STRATASCAN

Geophysical Survey Report

Land Near Plymouth

for

Exeter Archaeology

April 2006

J2121

Richard A. J. Smalley BA (Hons)

REGISTERED IFA ORGANISATION

Document Title: **Geophysical Survey Report**
Land Near Plymouth, Devon

Client: **Exeter Archaeology**

Stratascan Job No: **J2121**

Techniques: **Magnetic Susceptibility, Detailed Magnetometry**

National Grid Ref: **SX 547 543**

Field Team: **Karl Munster, Richard Fleming, Steven Russell, Laurence Chadd**

Project Manager: **Simon Stowe BSc (Hons)**

Report written by: **Richard Smalley BA (Hons)**

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Checked by: **Simon Stowe BSc (Hons)**

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1 SUMMARY OF RESULTS

The survey undertaken over 50ha of agricultural land near Plymouth was successful in locating a number of anomalies of possible archaeological origin. Two round barrows have been identified to the east of the survey area along with a possible enclosure and a set of banks and ditches. Cut features of possible archaeological origin are evident across the survey area as are discrete positive anomalies representing possible pits.

2 INTRODUCTION

2.1 Background synopsis

Stratascan were commissioned by Exeter Archaeology to undertake a geophysical survey of an area outlined for development.

2.2 Site location

The site is located near Plymouth at OS ref. SX 547 543.

2.3 Description of site

The survey area consists of 50ha of undulating agricultural land. The underlying geology is Upper Devonian and Upper Old Red Sandstone (British Geological Survey South Sheet, Fourth Edition Solid, 2001). The overlying soils are known as Nordrach soils which are a type of Aeolian silty drift. These consist of well drained fine silty over clayey soils, stoneless or with chert stones, which are often deep (Soil Survey of England and Wales, Sheet 5 South West England).

2.4 Site history and archaeological potential

No specific details were available to Stratascan.

2.5 Survey objectives

The objective of the survey was to locate any features of possible archaeological significance in order that they may be trenched prior to development.

2.6 Survey methods

The reconnaissance technique of magnetic susceptibility was employed over the whole of the survey area. Areas of enhancement were targeted with detailed magnetometer survey based on the results of the reconnaissance data. Areas of low enhancement were also surveyed to test 'blank' areas. More information regarding these techniques is included in the Methodology section below.

3 METHODOLOGY

3.1 Date of fieldwork

The fieldwork was carried out over 13 days from 8th to 24th March when the weather was dry and windy.

3.2 Grid locations

The location of the survey grids has been plotted in Figure 2.

3.3 Description of techniques and equipment configurations

3.3.1 Magnetic Susceptibility

Alteration of iron minerals in topsoil through biological activity and burning can enhance the magnetic susceptibility (MS) of that soil. Measuring the MS of a soil can therefore give a measure of past human activity and can be used to target the more intensive and higher resolution techniques of Magnetometry and Resistivity. Measurements of MS were carried out using a field coil which provides a rapid scan and has the benefit of allowing "insitu" readings to be taken.

The equipment used on this contract was an MS2 Magnetic Susceptibility meter manufactured by Bartington Instruments Ltd. A field coil known as an MS2D was used to take field readings. This assessed the top 200mm or so of topsoil. To overcome the problem of ground contact all readings were taken 4 or 5 times and an average taken. All obvious localised "spikes" were ignored.

3.3.2 Magnetometer

Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.2 nanoTesla (nT) in an overall field strength of 48,000nT, can be accurately detected using an appropriate instrument.

The mapping of the anomaly in a systematic manner will allow an estimate of the type of material present beneath the surface. Strong magnetic anomalies will be generated by buried iron-based objects or by kilns or hearths. More subtle anomalies such as pits and ditches can be seen if they contain more humic material which is normally rich in magnetic iron oxides when compared with the subsoil.

To illustrate this point, the cutting and subsequent silting or backfilling of a ditch may result in a larger volume of weakly magnetic material being accumulated in the trench compared to the undisturbed subsoil. A weak magnetic anomaly should therefore appear in plan along the line of the ditch.

The magnetic survey was carried out using a dual sensor Grad601-2 Magnetic Gradiometer manufactured by Bartington Instruments Ltd. The Grad601-2 consists of two high stability fluxgate gradiometers suspended on a single frame. Each sensor has a 1m separation between the sensing elements increasing the sensitivity to small changes in the Earths magnetic field.

3.4 Sampling interval, depth of scan, resolution and data capture

3.4.1 Sampling interval

Magnetic susceptibility
The magnetic susceptibility survey was carried out on a 20 m grid with readings being taken at the node points.

Magnetometer
Readings were taken at 0.25m centres along traverses 1m apart. This equates to 3600 sampling points in a full 30m x 30m grid.

3.4.2 Depth of scan and resolution

Magnetic Susceptibility
The MS2D coil assesses the average MS of the soil within a hemisphere of radius 200mm. This equates to a volume of some 0.016m^3 and maximum depth of 200mm. As readings are only at 20m centres this results in a very coarse resolution but adequate to pick up trends in MS variations.

Magnetometer
The Bartington Grad 601-2 has a typical depth of penetration of 0.5m to 1.0m. This would be increased if strongly magnetic objects have been buried in the site. The collection of data at 0.5m centres provides an appropriate methodology balancing cost and time with resolution.

3.4.3 Data capture

Magnetic susceptibility
The readings are logged manually on site into a DGPS System, and then transferred to the office where they are entered into a computer and colour plots are produced.

Magnetometer
The readings are logged consecutively into the data logger which in turn is daily down-loaded into a portable computer whilst on site. At the end of each job, data is transferred to the office for processing and presentation.

3.5 Processing, presentation of results and interpretation

3.5.1 Processing

Magnetic susceptibility
No processing of the data has been undertaken.

Magnetometer
Processing is performed using specialist software known as *Geoplot 3.* This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'flattening' the background levels with respect to adjacent traverses and adjacent grids. 'Despiking' is also performed to remove the anomalies resulting from small iron objects often found on agricultural land. Once the basic processing has flattened the background it is then possible to carry out further processing which may include low pass filtering to reduce 'noise' in the data and hence emphasise the archaeological or man-made anomalies.

The following schedule shows the basic processing carried out on all processed magnetometer data used in this report:

Zero mean grid	*Threshold = 0.25 std. dev.*
Zero mean traverse	*Last mean square fit = off*
Despike	*X radius = 1 Y radius = 1*
	Threshold = 3 std. dev.
	Spike replacement = mean

3.5.2 Presentation of results and interpretation

Magnetic susceptibility
The presentation of the data for this site involves a grey scale plot of the field measurements overlain onto a site plan (Figure 2).

Magnetometer
The presentation of the data for each site involves a print-out of the raw data both as grey scale (Figures 4, 9 and 14) and trace plots (Figures 5, 6, 10, 11, 15 and 16), together with a grey scale plot of the processed data (Figures 7, 12, 17). Magnetic anomalies have been identified and plotted onto the 'Abstraction and Interpretation of Anomalies' drawing for the site (Figures 8, 13, 18 and 19).

4 RESULTS

4.1 Magnetic susceptibility

The reconnaissance survey conducted over 50ha of land near Plymouth revealed areas of high and low magnetic susceptibility. The large area of high magnetic susceptibility to the west of the survey area is caused by ploughed fields.

Detailed survey grids were positioned over the areas of high magnetic susceptibility as well as areas highlighted through field walking results. Areas of low magnetic susceptibility were targeted as a control for the survey.

4.2 Detailed magnetometry

4.2.1 *Western Area*

Two positive curvilinear anomalies can be noted to the north of this area. The northernmost circle (Anomaly **1**) has a diameter of approximately 30m and may represent the ring ditch associated with a round barrow. An area of magnetic disturbance (**5**) is evident within this ring ditch which may indicate former intrusive investigation into the feature.

The southernmost curvilinear feature (**2**) is not as clear as that to the north; however it is possible to discern two separate, incomplete ring ditches. Two positive linear anomalies (**3**) radiate southwards from this barrow. Further investigation is required in order to ascertain as to whether these linear features are contemporary with the double ring ditched feature.

A number of positive area anomalies (**4**) are evident in close proximity to the two round barrows. These anomalies represent large cut features of possible archaeological origin.

To the north-western limits of this area a number of positive linear anomalies (**6**) enclose an area adjacent to the two modern field boundaries. These features may represent some form of prehistoric enclosure. Positive area anomalies are also evident within the enclosure. Further investigation may determine as to whether these cut features and the enclosing ditch are contemporary with each other. Immediately south of this area is a set of positive and negative linear anomalies (**7**). These anomalies may indicate some form of bank and ditch arrangement in this area.

The southernmost sections of this western survey area are dominated by modern drainage activity (**8**) and the disturbance associated with their construction. However, a few subtle positive linear and area anomalies of possible archaeological origin can be identified despite the disturbance.

Discrete positive anomalies (**9**) can be identified in the northern and central parts of this area. These have been interpreted as possible pits and may be of archaeological origin.

A number of linear anomalies (**10**), both positive, negative and a combination of the two may indicate the presence of former field boundaries.

4.2.2 *Central Area*

The data collected from this central area of the site is dominated by evidence of agricultural activity. Positive and negative linear anomalies represent possible ridge and furrow (**11**) and former field boundaries. The two orientations of the ridge and furrow may indicate two phases of activity.

Discrete positive anomalies can be seen throughout this area (**9**). This may indicate the presence of pits of archaeological origin.

Two small positive linear anomalies (**12**) can be noted in the centre of this area. These anomalies indicate cut features and may be archaeological in origin. In the centre of this area a number of positive linear anomalies with associated negative linear anomalies indicate the presence of a former bank and ditch arrangement (**13**).

Positive area anomalies (**14**) are evident within this survey area. These anomalies represent cut features and may be archaeological in origin.

4.2.3 *Eastern Area*

The data collected from the eastern area is dominated by the presence of a modern service. The disturbance associated with this pipe may have masked any of the more subtle anomalies caused by archaeological features. However, it is possible to identify a number of positive linear anomalies that may be of archaeological origin (**15**).

Discrete positive anomalies representing possible pits are evident throughout this area with a concentration in the eastern limits (**16**).

Positive area anomalies (**17**) are evident in this centre of this area. These indicate cut features of possible archaeological origin.

5 CONCLUSION

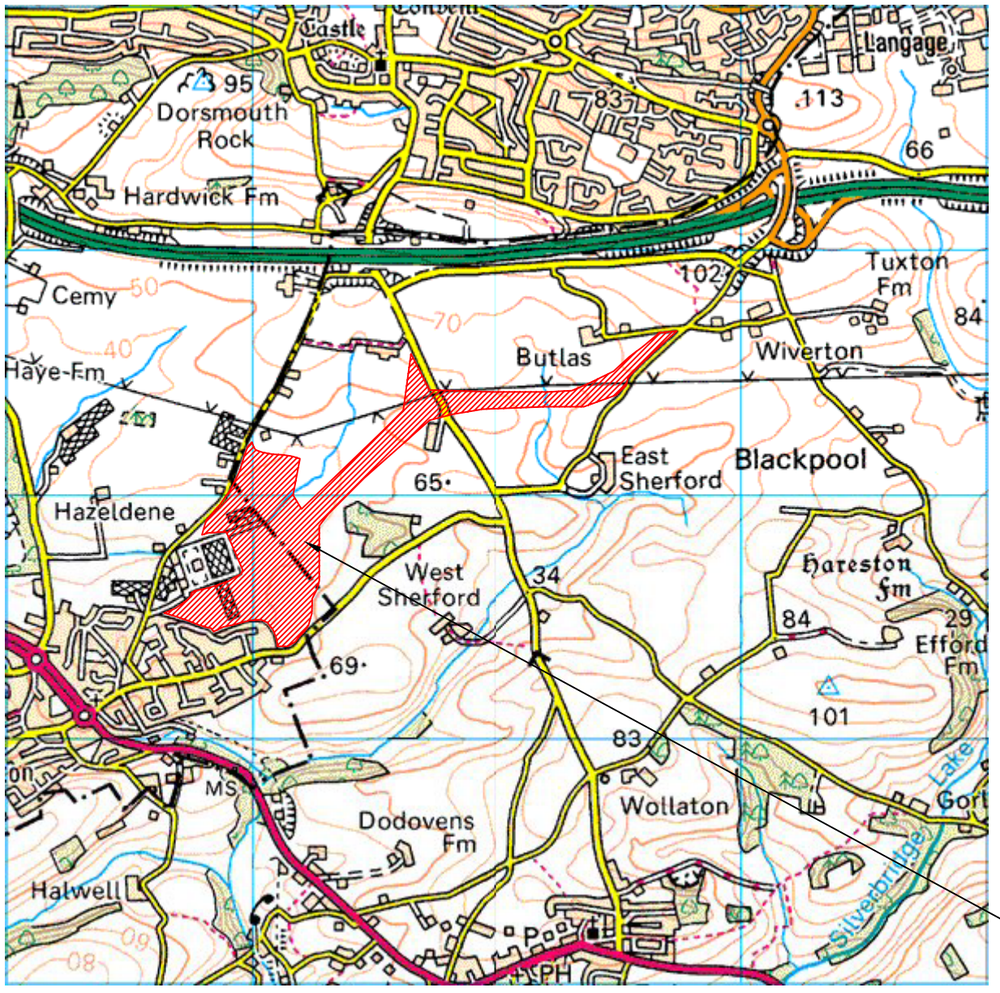
The gradiometer survey undertaken on the land near Plymouth was successful in locating a number of anomalies of possible archaeological potential. The most convincing archaeological anomalies are located in the western limits of the survey area. Two round barrows characteristic of the Bronze Age can be noted in this area, both of which seem to have parallel ditches projecting from them in a southerly direction. Also in this area is a possible prehistoric enclosure and a set of banks and ditches. Further investigation is required in order to ascertain the nature and sequence of these anomalies. An area of magnetic disturbance is evident within the ring ditch of the northernmost barrow. This may indicate former intrusive investigation into the feature such as robbing or excavation.

A large number of positive area anomalies can be noted across the survey area. These anomalies represent cut features of possible archaeological origin. Discrete positive anomalies are also evident across the entire survey area. These features have been interpreted as possible pits and may be of archaeological origin.

Modern activity is evident in the form of drainage to the west and a modern pipeline to the east. It has been possible to identify a number of anomalies of archaeological potential within these areas despite the disturbance evident within the gradiometer data due to the modern activity.

Bipolar anomalies, indicating buried ferrous objects, are evident in the western area of the site.

OS 100km square = SX



56
55
54
53
52

53 54 55 56 57

Amendments

Issue No.	Date	Description
-	-	
		-

Site centred on NGR SX 547 543

Client
EXETER ARCHAEOLOGY

Project Title
GEOPHYSICAL SURVEY - LAND NEAR PLYMOUTH

Job No. 2121

Subject
LOCATION PLAN OF SURVEY AREA

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Scale 1:25 000 (0m 500 1000m)

Plot	Checked by	Issue No.
A3	SAS	01
Survey date	Drawn by	Figure No.
MARCH 06	RAJS	01

Amendments

Issue No.	Date	Description
-	-	-
		-
		-

250

0

Plotting parameters
Maximum 250 10_{-8} SI (Red)
Minimum 10_{-8} SI (Blue)

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT TO SHOW RESULTS OF MAGNETIC SUSCEPTIBILITY SURVEY

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Scale
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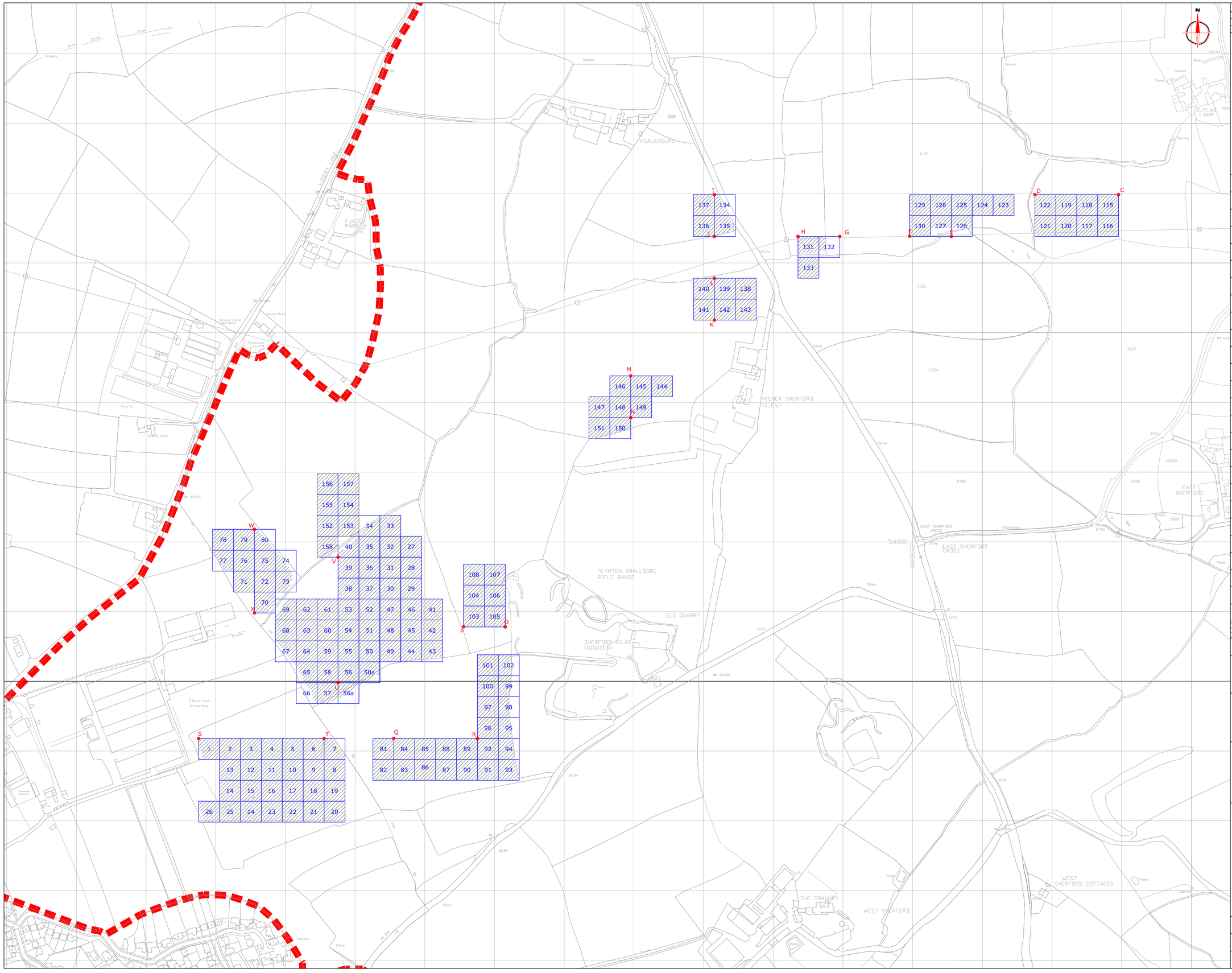
Date	Drawn by	Figure No.
APRIL 06	RAJS	02



Amendments

Issue No.	Date	Description
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OS GRID REFERENCES

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B	255595.5 , 54538
C	255295.5 , 54538
D	255175.5 , 54498
E	255055.5 , 54438
F	254995.5 , 54438
G	254895.5 , 54438
H	254835.5 , 54438
I	254715.5 , 54498
J	254715.5 , 54438
K	254715.5 , 54318
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N	254595.5 , 54178
O	254415.5 , 53878
P	254355.5 , 53878
Q	254255.5 , 53718
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S	253975.5 , 53718
T	254155.5 , 53718
U	254175.5 , 53798
V	254175.5 , 53978
W	254055.5 , 54018
X	254055.5 , 53898
83	Grid number
	Area surveyed within grid

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT TO SHOW LOCATION OF SURVEY GRIDS AND REFERENCING

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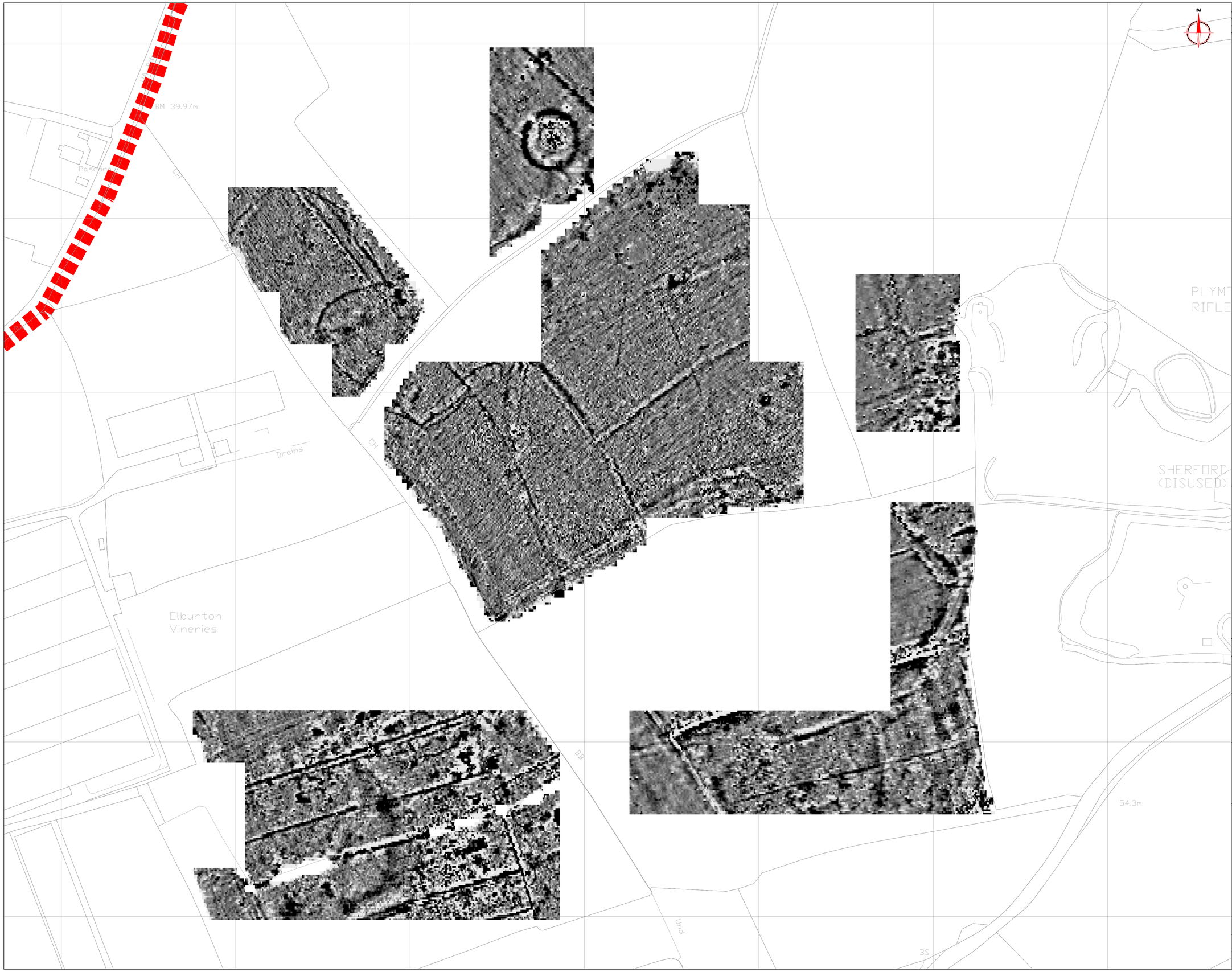
Date	Drawn by	Figure No.
MARCH 06	RAJS	03



Amendments

Issue No.	Date	Description
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		-

Plotting parameters;

Maximum +5nT (black)
Minimum -5nT (white)

-3SD +3SD

+5nT

-5nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF RAW GRADIOMETER DATA- WESTERN AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
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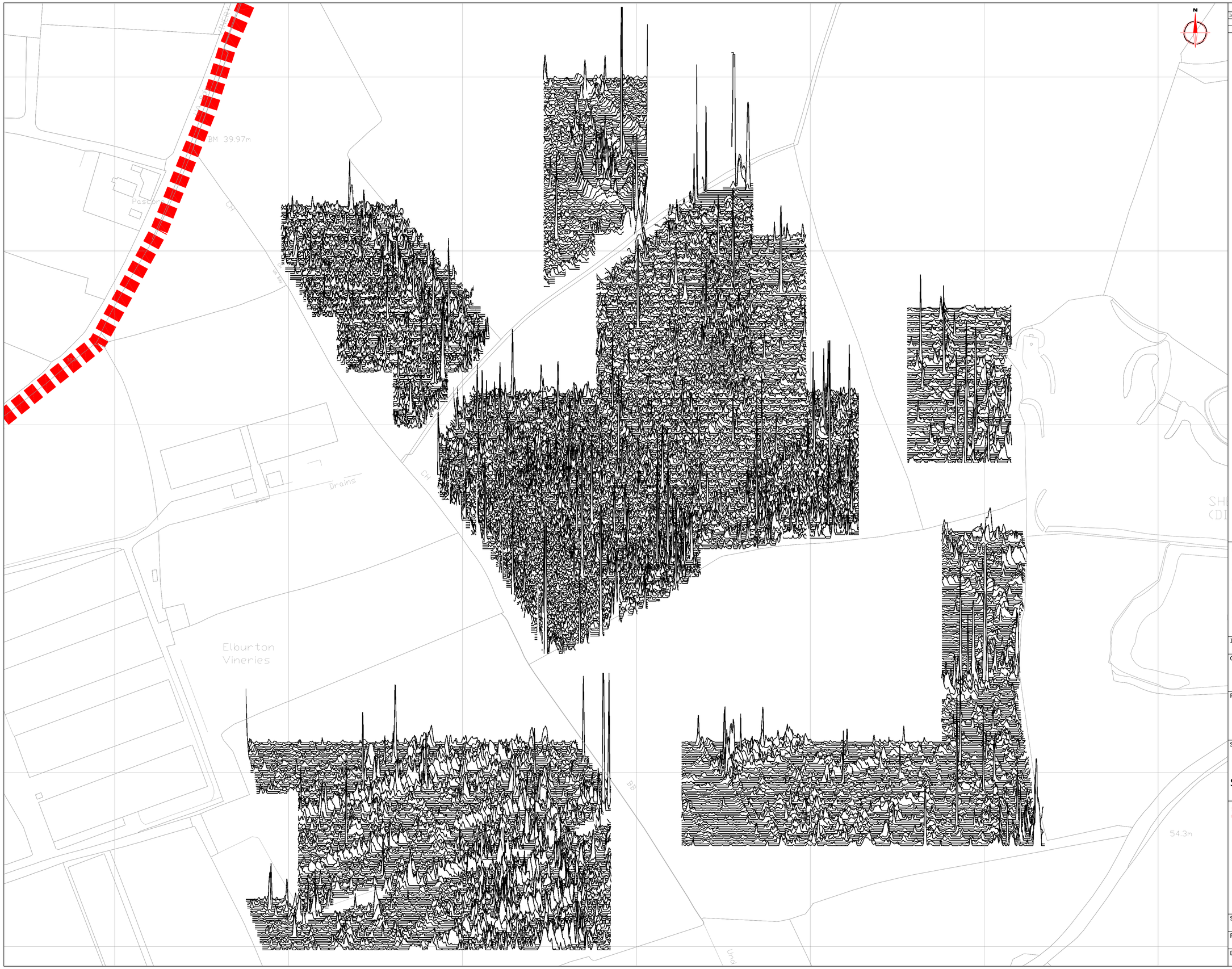
Date	Drawn by	Figure No.
MARCH 06	RAJS	04



Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters

+40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at +150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING POSITIVE VALUES-
WESTERN AREA

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REGISTERED ORGANISATION IFA

Scale 1:1000 — 0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
APRIL 06	RAJS	05

Amendments

Issue No.	Date	Description
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		-

Plotting parameters

-40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at -150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING NEGATIVE VALUES-
WESTERN AREA

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Scale 1:1000 — 0m 10 20 30 40 50 60m

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A1	PPB	01
Date	**Drawn by**	**Figure No.**
APRIL 06	RAJS	06

Amendments

Issue No.	Date	Description
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		-

Plotting parameters;

Maximum +3nT (black)
Minimum -3nT (white)

-3SD +3SD

+3nT

-3nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF PROCESSED GRADIOMETER DATA- WESTERN AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
MARCH 06	RAJS	07

Amendments

Issue No.	Date	Description
-	-	-
		-

- Pipeline
- Area of magnetic disturbance within archaeological feature
- Positive area anomaly- cut feature of possible archaeological origin
- Area of magnetic disturbance
- Agricultural mark
- Positive linear anomaly - possible archaeological origin
- Negative linear anomaly - embankment/earthwork remains
- Positive linear anomaly - possible field boundry
- Positive linear anomaly with associated negative response- possible field boundry
- Linear anomaly- possibly related to land drains
- Discrete positive anomaly with negative response - ferrous object
- Discrete positive anomaly - possible pit

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES- WESTERN AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

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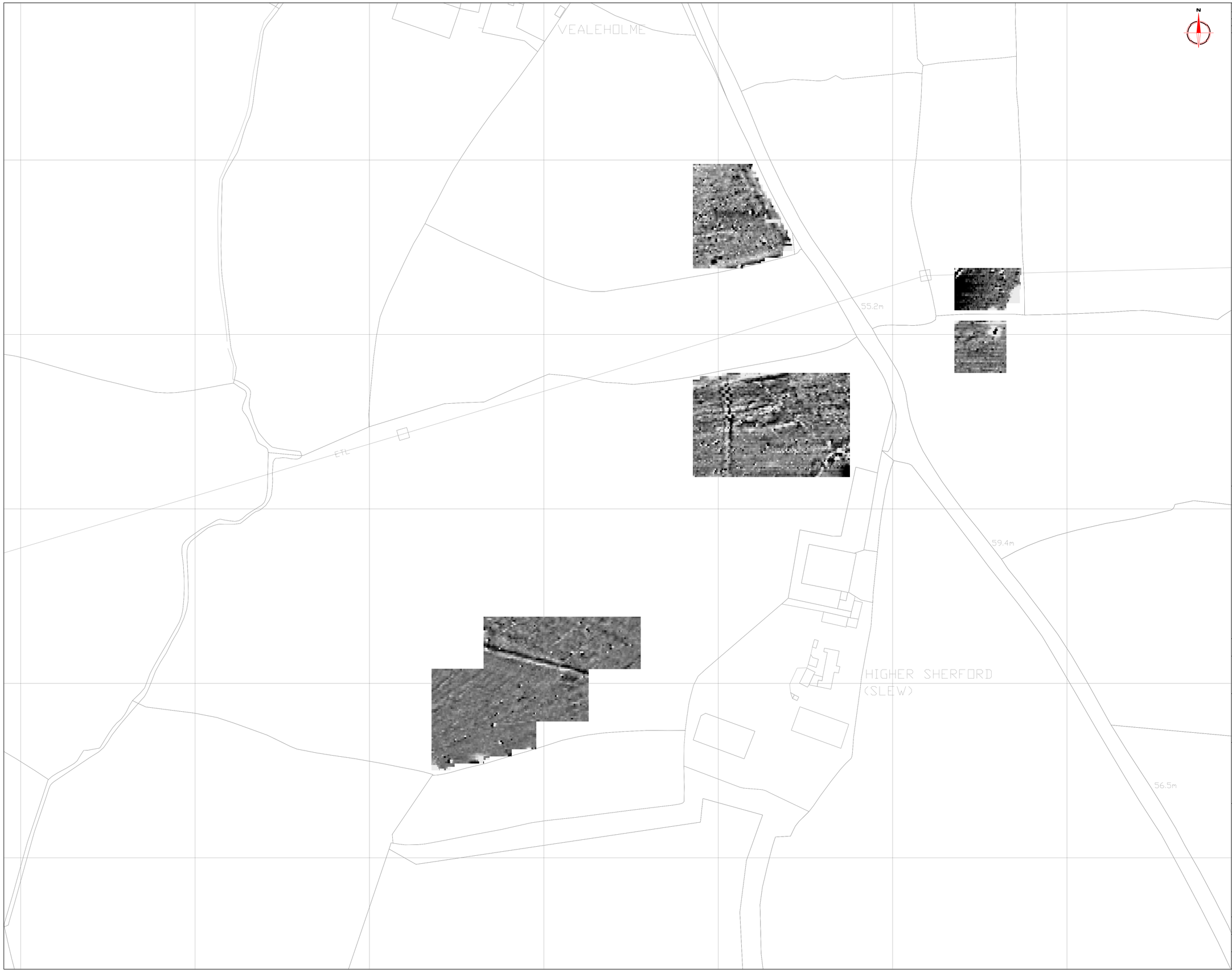
Date	**Drawn by**	**Figure No.**
MARCH 06	RAJS	08



Amendments

Issue No.	Date	Description
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Plotting parameters;

Maximum +5nT (black)
Minimum -5nT (white)

-3SD +3SD

+5nT

-5nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF RAW GRADIOMETER DATA- CENTRAL AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
MARCH 06	RAJS	09

Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters

+40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at +150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING POSITIVE
VALUES-CENTRAL AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	**Drawn by**	**Figure No.**
APRIL 06	RAJS	10

Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters

-40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at -150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

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EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING NEGATIVE VALUES-
CENTRAL AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

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A1	PPB	01
Date	**Drawn by**	**Figure No.**
APRIL 06	RAJS	11

Amendments

Issue No.	Date	Description
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		-

Plotting parameters;

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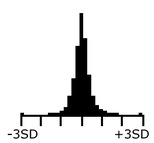
Minimum -3nT (white)



Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF PROCESSED GRADIOMETER DATA- CENTRAL AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

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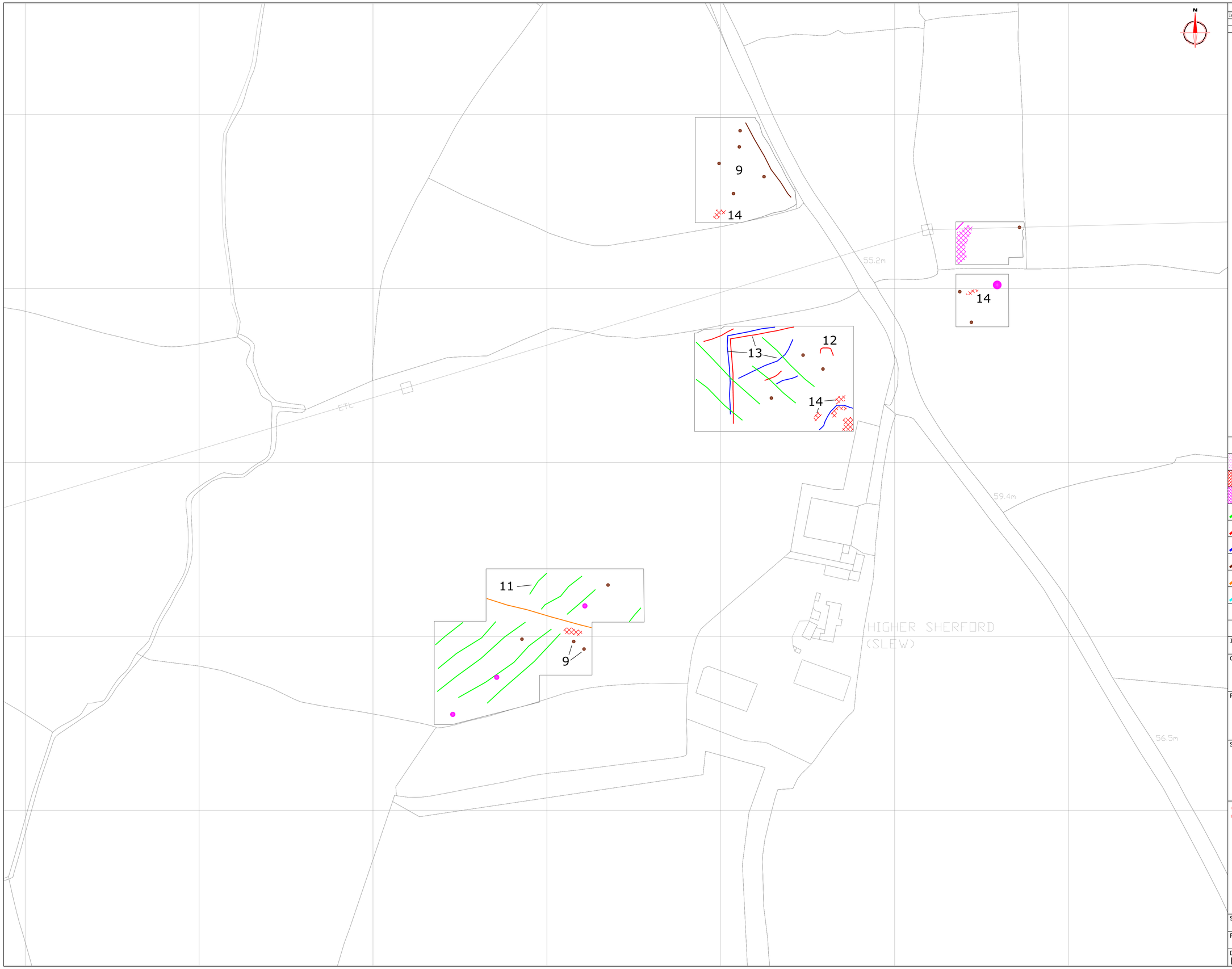
Date	Drawn by	Figure No.
MARCH 06	RAJS	12



Amendments

Issue No.	Date	Description
-	-	-
		-

- Pipeline
- Area of magnetic disturbance within archaeological feature
- Positive area anomaly- cut feature of possible archaeological origin
- Area of magnetic disturbance
- Agricultural mark
- Positive linear anomaly - possible archaeological origin
- Negative linear anomaly - embankment/earthwork remains
- Positive linear anomaly - possible field boundry
- Positive linear anomaly with associated negative response- possible field boundry
- Linear anomaly- possibly related to land drains
- Discrete positive anomaly with negative response - ferrous object
- Discrete positive anomaly - possible pit

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES- CENTRAL AREA

STRATASCAN™
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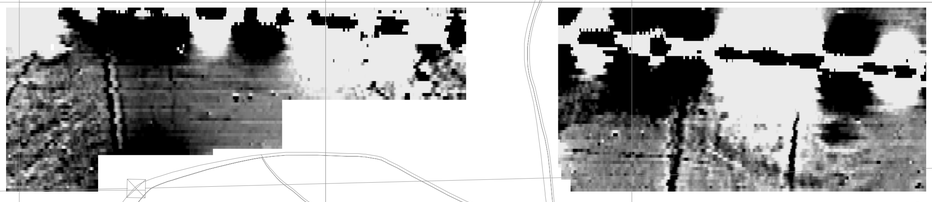
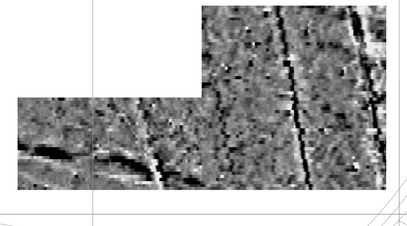
Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
MARCH 06	RAJS	13





Amendments		
Issue No.	Date	Description
-	-	-
		-

Plotting parameters;

Maximum +5nT (black)
Minimum -5nT (white)

-3SD +3SD

+5nT

-5nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF RAW GRADIOMETER DATA- EASTERN AREA

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Scale	Plot	Checked by	Issue No.
1:1000	A1	PPB	01
Date	Drawn by	Figure No.	
MARCH 06	RAJS	14	

Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters

+40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at +150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING POSITIVE VALUES-
EASTERN AREA

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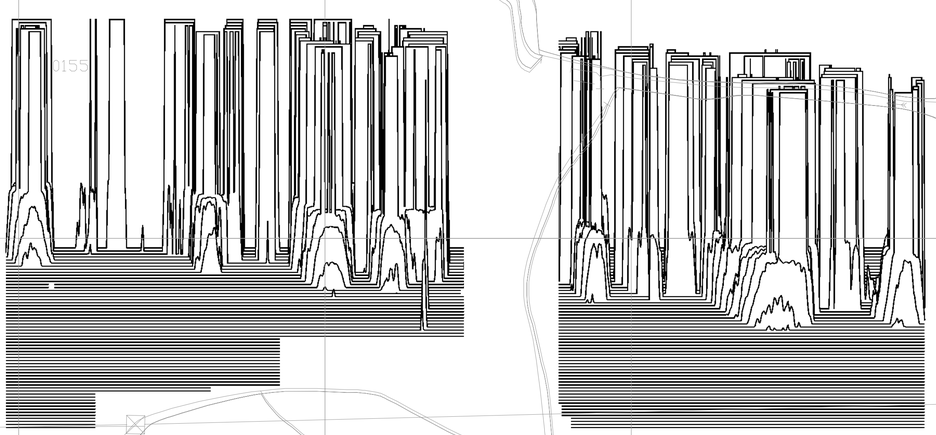
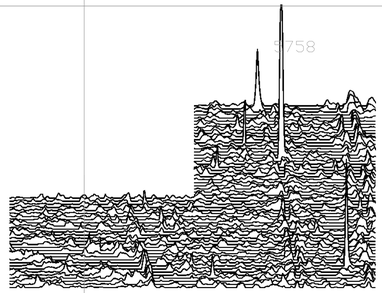
Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	**Drawn by**	**Figure No.**
APRIL 06	RAJS	15





0479

5675

Issues

Issues

Sinks

Issues

Pond

4966

BUTLAS COT

BUTLAS FARM

4264

Spring

5758

0155

68.6m

6247

4745

ETL

0136

5635

BM 63.37m

3027

0324

N

Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters

-40nT

(*Positive values displace above the trace line. Hidden values have not been plotted*)

Data clipped at -150nT

200nT
160nT
120nT
80nT
40nT
0nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY-
LAND NEAR PLYMOUTH

Subject

TRACE PLOT OF
GRADIOMETER DATA
SHOWING NEGATIVE VALUES-
EASTERN AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
APRIL 06	RAJS	16

Amendments

Issue No.	Date	Description
-	-	-
		-

Plotting parameters;

Maximum +3nT (black)
Minimum -3nT (white)

-3SD +3SD

+3nT

-3nT

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

PLOT OF PROCESSED GRADIOMETER DATA- EASTERN AREA

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Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
MARCH 06	RAJS	17

Amendments

Issue No.	Date	Description
-	-	-
		-

- Pipeline
- Area of magnetic disturbance within archaeological feature
- Positive area anomaly- cut feature of possible archaeological origin
- Area of magnetic disturbance- associated with pipeline
- Agricultural mark
- Positive linear anomaly - possible archaeological origin
- Negative linear anomaly - embankment/earthwork remains
- Positive linear anomaly - possible field boundry
- Positive linear anomaly with associated negative response- possible field boundry
- Linear anomaly- possibly related to land drains
- Discrete positive anomaly with negative response - ferrous object
- Discrete positive anomaly - possible pit

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES- EASTERN AREA

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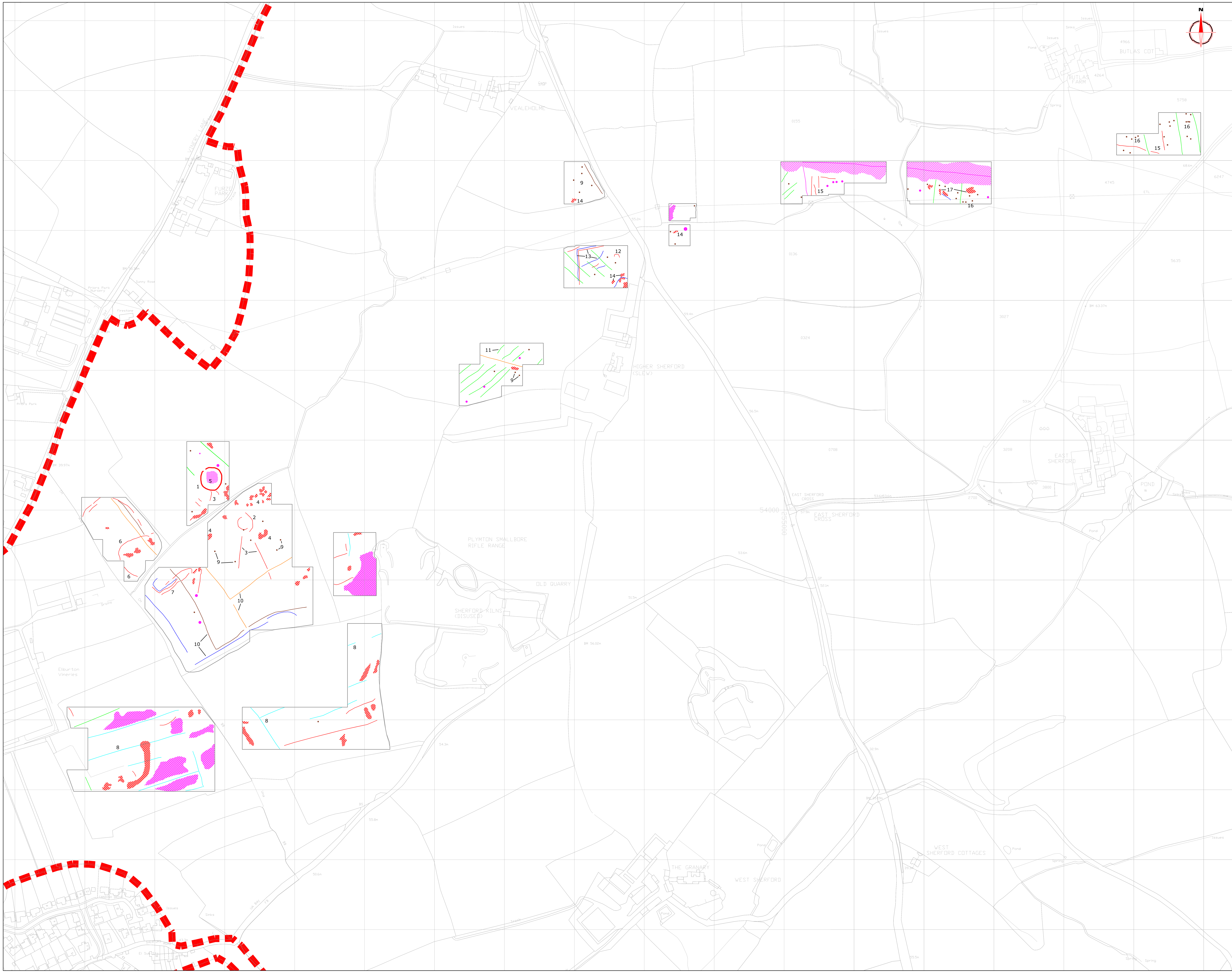
Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	Drawn by	Figure No.
MARCH 06	RAJS	18



Amendments

Issue No.	Date	Description
-	-	-
		-

	Pipeline
	Area of magnetic disturbance within archaeological feature
	Positive area anomaly- cut feature of possible archaeological origin
	Area of magnetic disturbance- associated with pipeline
	Agricultural mark
	Positive linear anomaly - possible archaeological origin
	Negative linear anomaly - embankment/earthwork remains
	Positive linear anomaly - possible field boundry
	Positive linear anomaly with associated negative response- possible field boundry
	Linear anomaly- possibly related to land drains
	Discrete positive anomaly with negative response - ferrous object
	Discrete positive anomaly - possible pit

Job No.	Survey Date
2121	MARCH 06

Client

EXETER ARCHAEOLOGY

Project Title

GEOPHYSICAL SURVEY- LAND NEAR PLYMOUTH

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES- ALL AREAS

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Scale 1:2500 (0m, 50, 100, 150m)

Plot	Checked by	Issue No.
A1	PPB	01
Date	**Drawn by**	**Figure No.**
APRIL 06	RAJS	19