APPENDIX 5.2:

GEOPHYSICAL SURVEY REPORT (STRATSCAN OCTOBER 2014)

STRATASCAN

Geophysical Survey Report

South West Milton Keynes

for

CgMs Consulting Ltd

October 2014

Job Ref: J2500

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REGISTERED IFA ORGANISATION

Document Title:	**Geophysical Survey Report South West Milton Keynes**
Client:	**CgMs Consulting Ltd**
Stratascan Job No:	**J2500**
Techniques:	**Magnetic Susceptibility, Detailed Magnetic Survey (gradiometry)**
National Grid Ref:	**SP 832 322**

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1 SUMMARY OF RESULTS

A reconnaissance magnetic susceptibility survey was conducted over 139 hectares of arable land at Salden Chase to the south west of Milton Keynes. 30 hectares were subsequently targeted with detailed gradiometry. The gradiometer survey highlighted a significant amount of agricultural activity across the site, some of which may relate to medieval ridge and furrow. Strong evidence of archaeological activity is observed across the site. A number of ditched enclosures are visible, which can be attributed to archaeological settlement activity. There was some correlation between the anomalies located in the gradiometer survey and the magnetic susceptibility results; however the strongest areas of magnetic enhancement were generally associated with agricultural activity.

2 INTRODUCTION

2.1 Background synopsis

Stratascan were commissioned by CgMs Consulting Ltd to undertake a geophysical survey of an area outlined for development.

2.2 Site location

The site is located at Salden Chase to the south west of Milton Keynes at OS ref. SP 832 322.

2.3 Description of site

The survey area is 139 hectares of gently rolling arable land. The site is situated between the A421 to the north and the former Swanbourne railway to the south.

Plate 1: looking south west across Area 20

The underlying geology is Oxford Clay and Kellaway Beds (British Geological Survey UK South Sheet, Forth Edition Solid, 2001). The drift geology is Boulder Clay with Morainic Drift (British Geological Society, Ten Mile Map South Sheet, First Edition Quaternary 1977). The overlying soils are known as Hanslope soils which are typical calcareous pelosols. These consist of slowly permeable calcareous clayey soils. (Soil Survey of England and Wales, Sheet 4 Eastern England 1983).

2.4 Site history and archaeological potential

A number of archaeological remains are recorded in the vicinity of the site. A cropmark of a rectilinear enclosure is recorded in the east of the site in Area 12. This feature is undated but thought to be of Prehistoric origin. The site is located to the south of the A421 which follows the route of a Roman road. A geophysical survey undertaken in 1999 identified evidence of Roman settlement to the west of the site. Roman pottery finds have been recorded near to The Leys c.20m to the north east of Area 5. An Anglo-Saxon cemetery was also recorded in this area. Large areas of medieval ridge and furrow have been recorded to the west of the survey area. There is potential to find evidence of activity from the prehistoric to the post medieval period (Bourne 2008).

2.5 Survey objectives

The objective of the survey was to locate any features of possible archaeological significance prior to development.

2.6 Survey methods

The reconnaissance technique of magnetic susceptibility was employed over the whole of the survey area. From this areas of enhancement were targeted with detailed gradiometer survey together with areas of low enhancement 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 58 team days between 22nd July 2008 and 4th November 2008.

3.2 Grid locations

The location of the survey grids is based on the Ordnance Survey National Grid, see Figure 4. The referencing and alignment of grids was achieved using a Leica DGPS System 500.

A DGPS (differential Global Positioning System) can locate a point on the ground to a far greater accuracy than a standard GPS unit. A standard GPS suffers from errors created by satellite orbit errors, clock errors and atmospheric interference, resulting in an accuracy of 5m-10m. Calculations to correct for these errors are performed at an accurately located base station. The base station then transmits the corrections which are received by DGPS consoles giving sub metre accuracy averaging around 0.5m error.

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 Gradiometry 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 Gradiometer

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 instrument consists of two fluxgates very accurately aligned to nullify the effects of the Earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background. The Grad601-2 consists of two high stability fluxgate gradiometers suspended on a single frame. Each gradiometer has a 1m separation between the sensing elements so enhancing the response to weak anomalies.

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.

Gradiometer
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.

Gradiometer
The Grad 601 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 optimum methodology for the task balancing cost and time with resolution.

3.4.3 Data capture

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

Gradiometer
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. *Surfer* 8 is used to generate a colour plot of the data.

Gradiometer
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:

1. *Despike* (useful for display and allows further processing functions to be carried out more effectively by removing extreme data values)

   Geoplot parameters:
   X radius = 1, y radius = 1, threshold = 3 std. dev.
   Spike replacement = mean

2. *Zero mean traverse* (sets the background mean of each traverse within a grid to zero and is useful for removing striping effects)

   Geoplot parameters:
   Least mean square fit = off

3.5.2 Presentation of results and interpretation

Magnetic susceptibility
The presentation of the data for this site involves a colour plot of the field measurements overlain onto a site plan (Figures 2 & 3).

Gradiometer
The presentation of the data for each site involves a print-out of the raw data both as grey scale (Figures 5, 10, 15, 20, 25) and trace plots (Figures 6, 7, 11, 12, 16, 17, 21, 22, 26, 27), together with a grey scale plot of the processed data (Figures 8, 13, 18, 23, 28, 30). Magnetic anomalies have been identified and plotted onto the 'Abstraction and Interpretation of Anomalies' drawing for the site (Figures 9, 14, 19, 24, 29, 31).

4 RESULTS

4.1 Magnetic susceptibility

Magnetic susceptibility was carried out over 139ha of arable land. The results from the magnetic susceptibility survey have found many areas of enhancement and it is possible that these relate to archaeological activity. There are instances where higher readings are observed across a whole field and this may be as a result of agricultural practices carried out in the field which differ to that of adjacent fields. A generally higher response can be seen in the north of the site adjacent to Bletchley Leys Farm (Areas 1 & 11A) that may relate to differing soils or agricultural practices. The large field to the east of The Leys (Area 5) demonstrates higher readings in the south of the field which may have been due to a change in equipment. A different magnetic susceptibility unit may have a slightly different calibration producing slightly different results. Magnetic susceptibility results are relative to each other and variations are looked for rather than readings of a specific value and because of this the interpretation of this data must be kept to a minimum.

There are some isolated readings which are of notably higher magnitude across the site, many of which are adjacent to field boundaries and so may relate to modern interference. Twelve areas of detailed gradiometry have targeted the areas of high to moderate response. A further area of detailed survey have targeted an area of low susceptibility, in order to test the 'null' value.

4.2 Gradiometer

The areas of higher magnetic enhancement which have been targeted with detailed gradiometry have generally revealed areas of agricultural activity. Some areas which have been targeted have identified areas of archaeological activity, notably Areas 6 and 7. However, the magnetic susceptibility in these areas was not as high as where there is strong agricultural activity. There was no evidence of archaeological activity in the areas of low magnetic enhancement.

The gradiometer anomalies have been abstracted and divided into varying types. The types have then been assessed as to the level of activity in each area according to the following table.

Level of activity	
-	None
*	Minimal
**	Moderate
***	Significant

Where this activity may be of archaeological origin the cells have been hatched in orange.

Anomaly Type and description	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8	Area 9	Area 10	Area 11	Area 12	Area 13
Discrete positive anomaly – possible pit	-	-	-	*	*	*	**	-	*	-	*	*	*
Positive anomaly with associated negative response (metallic spike) – ferrous object	*	*	*	-	*	**	**	**	*	*	**	**	**
Magnetic disturbance associated with pipe/cable	-	-	***	***	-	-	-	-	-	-	-	**	**
Linear anomaly - agricultural mark	***	***	**	**	***	***	***	***	***	***	***	***	***
Positive linear anomaly – cut feature of possible archaeological origin	-	-	-	-	-	**	-	-	-	-	*	*	-
Negative linear anomaly – bank or earthwork feature of possible archaeological origin	-	-	-	-	-	*	-	-	-	-	*	-	-
Linear anomaly – possibly related to land drains	-	-	-	-	**	*	-	-	-	*	-	-	-
Positive area anomaly – cut feature of possible archaeological origin	-	-	-	-	-	***	**	-	-	-	*	***	***
Negative area anomaly – bank or earthwork feature of possible archaeological origin	-	-	-	-	-	**	-	-	-	-	-	*	-
Weak positive area anomalies – possible cut features of archaeological or geological origin.	-	-	-	-	-	-	-	-	-	-	-	-	-
Weak negative area anomaly of archaeological or geological origin	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnetic disturbance associated with nearby service or field boundary	-	-	*	***	-	-	*	*	-	-	-	**	***
Magnetic disturbance associated with nearby metallic objects	-	-	***	-	-	-	-	-	-	-	*	*	*
Magnetic debris	-	-	-	-	-	-	-	-	-	-	-	-	-
Area of magnetic variation – possible geological/pedological origin	-	-	-	-	-	-	-	-	-	-	-	-	-
Area of positive response associated with path	-	-	-	-	-	-	-	-	-	-	-	-	-
Positive linear anomaly – cut feature possible relating to former field boundary	-	-	-	-	-	-	-	-	-	-	-	-	-

Area 1

Area 1 targeted an area of very high magnetic susceptibility. A significant level of agricultural activity is observed in this area. This is seen as a series of positive parallel curvilinear anomalies, suggesting medieval ridge and furrow. One strong magnetic anomaly with an associated negative response (magnetic spike), which is likely to be associated with a buried ferrous object, is seen in the south east of this area. The strong magnetic enhancement seen across the whole of this field in the magnetic susceptibility data is likely to relate to specific agricultural practices or the soil type rather than ploughing activity which is observed throughout the site.

Area 2

Area 2 targeted an area of moderate magnetic susceptibility which was running parallel with the field boundary. A number of agricultural marks were identified in two distinct orientations in this area of enhancement. Some of these marks are seen as negative linear anomalies but their regularity suggests that they are related to agricultural activity. Four strong positive anomalies with associated negative returns which are typical of ferrous objects are also seen in this area.

Area 3

Area 3 targeted a field of moderately high magnetic susceptibility. This area is dominated by two large metallic services running on a north west to south east orientation. A moderate level of agricultural activity is observed in two distinct orientations, suggesting two phases of agricultural activity. A number of magnetic spikes have been identified which are likely to be associated with buried ferrous material. An area of magnetic disturbance is observed in the north east of the area which is caused by the metal field boundaries.

Area 4

Area 4 targeted an area of moderate magnetic susceptibility. Two metallic services are seen running across the area. A moderate amount of weak positive linear anomalies associated with ploughing have been identified. Two discrete positive anomalies are seen in the north east and south west of the area. These have been interpreted as pits of possible archaeological origin.

Area 5

Area 5 targeted an area of predominantly 'null' response where the readings were higher in the south of the field. It is assumed that this was due to a change in equipment as discussed in the magnetic susceptibility results (4.1). The results of the gradiometer survey demonstrated little variation in the data set suggesting that the higher magnetic susceptibility readings were due to a change in equipment. A significant amount of ploughing activity is observed in this area. Four weak linear bipolar anomalies are observed at regular intervals bisecting the plough marks which have been interpreted as land drains. Two discrete positive anomalies which have been interpreted as pits of possible archaeological origin are seen towards the west of the site. Four metallic spikes, which are typical of buried ferrous objects, are also observed in this area.

Area 6

Area 6 targeted an area of moderate magnetic susceptibility within an area of relatively 'null' response. A significant amount of archaeological activity has been identified in the centre of the site. A number of positive linear and area anomalies at aptitudes of 1nT - 6nT have been identified. These responses represent in-filled cut features such as ditches of archaeological origin. These anomalies form a number of ditched enclosures which may indicate settlement activity with an associated field system. The negative linear and area anomalies may represent banks or earthworks suggesting some form of bank and ditch arrangement. The less formal arrangement of positive and negative area anomalies in the centre are at slightly higher amplitudes of -4nT – 12nT and may so indicate areas of burning or more industrial activity . Roman pottery finds have been recorded c. 140m to the south west of this area and so the archaeological activity in this area may be related to a Romano-British settlement.

There is a large amount of agricultural activity across this area, which may be associated with medieval ridge and furrow. Three weak bipolar linear anomalies have been interpreted as land drains. The anomaly in the north west of the site has been interpreted as a land drain due to the characteristics of the response, however it follows the line of a former field boundary seen in the 1885 OS mapping and so may be associated with this earlier boundary. Several strong positive anomalies with associated negative responses are identified across the area. These anomalies are typical of buried ferrous material and majority of these are outside of the zone of archaeological activity.

Area 7

Area 7 targeted an area of an area of moderate susceptibility. There is a significant amount of agricultural activity noted in this area, which may be related to medieval ridge and furrow. A positive curvilinear ditch feature and a ditched enclosure are observed in the north of the area. There are a number of discrete positive anomalies also identified in this area. These anomalies have been interpreted as pits of possible archaeological origin and may be contemporary with the larger positive features. Several magnetic spikes, which are typical of buried ferrous objects, are observed in this area. An area of magnetic disturbance is observed in the north of this area, this is likely to be caused by metal fence boundaries.

Area 8

Area 8 targeted an area of moderate magnetic susceptibility. A significant amount of agricultural activity is observed in this area. Eight discrete strong positive anomalies with associated negative returns have also been identified. These are typically caused by buried ferrous objects. A small area of magnetic interference is noted in the west of the area, this is likely to be of modern origin.

Area 9

Area 9 targeted an area of moderate magnetic susceptibly. This area is characterised by a significant amount of agricultural activity, which is seen as a series of curvilinear positive anomalies, suggesting medieval ridge and furrow. Two discrete positive anomalies are observed towards the north east of the area. These have been interpreted as pits of possible archaeological origin. Three metallic spikes which are typical of buried ferrous objects have also been identified.

Area 10

Area 10 targeted an area of moderate magnetic susceptibility within an area of relatively ‘null’ response. A significant amount of agricultural activity is noted in this area which may be associated with medieval ridge and furrow. In the south of the area two weak bipolar linear anomalies have been identified which are typical of land drains. Seven metallic spikes have are observed across the area. These have been interpreted as buried ferrous objects.

Area 11A

Area 11A targeted an area of very high magnetic susceptibly. This area is characterised by a series weak agricultural marks. Weak linear and area positive anomalies are also observed in this area with may relate to in filled cut features such as ditches and pits of possible archaeological origin. Ten strong positive anomalies with associated negative returns are noted, which are typically caused by buried ferrous objects. As with Area 1, the strong magnetic enhancement seen across this area is likely to relate to specific agricultural practices or the soil type rather than ploughing activity which is actually much stronger more prevalent in other areas of the site.

Areas 11B & 11C

Areas 11B & 11C targeted an area of moderate magnetic susceptibility. A significant level of agricultural activity has been identified across these areas. Three positive anomalies are observed, two of which have been interpreted as pits of possible archaeological origin. In the north west of Area 11C there is a lot of magnetic disturbance which is caused by a pylon. Five magnetic spikes are observed in Area 11B which are likely to be caused by buried ferrous material.

Area 12

Area 12 targeted an area of moderately high magnetic susceptibility and a cropmark of a rectilinear enclosure with a possible ring ditch (Bourne 2008). The gradiometer survey clearly identified the ditched enclosure at amplitudes of between 2nT and 10nT. In the south of this feature negative area anomalies are observed on either side of the ditch. These anomalies may represent banks or earthworks and a form of bank and ditch arrangement. Four discrete positive anomalies have been interpreted as pits of possible archaeological origin and these may be associated with the enclosure. There is a significant amount of agricultural activity observed in this area. This is observed as a series of curvilinear anomalies which is likely to be associated with medieval ridge and furrow. Several metallic spikes are observed which are likely to be caused by ferrous objects. A strong bipolar linear anomaly bisects the area, this has been interpreted as a service which may be disused as it appears to be partially removed. An area on magnetic disturbance is observed along the eastern boundary which is typically caused by metal fencing. Magnetic debris is observed in the north of the area. Magnetic debris is often caused by waste ground containing magnetic material such as bricks and so may be associated with made up ground.

Area 13

Area 13 targeted an area of moderately high magnetic susceptibility. In the south of the site a number of positive area anomalies are observed at amplitudes between 1nT and 6nT. These are interpreted as in filled cut features such as ditches and form rectilinear enclosures of probably archaeological origin. These features are partially obscured by disturbance caused by modern services which run along the south and west of the area. A number of magnetic spikes are observed across the area which are typical of buried objects. Four discrete positive anomalies are observed outside the area of archaeological activity. These have been interpreted as pits of possible archaeological origin. A small area of magnetic disturbance which is of modern origin is observed in the east of the area. A significant amount of agricultural activity is also seen in this area.

5 CONCLUSION

Although the magnetic susceptibility survey has identified areas of enhanced susceptibility, the results may be highlighting differing agricultural, rather than archaeological activities, as the areas of high susceptibility are predominantly defined by present field boundaries. As there is agricultural activity across most of the site it is likely the enhanced magnetic susceptibility, which is close to Bletchley Leys Farm, indicates the recent agricultural activity such as the storage of manure heaps.

There is some correlation between the areas of enhanced magnetic susceptibility and areas of archaeological activity identified in the detailed gradiometer survey. This is notable in Areas 6 and 13 where strong evidence of archaeological activity has been identified. Positive linear and area anomalies representing ditches were the most common type of anomaly within the survey area. However, other features such as negative anomalies representing former earthworks and discrete positive anomalies indicating possible pits were also evident.

Discrete magnetic anomalies were observed across the survey area, some of which are high amplitude, others of which are weaker and more discrete. These are probably related to ferrous objects of modern origin, although it is possible that some of these may be associated with metal objects from previous occupation.

6 REFERENCES

British Geological Survey, 1977. *Geological Survey Ten Mile Map, South Sheet, First Edition (Quaternary)*. British Geological Society.

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Bourne, R. 2008. *Archaeological Desk Based Assessment: Salden Chase, South West Milton Keynes*, *Buckinghamshire.*

Soil Survey of England and Wales, 1983. *Soils of England and Wales, Sheet 4 Eastern England.*

*APPENDIX A – **Basic principles of magnetic survey***

Detailed magnetic survey can be used to effectively define areas of past human activity by mapping spatial variation and contrast in the magnetic properties of soil, subsoil and bedrock.

Weakly magnetic iron minerals are always present within the soil and areas of enhancement relate to increases in *magnetic susceptibility* and permanently magnetised *thermoremnant* material.

Magnetic susceptibility relates to the induced magnetism of a material when in the presence of a magnetic field. This magnetism can be considered as effectively permanent as it exists within the Earth's magnetic field. Magnetic susceptibility can become enhanced due to burning and complex biological or fermentation processes.

Thermoremnance is a permanent magnetism acquired by iron minerals that, after heating to a specific temperature known as the Curie Point, are effectively demagnetised followed by re-magnetisation by the Earth's magnetic field on cooling. Thermoremnant archaeological features can include hearths and kilns and material such as brick and tile may be magnetised through the same process.

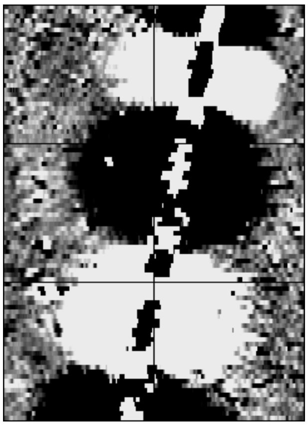
Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement allowing assessment and characterisation of subsurface features. Material such as subsoil and non-magnetic bedrock used to create former earthworks and walls may be mapped as areas of lower enhancement compared to surrounding soils.

Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically either 0.5 or 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same field but is also more affected by any localised buried field. The difference between the two sensors will relate to the strength of a magnetic field created by a buried feature, if no field is present the difference will be close to zero as the magnetic field measured by both sensors will be the same.

Factors affecting the magnetic survey may include soil type, local geology, previous human activity, disturbance from modern services etc.

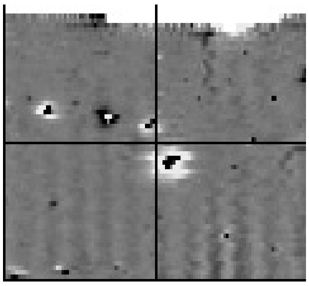
APPENDIX B – Glossary of magnetic anomalies

Bipolar



A bipolar anomaly is one that is composed of both a positive response and a negative response. It can be made up of any number of positive responses and negative responses. For example a pipeline consisting of alternating positive and negative anomalies is said to be bipolar. See also dipolar which has only one area of each polarity. The interpretation of the anomaly will depend on the magnitude of the magnetic field strength. A weak response may be caused by a clay field drain while a strong response will probably be caused by a metallic service.

Dipolar

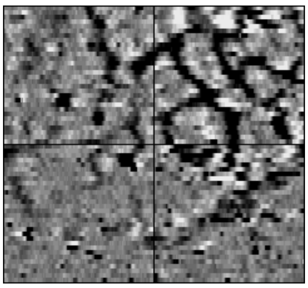


This consists of a single positive anomaly with an associated negative response. There should be no separation between the two polarities of response. These responses will be created by a single feature. The interpretation of the anomaly will depend on the magnitude of the magnetic measurements. A very strong anomaly is likely to be caused by a ferrous object.

Positive anomaly with associated negative response

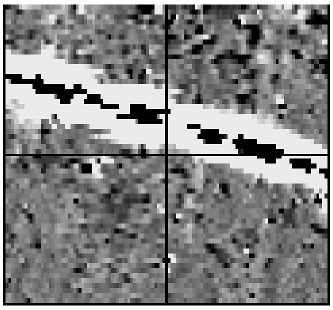
See bipolar and dipolar.

Positive linear



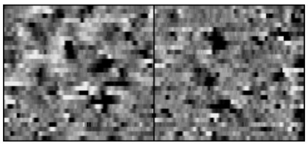
A linear response which is entirely positive in polarity. These are usually related to infilled cut features where the fill material is magnetically enhanced compared to the surrounding matrix. They can be caused by ditches of an archaeological origin, but also former field boundaries, ploughing activity and some may even have a natural origin.

Positive linear anomaly with associated negative response



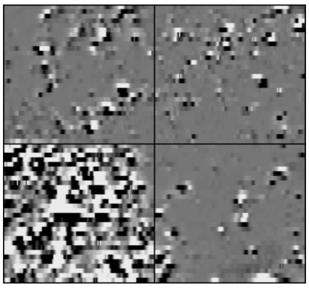
A positive linear anomaly which has a negative anomaly located adjacently. This will be caused by a single feature. In the example shown this is likely to be a single length of wire/cable probably relating to a modern service. Magnetically weaker responses may relate to earthwork style features and field boundaries.

Positive point/area



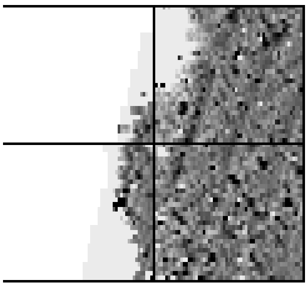
These are generally spatially small responses, perhaps covering just 3 or 4 reading nodes. They are entirely positive in polarity. Similar to positive linear anomalies they are generally caused by infilled cut features. These include pits of an archaeological origin, possible tree bowls or other naturally occurring depressions in the ground.

Magnetic debris



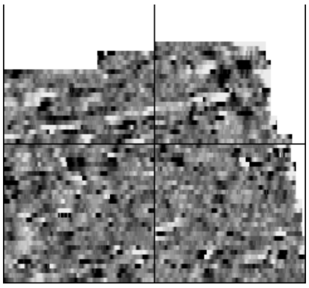
Magnetic debris consists of numerous dipolar responses spread over an area. If the amplitude of response is low (+/-3nT) then the origin is likely to represent general ground disturbance with no clear cause, it may be related to something as simple as an area of dug or mixed earth. A stronger anomaly (+/-250nT) is more indicative of a spread of ferrous debris. Moderately strong anomalies may be the result of a spread of thermoremnant material such as bricks or ash.

Magnetic disturbance



Magnetic disturbance is high amplitude and can be composed of either a bipolar anomaly, or a single polarity response. It is essentially associated with magnetic interference from modern ferrous structures such as fencing, vehicles or buildings, and as a result is commonly found around the perimeter of a site near to boundary fences.

Negative linear

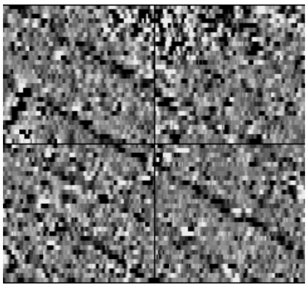


A linear response which is entirely negative in polarity. These are generally caused by earthen banks where material with a lower magnetic magnitude relative the background top soil is built up. See also ploughing activity.

Negative point/area

Opposite to positive point anomalies these responses may be caused by raised areas or earthen banks. These could be of an archaeological origin or may have a natural origin.

Ploughing activity



Ploughing activity can often be visualised by a series of parallel linear anomalies. These can be of either positive polarity or negative polarity depending on site specifics. It can be difficult to distinguish between ancient ploughing and more modern ploughing, clues such as the separation of each linear, straightness, strength of response and cross cutting relationships can be used to aid this, although none of these can be guaranteed to differentiate between different phases of activity.

Polarity

Term used to describe the measurement of the magnetic response. An anomaly can have a positive polarity (values above 0nT) and/or a negative polarity (values below 0nT).

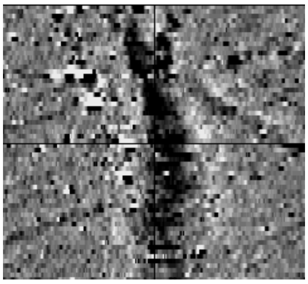
Strength of response

The amplitude of a magnetic response is an important factor in assigning an interpretation to a particular anomaly. For example a positive anomaly covering a $10m^2$ area may have values up to around 3000nT, in which case it is likely to be caused by modern magnetic interference. However, the same size and shaped anomaly but with values up to only 4nT may have a natural origin. Trace plots are used to show the amplitude of response.

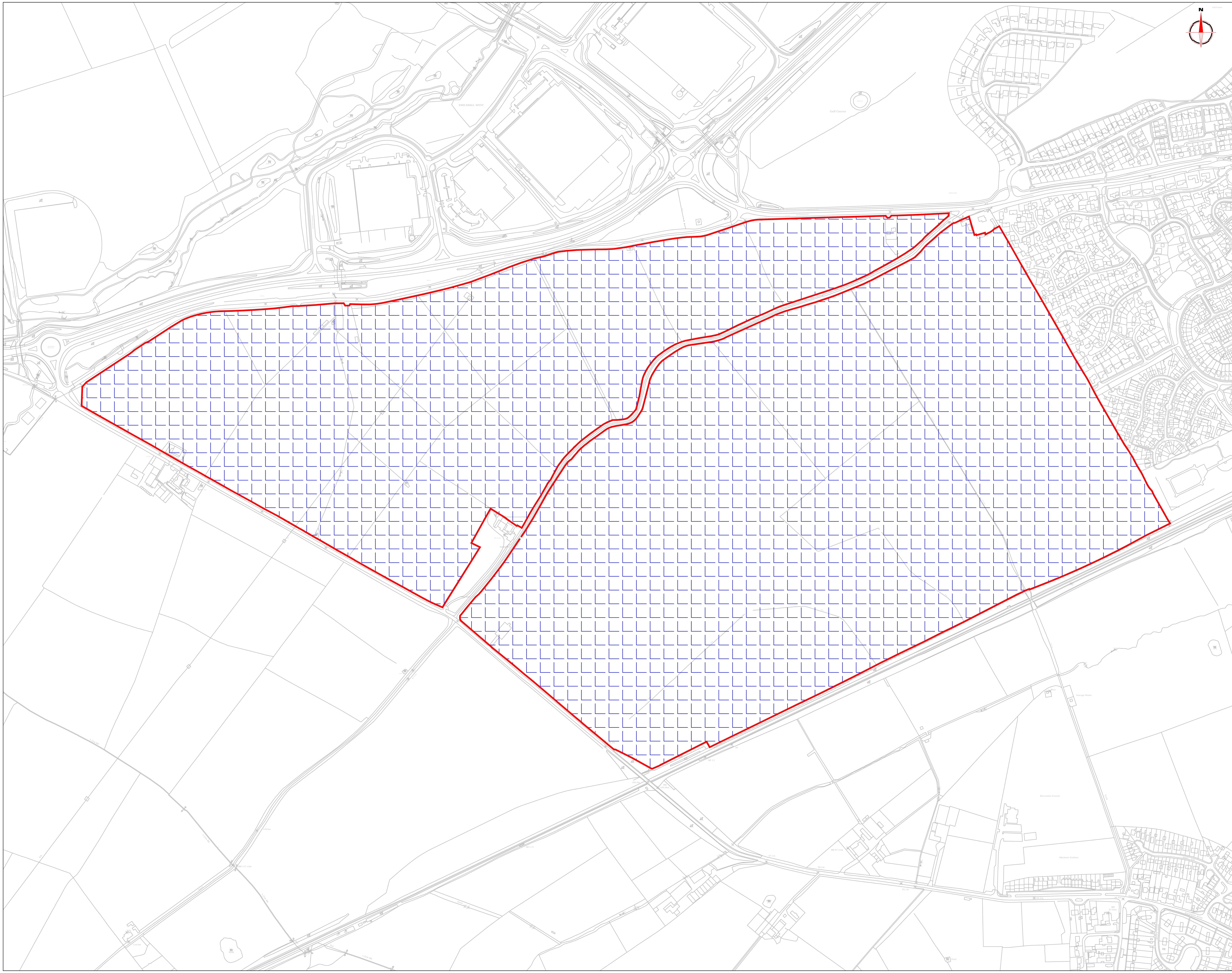
Thermoremnant response

A feature which has been subject to heat may result in it acquiring a magnetic field. This can be anything up to approximately +/-100 nT in value. These features include clay fired drains, brick, bonfires, kilns, hearths and even pottery. If the heat application has occurred insitu (e.g. a kiln) then the response is likely to be bipolar compared to if the heated objects have been disturbed and moved relative to each other, in which case they are more likely to take an irregular form and may display a debris style response (e.g. ash).

Weak background variations

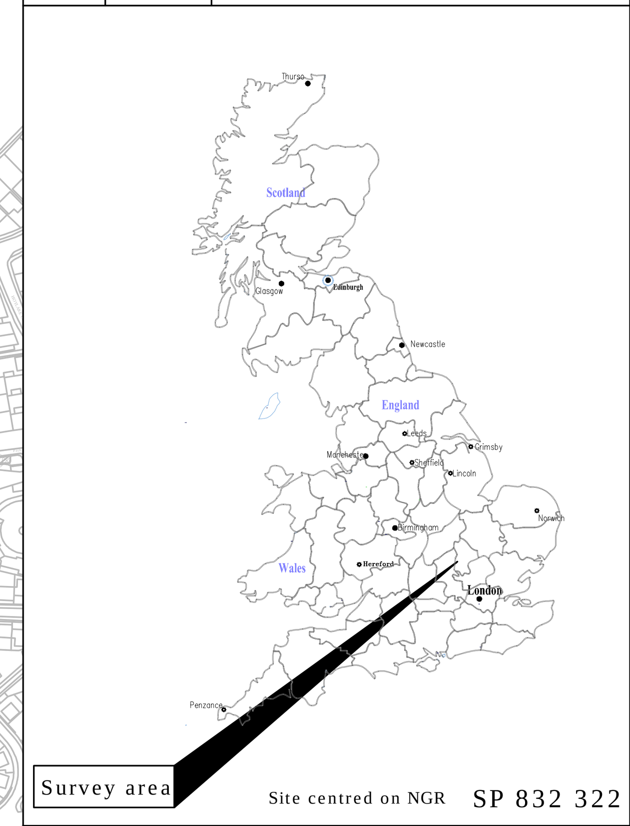


Weakly magnetic wide scale variations within the data can sometimes be seen within sites. These usually have no specific structure but can often appear curvy and sinuous in form. They are likely to be the result of natural features, such as soil creep, dried up (or seasonal) streams. They can also be caused by changes in the underlying geology or soil type which may contain unpredictable distributions of magnetic minerals, and are usually apparent in several locations across a site.

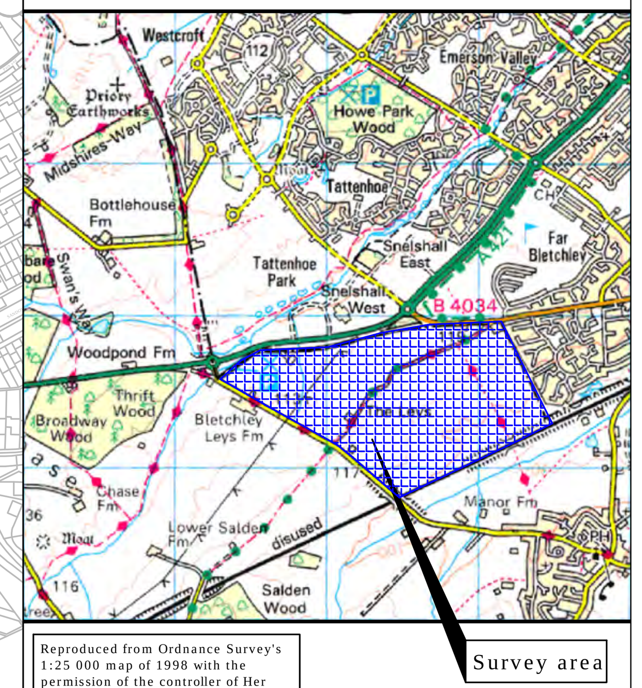


Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Site centred on NGR SP 832 322



KEY

Geophysical Survey Area

Site boundary

Job No. J2500	Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

SITE LOCATION AND SURVEY AREA

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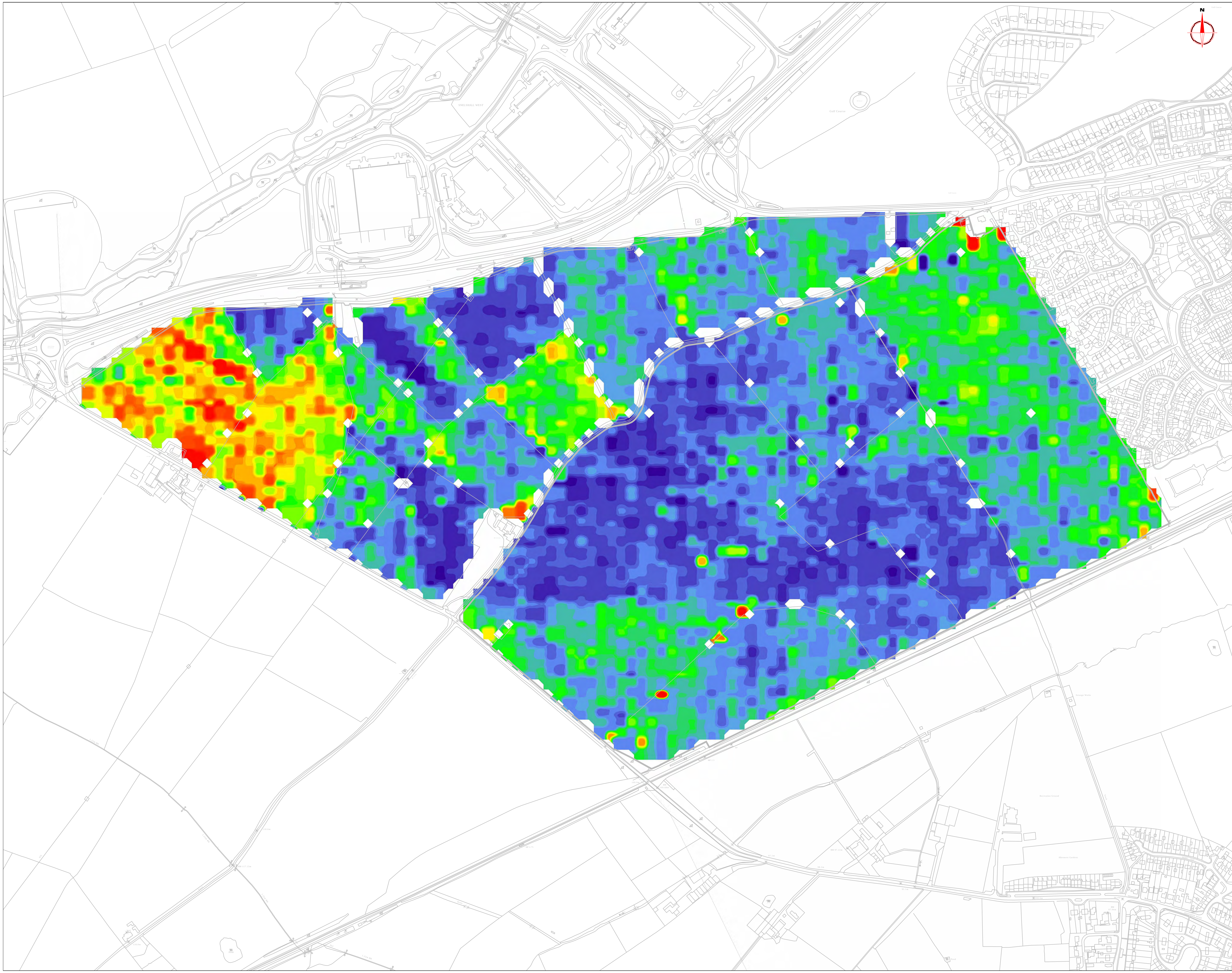
Scale 1:3500

0m 30 60 90 120 150 180m

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 01



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

KEY

Plotting parameters

Maximum +40 x 10^{-5} SI (red)
Minimum 0 x 10^{-5} SI (purple)

+40

0

Job No. J2500	Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF MAGNETIC SUSCEPTIBILITY DATA

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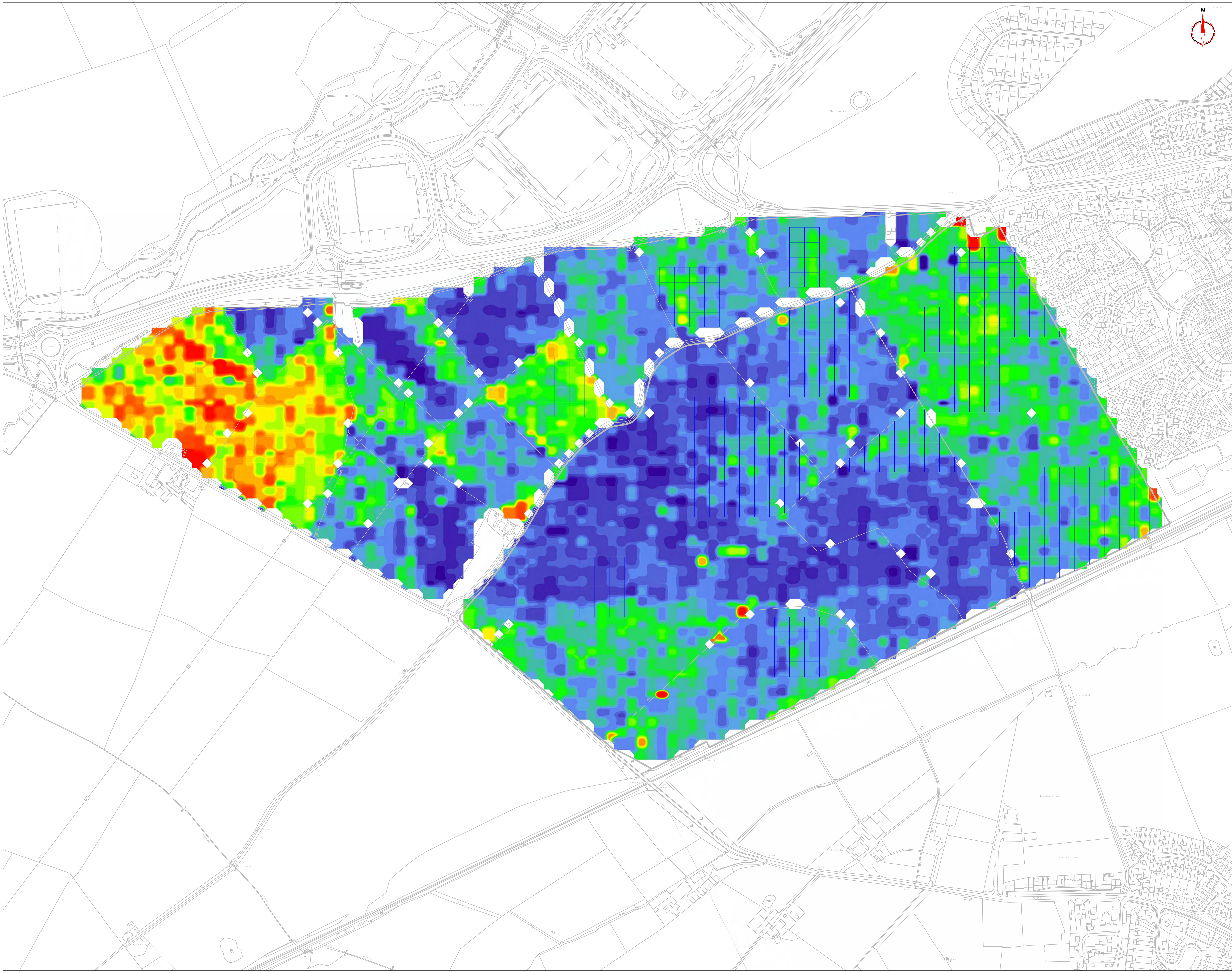
Scale 1:3500
0m 30 60 90 120 150 180m

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 02



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

KEY

Plotting parameters

Maximum +40 x 10^{-5} SI (red)
Minimum 0 x 10^{-5} SI (purple)

Detailed survey grids

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF MAGNETIC SUSCEPTIBILITY DATA AND AREAS OF DETAILED GRADIOMETER SURVEY

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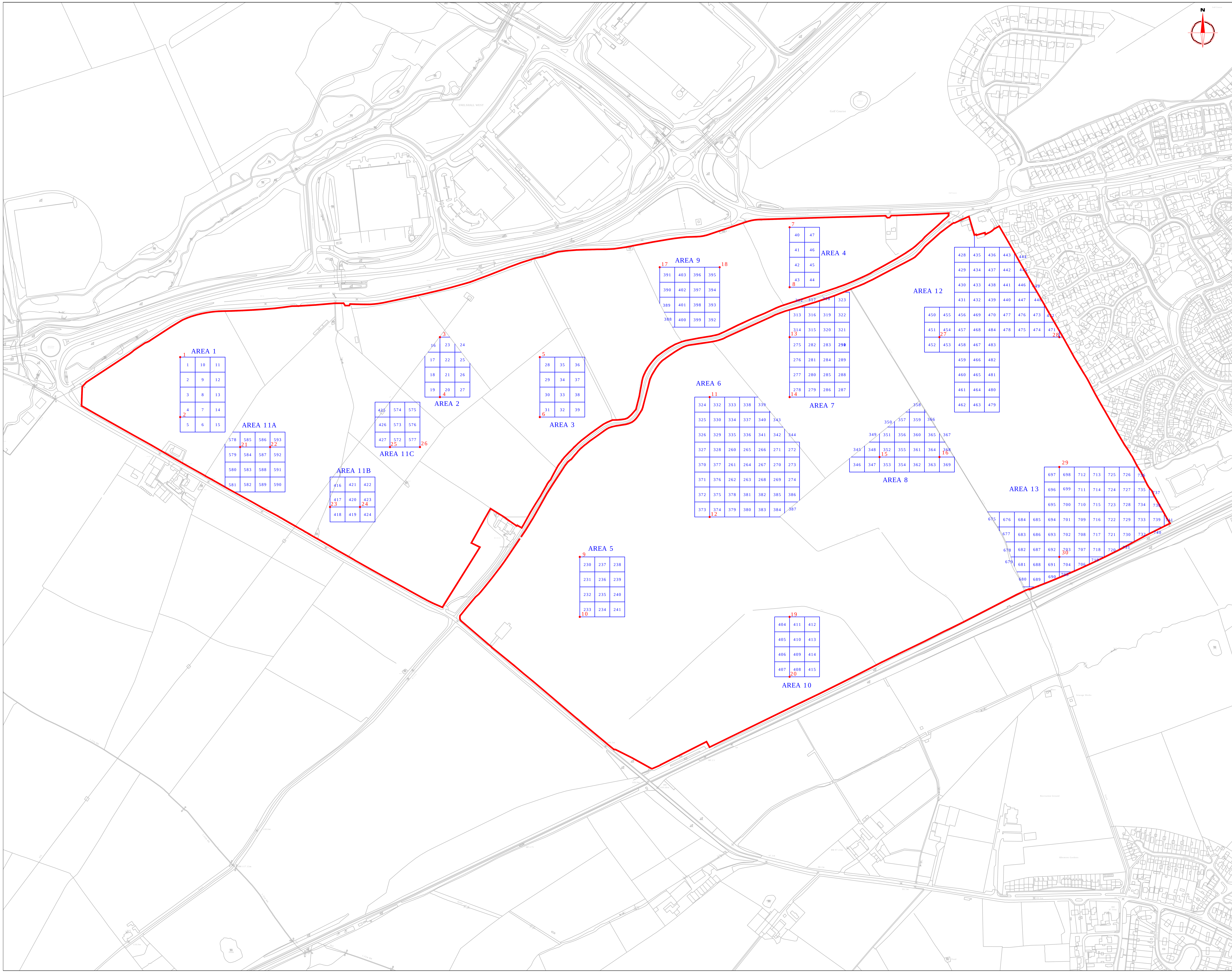
Scale 1:3500

0m 30 60 90 120 150 180m

Plot	Checked by	Issue No.
A1	PPB	02
Date	Drawn by	Figure No.
OCT 14	CG	03



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

OS Grid References

1	482509.30,232648.85	2	482509.30,232528.85
3	482929.30,232688.85	4	483029.30,232568.85
5	483229.30,232648.85	6	483229.30,232528.85
7	483729.30,232908.85	8	483729.30,232788.85
9	483309.30,232248.85	10	483309.30,232128.85
11	483569.30,232568.85,	12	483569.30,232328.85
13	483729.30,232688.85	14	483729.30,232568.85
15	483909.30,232448.85	16	484029.30,232448.85
17	483469.30,232828.85	18	483589.30,232828.85
19	483729.30,232128.85	20	483729.30,232008.85
21	482629.30,232468.85	22	482689.30,232468.85
23	482809.30,232348.85	24	482869.30,232348.85
25	482929.30,232468.85	26	482989.30,232468.85
27	484029.30,232688.85	28	484269.30,232688.85
29	484269.30,232428.85	30	484269.30,232248.85

79 Grid Number

Site boundary

Job No. J2500

Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

LOCATION OF DETAILED SURVEY GRIDS AND REFERENCING

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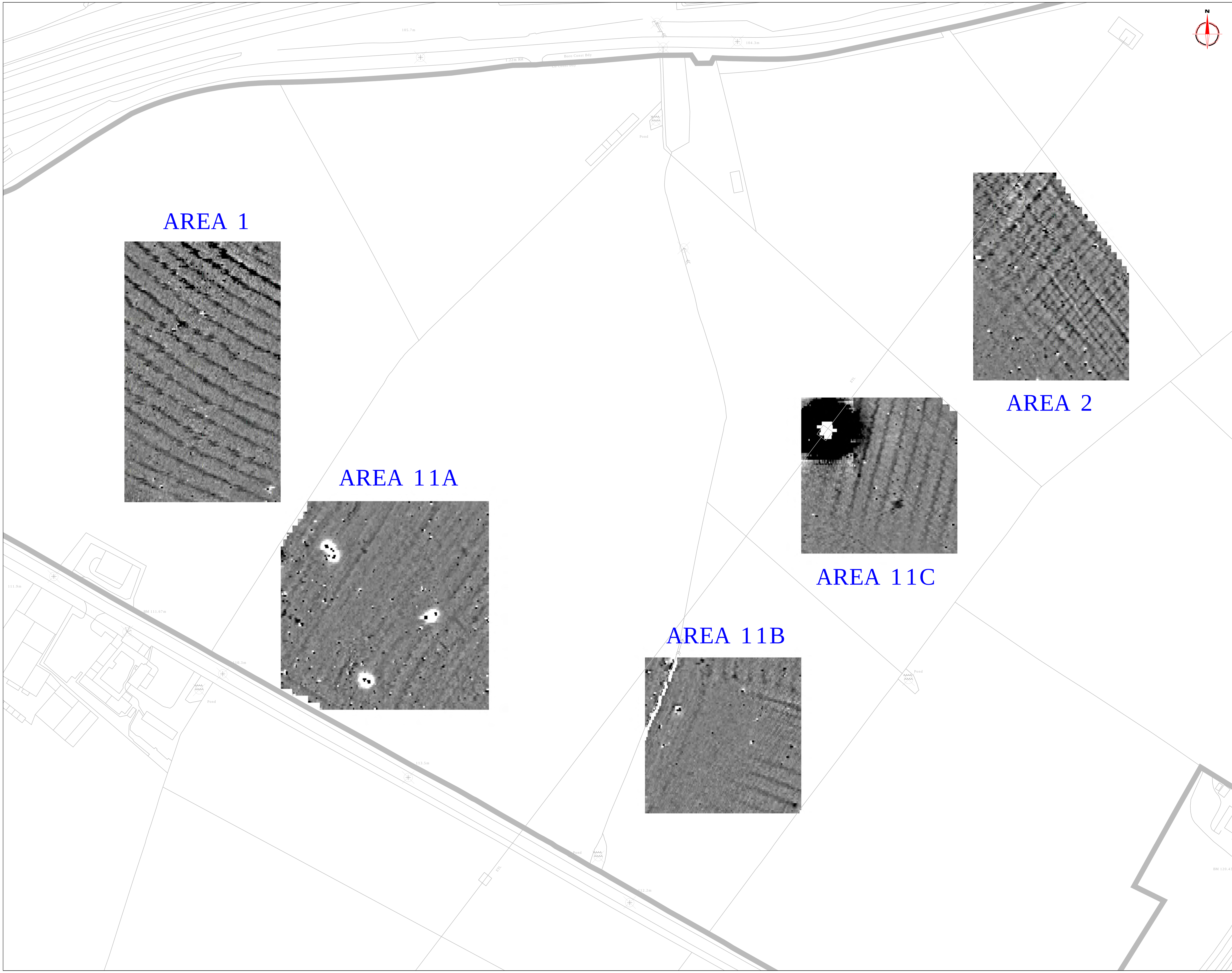
Scale 1:3500 (0m 30 60 90 120 150 180m)

Plot	Checked by	Issue No.
A1	PPB	02

Date	Drawn by	Figure No.
OCT 14	CG	04



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

Area 1
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Area 2
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Area 17
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client
CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA AREAS 1, 2 & 11

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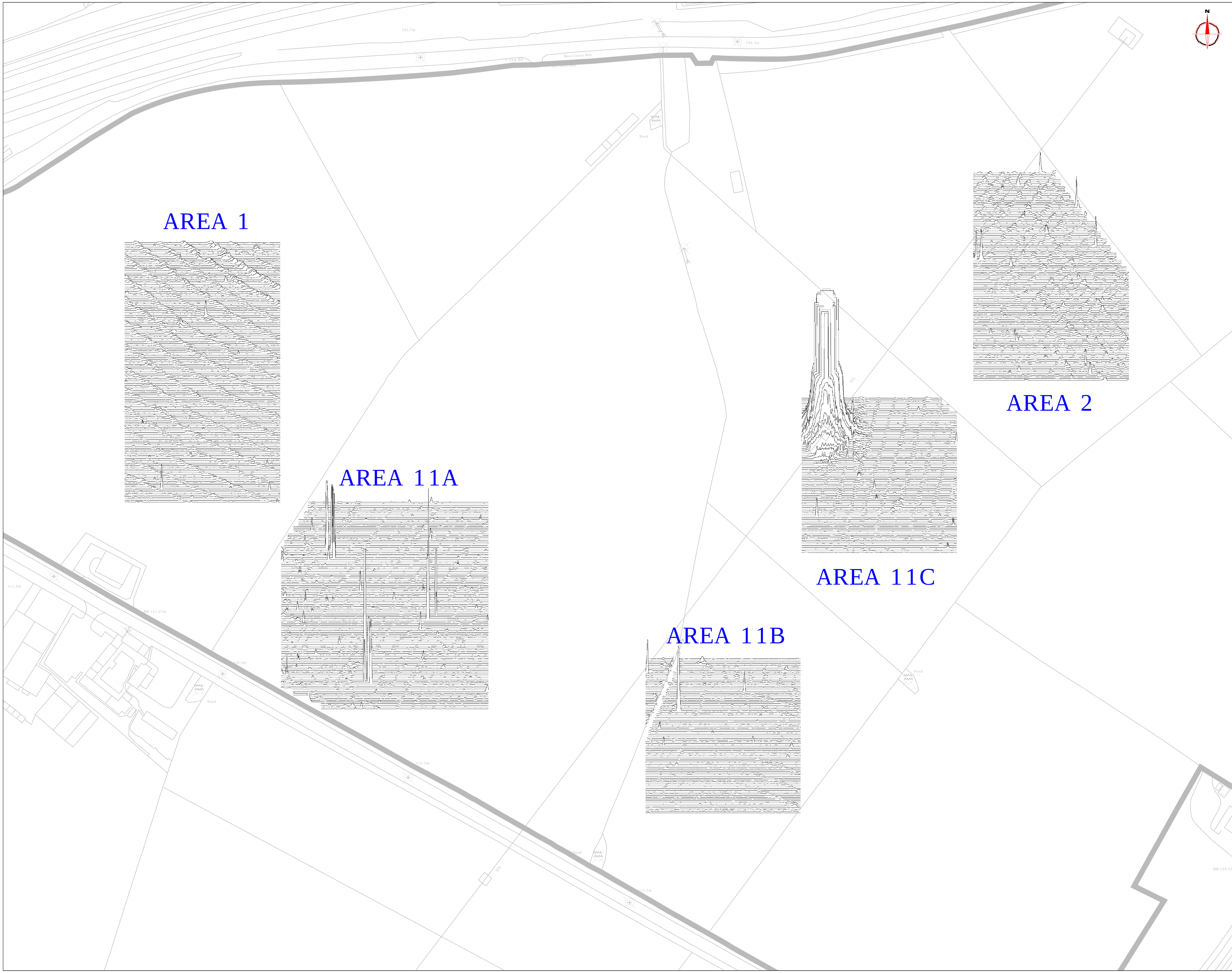
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	05



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

+40nT

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

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

Job No. J2500

Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING POSITIVE VALUES
AREAS 1, 2 & 11

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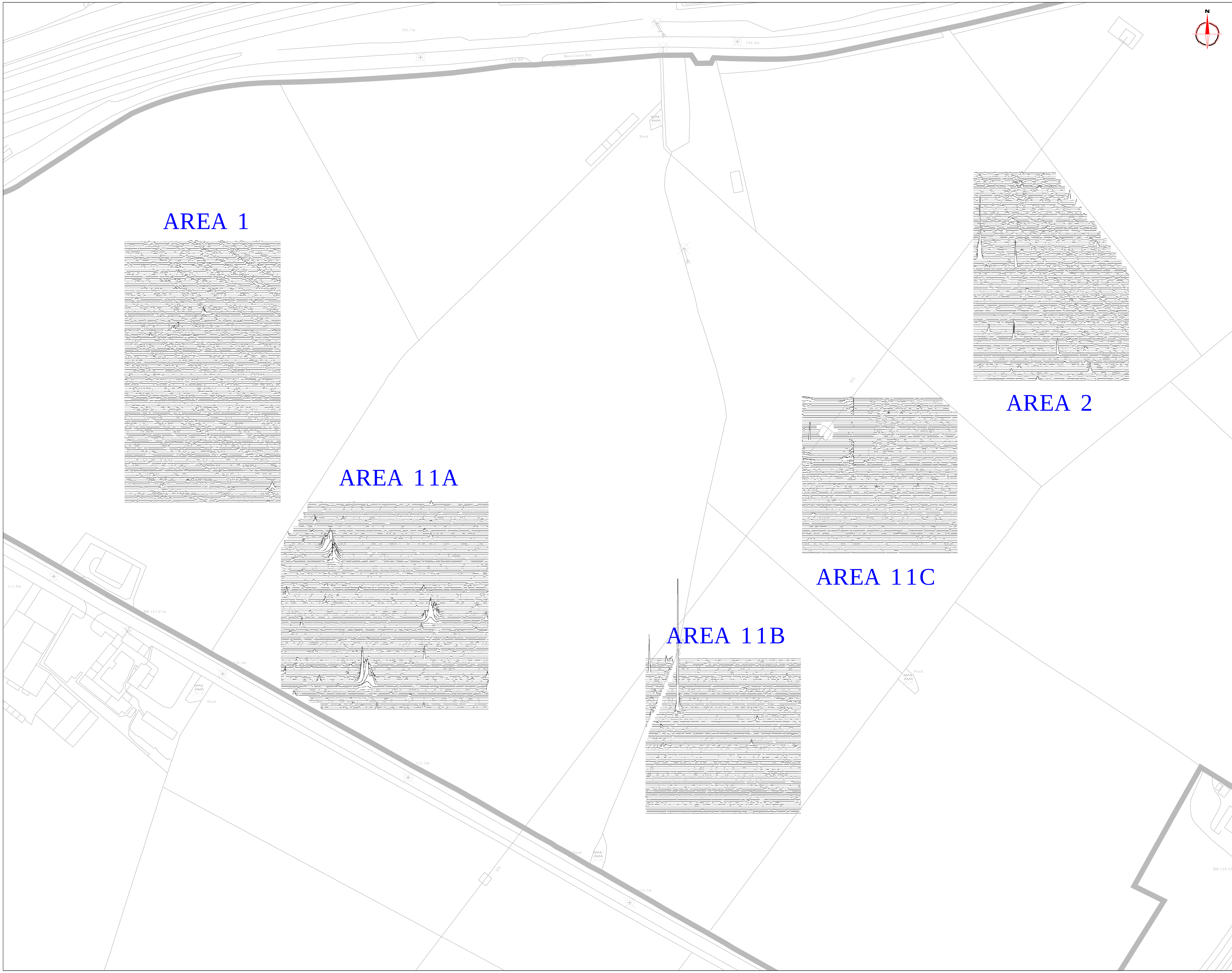
Scale 1:1000 0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	06



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

-40nT

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

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

Job No. J2500	Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING NEGATIVE VALUES
AREAS 1, 2 & 11

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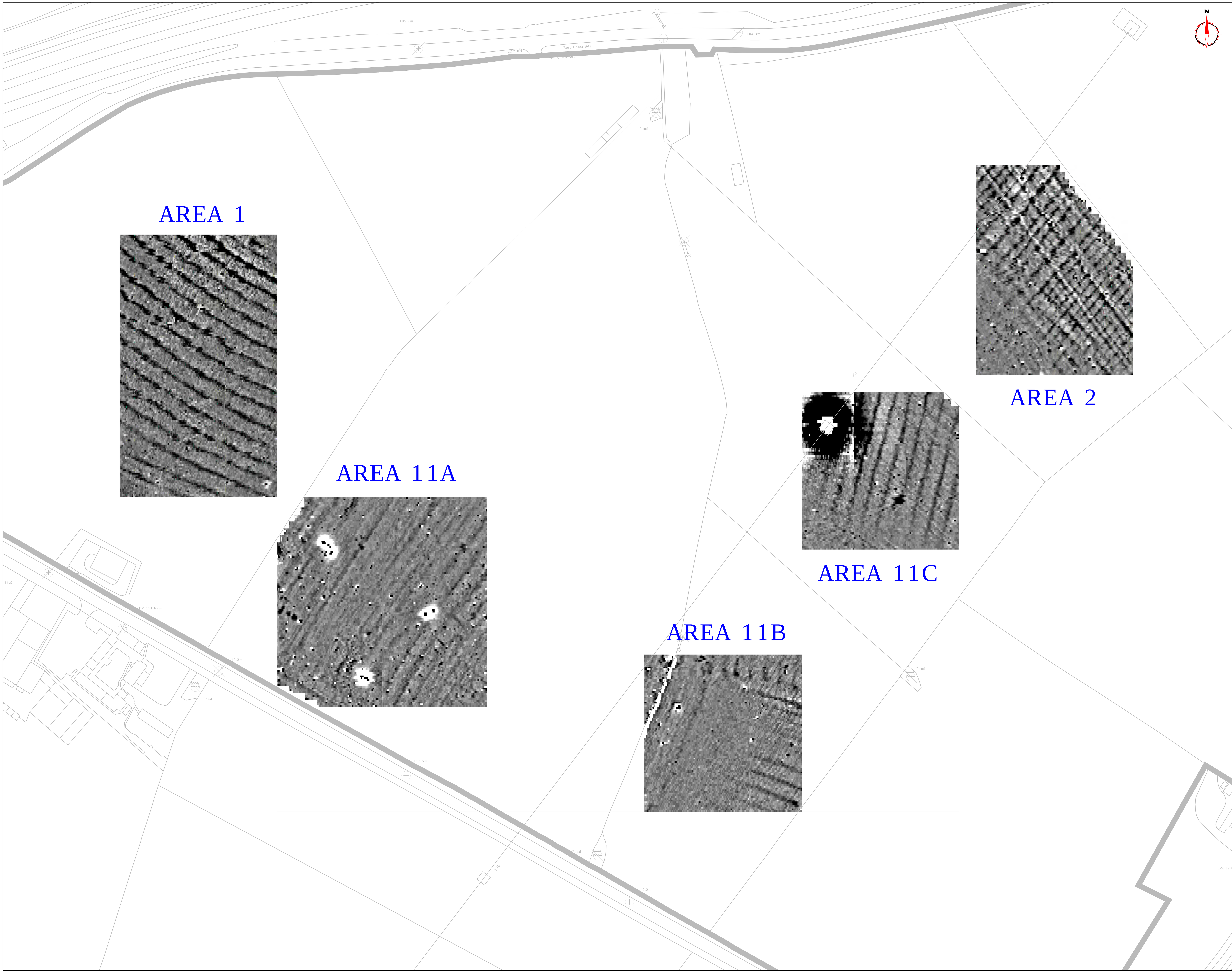
Scale 1:1000 0m 10 20 30 40 50 60m

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 07



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

Area 1
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Area 2
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Area 17
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF PROCESSED
GRADIOMETER DATA
AREAS 1, 2 & 11

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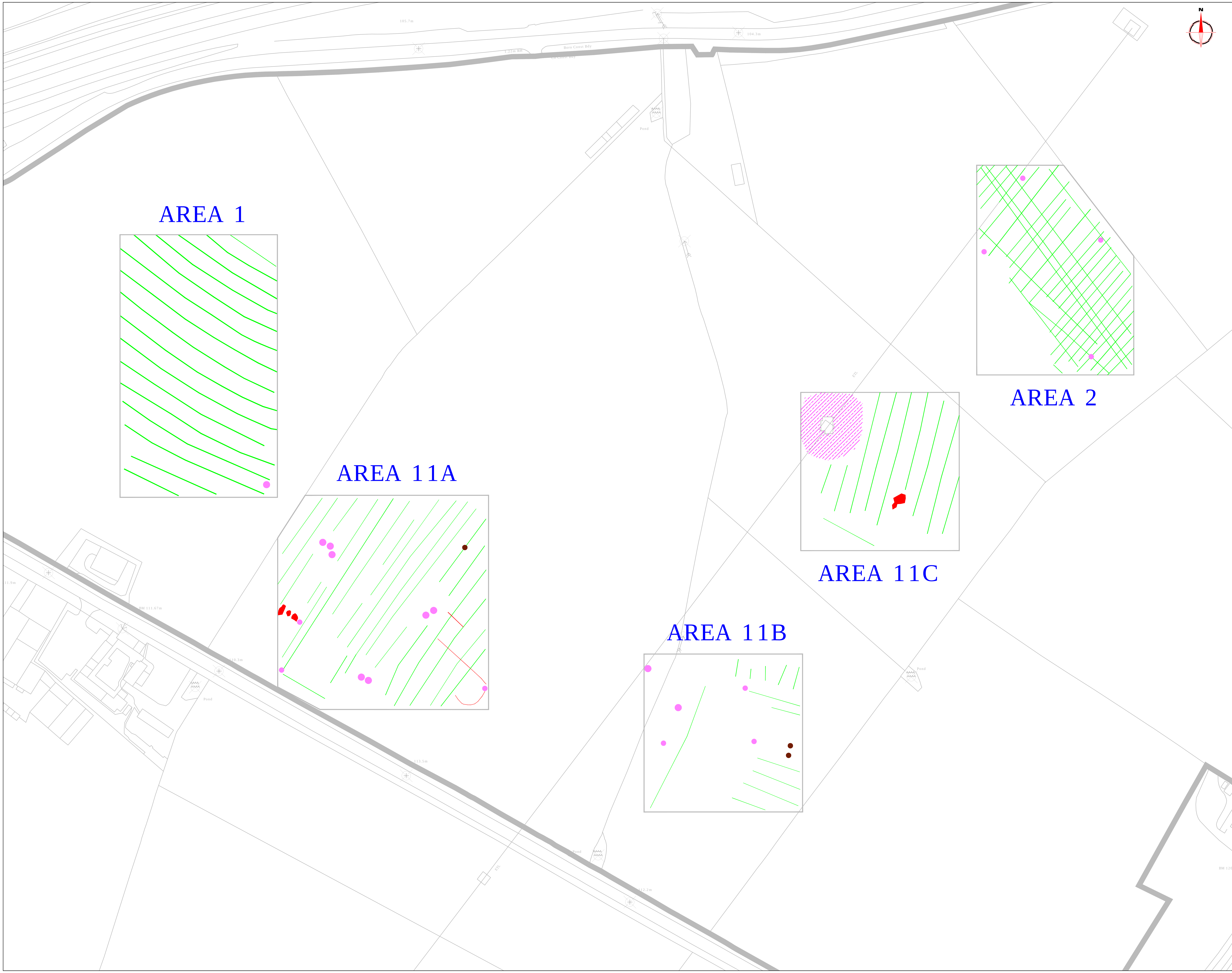
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02

Date	Drawn by	Figure No.
OCT 14	CG	08



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Positive linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No. J2500

Survey Date JULY-NOV 2008

Client
CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES AREAS 1, 2 & 11

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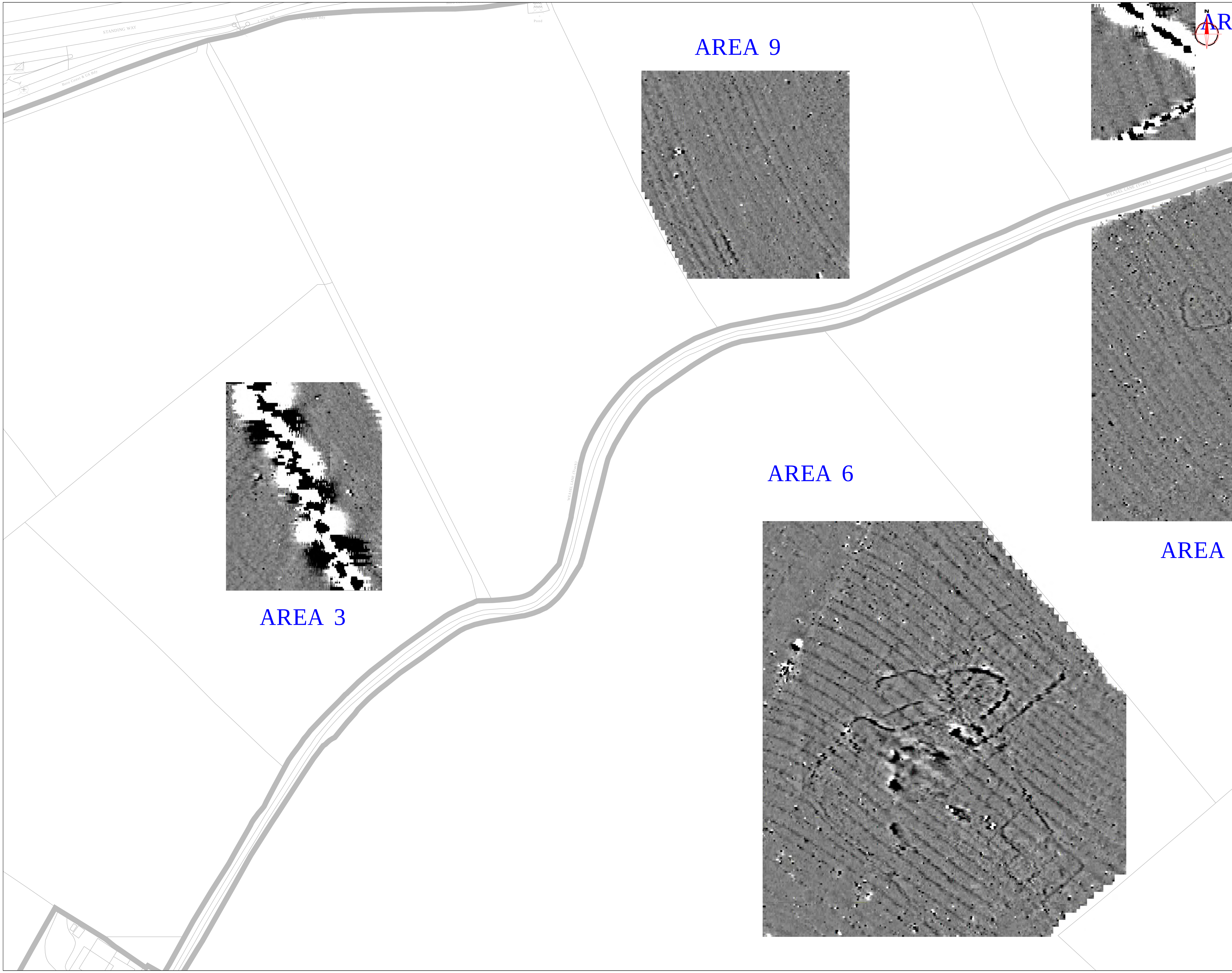
Scale 1:1000 (0m 10 20 30 40 50 60)

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	09



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Area 3
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Area 12
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Area 15
Plotting parameters

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

Zero
Mean
-3SD +3SD
+3nT
-3nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client
CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA
AREAS 3, 6 & 9

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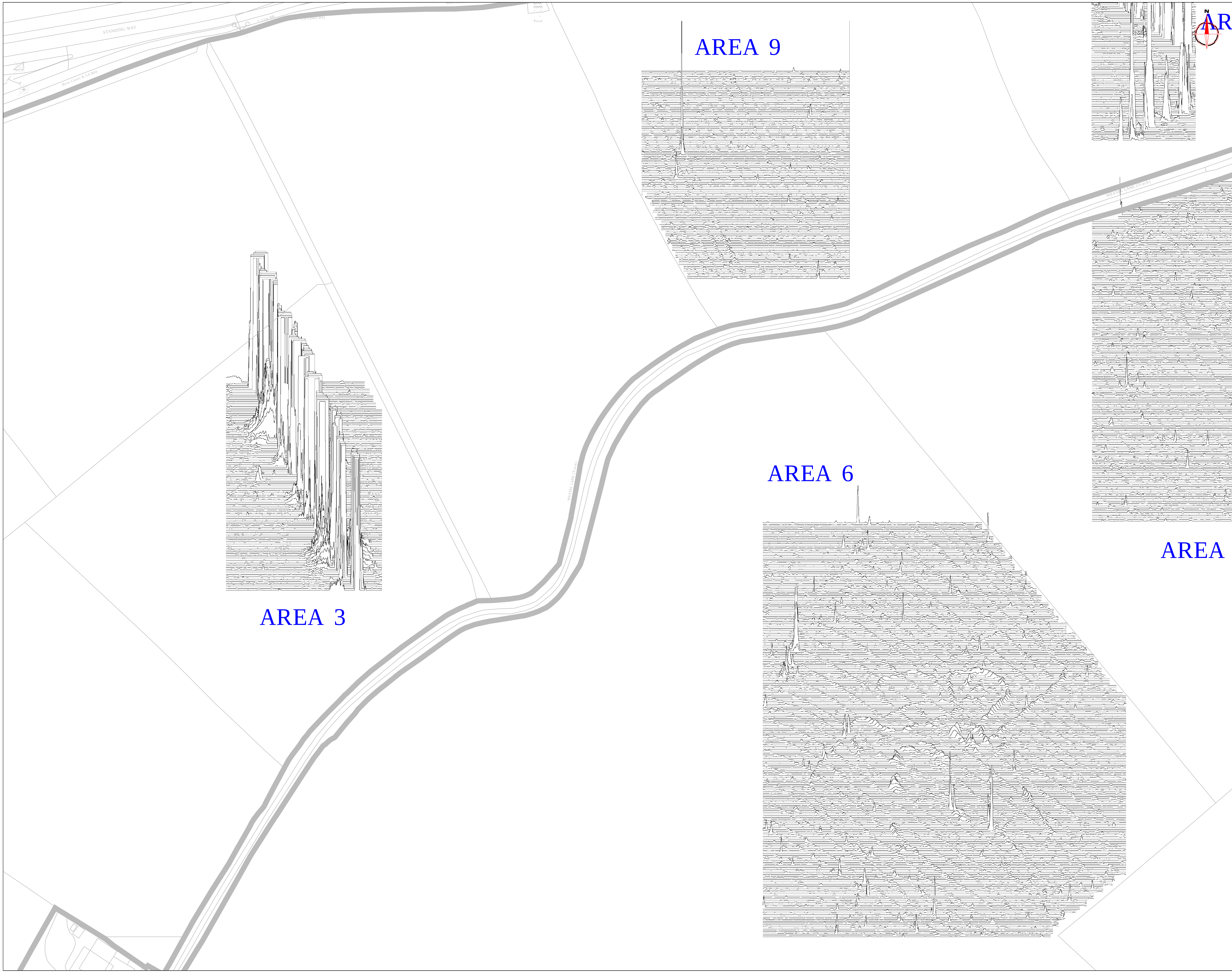
Scale 1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	10



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

+40nT

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

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

Job No.
J2500

Survey Date
JULY-NOV 2008

Client
CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF GRADIOMETER DATA
SHOWING POSITIVE VALUES
AREAS 3, 6 & 9

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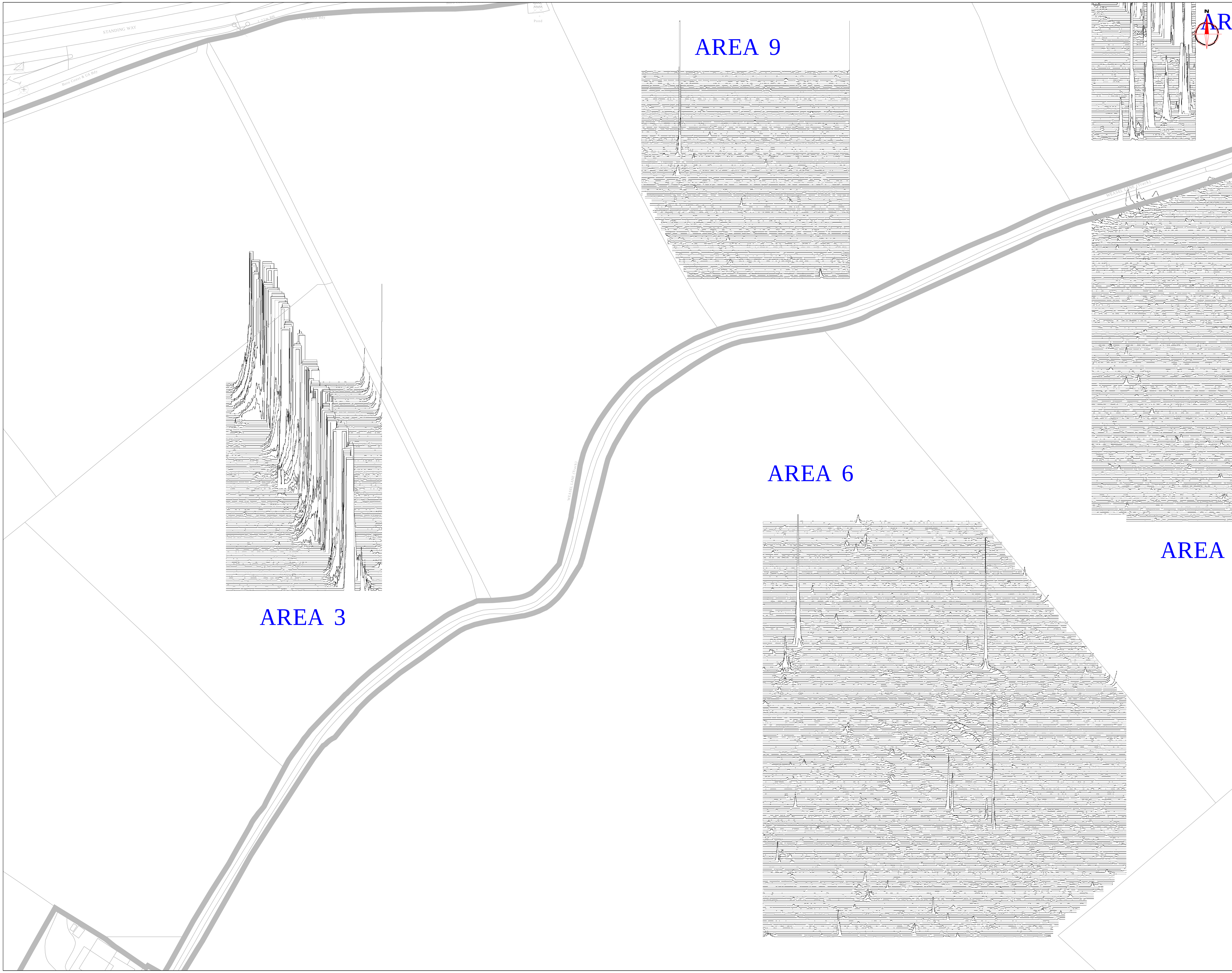
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	11



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

-40nT

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

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

Job No. J2500	Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SALDEN CHASE,
MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING NEGATIVE VALUES
AREAS 3, 6 & 9

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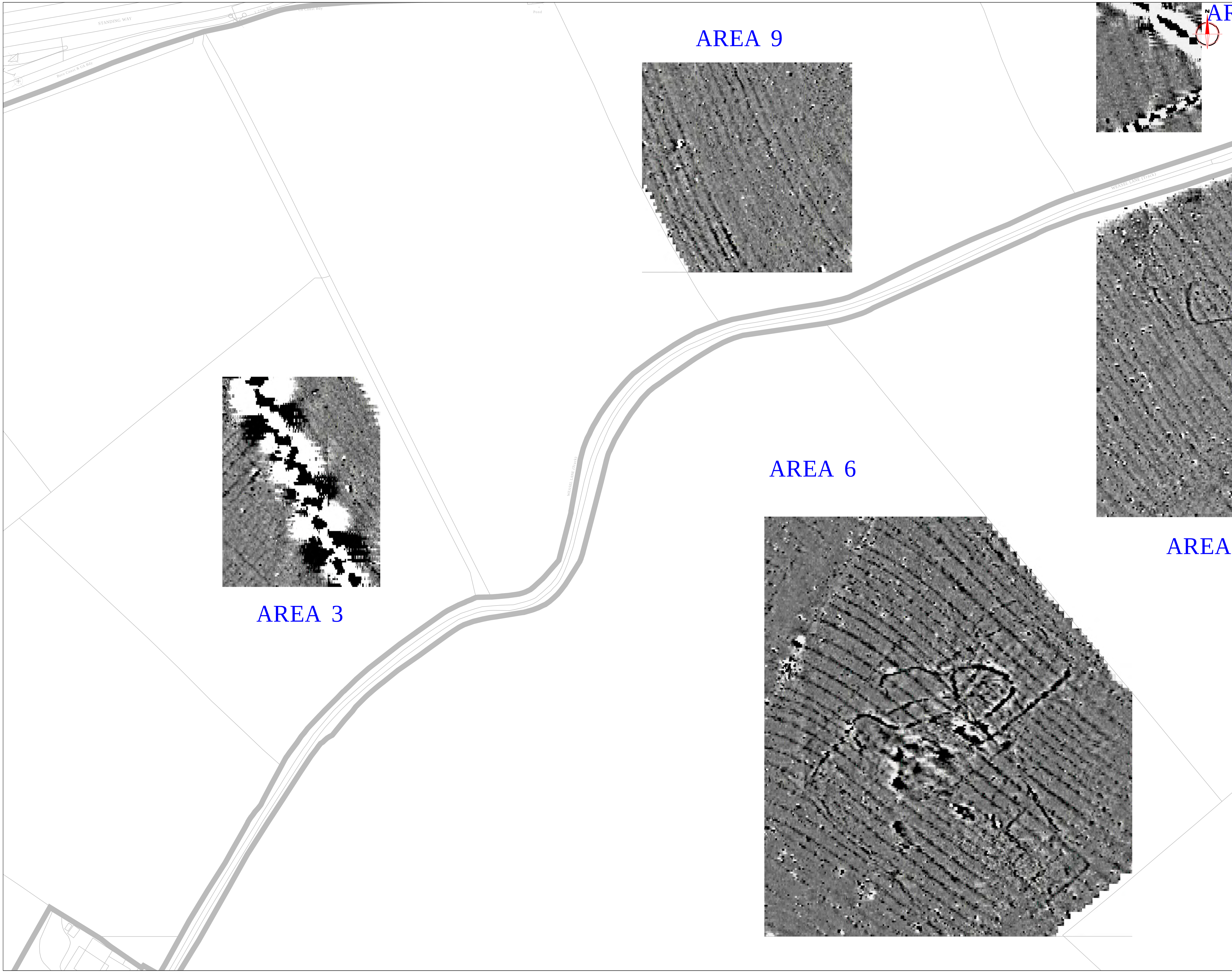
Scale 1:1000 — 0m 10 20 30 40 50 60m

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 12



Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

Area 3
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Area 12
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Area 15
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean
-3SD +3SD
+1.5nT
-1.5nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF PROCESSED GRADIOMETER DATA AREAS 3, 6 & 9

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

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	13

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Positive linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No. J2500

Survey Date JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES AREAS 3, 6 & 9

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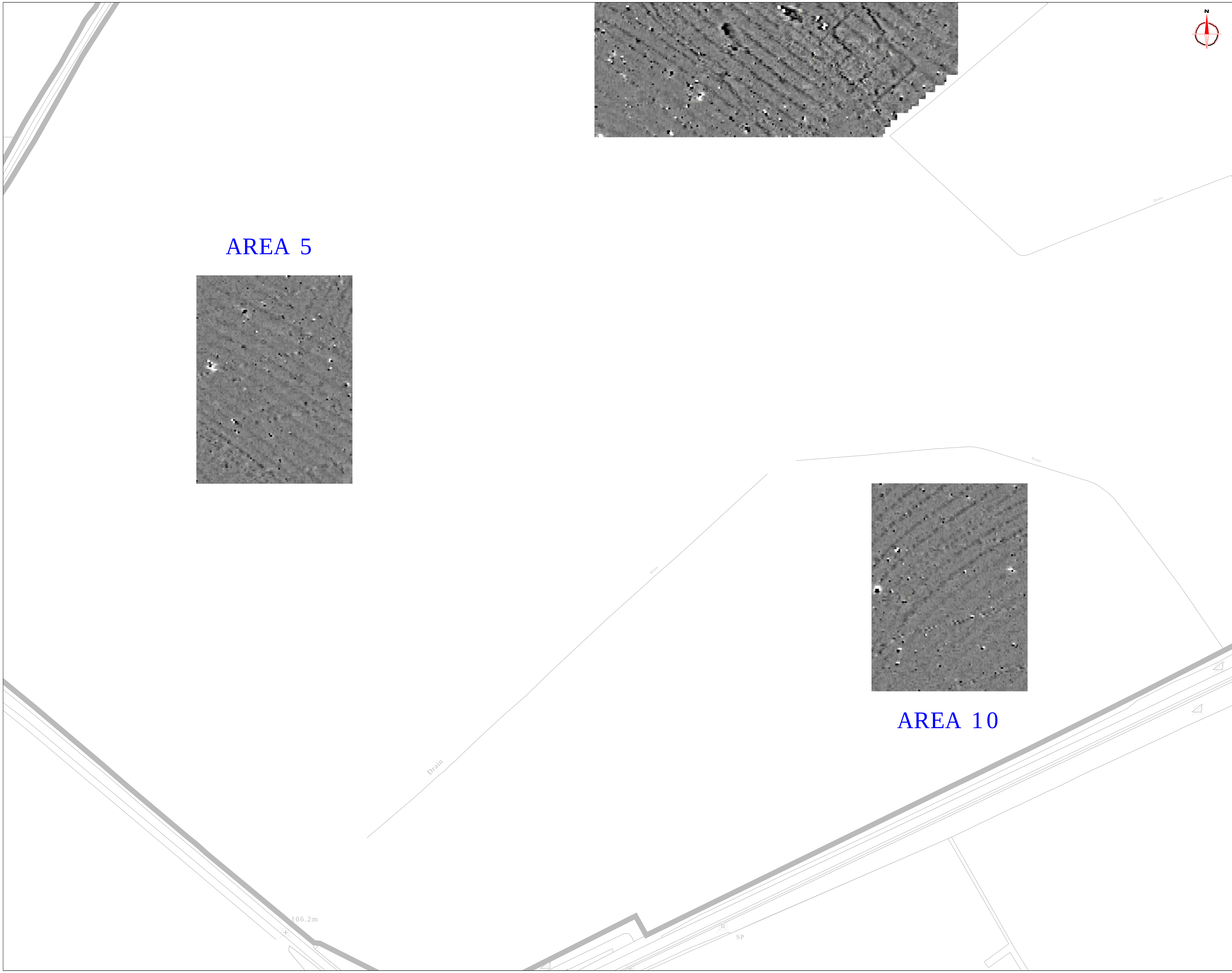
Scale 1:1000 (0m 10 20 30 40 50 60)

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	14

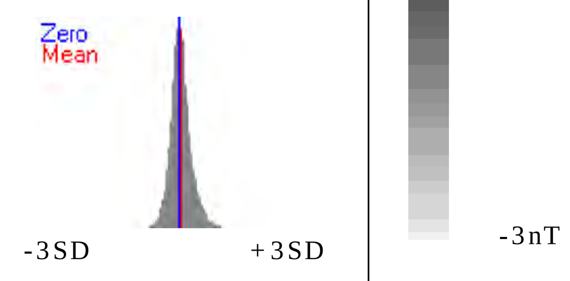


Amendments

Issue No.	Date	Description
-	-	-
-	-	-

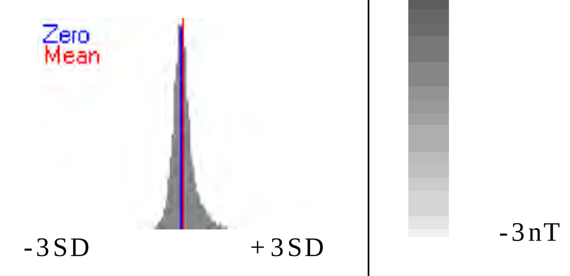
Area 10
Plotting parameters

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



Area 16
Plotting parameters

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



Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF MINIMALLY PROCESSED
GRADIOMETER DATA
AREAS 5 & 10

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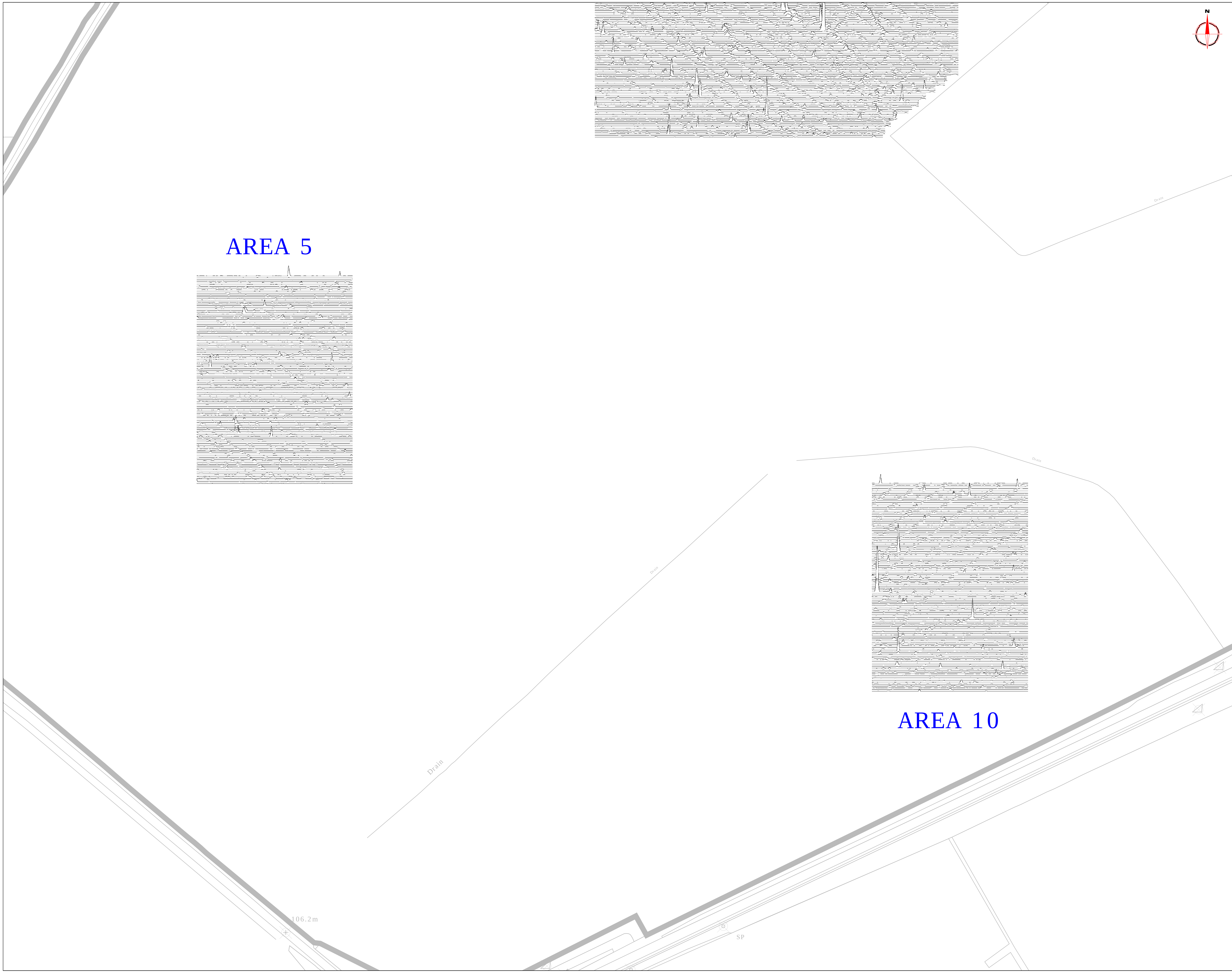
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	15



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

+40nT

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

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

Job No.	Survey Date
J2500	JULY-OCT 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING POSITIVE VALUES
AREAS 5 & 10

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

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	16

Amendments	
Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

-40nT

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

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

Job No. J2500	Survey Date JULY-NOV 2008

Client

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Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING NEGATIVE VALUES
AREAS 5 & 10

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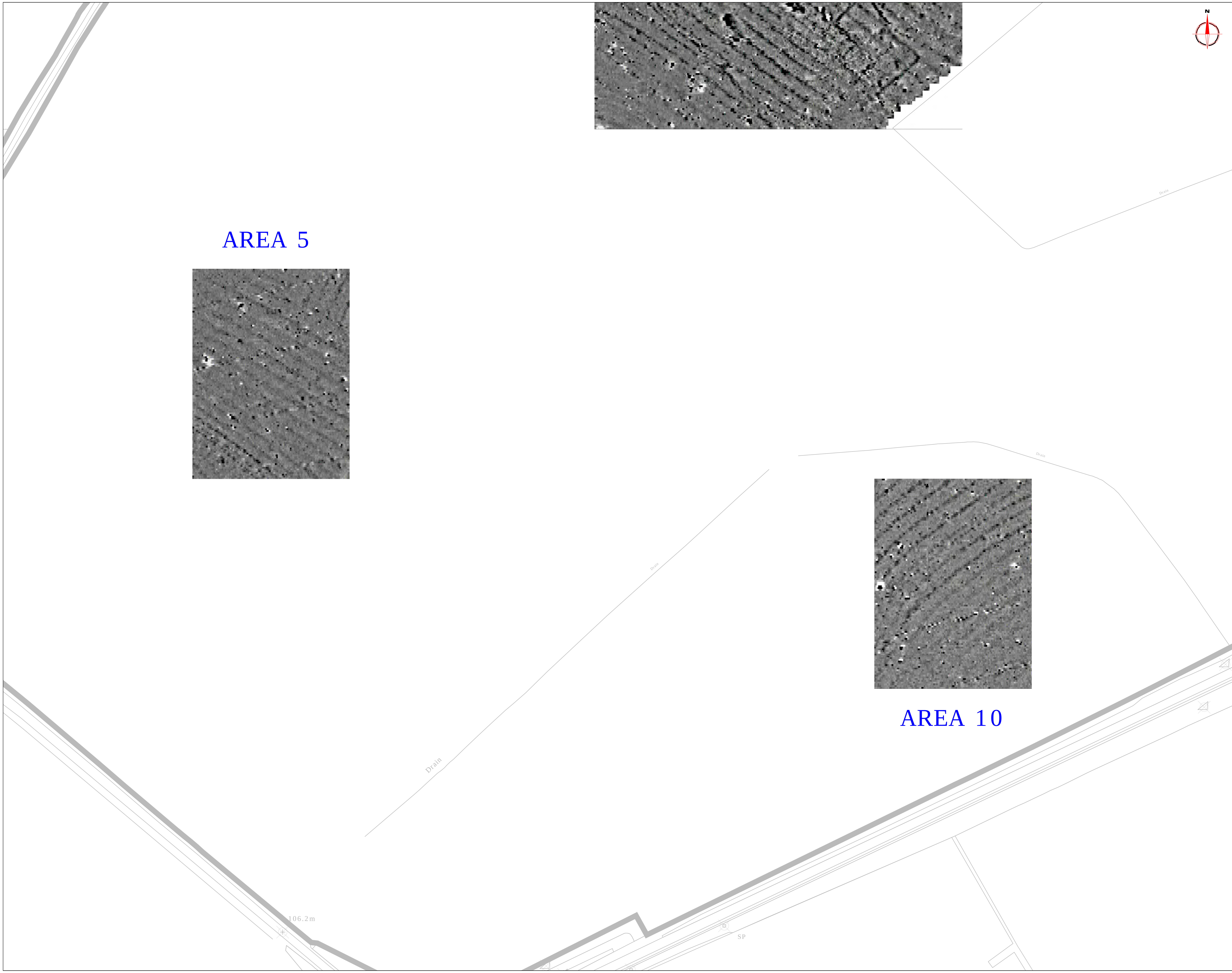
Scale 1:1000 — 0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	17

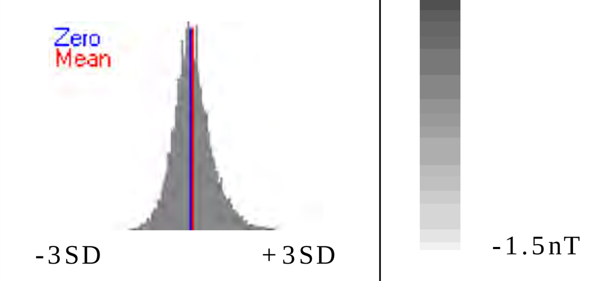


Amendments

Issue No.	Date	Description
-	-	-
-	-	-

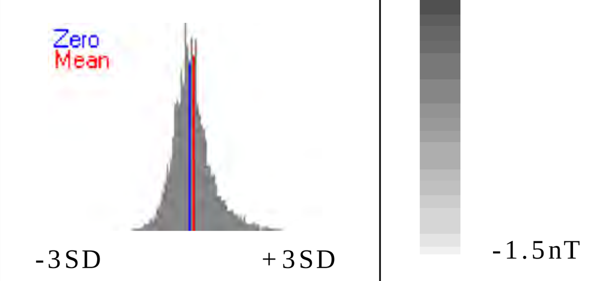
Area 10
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)



Area 16
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)



Job No. J2500

Survey Date JULY-NOV 2008

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CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF PROCESSED GRADIOMETER DATA AREAS 5 & 10

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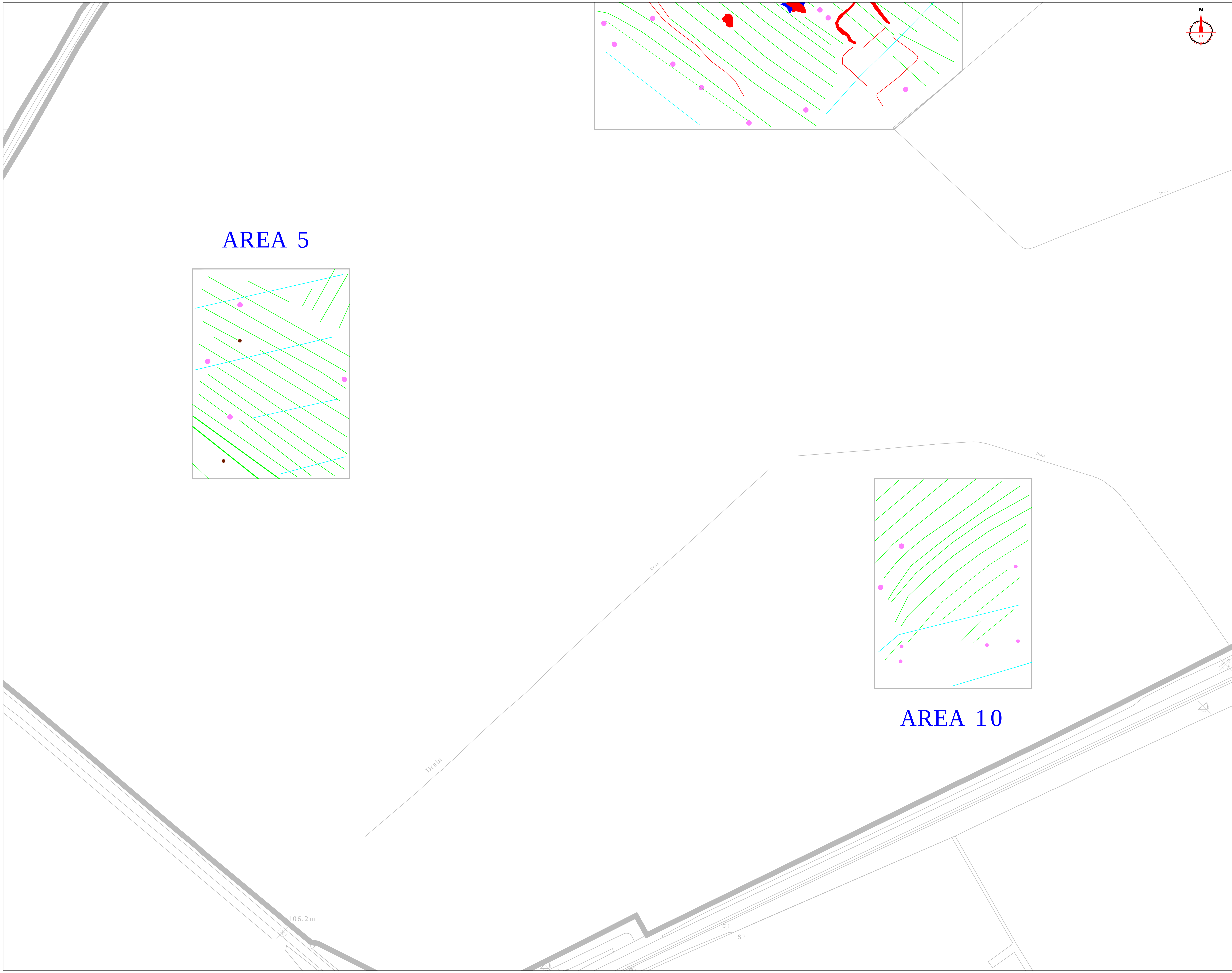
Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	18



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Positive linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES AREAS 5 & 10

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

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	19

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Area 4
Plotting parameters

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

Zero
Mean

-3SD +3SD

+3nT
-3nT

Area 13
Plotting parameters

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

Zero
Mean

-3SD +3SD

+3nT
-3nT

Area 18
Plotting parameters

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

Zero
Mean

-3SD +3SD

+3nT
-3nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA
AREAS 4, 7 & 12

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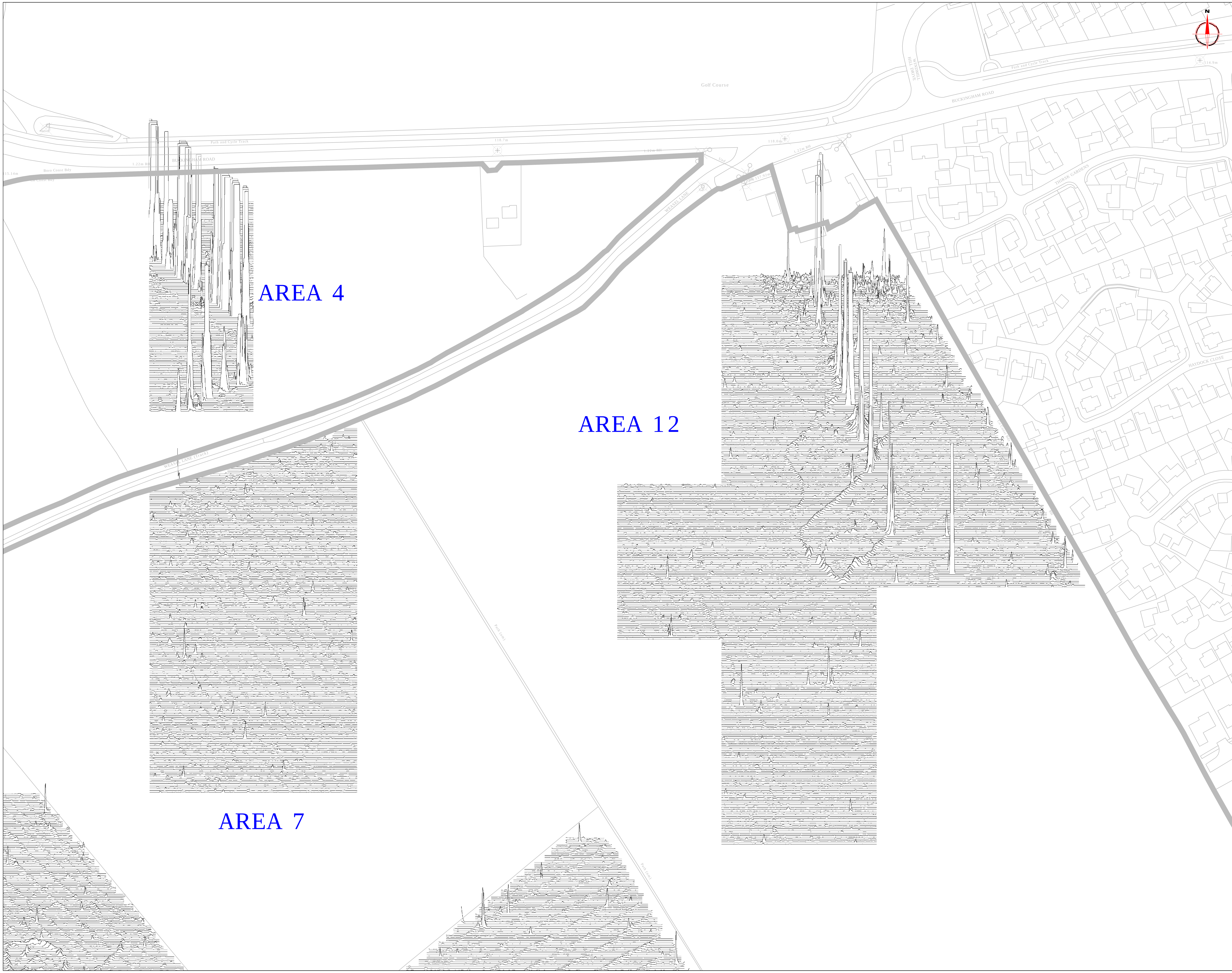
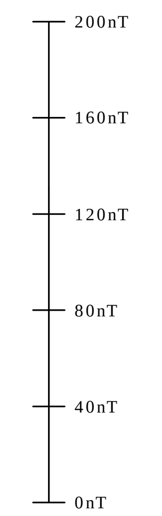
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	20



Amendments

Issue No.	Date	Description
-	-	-
-	-	-



Plotting parameters

+40nT

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

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING POSITIVE VALUES
AREAS 4, 7 & 12

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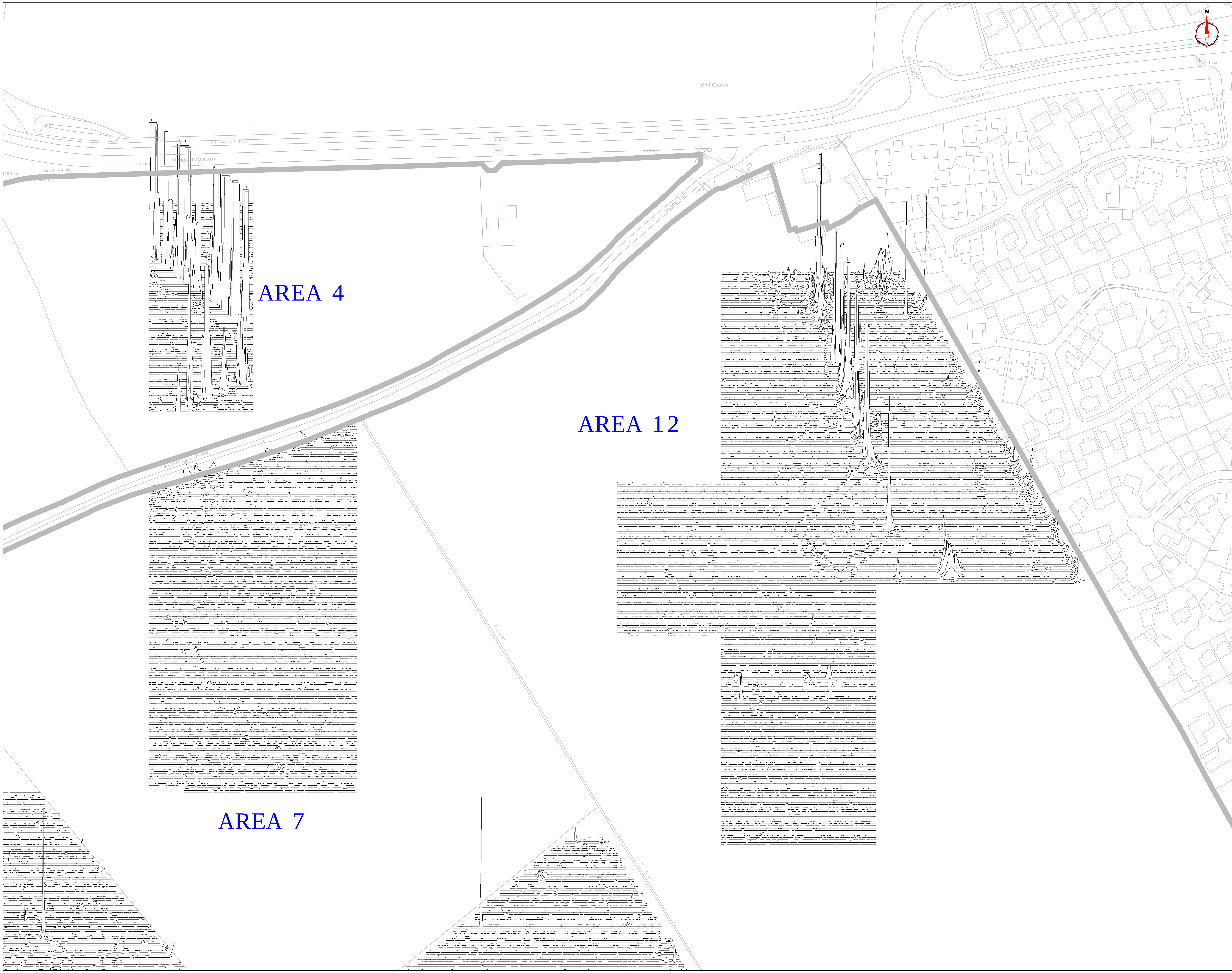
Scale 1:1000 (0m 10 20 30 40 50 60m)

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	21



N

Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

-40nT

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

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

Job No. J2500	Survey Date JULY-NOV 2008

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Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING NEGATIVE VALUES
AREAS 4, 7 & 12

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Scale 1:1000 — 0m 10 20 30 40 50 60m

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 22

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Area 4
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean

-3SD +3SD

+1.5nT
-1.5nT

Area 13
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean

-3SD +3SD

+1.5nT
-1.5nT

Area 18
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)

Zero
Mean

-3SD +3SD

+1.5nT
-1.5nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF PROCESSED
GRADIOMETER DATA
AREAS 4, 7 & 12

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

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	23

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Positive linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

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Project Title

SOUTH WEST MILTON KEYNES

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES AREAS 4, 7 & 12

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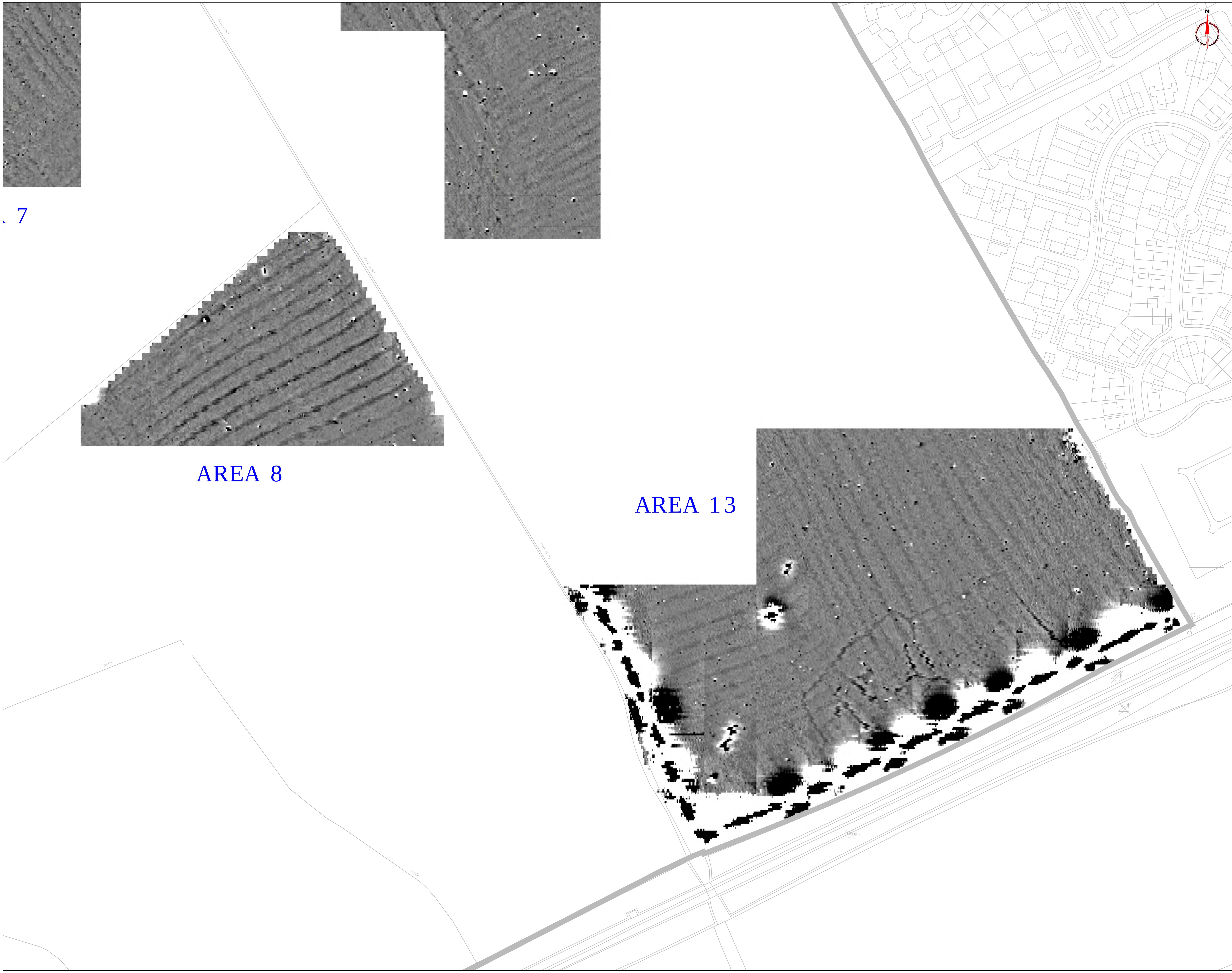
Scale 1:1000 — 0m 10 20 30 40 50 60

Plot	Checked by	Issue No.
A1	PPB	02

Date	Drawn by	Figure No.
OCT 14	CG	24



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Area 14
Plotting parameters

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

Zero
Mean

-3SD +3SD

+3nT
-3nT

Area 22
Plotting parameters

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

Zero
Mean

-3SD +3SD

+3nT
-3nT

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF MINIMALLY PROCESSED GRADIOMETER DATA AREAS 8 & 13

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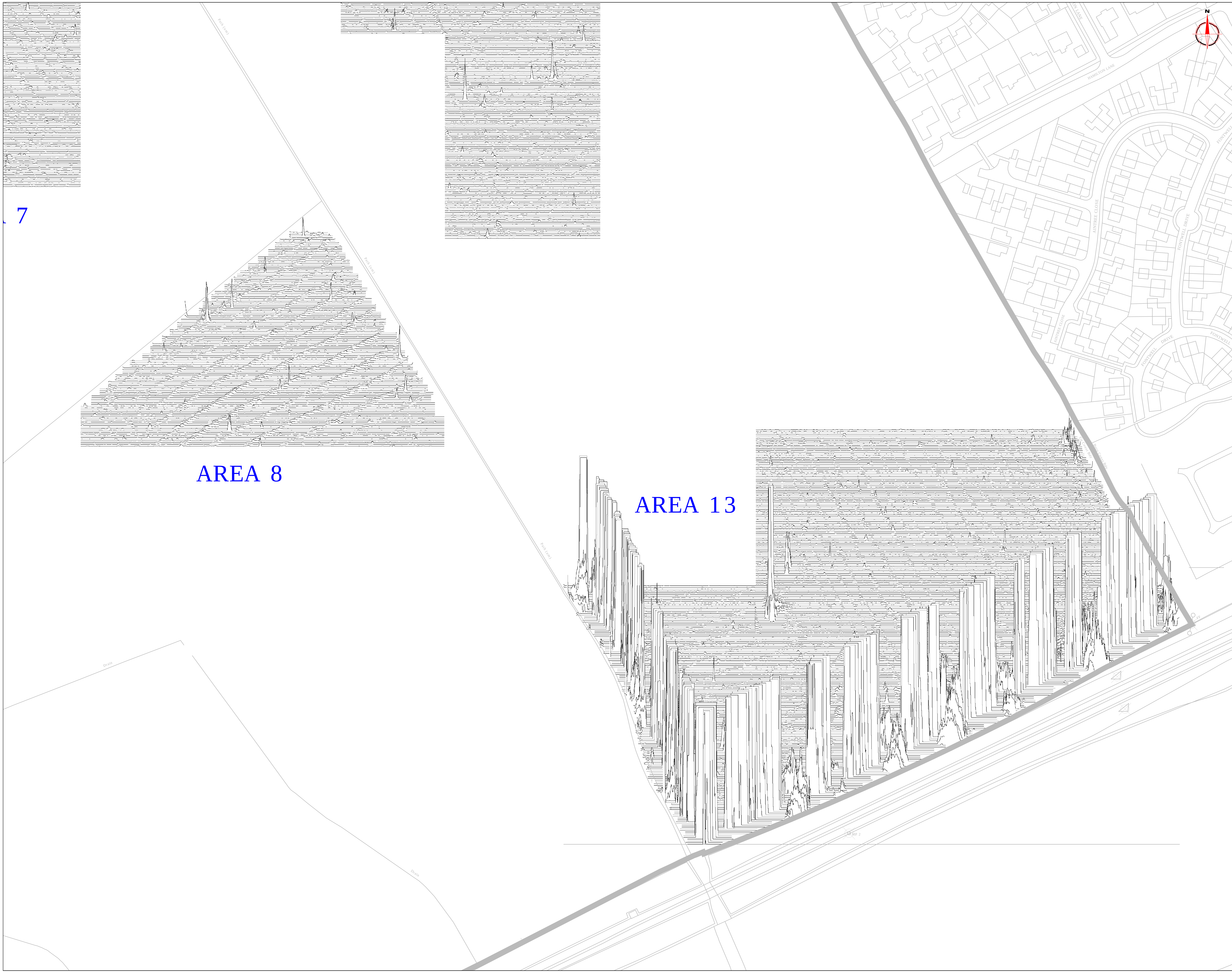
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	25



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

+40nT

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

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

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

PLOT OF GRADIOMETER DATA
SHOWING POSITIVE VALUES
AREAS 8 & 13

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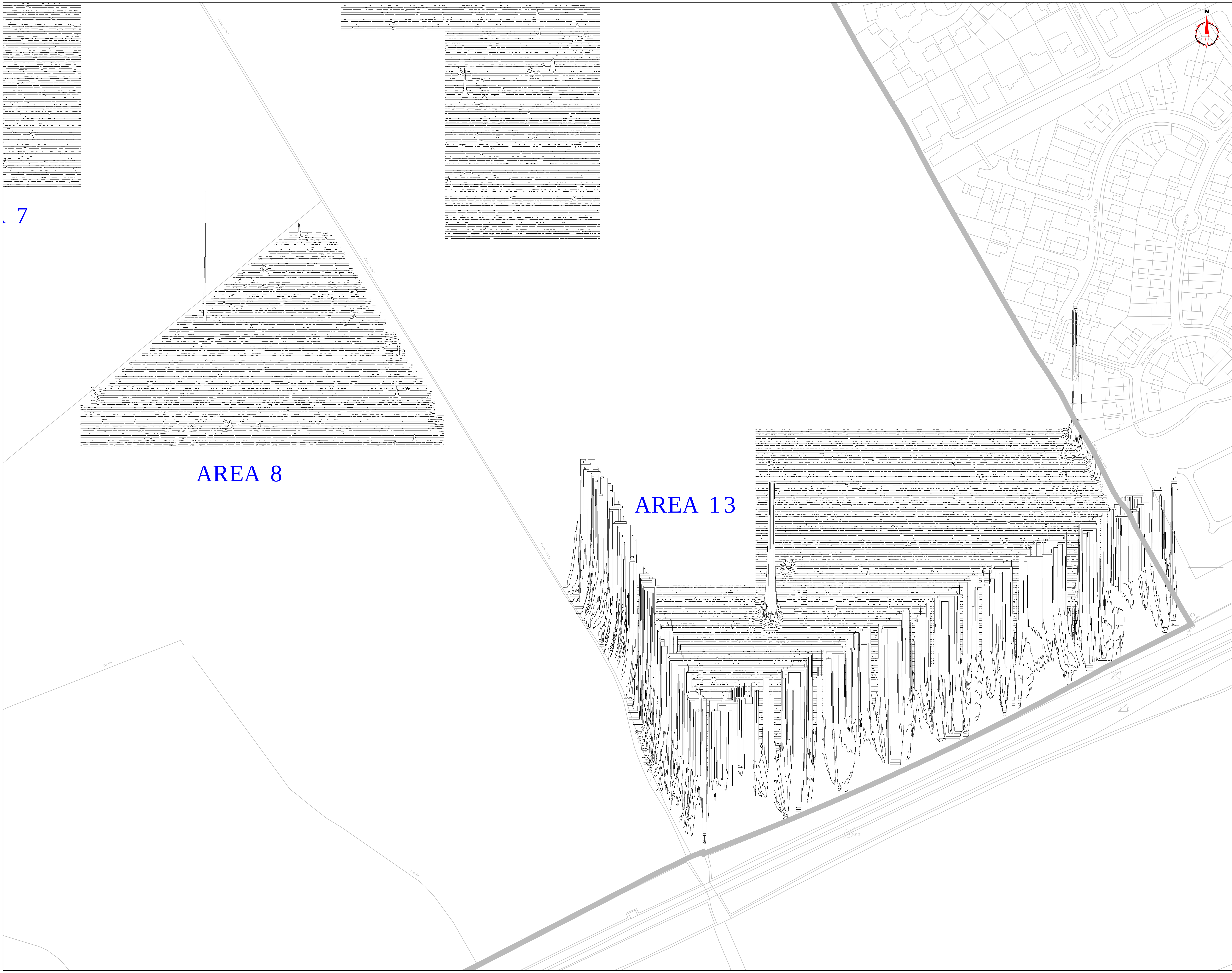
Scale
1:1000
0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	26



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

Plotting parameters

-40nT

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

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

Job No. J2500
Survey Date JULY-NOV 2008

Client
CgMs CONSULTING LTD

Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF GRADIOMETER DATA
SHOWING NEGATIVE VALUES
AREAS 8 & 13

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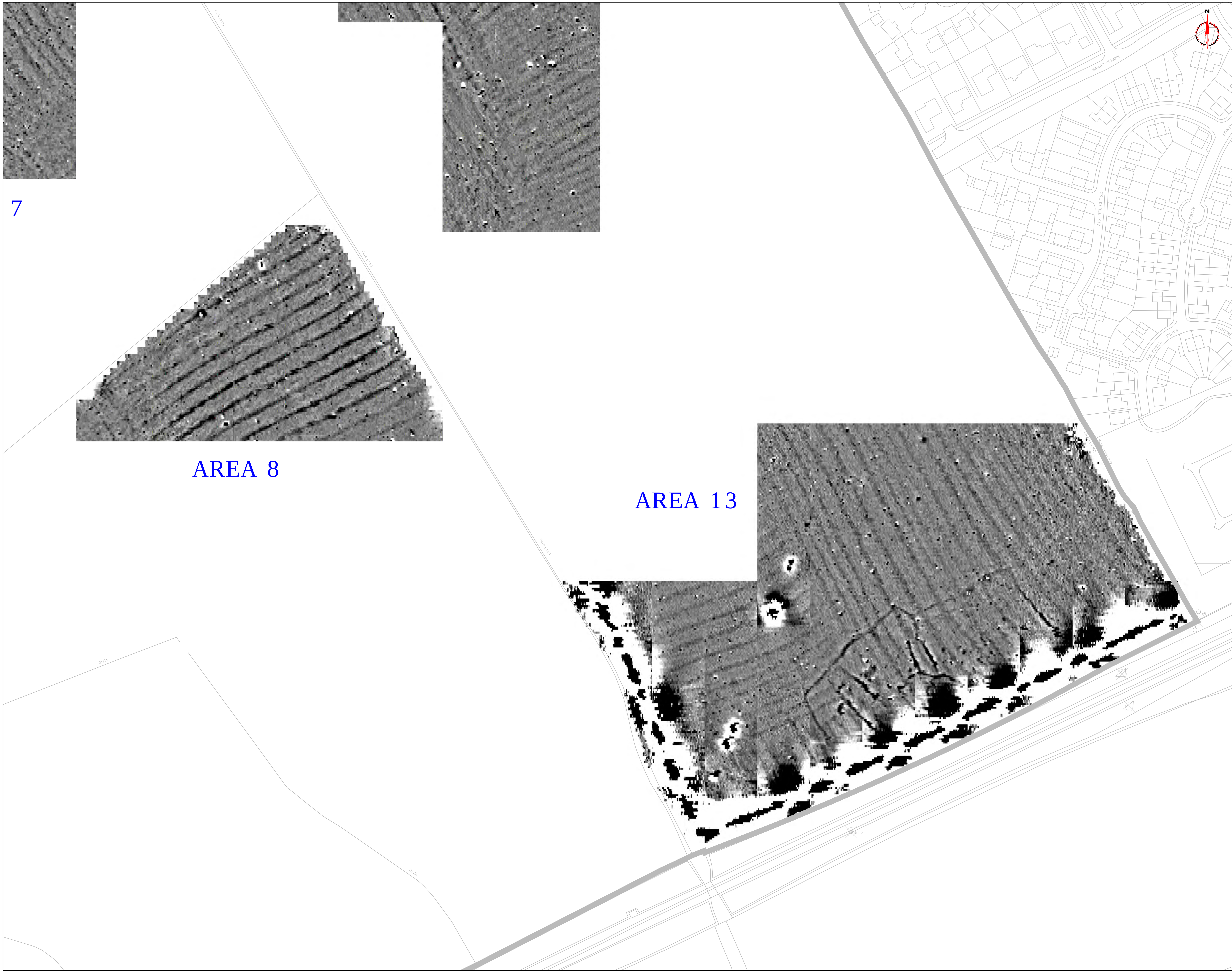
Scale 1:1000 0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	27

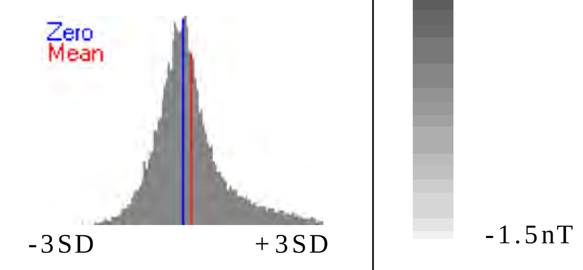


Amendments

Issue No.	Date	Description
-	-	-
-	-	-

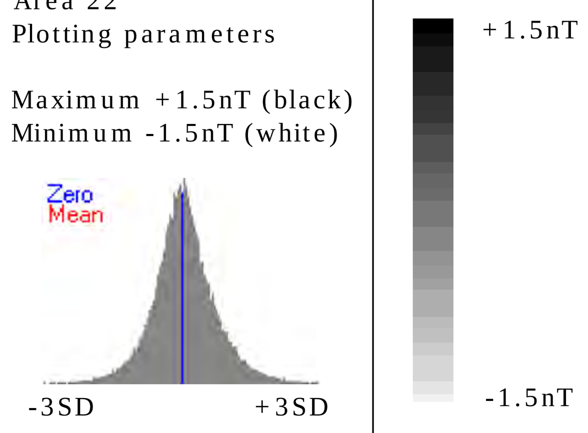
Area 14
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)



Area 22
Plotting parameters

Maximum +1.5nT (black)
Minimum -1.5nT (white)



Job No.	Survey Date
J2500	JULY-NOV 2008

Client
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Project Title
SOUTH WEST MILTON KEYNES

Subject
PLOT OF PROCESSED GRADIOMETER DATA AREAS 8 & 13

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Scale 1:1000 — 0m 10 20 30 40 50 60m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	28

N

Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Positive linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

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Project Title

SOUTH WEST MILTON KEYNES

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES AREAS 8 & 13

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Scale 1:1000 — 0m 10 20 30 40 50 60

Plot	Checked by	Issue No.
A1	PPB	02

Date	Drawn by	Figure No.
OCT 14	CG	29

Amendments		
Issue No.	Date	Description
-	-	-
-	-	-

Job No. J2500	Survey Date JULY-NOV 2008

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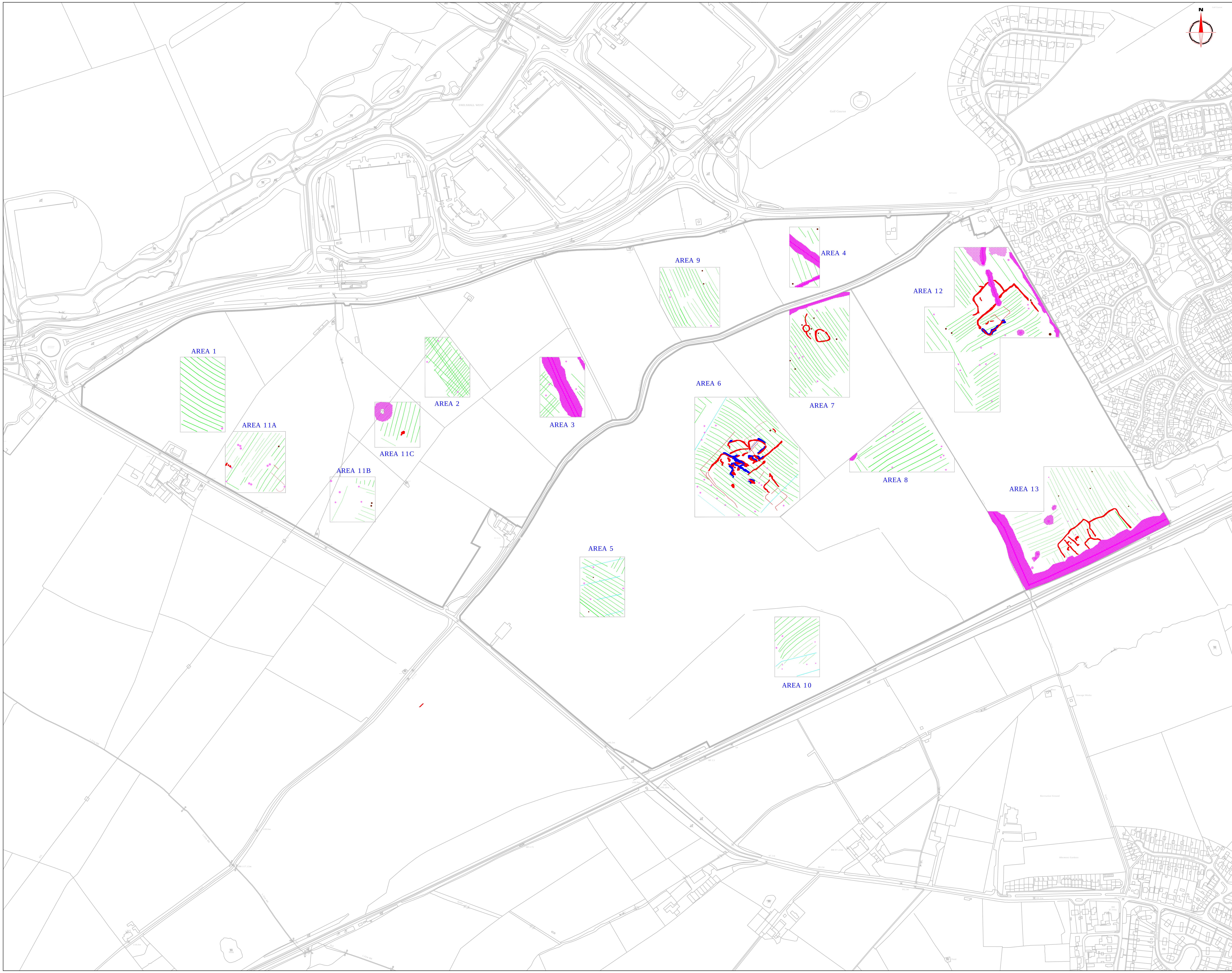
Scale 1:3500 (0m 30 60 90 120 150 180m)

Plot A1	Checked by PPB	Issue No. 02
Date OCT 14	Drawn by CG	Figure No. 30



Amendments

Issue No.	Date	Description
-	-	-
-	-	-

KEY

- Discrete positive anomaly - possible pit
- Positive anomaly with associated negative response - ferrous object
- Magnetic disturbance - associated with pipe/cable
- Linear anomaly - agricultural mark
- Positive linear anomaly - cut feature of possible archaeological origin
- Negative linear anomaly - bank or earthwork of possible archaeological origin
- Linear anomaly - possibly related to land drains
- Positive area anomaly - cut feature of possible archaeological origin
- Negative area anomaly - bank or earthwork of possible archaeological origin
- Weak positive area anomaly
- Weak negative area anomaly
- Magnetic disturbance associated with neaby service or field boundary
- Magnetic disturbance associated with nearby metallic objects
- Magnetic debris
- Area of magnetic variation - possible geological/pedological response
- Area of positive response associated with path
- Positive linear anomaly - cut feature possibly relating to former field boundary

Job No.	Survey Date
J2500	JULY-NOV 2008

Client

CgMs CONSULTING LTD

Project Title

SOUTH WEST MILTON KEYNES

Subject

ABSTRACTION AND INTERPRETATION OF GRADIOMETER ANOMALIES

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Scale 1:3500 — 0m 30 60 90 120 150 180m

Plot	Checked by	Issue No.
A1	PPB	02
Date	**Drawn by**	**Figure No.**
OCT 14	CG	31