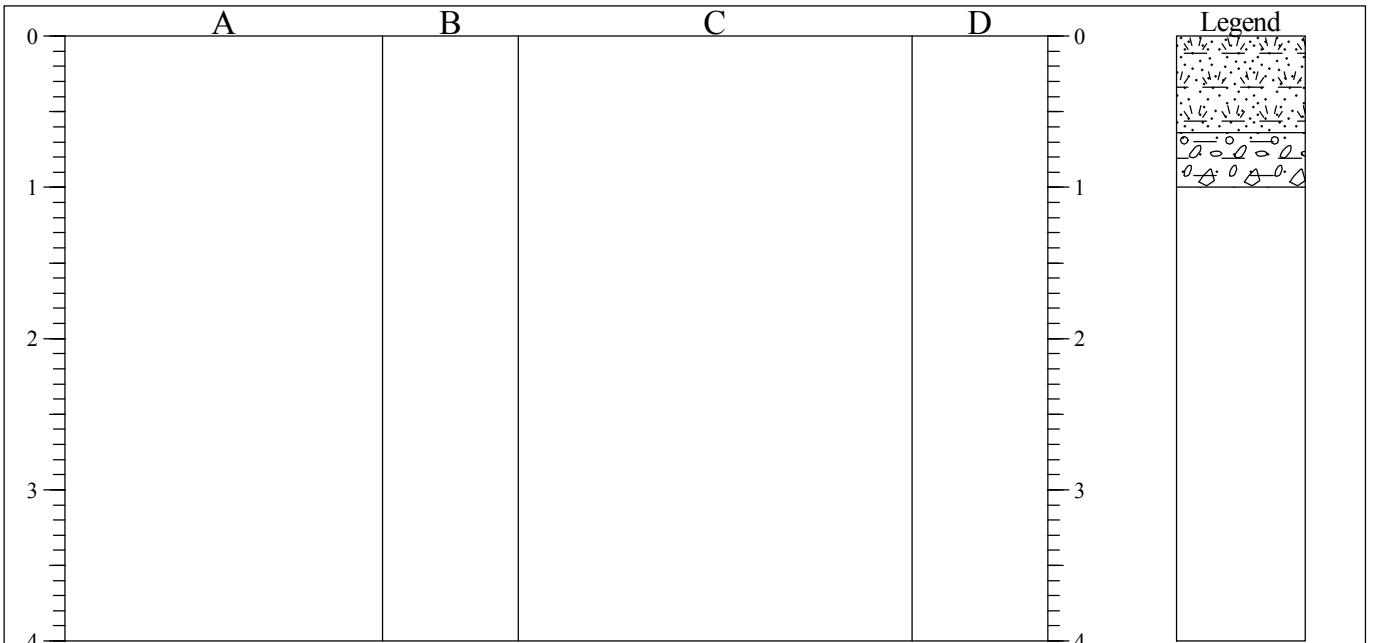
GENERAL REMARKS
1. Position scanned with CAT and Genny prior to excavation. 2. Groundwater encountered at 1.40m with strong hydrocarbon odour and visible evidence of contamination. Likely to be from nearby fuel tanks. 3. Possible clay at 1.50m but due to heavy water flow with contamination pit was terminated. 4. On completion pit backfilled with arisings and compacted.

All dimensions in metres Scale 1:50	Client Mott MacDonald	Method/ Plant Used JCB 3CX	Logged By HW
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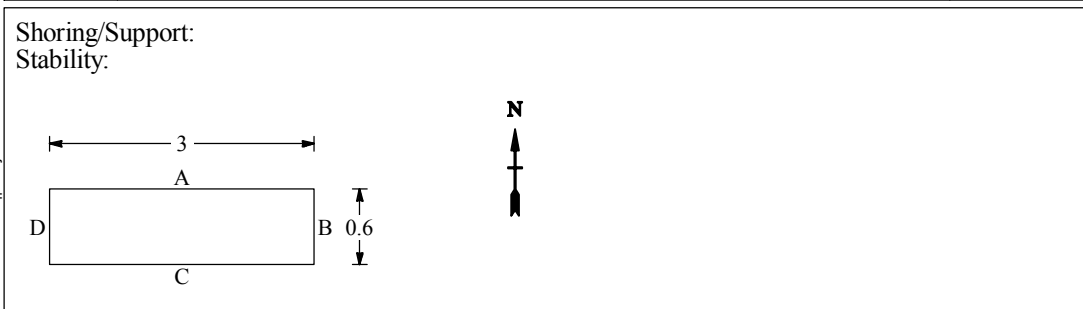
TRIAL PIT LOG

Project RNAS Yeovilton		Site Waste Transfer Site	Consultant Mott MacDonald	TRIAL PIT No TP02
Job No J14504	Date 22-07-15 22-07-15	Ground Level (m)	Co-Ordinates ()	
Contractor Bridgeway Consulting Ltd				Sheet 1 of 1



STRATA		SAMPLES & TESTS		
Depth	DESCRIPTION	Depth	Type	Field Tests (kPa) HSV PP
0.00-0.64	TOPSOIL: Brown slightly clayey gravelly fine to coarse SAND with occasional roots and rootlets. Gravel is very angular to subrounded fine to coarse of limestone and quartzite. 0.30 Becoming yellowish brown.	0.10	ES	
0.64-1.00	Yellowish to greyish brown slightly clayey sandy angular to subrounded fine to coarse GRAVEL of quartzite, limestone and mudstone. Sand is fine to coarse.	0.20-0.60	B	
		0.20	ES	
		0.40-0.50	D	
		0.50	ES	
		0.70-1.00	B	
		0.80-0.90	D	
		1.00	ES	

Report ID: AGS4 UK TP || Project: J14504 - RNAS YEOVILTON (WTS).GPJ || Library: GINT STD AGS 4_0.GLB || Date: 29 July 2015



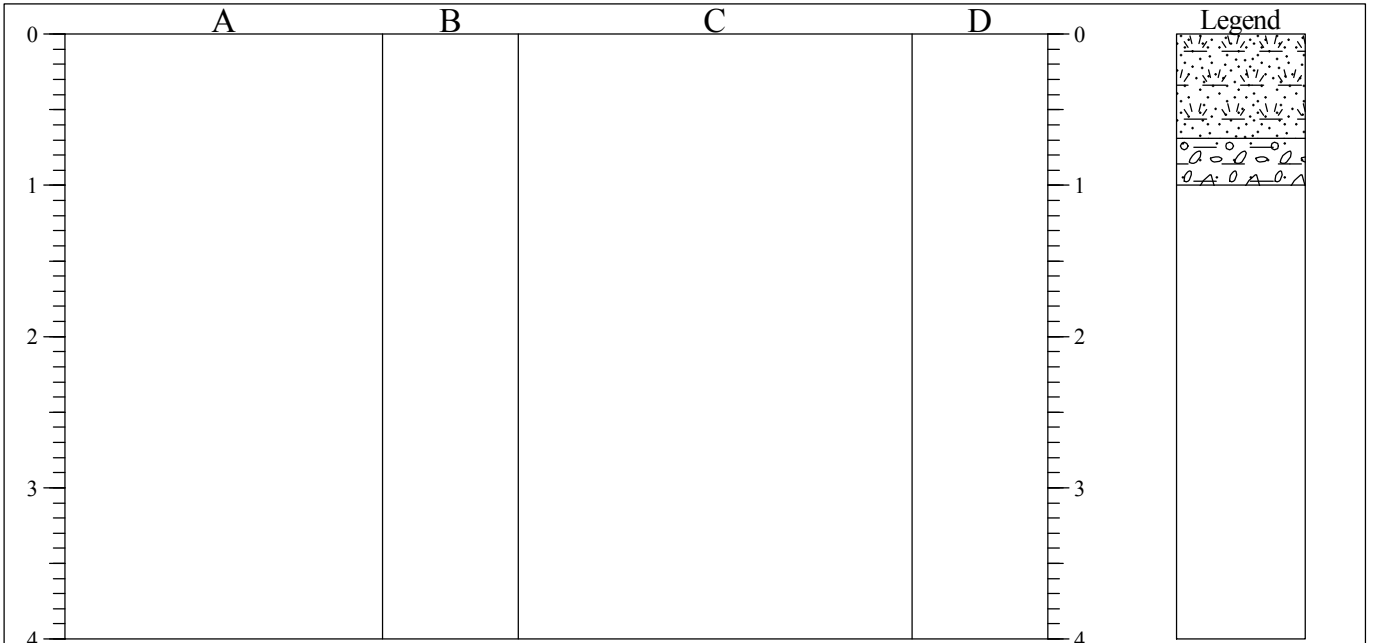
GENERAL REMARKS
<ol style="list-style-type: none"> Position scanned with CAT and Genny prior to excavation. Pit terminated at 1.00m due to possible contamination leak from nearby fuel tanks. On completion pit backfilled with arisings and compacted.

All dimensions in metres Scale 1:50	Client Mott MacDonald	Method/ Plant Used JCB 3CX	Logged By HW
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TRIAL PIT LOG

Project RNAS Yeovilton		Site Waste Transfer Site	Consultant Mott MacDonald	TRIAL PIT No TP03
Job No J14504	Date 22-07-15 22-07-15	Ground Level (m)	Co-Ordinates ()	
Contractor Bridgeway Consulting Ltd				Sheet 1 of 1



STRATA		SAMPLES & TESTS			
Depth	DESCRIPTION	Depth	Type	Field Tests (kPa)	
				HSV	PP
0.00-0.69	TOPSOIL: Brown slightly clayey gravelly fine to coarse SAND with occasional roots and rootlets. Gravel is very angular to subrounded fine to coarse of limestone and quartzite.	0.10	ES		
	0.45 Becoming yellowish brown	0.20-0.50	B		
		0.20	ES		
		0.40-0.50	D		
0.69-1.00	Yellowish brown clayey sandy angular to subrounded fine to coarse GRAVEL of quartzite, limestone and mudstone. Sand is fine to coarse.	0.50	ES		
		0.70-1.00	B		
		0.90-1.00	D		
		1.00	ES		

Report ID: AGS4 UK TP || Project: J14504 - RNAS YEOVILTON (WTS).GPJ || Library: GINT STD AGS 4_0_GLB || Date: 29 July 2015

Shoring/Support: Stability: 	GENERAL REMARKS 1. Position scanned with CAT and Genny prior to excavation. 2. Pit terminated at 1.0mbgl due to possible contamination leak from nearby fuel tanks. 3. Possible clay in base of pit at 1.00mbgl. 3. On completion pit backfilled with arisings and compacted.
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All dimensions in metres Scale 1:50	Client Mott MacDonald	Method/ Plant Used JCB 3CX	Logged By HW
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APPENDIX 5: OASIS FORM

OASIS ID: wessexar1-220701

Project details

Project name	RNAS Yeovilton, Waste Management Centre
Short description of the project	<p>Wessex Archaeology were commissioned by Bridgeway Consulting Ltd, acting on behalf of Mott MacDonald, to undertake a detailed gradiometer survey and subsequent archaeological watching brief on land near Stockwitch Farm, Podimore, Somerset (centred on NGR 556160 243860). The project was commissioned, with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features prior to the construction of a waste management centre. The detailed gradiometer survey was undertaken on 20th July 2015 and has demonstrated the presence of a number of anomalies of potential archaeological interest including a series of rectilinear features located in the centre of the survey area. These may represent a large, rectangular ditch-like feature, possibly associated with the late Iron Age/Romano-British agricultural settlement excavated approximately 500 m to the west of the site within the limits of RNAS Yeovilton. Ploughing trends also appear within the survey area, as well as other linear and curvilinear trends of uncertain origins. These may be evidence of other ancient or historic agricultural activity. Following preliminary analysis of the results of the gradiometer survey, an archaeological watching brief was undertaken on 22nd July 2015 when three geotechnical pits were excavated within the site. No archaeological remains were observed during the excavation of these pits. Groundwater contamination of hydrocarbons (probably kerosene) was encountered in Test Pit 1. Due to this contamination none of the test pits were dug to their anticipated 3 m depth.</p>
Project dates	Start: 20-07-2015 End: 22-07-2015
Previous/future work	No / Not known
Any associated project reference codes	109960 - Contracting Unit No.
Any associated project reference codes	TTNCM: 63/2015 - Museum accession ID
Any associated project reference codes	32913 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	DITCH Uncertain
Monument type	PIT Uncertain
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey", "Test Pits"
Development type	Service infrastructure (e.g. sewage works, reservoir, pumping station, etc.)



Prompt National Planning Policy Framework - NPPF

Position in the planning process Pre-application

Project location

Country England

Site location SOMERSET SOUTH SOMERSET YEOVILTON RNAS Yeovilton, Waste Management Centre

Postcode BA22 8HL

Study area 0.88 Hectares

Site coordinates ST 56160 43860 51.1917594412 -2.62742440159 51 11 30 N 002 37 38 W Point

Height OD / Depth Min: 68.36m Max: 68.71m

Project creators

Name of Organisation Wessex Archaeology

Project brief originator Mott MacDonald

Project design originator Mott MacDonald

Project director/manager Gareth Chaffey

Project supervisor Rebecca Hall

Project supervisor Ben Cullen

Project supervisor Diana Chard

Type of sponsor/funding body Developer

Project archives

Physical Archive Exists? No

Digital Archive recipient Somerset County museum

Digital Archive ID TTNCM: 63/2015

Digital Media available "Geophysics", "Images raster / digital photography", "Text"

Paper Archive recipient Somerset County Museum

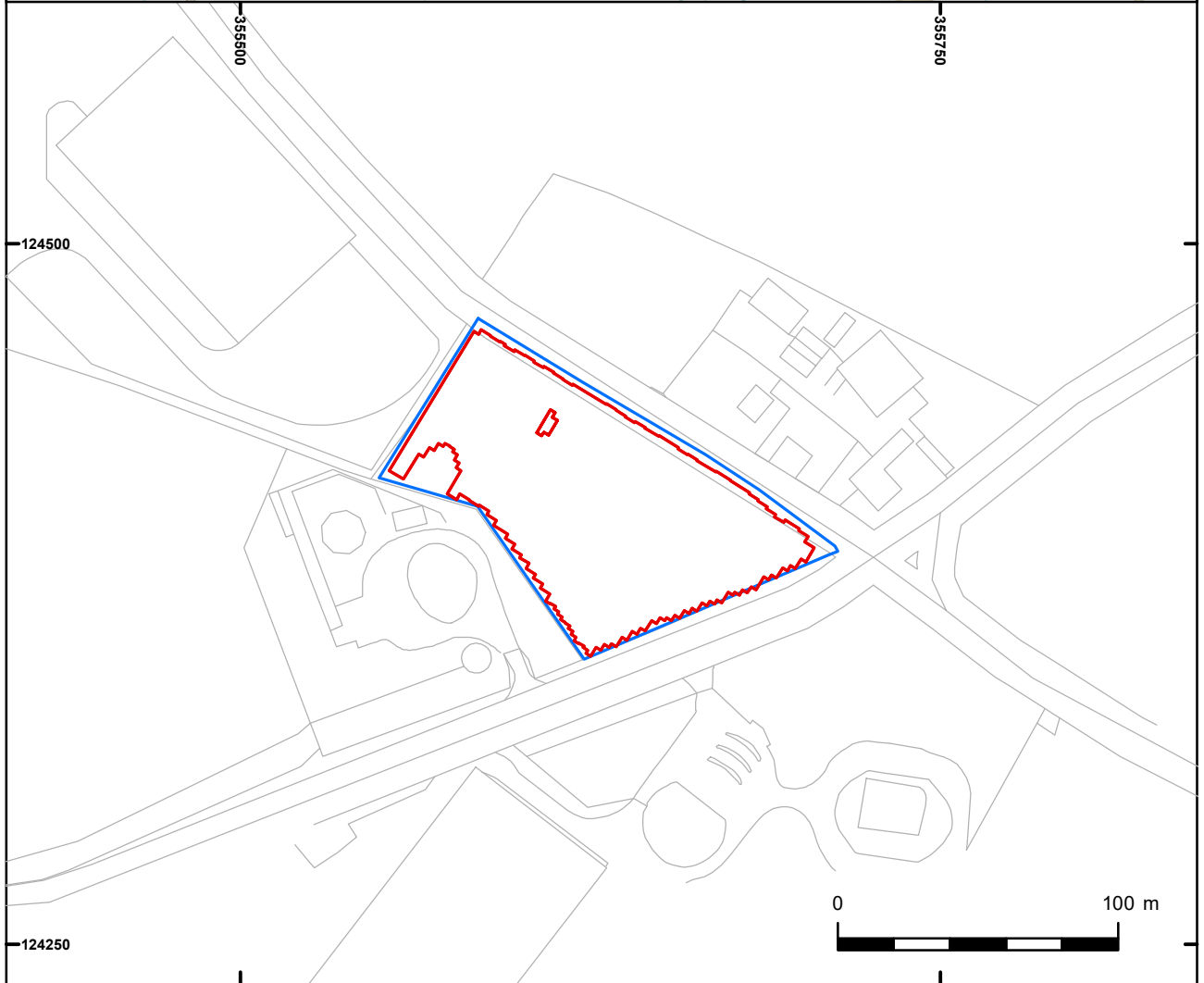
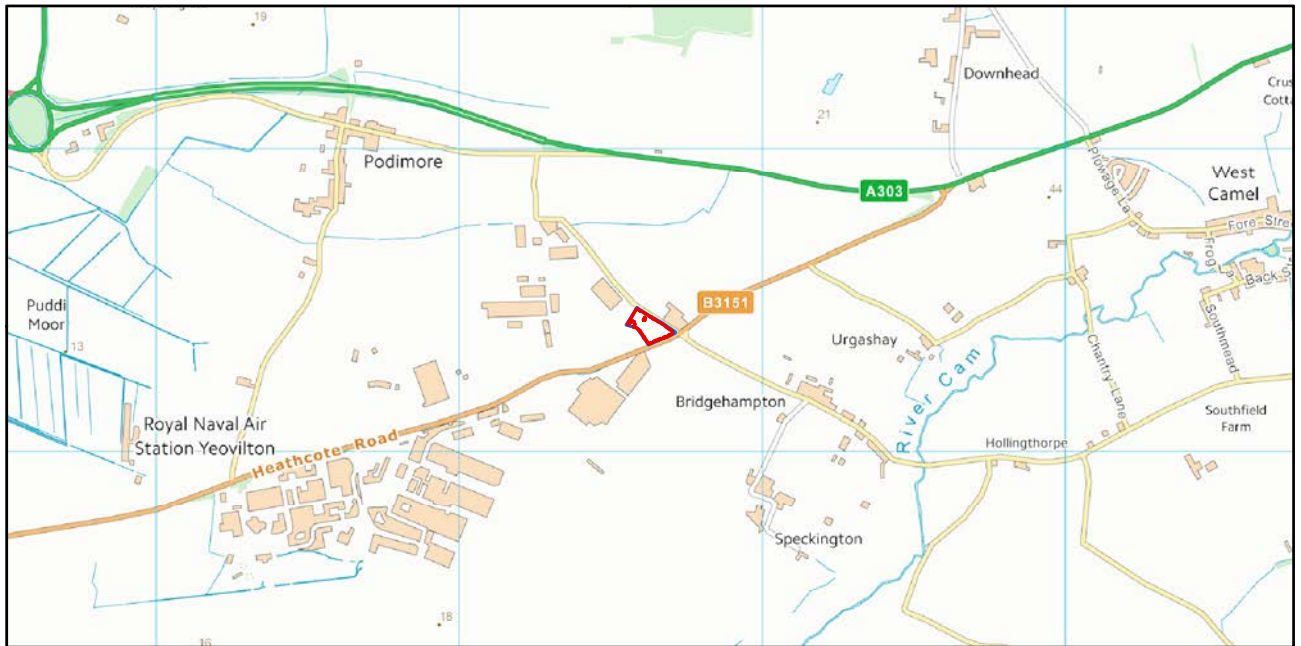
Paper Archive ID TTNCM: 63/2015




Paper Media available "Context sheet", "Diary", "Plan", "Section"



Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	RNAS Yeovilton, Somerset, Waste Management Centre: Detailed Gradiometer Survey and Archaeological Watching Brief Report
Author(s)/Editor(s)	Hall, R.
Author(s)/Editor(s)	Cullen, B.
Other bibliographic details	report number 109960.03
Date	2015
Issuer or publisher	Wessex Archaeology
Place of issue or publication	Wessex Archaeology - Salisbury
Description	A4 bound client report



 Detailed Survey Extents  Site	This material is for client report only © Wessex Archaeology. No unauthorised reproduction. Contains Ordnance Survey data © Crown copyright and database right 2015.			
	Date:	04/08/15	Revision Number:	0
	Scale:	1:25,000 and 1:2500 at A4	Illustrator:	RAM/KMN
	Path:	X:\PROJECTS\109960\GIS\FigsMXD\2015_08_04\109960_Fig01.mxd		

Site location and survey extents

Figure 1

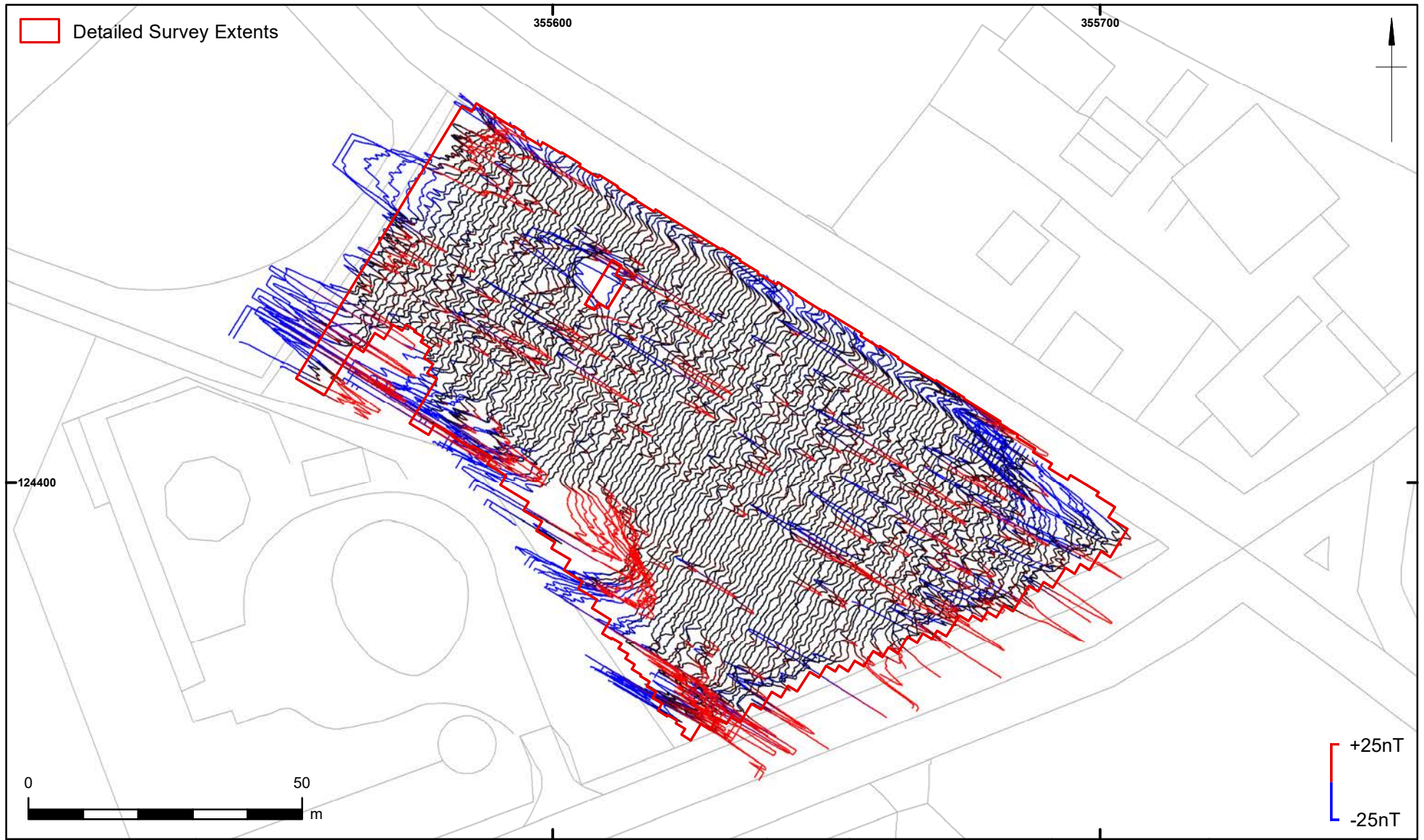


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Greyscale plot

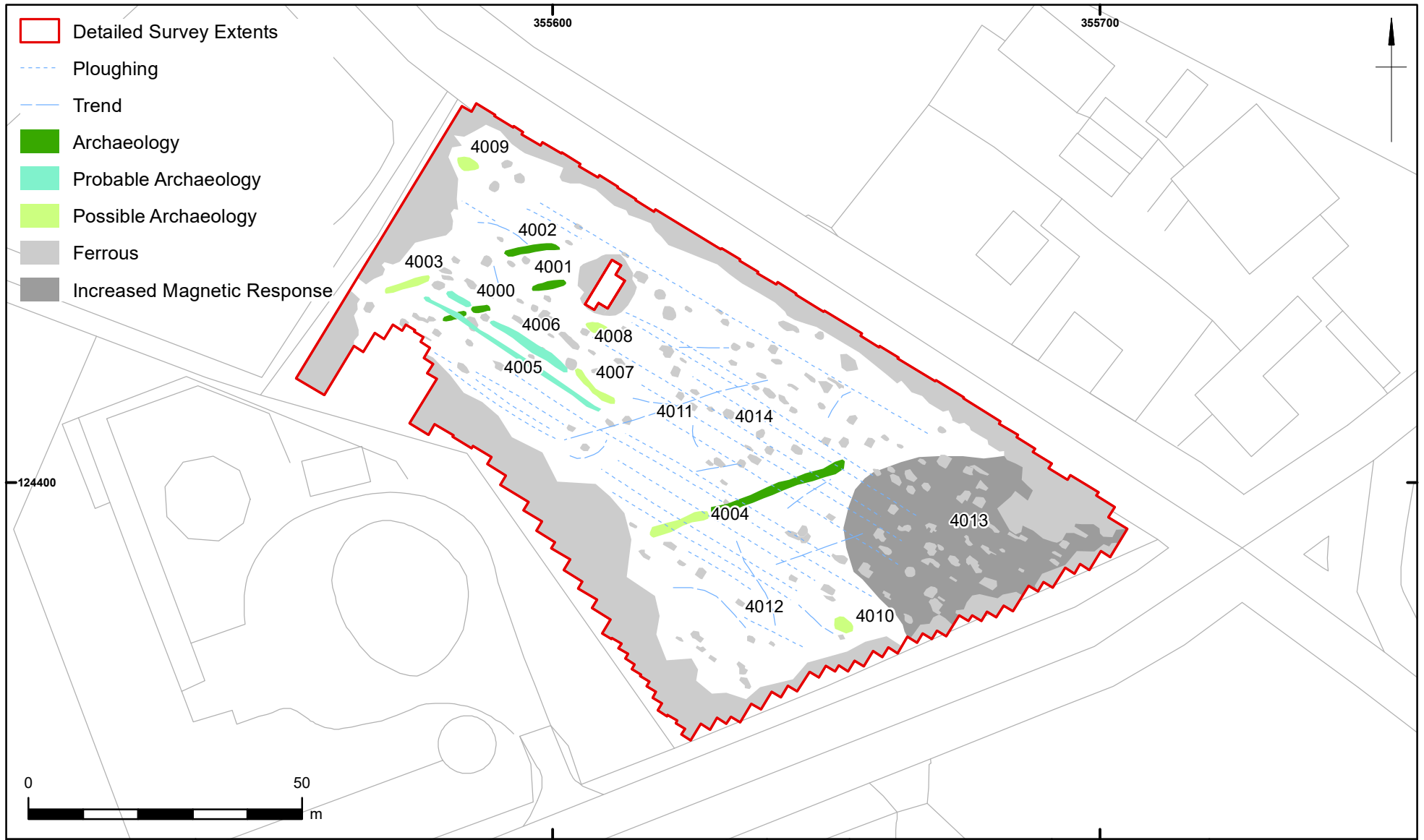
Figure 2



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XY Trace plot

Figure 3



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Plate 1: South-west facing representative section of Test Pit 1



Plate 2: North-east facing representative section of Test Pit 2

- ▭ Site Boundary
- ▭ Survey Extents
- ▭ Test Pit
- Borehole



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