NARBOROUGH BONE MILL, NARBOROUGH NORFOLK

DETAILED MAGNETOMETER SURVEY

Report Number: 1088 February 2015

NARBOROUGH BONE MILL, NARBOROUGH
NORFOLK

Detailed Magnetometer Survey

Prepared for:
Narborough Bone Mill HLF-funded Project
c/o Emma Fendley
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Site Code	ENF136118	**NGR**	TF 7325 1261
Planning Ref.	n/a	**OASIS**	britanni1-203216
Approved By	Matthew Adams	**Date**	February 2015

CONTENTS

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ABSTRACT

This detailed fluxgate gradiometer survey was successful in identifying a range of anomalies, the majority of which are likely to be directly linked with Narborough Bone Mill.

Isolated dipolar responses record the presence of ferrous material buried within the topsoil, some of which are potentially associated with material from the mill.

The extent of the building's remains have been clearly recorded within the dataset, these readings go slightly beyond what is clearly extant today. Finding the limit of the overflow tunnel has been achieved within the survey area, however it is not known whether the tunnel changes course beneath the river bank. One further area of magnetic enhancement is likely to have been caused by material associated with the mill building and tunnel.

One discrete anomaly that may prove to be a rubbish pit associated with the mill has further been recorded, also running outside the survey area towards the river bank.

The discontinuous linear area of magnetic enhancement is also worthy of note, interpreted as a possible trackway or possibly ditch bank material or up-cast soil associated with ditch-dredging.

Further archaeological investigations would enable the interpretation of the geophysical anomalies given in this report to be tested.

1.0 INTRODUCTION

On Thursday 5th February 2015 Britannia Archaeology Ltd (BA) undertook a detailed fluxgate gradiometer survey over *c.*0.55 hectares of land at Narborough Bone Mill, Narborough, Norfolk (TF 7325 1261).

The survey was commissioned by Mr Peter Goulding on behalf of the Narborough Bone Mill Project which is supported by the National Lottery, through the Heritage Lottery Fund. The weather was overcast for the majority of the day with occasional downpours, following a period of prolonged precipitation. This survey was undertaken as part of a programme of investigations that are to be carried out on the Mill.

2.0 SITE DESCRIPTION

The survey was undertaken in one field located to the north of the River Nar, and took in the partially upstanding remains of Narborough Bone Mill. Bordered to the south by the river bank, to the north by a field boundary ditch and fields to the east and west. The survey conditions were challenging with areas of overgrown foliage present across the majority of the site. Unsuitable areas for survey included the remaining mill walls, the cast iron water wheel, the hedge rows and the riverbank.

The bedrock is described as Gault Formation Mudstone, formed approximately 100 to 112 million years ago in the Cretaceous Period when the local environment was dominated by shallow seas depositing siliciclastic sediments of mud, silt, sand and gravel (BGS, 2015).

Superficial deposits are described as Alluvium Clay, Silt, Sand and Gravel deposits formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by rivers depositing mainly sand and gravel detrital material in channels to form river terrace deposits, with fine silt and clay from overbank floods forming floodplain alluvium and some bogs depositing peat (BGS, 2015).

3.0 ARCHAEOLOGICAL BACKGROUND

The archaeological background is taken from information provided by the client that was submitted with their Heritage Lottery Fund application (Mason, A. 2014).

Horse drawn barges were first pulled along the banks of the River Nar in 1759, after an act of parliament passed in 1751 that gave permission for the river to be made navigable from Kings Lynn to Westacre. The Bone Mill was built around 1820 and is located approximately 0.5 miles downstream (south-west) of Narborough. The mill and navigation rights were taken over by the Marriot Brothers in 1830 who also built the Narborough Maltings.

The Water Mill rendered down bone into a powder for use as an agricultural fertiliser, a

process known to improve the soils in the region. Bones bought from the whaling industry were shipped down the River Nar to the mill; other animal bones were sourced from slaughterhouses and local residents. The process started with the bones being boiled down until they were brittle, the fats were then skimmed off to be used in the grease industry for both coaches and carts. These brittle large bones were then chopped into smaller pieces using an axe or through toothed cylinders to reduce them down to a workable size and finally milled by large stones into a fine powder.

DP1

Extant Mill Stones at Narborough, Facing north-east from the south-west.

Some bone supplies are known to have come from North Germany, and included exhumations from burial grounds. It was stated at the time that "one ton of German bone-dust saves the importation of ten tons of German corn".

In 1846-7 after the Lynn and Dereham railway opened, bone meal was transported upriver by barge and unloaded at the staithe into the Narborough Maltings. Sacks of meal were then taken by horse-drawn wagons to Narborough and Pentney Stations. Some of these sacks were also sold to local farmers at the Maltings, where 'bone shed' is marked on an old plan of the building.

This site was specifically chosen to gain maximum efficiency from the low breast wheel. The original stanch gate was replaced with one built for the mill, together with a pair of mitre gates located 52m upstream. These gates prevented the loss of water when a boat moved downriver so that there was no wheel down-time. The mill race was also taken from this partly walled chamber.

DP2

Low-breast Water Wheel, Facing north-east from the south-west.

DP3

Photograph dated c.1890, Facing north-east from the south-west, showing stanch gate.

Nar Valley Drainage Board purchased the navigation rights to the Nar in 1884, subsequently building a sluice that prevented further river traffic. Production at the mill ceased a few years after this event probably as a direct consequence of the Drainage Board's actions. The mill buildings remained partially intact until 1915 when they were dismantled over the next few years. The machinery was taken for scrap and the brick rubble was put down as farm track surfaces.

Extant remains include the 16-foot (4.9 m) diameter waterwheel, the main mill building foundations, three underground sluices and three millstones. A brick underground tunnel thought to be used as an overflow channel can also be entered. The Nar still flows

through the brickwork pound stanch and mitre gates.

DP4

Brick Overflow Tunnel, Facing north-east from the south-west.

4.0 PROJECT AIMS

A detailed magnetometer survey of the area was undertaken to enable the archaeological resource, both in quality and extent, to be investigated. In particular the survey was undertaken to identify and determine the extent of the foundations and the underground tunnels.

Specific research questions are as follows:

- Can any other evidence of potential archaeological activity associated with the mill be recorded in the dataset?
- What is the extent of the areas of archaeological potential?
- What is the extent of the tunnels and building footprint?

5.0 METHODOLOGY

5.1 Instrument Type Justification

Britannia Archaeology Ltd employed a Bartington Dual Grad 601-2 fluxgate gradiometer to undertake the survey, because of its high sensitivity and rapid ground coverage. The surveyors noted that that the site had a fairly high magnetic background susceptibility probably due to the presence of the mill foundations and partially standing walls and floors, located to the west of the survey area. Originally earth resistance meter survey was going to be undertaken alongside fluxgate gradiometer survey; however the saturated ground conditions proved to be unsuitable for this technique.

5.2 Instrument Calibration

One hour was allowed in the morning for the magnetometers sensors to settle before the start of the first grid. The instrument was zeroed after every three grids to minimise the effect of sensor drift. An area with a relatively low magnetic reading was chosen to calibrate the instrument; this same station was used to zero the sensors throughout the survey providing a common zero point. Sensor drift was not noted during the survey with overcast conditions and rain prevailing throughout the day providing good conditions for survey.

5.3 Sampling Interval and Grid Size

The sampling interval was set at 0.25m along 1m traverse intervals, providing 4 readings a metre, the magnetometer survey was undertaken on 20 x 20m grids.

5.4 Survey Grid Location

The survey grid was set out to the Ordnance Survey OSGB36 datum to an accuracy of ±0.1m employing a Leica Viva Glonnass Smart Rover GS08 real time kinetic (RTK) survey system. Data were converted to the National Grid Transformation OSTN02 and the instrument was regularly tested using stations with known ETRS89 coordinates. The grids were positioned on a north-east to south-west alignment and survey canes have been left on the grid corners, and 10m inside the baseline (Figure 1).

5.5 Data Capture

Instrument readings were recorded on an internal data logger that was downloaded to a laptop at the end of the survey. The grid order was recorded on a BA pro-forma to aid in the creation of the data composites. Data were filed in job specific folders. These data composites were checked for quality on site by BA, allowing grids to be re-surveyed if necessary. The data were backed up onto an external storage device in the office and finally a remote server at the end of the day.

5.6 Data Presentation and Processing

Data are presented in both raw and processed data plots in greyscale format (Figures 2 and 3). An XY trace plot of the processed data has also been included (Figure 4). The raw data is presented with no processing, and was clipped to produce a uniform greyscale plot. The processed data schedule is also displayed below; metadata sheets are presented in Appendix 1.

Raw Data:
Data Clipping: 1.00 standard deviation;
Display Clipping: +/- 3 standard deviations.

Processed Data:
Data Clipping: Clip from -10.00 to +10.00 nT;
Display Clipping: +/- 3 standard deviations.

An interpretation plan characterising the anomalies recorded can be found at Figure 5, it draws together the evidence collated both from the greyscale and XY trace plots (Figures 2, 3, and 4). All figures are tied into the National Grid and printed at an appropriate scale.

5.7 Software

Raw data were downloaded using DW Consulting's Archeosurveyor v2.5.16.0 and will be stored in this format as raw data. The software used to process the data and produce the composites was also DW Consulting's Archeosurveyor v2.5.16.0. Datasets were exported into AutoCAD and placed onto the local survey grid. Interpretation plots were then produced using AutoCAD.

5.8 Grid Restoration

Britannia Archaeology Ltd left all of the grid canes in the field to enable the geophysical anomalies to be accurately relocated on the ground, geo-referenced survey stations can also be found at Figure 1.

6.0 RESULTS & DISCUSSION (Figures 1 – 5)

The surveyors noted that the sites magnetic background was relatively high, mostly due to the extant remains of the bone mill. Magnetic disturbance was the most common anomaly type prospected by the instrument. A large area of which (blue hatching) is caused by the remains of the brick mill building, present to the south-west. A linear area of magnetic disturbance (yellow hatching) recorded along the southern edge of the survey area (running north-east to south-west) adjoins the building delineating the location of the underground overflow tunnel. This runs for approximately 41m before either terminating, or changing course below the river bank.

Isolated dipolar 'iron spike' anomalies (yellow dots) were fairly numerous and probably relate to buried ferrous objects present within the topsoil layers. A plethora of ferrous material was evident across the survey area.

One positive discrete anomaly (orange hatching) could record the presence of a rubbish pit, however a geological origin cannot be ruled out.

One positive area of magnetic enhancement (magenta hatching) is present to the north of the overflow tunnel and to the east of the mill building remains. It is likely that this response has been caused by an increase in the magnetic susceptibility of the soil in a localised area caused by material associated with the tunnel and building.

A discontinuous linear area of magnetic enhancement (green hatching) that runs parallel with the northern boundary before turning 45 degrees and heading towards the southern linear area of magnetic disturbance has also been recorded in the dataset. The surveyors noted that this anomaly was located where a slight linear earthwork was extant; the ground here was noticeably harder underfoot. It is possible that this could have been a cart trackway in use when the mill was fully functioning, or equally used to remove demolition rubble material when it was pulled down from 1915. This anomaly/earthwork is also present next to a large ditch, so alternatively it may relate to the remains of a former ditch bank or material up-cast from the last ditch-clearance event.

7.0 CONCLUSION

This detailed fluxgate gradiometer survey was successful in identifying a range of anomalies, the majority of which are directly associated with the remains of the bone mill structures.

Isolated dipolar responses could prove to be ferrous material associated with the mill and buried within the topsoil.

The extent of the building's remains have been clearly recorded within the dataset, these readings go slightly beyond what is clearly extant today. Finding the limit of the overflow tunnel has been achieved within the survey area, however it not known whether the tunnel changes course beneath the river bank. One further area of magnetic enhancement is likely to have been caused by material associated with the mill building and tunnel.

One discrete anomaly that may prove to be a rubbish pit associated with the mill has further been recorded, also running outside the survey area towards the river bank.

The discontinuous linear area of magnetic enhancement is also worthy of note, interpreted as a possible trackway, or possibly ditch bank material or up-cast deposits associated with ditch-dredging.

Further archaeological investigations would enable the interpretation of the geophysical anomalies given in this report to be tested.

8.0 PROJECT ARCHIVE AND DEPOSITION

A full archive will be prepared for all work undertaken in accordance with guidance from the *Selection, Retention and Dispersion of Archaeological Collections,* Archaeological Society for Museum Archaeologists, 1993. Arrangements will be made for the archive to be deposited with the relevant museum/HER Office.

9.0 ACKNOWLEDGEMENTS

Britannia Archaeology Ltd would like to Mr Peter Goulding for commissioning the survey and arranging site access, and to Dr Ken Hamilton and Mr James Albone of Norfolk County Council Historic Environment Team for their advice and input.

Bibliography

Ayala, G. *et al*. 2004. *Geoarchaeology; Using Earth Sciences to Understand the Archaeological Record*. English Heritage.

Clark, A. J. 1996. *Seeing Beneath the Soil, Prospecting Methods in Archaeology*. BT Batsford Ltd, London.

David, A. 1995. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines*. No.1. English Heritage.

David, A. *et al*. 2008. *Geophysical Survey In Archaeological Field Evaluation,* Second Edition. English Heritage.

Gaffney, C, Gater, J. and Ovenden, S. 2002. *The Use of Geophysical Techniques in Archaeological Evaluations*. IFA Technical Paper No. 6.

Gaffney, C. and Gater, J. 2003. *Revealing the Buried Past, Geophysics for Archaeologists*. Tempus Publishing Ltd.

Gurney, D. 2003. *Standards for Archaeology in the East of England*, East Anglian Archaeology Occasional Paper 14.

Institute for Archaeologists. 2011. *Standard and Guidance for Archaeological Geophysical Survey*.

Linford, N. 2006. Notes from an English Heritage Seminar.

Mason, A. *et al.* 2014. *Narborough Bone Mill Project Enquiry Text; HLF v.2.*

Schmidt. A. 2001. *Geophysical Data in Archaeology: A Guide to Good Practice*. Archaeology Data Service. Oxbow Books.

Whitten. D.G.A. 1978. *The Penguin Dictionary of Geology*. Penguin Books Ltd. London.

Witten, A. J. 2006. *Handbook of Geophysics and Archaeology*. Equinox Publishing Ltd. London.

Websites

The British Geological Survey, 2015. http://www.bgs.ac.uk/opengeoscience/home.html

Norfolk Heritage Explorer. http://www.heritage.norfolk.gov.uk/home.

Norfolk Mills – Narborough. 2015. http://www.norfolkmills.co.uk/Watermills/narborough-bone-mill.html

APPENDIX 1 METADATA SHEETS

Raw Data

Filename	Nar 1R.xcp
Description	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	TPS/MB on 2/5/2015
Assembled by	TPS on 2/5/2015
Direction of 1st Traverse	45 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
Dimensions	
Composite Size (readings)	960 x 20
Survey Size (meters)	240.00m x 20.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
Stats	
Max	24.85
Min	-25.96
Std Dev	10.73
Mean	-0.07
Median	-0.29
Composite Area	0.48 ha
Surveyed Area	0.25 ha
Program	
Name	ArcheoSurveyor
Version	2.5.16.0

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6 Col:5 Row:0 grids\07.xgd
7 Col:6 Row:0 grids\08.xgd
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9 Col:8 Row:0 grids\10.xgd
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12 Col:11 Row:0 grids\13.xgd

Processed Data

Filename	Nar 1P.xcp
Description	
Instrument Type	Grad 601-2 (Gradiometer)
Units	nT
Surveyed by	TPS/MB on 2/5/2015
Assembled by	TPS on 2/5/2015
Direction of 1st Traverse	45 deg
Collection Method	ZigZag
Sensors	2 @ 1.00 m spacing.
Dummy Value	32702.00
Dimensions	
Composite Size (readings)	960 x 20
Survey Size (meters)	240.00m x 20.00 m
Grid Size	20.00 m x 20.00 m
X Interval	0.25 m
Y Interval	1.00 m
Stats	
Max	10.00
Min	-10.00
Std Dev	5.54
Mean	0.11
Median	-0.29
Composite Area	0.48 ha
Surveyed Area	0.25 ha
Program	
Name	ArcheoSurveyor
Version	2.5.16.0

APPENDIX 2 TECHNICAL DETAILS

Magnetometer Survey

The magnetometer differs from the 'active' magnetic susceptibility meter by being a 'passive' instrument. Rather than injecting a signal into the ground it detects slight variations in the Earth's magnetic field caused by cultural and natural disturbance (Clark).

Thermoremanent magnetism is produced when a material containing iron oxides is strongly heated. Clay for example has a high iron oxide content that in a natural state is weakly magnetic, when heated these weakly magnetic compounds become highly magnetic oxides that a magnetometer can detect.

The demagnetisation of iron oxides occurs above a temperature known as the Curie point; for example haematite has a Curie point of 675 Celsius and magnetite 565C. At the time of cooling the iron oxides become permanently re-magnetised with their magnetic properties re-aligned in the direction of the Earth's magnetic field (Gaffney and Gater). The direction of the Earth's magnetic field shifts over time and these subtle alignment differences can be recorded. Kilns, hearths, baked clay and ovens can reach Curie point temperatures, and are the strongest responses apart from large iron objects that can be detected. Other cultural anomalies that can be prospected include occupation areas, pits, ditches, furnaces, sunken feature buildings, ridge and furrow field systems and ritual activity (David, 2011). Commonly recorded anomalies include modern ferrous service pipes, field drainage pipes, removed field boundaries, perimeter fences and field boundaries.

Fluxgate Gradiometers

Fluxgate gradiometers are sensitive instruments that utilise two sensors placed in a vertical plane, spaced 1 metre apart. The sensor above reads the Earth's magnetic (background) response while the sensor below records the local magnetic field. Both sensors are carefully adjusted to read zero before survey commences at a 'zeroing' point, selected for its relatively 'quiet' magnetic background reading. When differences in the magnetic field strength occur between the two sensors a positive or negative reading is logged. Positive anomalies have a positive magnetic value and conversely negative anomalies have a negative magnetic value relative to the site's magnetic background. Examples of positive magnetic anomalies include hearths, kilns, baked clay, areas of burning, ferrous material, ditches, sunken feature buildings, furrows, ferrous service pipes, perimeter fences and field boundaries. Negative magnetic anomalies include earthwork embankments, plastic water pipes and geological features.

The instruments are usually held approximately 0.30m to 0.50m above the ground surface and can detect to a depth of between 1-2metres. Best practice dictates that the optimal direction of traverse in Britain is east to west.

Magnetic Anomalies

Linear trends

Linear trends can be both positive and negative magnetic responses. If they are broad, relatively weak or negative in nature they may be of agricultural or geological origin, for example periglacial channels, land drains or ploughing furrows. If the responses are strong positive trends they are more likely to be of archaeological origin. Archaeological settlement ditches tend to be rich in highly magnetic iron oxides that accumulate in them via anthropogenic activity and humic backfills. Conversely surviving banks will be negative in nature, the material is derived from subsoil deposits that are less likely to be positively magnetic. Curvilinear trends can also be recorded and are indicative of archaeological structures such as drip-gullies.

Discrete anomalies

Discrete anomalies appear as increased positive responses present within a localised area. They are caused by a general increase in the amount of magnetic iron oxides present within the humic back-fill of for example a rubbish pit.

'Iron spike' anomalies

These strong isolated dipolar responses are usually caused by ferrous material present in the topsoil horizon. They can have an archaeological origin but are usually introduced into the topsoil during manuring.

Areas of magnetic disturbance

An area of magnetic disturbance is usually associated with material that has been fired. For example areas of burning, demolition (brick) rubble or slag waste spreads. They can also be caused by ferrous material, e.g. close proximity to barbwire or metal fences and field boundaries, buried services, pylons and modern rubbish deposits.

APPENDIX 3 OASIS FORM

OASIS ID: britanni1-203216

Project details

Project name	Narborough Bone Mill, Narborough, Norfolk; Detailed Magnetometer Survey
Short description of the project	This detailed fluxgate gradiometer survey was successful in identifying a range of anomalies, the majority of which are likely to be directly linked with Narborough Bone Mill. Isolated dipolar responses record the presence of ferrous material buried within the topsoil, some of which are potentially associated with material from the mill. The extent of the building's remains have been clearly recorded within the dataset, these readings go slightly beyond what is clearly extant today. Finding the limit of the overflow tunnel has been achieved within the survey area, however it is not known whether the tunnel changes course beneath the river bank. One further area of magnetic enhancement is likely to have been caused by material associated with the mill building and tunnel. One discrete anomaly that may prove to be a rubbish pit associated with the mill has further been recorded, also running outside the survey area towards the river bank. The discontinuous linear area of magnetic enhancement is also worthy of note, interpreted as a possible trackway or possibly ditch bank material or up-cast soil associated with ditch-dredging. Further archaeological investigations would enable the interpretation of the geophysical anomalies given in this report to be tested.
Project dates	**Start:** 05-02-2015 **End:** 05-02-2015
Previous/future work	Not known / Not known
Any associated project reference codes	P1090 - Contracting Unit No. ENF136118 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Grassland Heathland 3 - Disturbed
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Building refurbishment/repairs/restoration
Prompt	Conservation/ restoration
Position in the planning process	Not known / Not recorded
Solid geology (other)	Gault Formation Mudstone
Drift geology (other)	Alluvium Clay, Silt, Sand and Gravel
Techniques	Magnetometry

Project location

Country	England
Site location	NORFOLK BRECKLAND NARBOROUGH Narborough Bone Mill, Narborough, Norfolk
Study area	0.55 Hectares
Site coordinates	TF 7325 1261 52.6830394226 0.563316485745 52 40 58 N 000 33 47 E Point
Height OD / Depth	**Min:** 10.00m **Max:** 10.00m

Project creators

Name of Organisation	Britannia Archaeology Ltd
Project brief originator	Self (i.e. landowner, developer, etc.)
Project design originator	Timothy Schofield

Project director/manager	Timothy Schofield
Project supervisor	Timothy Schofield
Type of sponsor/funding body	HLF
Name of sponsor/funding body	HLF
Project archives	
Physical Archive Exists?	No
Digital Archive recipient	Norfolk Museums and Archaeology Service
Digital Contents	"Survey"
Digital Media available	"Geophysics", "Images raster / digital photography", "Images vector", "Survey", "Text"
Paper Archive recipient	Norfolk Museums and Archaeology Service
Paper Contents	"Survey"
Paper Media available	"Report", "Survey ","Unpublished Text"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Narborough Bone Mill, Narborough, Norfolk; Detailed Magnetometer Survey.
Author(s)/Editor(s)	Schofield, T. P.
Other bibliographic details	R1088

STATION	EASTING	NORTHING
01	573152.026	312538.207
02	573337.651	312690.332

	Survey Grid Location
	Water Mill
	Site Boundary

NGR: TF 7325 1261

REPORT NUMBER: 1088

PROJECT:
NARBOROUGH BONE MILL,
NARBOROUGH, NORFOLK

CLIENT:
THE MUNFORD FAMILY

DESCRIPTION:
SITE, SURVEY GRID &
GEOREFERENCING INFORMATION PLAN

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SCALE: 1:1000 (0 – 50m)

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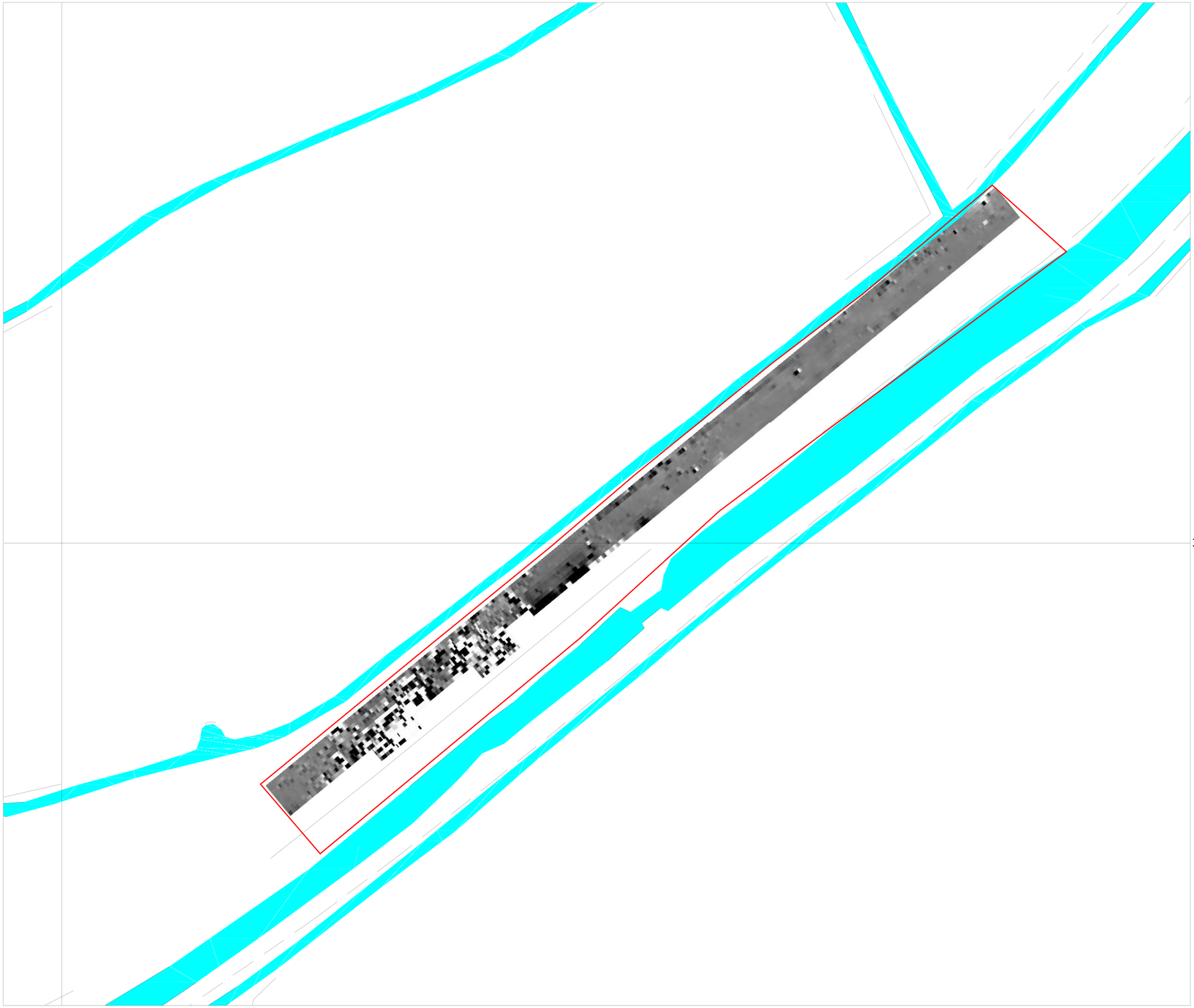

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Site Boundary

NGR: TF 7325 1261

REPORT NUMBER: 1088

PROJECT: NARBOROUGH BONE MILL, NARBOROUGH, NORFOLK

CLIENT: THE MUNFORD FAMILY

DESCRIPTION: RAW MAGNETOMETER GREYSCALE PLOT

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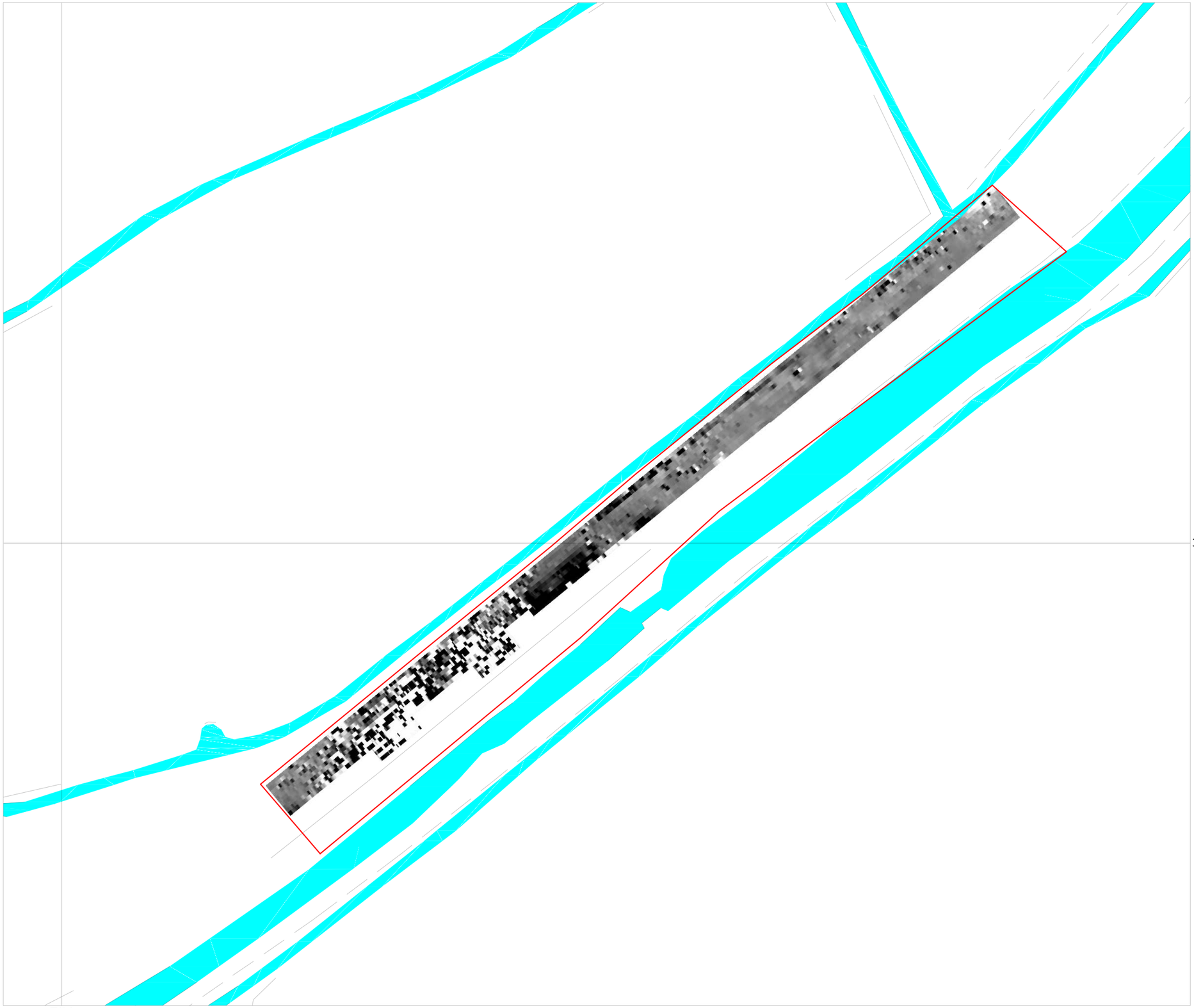

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Site Boundary

NGR: TF 7325 1261

REPORT NUMBER: 1088

PROJECT:
NARBOROUGH BONE MILL,
NARBOROUGH, NORFOLK

CLIENT:
THE MUNFORD FAMILY

DESCRIPTION:
PROCESSED MAGNETOMETER
GREYSCALE PLOT

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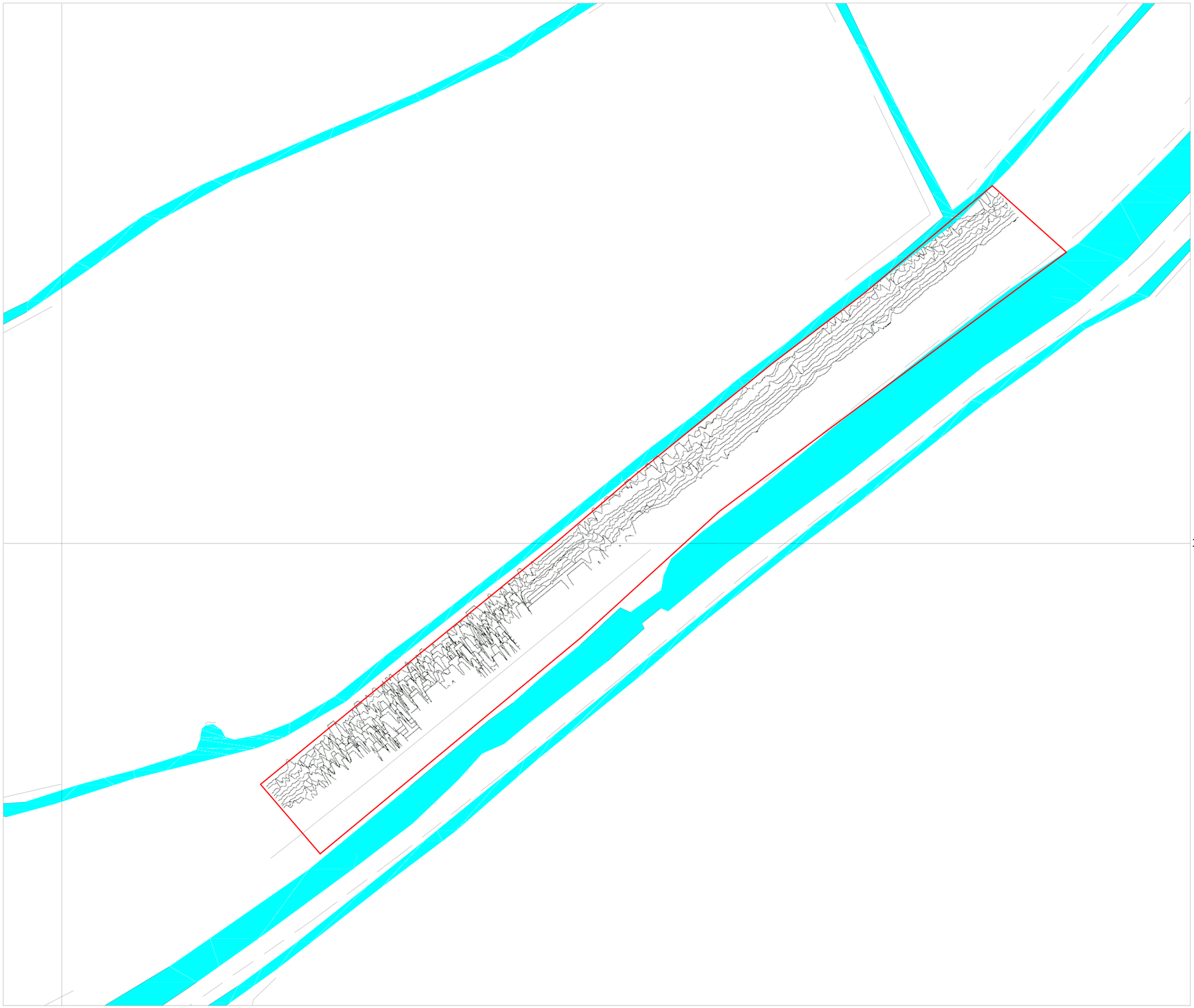

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NGR: TF 7325 1261

REPORT NUMBER: 1088

PROJECT:
NARBOROUGH BONE MILL,
NARBOROUGH, NORFOLK

CLIENT:
THE MUNFORD FAMILY

DESCRIPTION:
PROCESSED MAGNETOMETER
XY TRACE PLOT

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SCALE: 1:1000 (0 – 50m)

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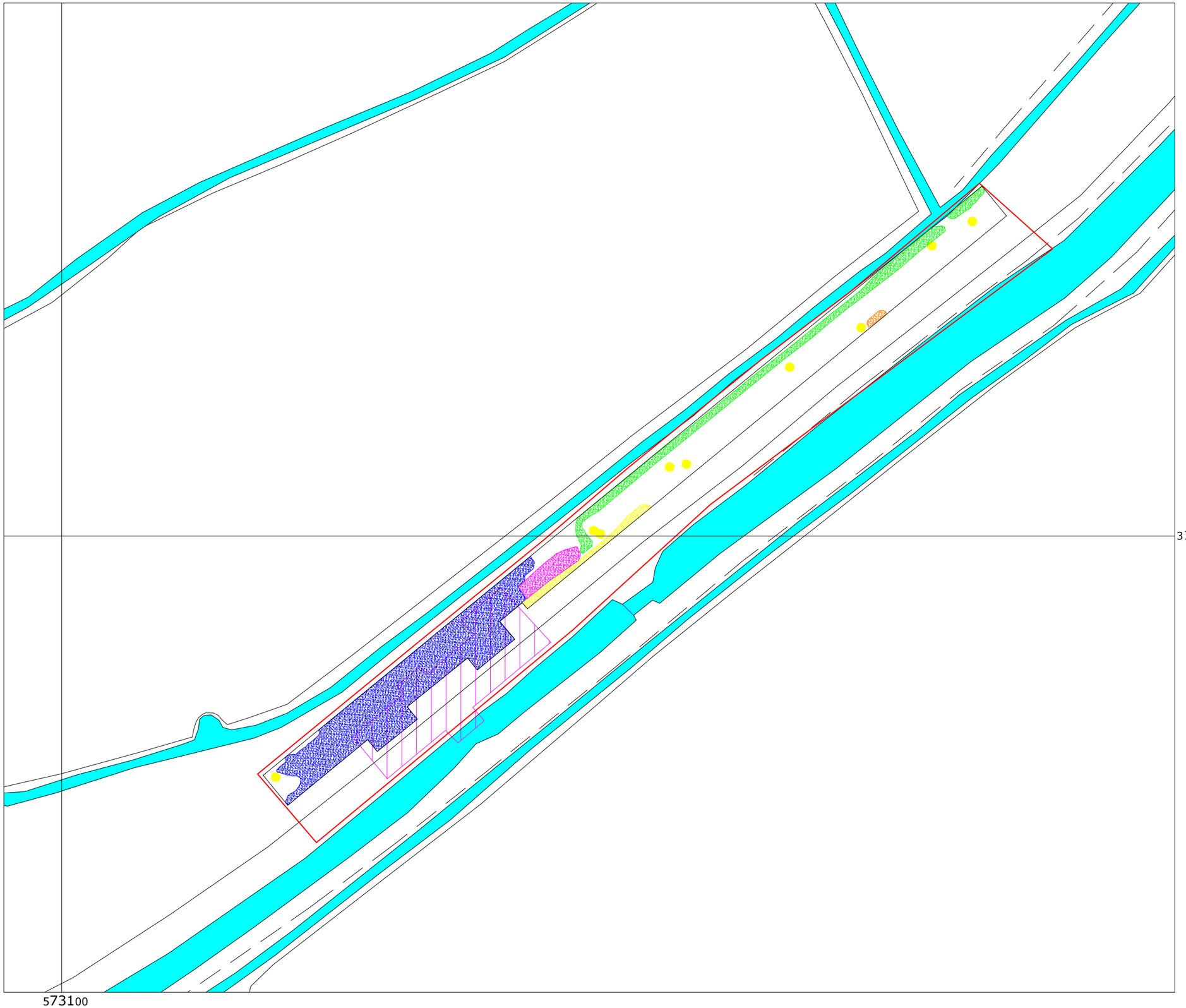
DATE:	AUTHOR:	FIGURE:
FEB 2015	TPS	04



N

	Positive Discrete Anomaly, Rubbish Pit
	Linear Area of Magnetic Enhancement, Trackway or Bank
	Linear Area of Magnetic Disturbance, Overflow Tunnel
	Area of Magnetic Enhancement, Building Remains
	Area of Magnetic Disturbance, Bone Mill Building Remains
	Isolated Dipolar Responses

	Water Mill
	Site Boundary

NGR: TF 7325 1261

REPORT NUMBER: 1088

PROJECT:
NARBOROUGH BONE MILL, NARBOROUGH, NORFOLK

CLIENT:
THE MUNFORD FAMILY

DESCRIPTION:
INTERPRETATION PLOT OF MAGNETOMETER ANOMALIES

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SCALE: 1:1000 (0 – 50m)

PLOT:	APPROVED:	VERSION:
A3	MB	01
DATE: FEB 2015	AUTHOR: TPS	FIGURE: 05