

T H A M E S V A L L E Y

ARCHAEOLOGICAL

S E R V I C E S

**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire**

Geophysical Survey (Magnetic)

by Kyle Beaverstock

Site Code: AMF19/17

(SZ 2557 9395)

**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire**

Geophysical Survey (Magnetic) Report

For New Milton Sand and Gravel

by Kyle Beaverstock

Thames Valley Archaeological Services Ltd

Site Code AMF 19/174

December 2019

Summary

Site name: Ashley Manor Farm, Lymington Road, New Milton, Hampshire

Grid reference: SZ 2557 9395

Site activity: Magnetometer survey

Date and duration of project: 13th of November – 9th of December 2019

Project coordinator: Tim Dawson

Site supervisor: Kyle Beaverstock

Site code: AMF19/174

Area of site: c. 75ha

Summary of results: The geophysical survey presented a number of anomalies across the site. In fields 1 and 2 these were mostly field boundaries and other forms of land division related to two distinct phases with evidence of ridge and furrow in field 1. In field 3 there is clear evidence for prehistoric activity in the form of a ring ditch and a ‘banjo’ enclosure as well as other discreet features within the boundaries of these enclosures.

Location of archive: The archive is presently held at Thames Valley Archaeological Services, Reading in accordance with TVAS digital archiving policies.

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www.tvas.co.uk/reports/reports.asp.*

Report edited/checked by: Steve Ford✓ 20.12.19 Tim Dawson✓ 20.12.19
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Ashley Manor Farm, Lymington Road, New Milton, Hampshire A Geophysical Survey (Magnetic)

by Kyle Beaverstock

Report 19/174

Introduction

This report documents the results of a geophysical survey (magnetic) carried out at Lymington Road, New Milton, Hampshire (SZ 2557 9395) (Fig. 1). The work was commissioned by Mr Nick Dunn, Environmental Consultant for Land and Mineral Management of behalf of New Milton Sand and Gravel Ltd.

Planning permission is to be sought from Hampshire County Council for mineral extraction. It is likely to be subject to a condition which would require the implementation of a programme of archaeological work, therefore a geophysical survey was requested. This will be in accordance with the *National Planning Policy Framework* (NPPF 2019), and the County's policies on archaeology. The fieldwork was undertaken by Kyle Beaverstock, Thomas Stewart, Luciano Cicu and Emily Gibson between the 13th November and 9th December 2019 and the site code is AMF19/174.

The archive is presently held at Thames Valley Archaeological Services, Reading in accordance with TVAS digital archiving policies.

Location, topography and geology

The site is located to the southeast of New Milton (Fig. 2) between Lymington Road (A337) to the north, Milford Road (B3058) to the south-west and Angel Lane to the south-east. This large irregular piece of land sits at a general height of 33m above Ordinance Datum (aOD) in the north-west dropping to 29m aOD in the south and 26m aOD in the east. The land is currently being used for arable farming and the underlying geology is recorded as Plateau Gravel (BGS 1997).

Methodology

Sample interval

Data collection involved the traversing of the survey area along straight and parallel lines using two cart-mounted Bartington Grad601-2 fluxgate gradiometers. Even coverage was achieved with the use of regularly spaced markers at the ends of traverses and the real-time positional trace plot. Readings were taken at 0.25m intervals along traverses 1m apart, providing an appropriate methodology balancing cost and time with

resolution. Traverses were walked at an alternating zig-zag pattern in a northeast to southwest or northwest to southeast orientation across the survey area. A few obstructions were encountered in the southern area of the site, but no significant obstructions were encountered. Conditions were mostly dry and bright but turned extremely wet when covering field 3.

The 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. Under normal operating conditions it can be expected to identify buried features >0.5m in diameter. Features which can be detected include disturbed soil, such as the fill of a ditch, structures that have been heated to high temperatures (magnetic thermoremnance) and objects made from ferro-magnetic materials. The strength of the magnetic field is measured in nano Tesla (nT), equivalent to 10^{-9} Tesla, the SI unit of magnetic flux density.

Equipment

The purpose of the survey was to identify geophysical anomalies that may be archaeological in origin in order to inform a targeted archaeological investigation of the site prior to development. The survey and report generally follow the recommendations and standards set out by both European Archaeological Council (EAC 2015) and the Chartered Institute *for* Archaeologists (2002, 2014).

Magnetometry was chosen as a survey method as it offers the most rapid ground coverage and responds to a wide range of anomalies caused by past human activity. These properties make it ideal for the fast yet detailed surveying of an area.

The detailed magnetometry survey was carried out using two dual sensor Bartington Instruments Grad 601-2 fluxgate gradiometers mounted upon a Bartington non-magnetic cart. A two-wheeled lightweight structure pushed by hand, the cart consisted a bank of four vertically-mounted Bartington Grad601-2 magnetic sensor tubes at 1m apart and a Trimble Geo 7x centimetre edition GPS. Readings were collected by two Bartington Grad601-2 loggers and collated using MLgrad601 software on a Linx 12x64 tablet running Windows 10 mounted at the rear of the cart. This enables readings to be taken of both the general background magnetic field and any localised anomalies with the difference being plotted as either positive or negative buried features. All sensors are calibrated to cancel out the local magnetic field and react only to anomalies above or below this base line. On this basis, strong magnetic anomalies such as burnt features (kilns and hearths) will give a high response as will buried ferrous objects. More subtle anomalies such as pits and ditches can be seen from their infilling soils containing higher proportions of humic material, rich in ferrous oxides, compared to the undisturbed

subsoil. This will stand out in relation to the background magnetic readings and appear in plan following the course of a linear feature or within a discrete area.

The Trimble Geo7x centimetre edition GPS system with centimetre real-time accuracy was used to tie the cart traverses into the Ordnance Survey national grid. This unit offers both real-time correction and post-survey processing; enabling a high level of accuracy to be obtained both in the field and in the final post-processed data.

Data gathered in the field was processed using the TerraSurveyor software package. This allows the survey data to be collated and manipulated to enhance the visibility of anomalies, particularly those likely to be of archaeological origin. The table below lists the processes applied to this survey, full survey and data information is recorded in Appendix 1.

Process	Effect
Clip from -4.40 to 4.20 nT	Enhance the contrast of the image to improve the appearance of possible archaeological anomalies.
De-stripe: median, all sensors	Removes the striping effect caused by differences in sensor calibration, enhancing the visibility of potential archaeological anomalies.
De-spike: threshold 1, window size 3×3	Compresses outlying magnetic points caused by interference of metal objects within the survey area.
De-stagger: all grids, both by -1 intervals	Cancel out effects of site's topography on irregularities in the traverse speed.

The raw data plot is presented as a greyscale plot shown in relation to the site (Fig. 2) with the processed data then presented as a second figure (Fig. 3), followed by a third plan to present the abstraction and interpretation of the magnetic anomalies (Fig. 4). Anomalies are shown as colour-coded lines, points and polygons.

The greyscale plot of the processed data is exported from TerraSurveyor in a georeferenced portable network graphics (.PNG) format, a raster image format chosen for its lossless data compression and support for transparent pixels, enabling it to easily be overlaid onto an existing site plan. The data plot is combined with grid and site plans in QGIS 3.10.1 and exported again in .PNG format in order to present them in figure templates in Adobe InDesign CS5.5, creating .INDD file formats. Once the figures are finalised they are exported in .PDF format for inclusion within the finished report.

Results

Across the site, some magnetic disturbance, magnetic debris and magnetic spikes were detected. These anomalies are represented by dipolar or bipolar anomalies of extremely high amplitude and are usually the result of ferrous material buried in the top- or sub-soil. These can be either in the form of general waste deposited in a certain area or the result of a service pipe or cable, such as the one running north-northwest to south-southeast

down the centre of Field 2 (pink border). In many cases magnetic disturbance and debris on this site appears to be most dense in the area of buildings or occupied structures whilst the isolated spikes are being caused by objects such as pylons or monitoring wells. All appear to be accounted for as expected disturbance other than the series of anomalies in the far northwest of Field 1 which do not appear to have an obvious cause but do fit into the category of magnetic debris caused by waste. Beyond the magnetic disturbance there are what appear to be isolated anomalies, presenting themselves as weak positive linear shapes they could not be attributed to either specific phases of land management, and may be vestigial remains of a further phase, or a sub-phase within the composition of land division within the survey area.

Field 1 (Figs. 2-4, 7 and 10 blue boundary)

This field constituted the north-western portion of the site and covered approximately 28ha. A number of magnetic anomalies were encountered, most conspicuous were the signs of significant agricultural activity including ridge and furrow. These are represented by equally-spaced parallel linear anomalies. They are mostly shown as low amplitude positive anomalies (furrow) but are occasionally accompanied by a corresponding negative anomaly (ridge). These anomalies appear to cover almost the whole of Field 1 but are notably absent from the remainder of the site. This suggests that although they have a varying pattern of orientation, indicating a sub-division of land, they bear some relationship with the current field boundaries. The orientation does vary considerably, in the far northwest of the field they have a northwest to southeast orientation, and these change further south to a southwest to northeast orientation which covers most of the rest of the field other than a small area in the central-southern region where the orientation changes to a north-northwest to south-southeast orientation. In general, these furrows measure approximately 1m wide and up to 230m long.

Corresponding to this is a series of mostly strong positive anomalies, these anomalies appear to align with both the current field system as well as ridge and furrow and are therefore most likely the remains of the former land division. Like the ridge and furrow they are orientated either north-northwest to south-southeast or west-southwest to east-southeast. These boundaries measure approximately 2m wide and range in length up to 475m and divide the land into roughly six separate fields. In the south-eastern area of the field some of these positive linear anomalies have a parallel positive linear anomaly approximately 2m apart forming a possible trackway.

Underlying these is a second field system, this system is comprised of mostly weak positive linear anomalies aligned southwest to northeast and northwest to southeast. These boundaries appear to form a more

uneven distribution of fields with smaller, elongated fields that are interspersed between larger open areas suggesting some antiquity. The anomalies measure approx. 1.8m wide and up to 200m long. In the central-northern area of the field to the west of the modern farm structures is a weak positive linear anomaly in the form of a rectangular enclosure. This enclosure measures approximately 20m long and 18.5m wide with a possible entrance in the south-eastern corner, the northwest to southeast alignment suggests this may be related to the earlier field system.

Field 2 (Figs. 2-4, 8 and 11 purple boundary)

Field 2 shows a continuation of what is seen in Field 1 with two phases of field systems. The later phase which appears to be related to the current field system divides the land into roughly four main fields. These mostly strong positive anomalies measure approximately 2m wide and 230m long with some having corresponding linear anomalies forming trackways. In the centre of the field running northwest to southeast is a linear negative anomaly. This anomaly has a relatively high amplitude with the suggestion of magnetic spikes and may be the ephemeral remains of an embankment or headland with the suggestion of a fence forming a field boundary in alignment with the later field system.

Stronger evidence for this form of land division can be seen in the northeast of this field with some bipolar magnetic disturbance of extremely high amplitude forming into linear features then subsequently creating a roughly rectangular linear negative anomaly within which is a possible rectangular positive anomaly surrounded by some disturbance with an internal ditch represented by a weak positive anomaly running along the same alignment. Collectively these may represent a former structure related to the most recent field system.

Beneath these is the most widespread series of anomalies in Field 2, these are related to the second phase of field systems as seen in Field 1 but are far more extensive. These are mostly represented by weak positive linear anomalies measuring approximately 2m wide and up to 250m long. These anomalies when combined form a series of fields connected by trackways and divided into small plots. Their orientation suggests a wholly unrelated phase to the current field system and one closer in line to that of the possible Iron Age enclosures in the southern part of Field 3.

Field 3 (Figs. 2-6, 9 and 12 yellow boundary)

The northern area of Field 3 closely follows the same pattern of land division noted in Fields 1 and 2, with a series of strong positive anomalies roughly correlating to the current field system and a series of weaker positive

anomalies presenting a different, probably earlier, system. However, in the far south of Field 3 are a series of anomalies that show the site to have definite archaeological potential. Along one edge of the earlier field system in the central area of Field 3 is a positive linear anomaly in a circular pattern which may be a possible barrow, it has a diameter of approximately 7m and a width of 1.5m. To its immediate southeast is another circular linear weak positive anomaly which may represent an adjacent barrow measuring 6.5m in diameter and 1.3m wide.

To the southwest of these there is a series of strong positive anomalies that may represent two sub-phases of possible prehistoric activity. The first is a large sub-circular linear anomaly enclosing roughly 1ha of land with an entrance way on the eastern side defined by two straightened linear anomalies approximately 8m apart (antennae ditches'). Together these form what is commonly known as a 'banjo' enclosure, which is most commonly associated with the Iron Age. As is typical of these types of enclosures leading from these entrance ditches are further field boundaries creating the beginnings of a field system. Overlaying this and to some extent respecting the earlier sub-phase is a rectangular enclosure, this enclosure measures 70m long by 60m wide and within are indications of possible features such as penannular gullies and pits although these are unclear.

Conclusion

The geophysical survey revealed the site to have extensive agricultural field systems of at least two main phases with suggestions that the previous phase may have some antiquity. In the far south of field three there appears to be a series of enclosures including a 'banjo' enclosure which is indicative of the Iron Age. Within this area there also appears to be suggestions of more subtle features such as a roundhouse and discreet features such as pits and nearby there appears to be a small barrow with a possible second to its immediate south-east. The orientation of these enclosures as well as their position also suggests that they may bear a relationship with the second underlying field system.

References

- BGS, 1997, *British Geological Survey*, 1:50,000, Sheet 330, Drift Edition, Keyworth
- CI/A, 2014, 'Standard and Guidance for archaeological geophysical survey', Reading
- EAC, 2015, *EAC Guidelines for the use of Geophysics in Archaeology: Questions to Ask and Points to Consider*, EAC Guidelines 2, Namur
- IFA, 2002, 'The Use of Geophysical Techniques in Archaeological Evaluation', IFA Paper No. 6, Reading
- NPPF, 2019, *National Planning Policy Framework (revised)*, Ministry for Housing, Communities and Local Government, London

Appendix 1. Survey and data information

Programme:

Name: TerraSurveyor
Version: 3.0.25.0

Raw data

Filename: Downton1a.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 424809.770527629, 94323.8616518624 m
Southeast corner: 425024.920527629, 94054.3716518624 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 215 m x 269 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 133931, Recorded: 133931

Stats

Max: 106.60
Min: -109.71
Std Dev: 4.44
Mean: 0.55
Median: 0.67
Composite Area: 5.7981 ha
Surveyed Area: 3.9573 ha

Filename: Downton1b.xcp

Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 424972.998453516, 94310.3909420188 m
Southeast corner: 425179.048453516, 94071.8409420188 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 206 m x 239 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 117591, Recorded: 117591

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.86
Mean: 0.04
Median: 0.01
Composite Area: 4.9153 ha
Surveyed Area: 3.4297 ha

Filename: Downton1c.xcp

Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425130.30293008, 94302.6355928959 m
Southeast corner: 425511.72293008, 94089.1755928959 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 381 m x 213 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 124151, Recorded: 124151

Stats

Max: 107.34
Min: -109.75
Std Dev: 12.12
Mean: -0.18
Median: 0.15
Composite Area: 8.1418 ha
Surveyed Area: 4.049 ha

Filename: Downton1d.xcp

Description: Imported as Composite from: Downton1d.xyz
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 424855.356469655, 94076.8703182967 m
Southeast corner: 425092.996469655, 93786.7103182967 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 238 m x 290 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 142063, Recorded: 142063

Stats

Max: 106.92
Min: -109.72
Std Dev: 4.44
Mean: 1.13
Median: 0.99
Composite Area: 6.8954 ha
Surveyed Area: 4.2587 ha

Filename: Downton1e.xcp

Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425038.936118614, 94103.2009510241 m
Southeast corner: 425327.016118614, 93816.0309510241 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 288 m x 287 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 180759, Recorded: 180759

Stats

Max: 105.61
Min: -108.46
Std Dev: 3.83
Mean: 0.62
Median: 0.74
Composite Area: 8.2728 ha
Surveyed Area: 5.9108 ha

Filename: Downton1f.xcp
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425290.413736856, 94128.1360040593 m
 Southeast corner: 425584.473736856, 93900.2460040593 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

 Dimensions
 Survey Size (meters): 294 m x 228 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 143895, Recorded: 143895

Stats
 Max: 103.67
 Min: -106.25
 Std Dev: 2.12
 Mean: 0.66
 Median: 0.63
 Composite Area: 6.7013 ha
 Surveyed Area: 4.9752 ha

Filename: Downton2a.xcp
 Description: Imported as Composite from: Downton2a.xyz
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425540.145912092, 94330.6856122916 m
 Southeast corner: 425934.305912092, 94113.9756122916 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

Dimensions
 Survey Size (meters): 394 m x 217 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 121455, Recorded: 121455

Stats
 Max: 100.00
 Min: -109.48
 Std Dev: 2.65
 Mean: 1.16
 Median: 0.93
 Composite Area: 8.5418 ha
 Surveyed Area: 3.9426 ha

Filename: Downton2b.xcp
 Description: Imported as Composite from: Downton2b.xyz
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425541.147952654, 94232.9188334105 m
 Southeast corner: 425942.717952654, 93947.0488334105 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

Dimensions
 Survey Size (meters): 402 m x 286 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 37071, Recorded: 37071

Stats
 Max: 103.51
 Min: -107.37
 Std Dev: 4.22
 Mean: 1.06

Median: 0.96
 Composite Area: 11.48 ha
 Surveyed Area: 1.3779 ha

Filename: Downton2c.xcp
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425551.236750997, 94209.936974968 m
 Southeast corner: 425998.436750997, 93927.186974968 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

Dimensions
 Survey Size (meters): 447 m x 283 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 211255, Recorded: 211255

Stats
 Max: 104.90
 Min: -109.05
 Std Dev: 2.96
 Mean: 0.60
 Median: 0.69
 Composite Area: 12.645 ha
 Surveyed Area: 6.5763 ha

Filename: Downton2d.xcp
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425585.067778691, 94070.4213568421 m
 Southeast corner: 426032.267778691, 93817.4413568421 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

Dimensions
 Survey Size (meters): 447 m x 253 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 185279, Recorded: 185279

Stats
 Max: 96.86
 Min: -97.29
 Std Dev: 2.12
 Mean: 0.89
 Median: 0.85
 Composite Area: 11.313 ha
 Surveyed Area: 5.8719 ha

Filename: Downton2e.xcp
 Description: Imported as Composite from: Downton2e.xyz
 Instrument Type: MLgrad Import
 Units:
 UTM Zone: 30
 Survey corner coordinates (X/Y):
 Northwest corner: 425889.025201016, 94375.633894061 m
 Southeast corner: 426279.415201016, 94187.913894061 m
 Direction of 1st Traverse: 90 deg
 Collection Method: Parallel
 Sensors: 2 @ 1 m spacing.
 Dummy Value: 32702

Dimensions
 Survey Size (meters): 390 m x 188 m
 X&Y Interval: 0.13 m
 Source GPS Points: Active: 134943, Recorded: 134943

Stats
Max: 107.13
Min: -109.74
Std Dev: 7.79
Mean: 0.80
Median: 0.84
Composite Area: 7.3284 ha
Surveyed Area: 4.1522 ha

Filename: Downton2f.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425945.196449842, 94308.8253045496 m
Southeast corner: 426347.676449842, 93980.4453045496 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions
Survey Size (meters): 402 m x 328 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 190631, Recorded: 190631

Stats
Max: 107.02
Min: -109.73
Std Dev: 7.38
Mean: -0.10
Median: 0.17
Composite Area: 13.217 ha
Surveyed Area: 6.0919 ha

Filename: Downton3a.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425357.471180919, 93952.6226658106 m
Southeast corner: 425631.511180919, 93731.8826658106 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions
Survey Size (meters): 274 m x 221 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 97239, Recorded: 97239

Stats
Max: 98.91
Min: -96.71
Std Dev: 2.53
Mean: 0.36
Median: 0.37
Composite Area: 6.0492 ha
Surveyed Area: 3.4015 ha

Filename: Downton3b.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425155.248063532, 93906.419002332 m
Southeast corner: 425420.578063532, 93423.209002332 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions
Survey Size (meters): 265 m x 483 m

X&Y Interval: 0.13 m
Source GPS Points: Active: 106375, Recorded: 106375

Stats
Max: 73.32
Min: -97.07
Std Dev: 3.41
Mean: -0.16
Median: -0.47
Composite Area: 12.821 ha
Surveyed Area: 3.6216 ha

Filename: Downton3c.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425265.696325007, 93740.816807058 m
Southeast corner: 425517.896325007, 93434.276807058 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions
Survey Size (meters): 252 m x 307 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 114359, Recorded: 114359

Stats
Max: 79.17
Min: -108.65
Std Dev: 2.66
Mean: -0.10
Median: 0.05
Composite Area: 7.7309 ha
Surveyed Area: 3.5278 ha

Filename: Downton3d.xcp
Description: Imported as Composite from: Downton3d.xyz
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425429.894211109, 93826.2443750305 m
Southeast corner: 425678.974211109, 93469.9143750305 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions
Survey Size (meters): 249 m x 356 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 128455, Recorded: 128455

Stats
Max: 103.18
Min: -108.31
Std Dev: 2.57
Mean: 1.62
Median: 1.53
Composite Area: 8.8755 ha
Surveyed Area: 4.547 ha

Filename: Downton3e.xcp
Instrument Type: MLgrad Import
Units:
UTM Zone: 30
Survey corner coordinates (X/Y):
Northwest corner: 425626.598214216, 93888.1336779873 m
Southeast corner: 425874.118214216, 93650.6236779873 m
Direction of 1st Traverse: 90 deg
Collection Method: Parallel
Sensors: 2 @ 1 m spacing.
Dummy Value: 32702

Dimensions

Survey Size (meters): 248 m x 238 m
X&Y Interval: 0.13 m
Source GPS Points: Active: 95255, Recorded: 95255

Stats

Max: 107.02
Min: -109.73
Std Dev: 4.16
Mean: 1.34
Median: 1.30
Composite Area: 5.8788 ha
Surveyed Area: 3.3576 ha

Processed data

Filename: Downton1f.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.83
Mean: 0.07
Median: 0.02
Composite Area: 6.7013 ha
Surveyed Area: 4.9536 ha

GPS based Proce7

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00
- 5 DeStagger by: 50.00cm, Shift Positions
- 6 DeStagger by: 50.00cm, Shift Positions
- 7 DeStagger by: 50.00cm, Shift Positions

Filename: Downton1a.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.99
Mean: -0.02
Median: 0.01
Composite Area: 5.7981 ha
Surveyed Area: 3.9573 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1b.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.86
Mean: 0.04
Median: 0.01
Composite Area: 4.9153 ha
Surveyed Area: 3.4297 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1c.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 1.41
Mean: -0.02
Median: 0.02
Composite Area: 8.1418 ha
Surveyed Area: 4.049 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1c2.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.94
Mean: 0.07
Median: 0.04
Composite Area: 1.0699 ha
Surveyed Area: 0.6689 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1d.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.75
Mean: 0.04
Median: 0.01
Composite Area: 6.8954 ha
Surveyed Area: 4.2587 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1e.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.87
Mean: 0.02
Median: 0.01
Composite Area: 8.2728 ha
Surveyed Area: 5.9108 ha

GPS based Proce4

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00

Filename: Downton1f.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.83
Mean: 0.07
Median: 0.02
Composite Area: 6.7013 ha
Surveyed Area: 4.9752 ha

GPS based Proce5

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00
- 5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton2a.xcp

Stats

Max: 4.42
Min: -4.40

Std Dev: 0.82
Mean: 0.07
Median: 0.02
Composite Area: 8.5418 ha
Surveyed Area: 3.9426 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton2b.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.94
Mean: 0.06
Median: 0.03
Composite Area: 11.48 ha
Surveyed Area: 1.3779 ha

GPS based Proce4
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00

Filename: Downton2c.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.87
Mean: 0.05
Median: 0.02
Composite Area: 12.645 ha
Surveyed Area: 6.5763 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton2d.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.83
Mean: 0.05
Median: 0.02
Composite Area: 11.313 ha
Surveyed Area: 5.8719 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton2e.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 1.25
Mean: 0.05
Median: 0.03
Composite Area: 7.3284 ha
Surveyed Area: 4.1522 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).

3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton2f.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 1.21
Mean: 0.03
Median: 0.03
Composite Area: 13.217 ha
Surveyed Area: 6.0919 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 150.00cm, Shift Positions

Filename: Downton3a.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.85
Mean: 0.00
Median: 0.02
Composite Area: 6.0492 ha
Surveyed Area: 3.4015 ha

GPS based Proce4
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00

Filename: Downton3b.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.82
Mean: 0.03
Median: 0.01
Composite Area: 12.821 ha
Surveyed Area: 3.6216 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 50.00cm, Shift Positions

Filename: Downton3c.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.90
Mean: 0.05
Median: 0.02
Composite Area: 7.7309 ha
Surveyed Area: 3.5278 ha

GPS based Proce5
1 Base Layer.
2 Unit Conversion Layer (Lat/Long to UTM).
3 DeStripe Median Traverse:
4 Clip from -4.00 to 4.00
5 DeStagger by: 50.00cm, Shift Positions

Filename: Downton3d.xcp

Stats
Max: 4.42
Min: -4.40
Std Dev: 0.86

Mean: 0.03
Median: 0.01
Composite Area: 8.8755 ha
Surveyed Area: 4.547 ha

GPS based Proce5

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00
- 5 DeStagger by: 50.00cm, Shift Positions

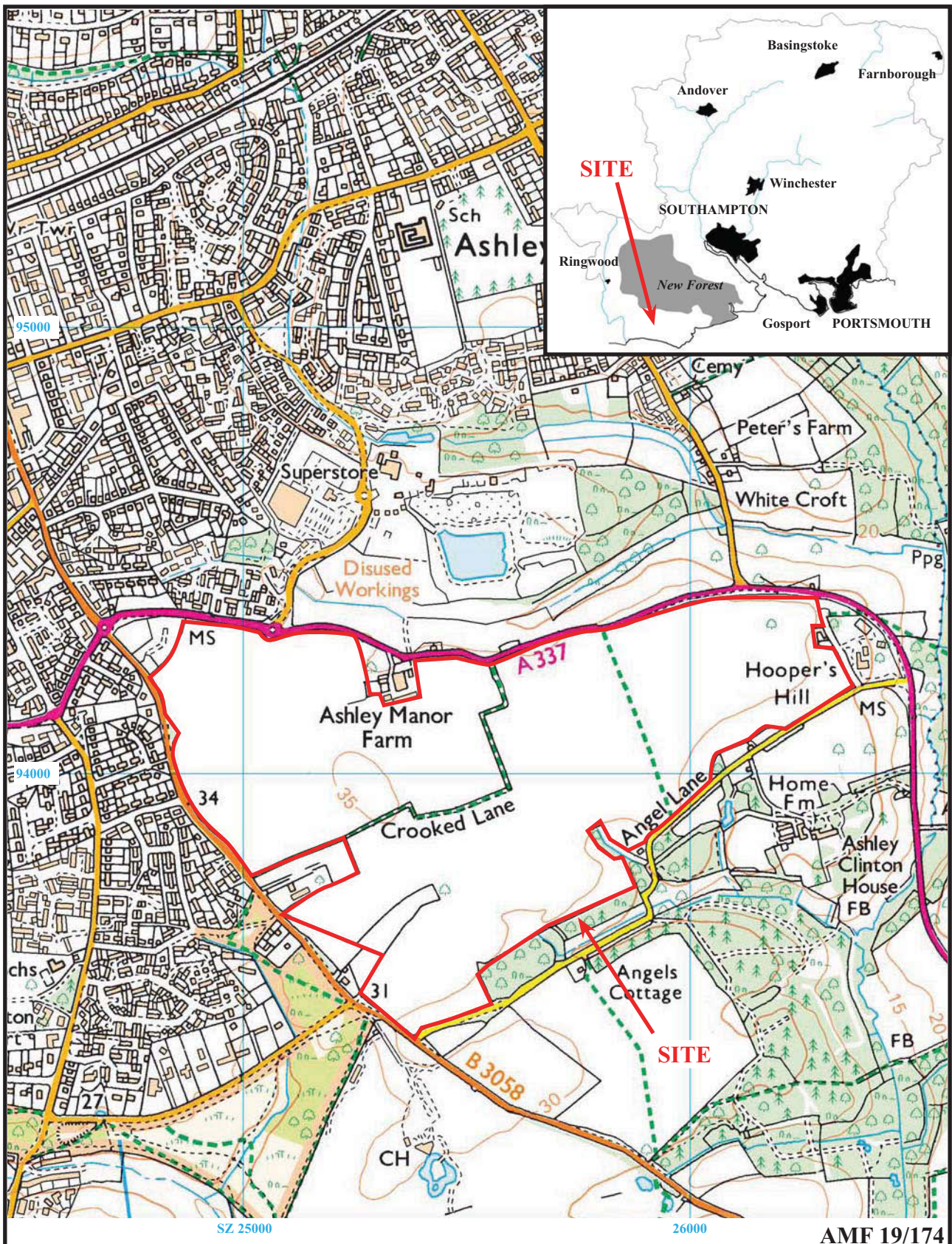
Filename: Downton3e.xcp

Stats

Max: 4.42
Min: -4.40
Std Dev: 0.90
Mean: -0.02
Median: 0.00
Composite Area: 5.8788 ha
Surveyed Area: 3.3576 ha

GPS based Proce5

- 1 Base Layer.
- 2 Unit Conversion Layer (Lat/Long to UTM).
- 3 DeStripe Median Traverse:
- 4 Clip from -4.00 to 4.00
- 5 DeStagger by: 150.00cm, Shift Positions



**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**

Figure 1. Location of site within New Milton and Hampshire.

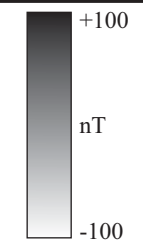
Reproduced under licence from Ordnance Survey Explorer Digital mapping at 1:12500
Crown Copyright reserved

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AMF 19/174

Ashley Manor Farm, Lymington Road,
 New Milton, Hampshire, 2019
 Geophysical Survey (Magnetic)
 Figure 2. Plot of raw gradiometer data.



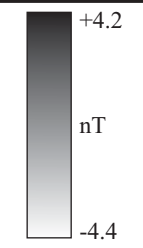


AMF 19/174

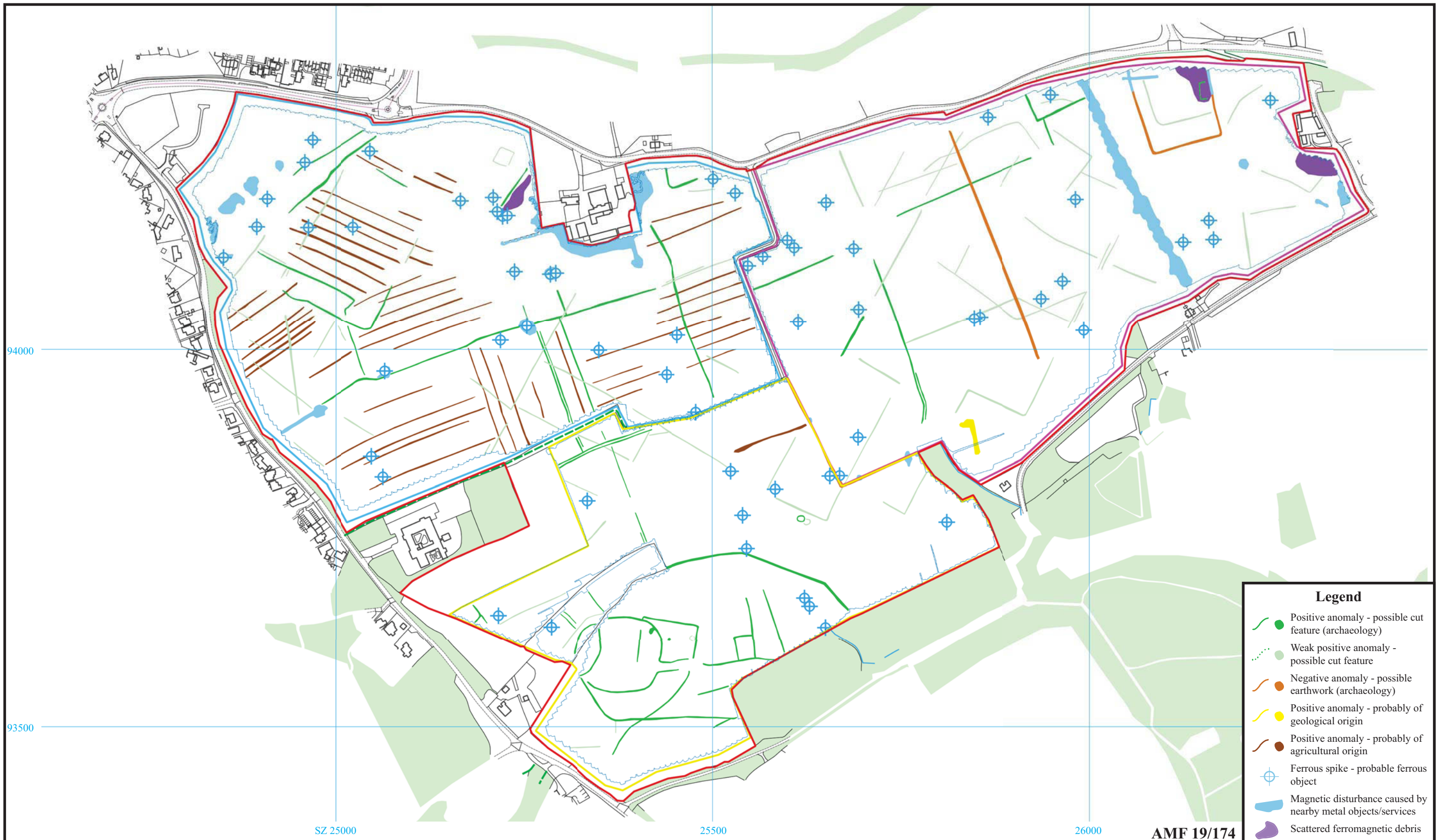
Ashley Manor Farm, Lymington Road,
 New Milton, Hampshire, 2019
 Geophysical Survey (Magnetic)
 Figure 3. Plot of processed gradiometer data.



0m 250m



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 SERVICES



- Legend**
- Positive anomaly - possible cut feature (archaeology)
 - Weak positive anomaly - possible cut feature
 - Negative anomaly - possible earthwork (archaeology)
 - Positive anomaly - probably of geological origin
 - Positive anomaly - probably of agricultural origin
 - ⊕ Ferrous spike - probable ferrous object
 - Magnetic disturbance caused by nearby metal objects/services
 - Scattered ferromagnetic debris

Ashley Manor Farm, Lymington Road,
 New Milton, Hampshire, 2019
 Geophysical Survey (Magnetic)
 Figure 4. Plot of gradiometer interpretation.

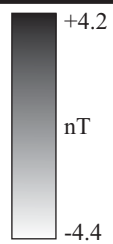


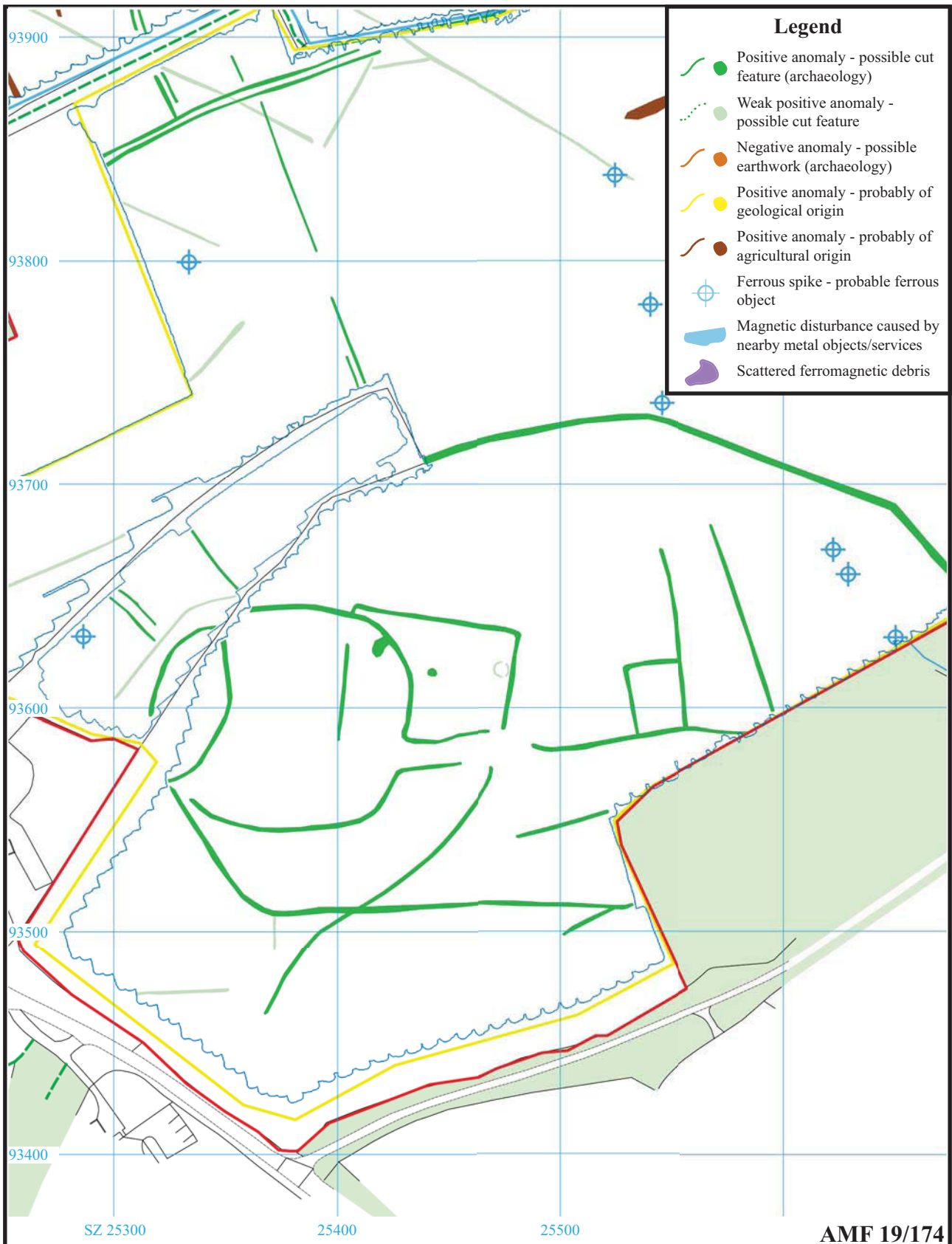
AMF 19/174



**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**

Figure 5. Plot of processed gradiometer data (detail).





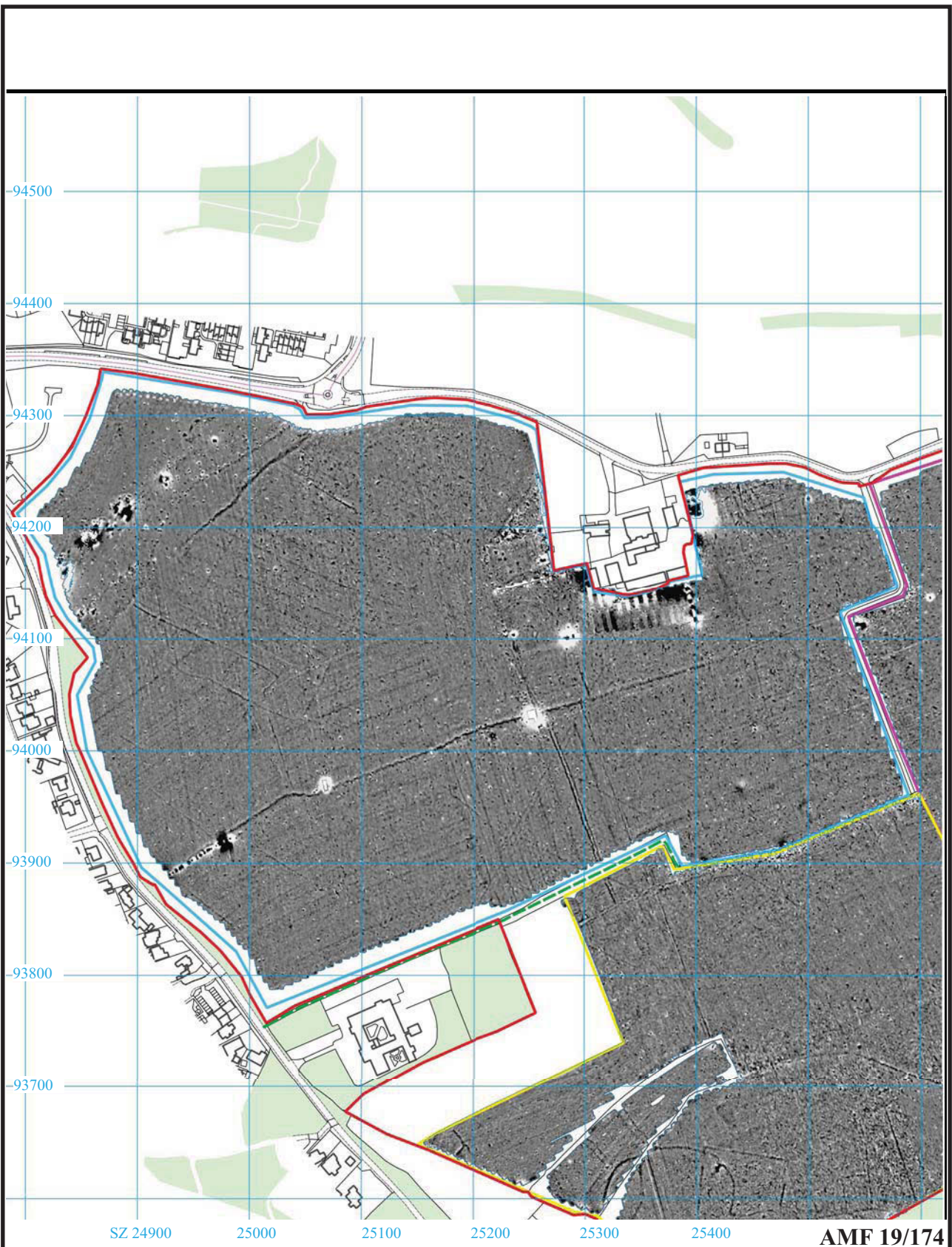
- Legend**
- Positive anomaly - possible cut feature (archaeology)
 - - -●- - - Weak positive anomaly - possible cut feature
 - - -●- - - Negative anomaly - possible earthwork (archaeology)
 - Positive anomaly - probably of geological origin
 - Positive anomaly - probably of agricultural origin
 - ⊕ Ferrous spike - probable ferrous object
 - Magnetic disturbance caused by nearby metal objects/services
 - Scattered ferromagnetic debris



**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)
Figure 6. Interpretation plot (detail).**



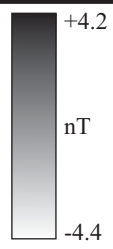
AMF 19/174

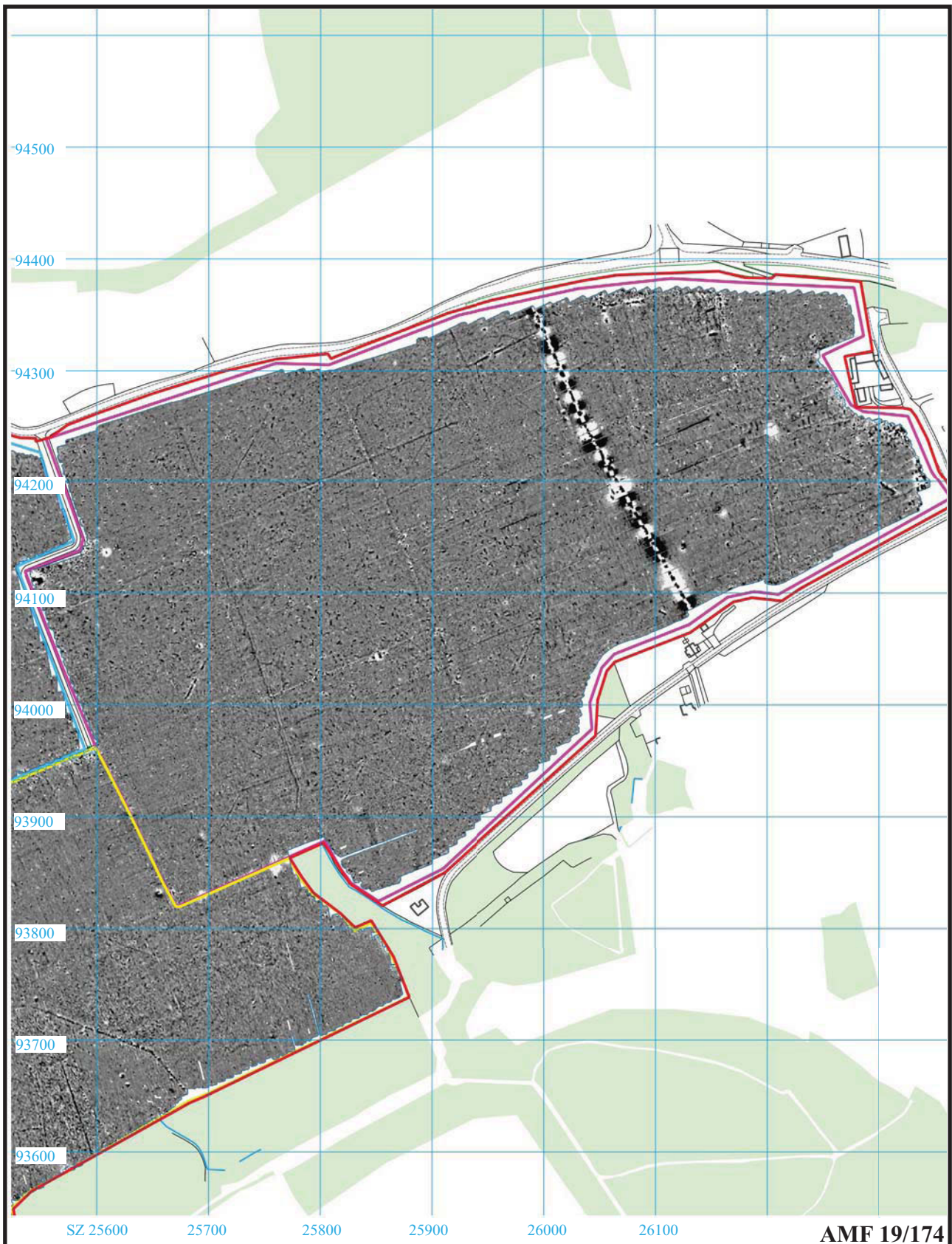


AMF 19/174

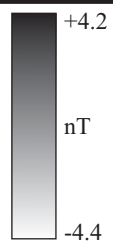


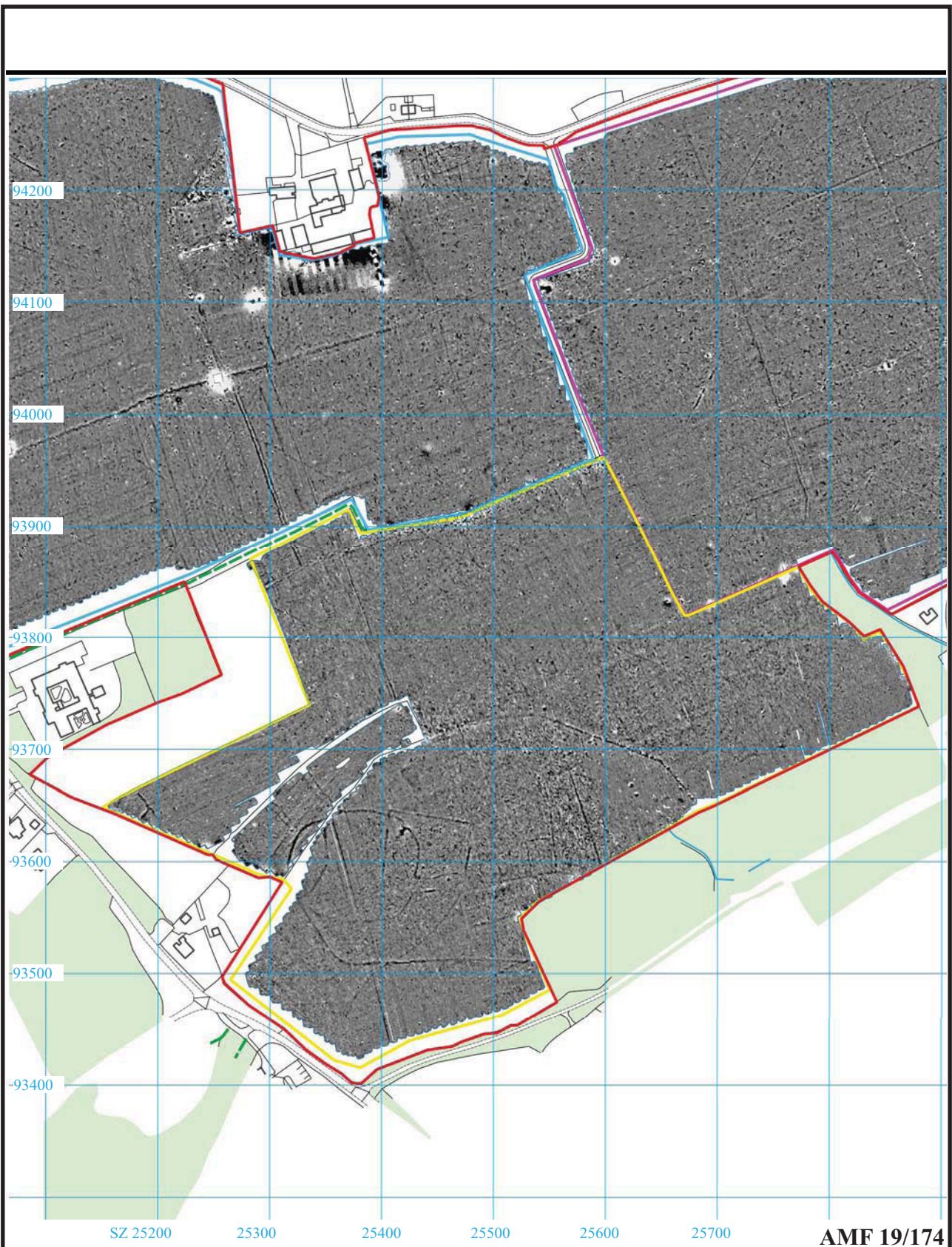
**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**
Figure 7. Plot of processed gradiometer data of field 1
(detail).



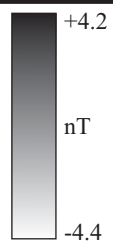


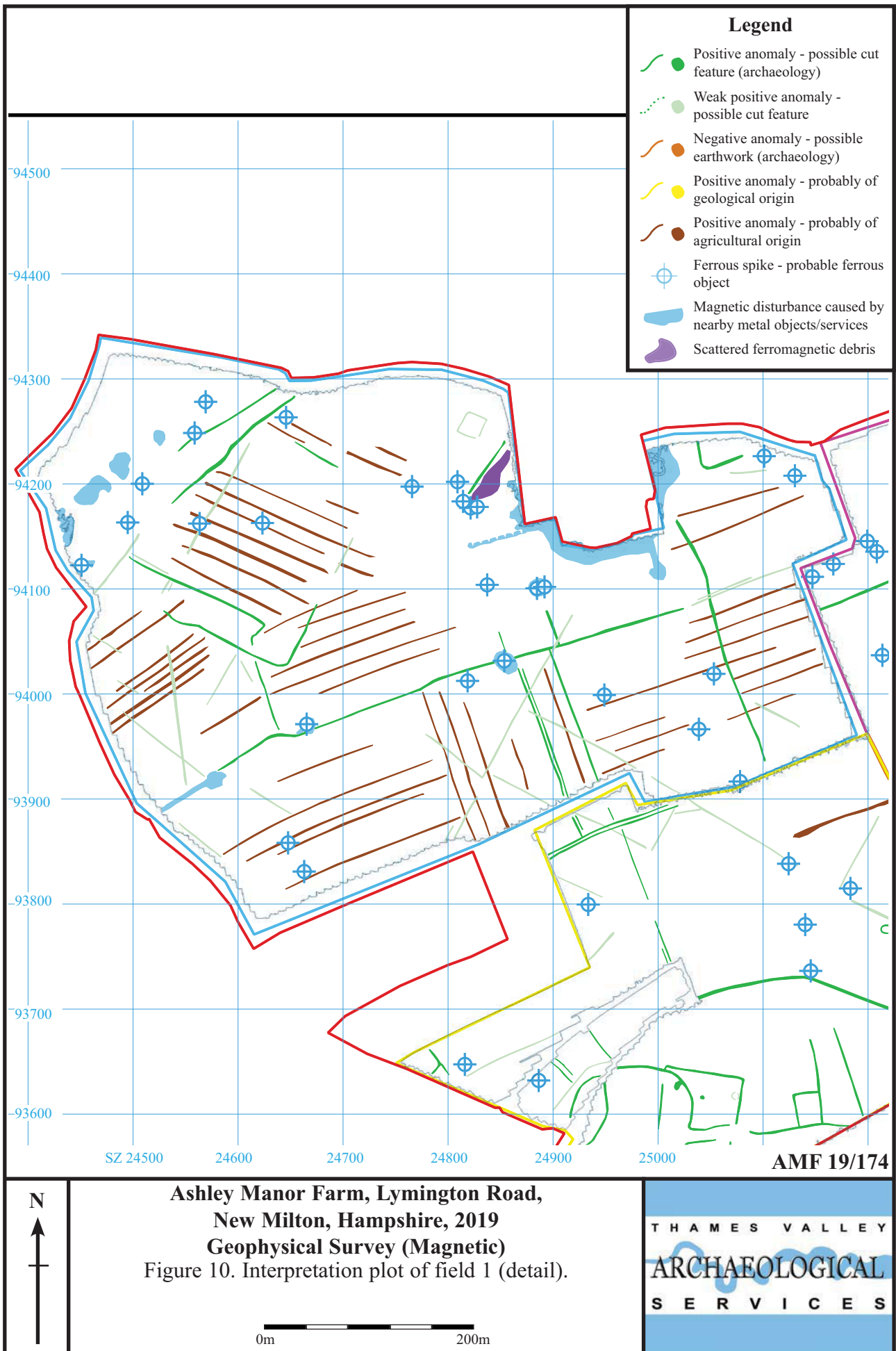
**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**
Figure 8. Plot of processed gradiometer data of field 2
(detail).



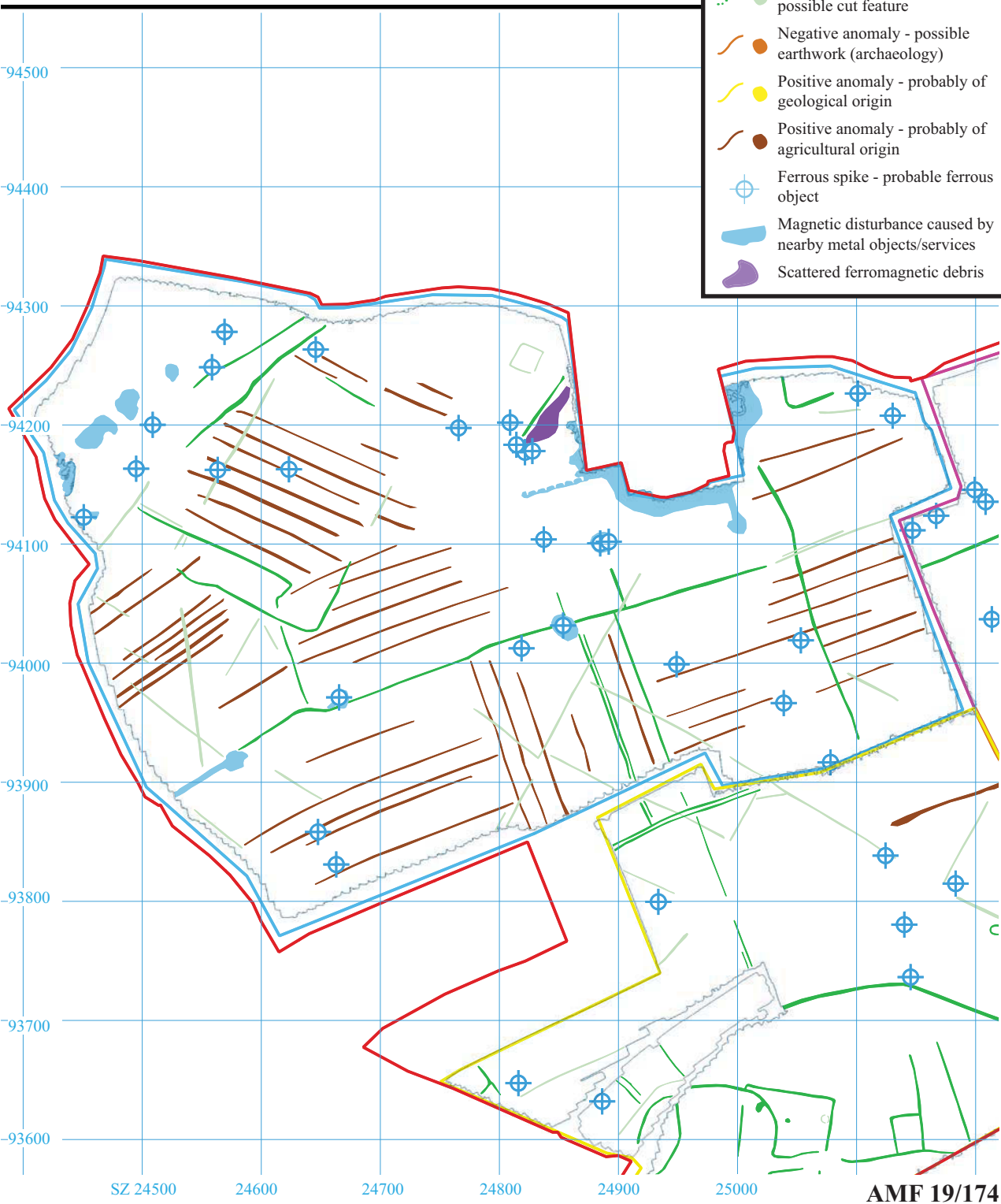


**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**
Figure 9. Plot of processed gradiometer data of field 3
(detail).



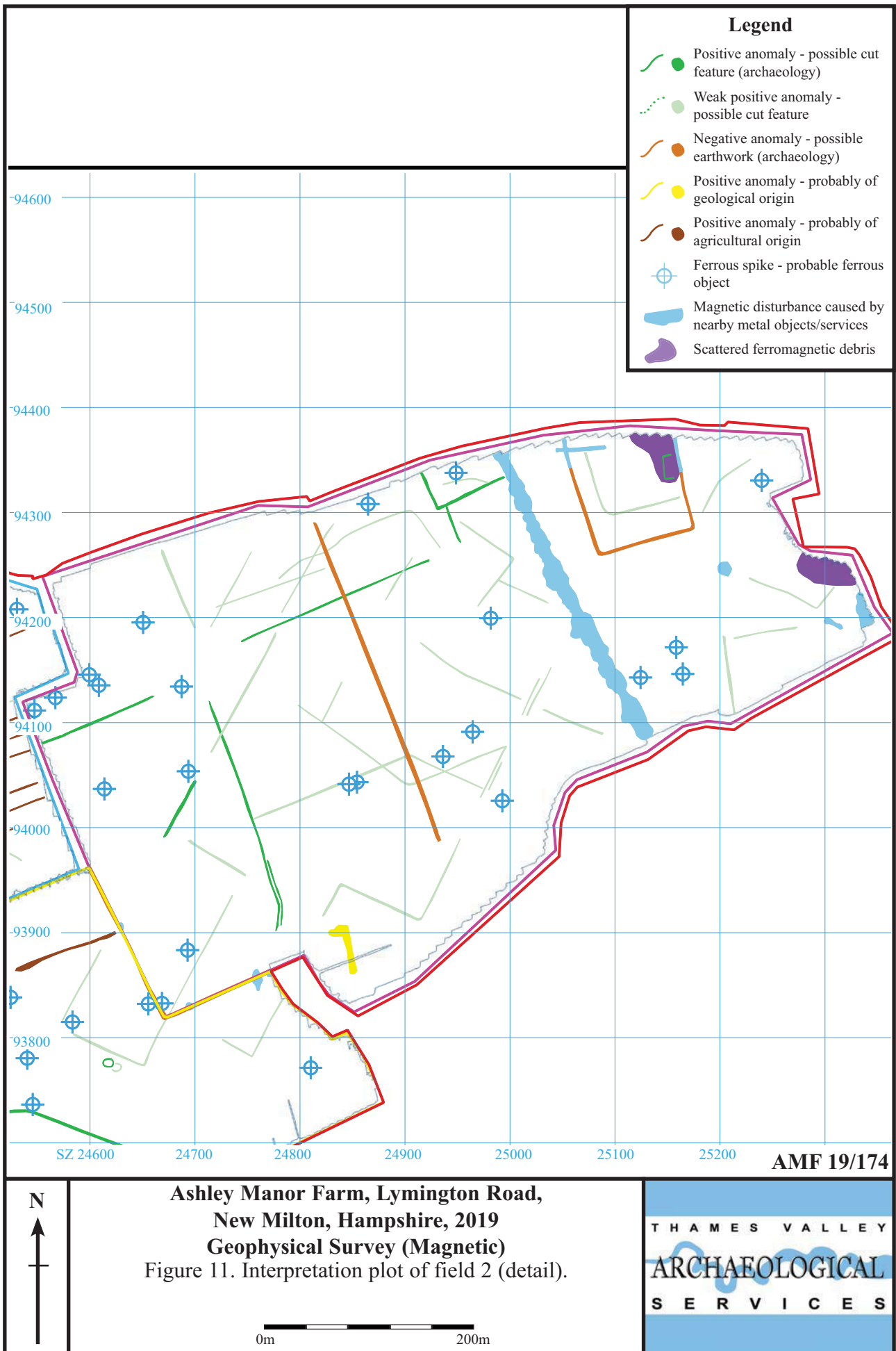


- Legend**
- Positive anomaly - possible cut feature (archaeology)
 - - - ● - - - Weak positive anomaly - possible cut feature
 - Negative anomaly - possible earthwork (archaeology)
 - Positive anomaly - probably of geological origin
 - Positive anomaly - probably of agricultural origin
 - ⊕ Ferrous spike - probable ferrous object
 - Magnetic disturbance caused by nearby metal objects/services
 - Scattered ferromagnetic debris



**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**
Figure 10. Interpretation plot of field 1 (detail).





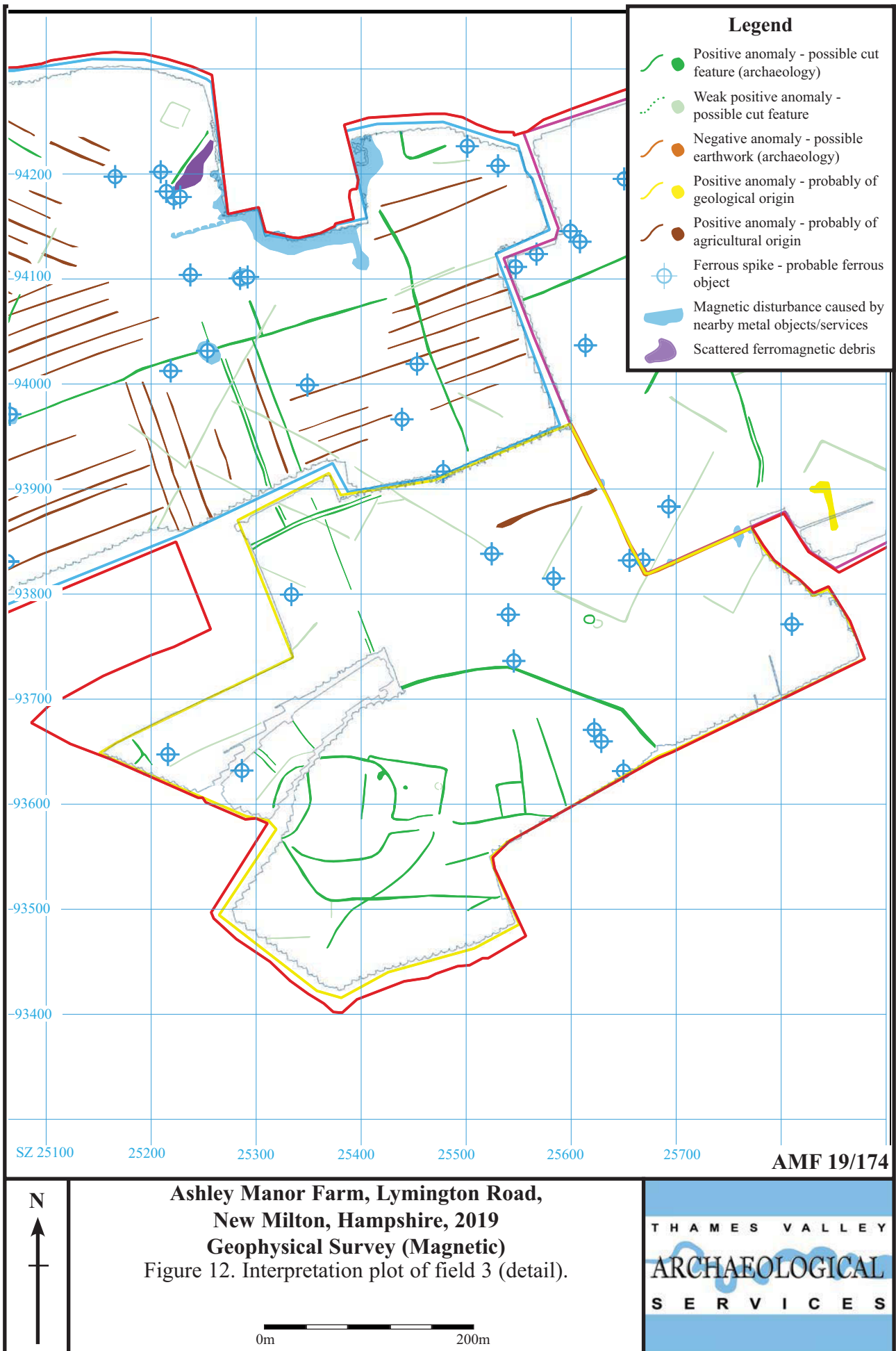




Plate 1. Field 1 looking southwest from Ashley Manor Farm.



Plate 2. Northern edge of field 3 looking north from centre of field 3.



Plate 3. Northern edge of field 3 looking west from western edge of field 2.



Plate 4. Southern area of field 2 looking northeast from eastern edge of field 3.

AMF 19/174

**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)**
Plates 1 to 4.

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Plate 5. Filed 2 looking east from western edge.



Plate 6. Southern area of field 3 looking south from central area of field 3.



Plate 7. Southeastern corner of field 3 showing natural gully in landscape looking southeast.



Plate 8. Central strip in field 3 looking west.

AMF 19/174

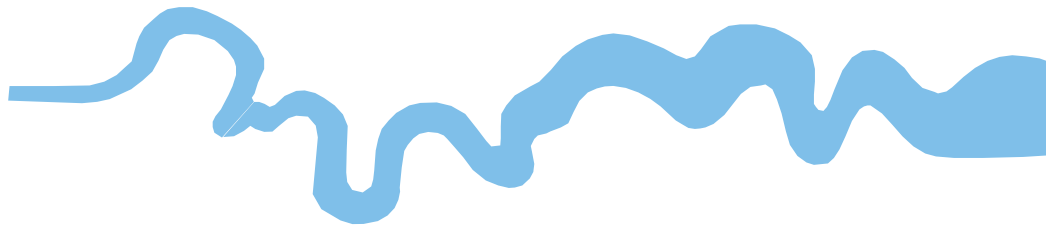
**Ashley Manor Farm, Lymington Road,
New Milton, Hampshire, 2019
Geophysical Survey (Magnetic)
Plates 5 to 8.**

THAMES VALLEY
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TIME CHART

	Calendar Years
Modern _____	AD 1901
Victorian _____	AD 1837
Post Medieval _____	AD 1500
Medieval _____	AD 1066
Saxon _____	AD 410
Roman _____	AD 43 AD 0 BC
Iron Age _____	750 BC
Bronze Age: Late _____	1300 BC
Bronze Age: Middle _____	1700 BC
Bronze Age: Early _____	2100 BC
Neolithic: Late	3300 BC
Neolithic: Early	4300 BC
Mesolithic: Late	6000 BC
Mesolithic: Early	10000 BC
Palaeolithic: Upper	30000 BC
Palaeolithic: Middle	70000 BC
Palaeolithic: Lower	2,000,000 BC





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***Offices in:
Brighton, Taunton, Stoke-on-Trent and Ennis (Ireland)***