making sense of heritage

Land at Pashley Farm, Ninfield, East Sussex

Detailed Gradiometer Survey Report

Ref: 100541.01
December 2013

archaeology

Land at Pashley Farm, Ninfield, East Sussex

Detailed Gradiometer Survey Report

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December 2013

Report Ref. 100541.01

Quality Assurance

Project Code	100541	**Accession Code**		**Client Ref.**	
Planning Application Ref.		**Ordnance Survey (OS) national grid reference (NGR)**	570630 110180		

Version	Status*	Prepared by	Checked and Approved By	Approver's Signature	Date
v01	E	*S. Mounce*	*B. Urmston*		12-12-13
File:	R:\PROJECTS\100541 Pashley Farm, Ninfield\Report\Working versions\100541.01.docx				
V02	F	*S. Mounce*	*B. Urmston*		12-12-13
File:	R:\PROJECTS\100541 Pashley Farm, Ninfield\Report\Submitted\combined report				
File:					
File:					
File:					

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

Land at Pashley Farm, Ninfield, East Sussex

Detailed Gradiometer Survey Report

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Detailed Gradiometer Survey Report

Summary

A detailed gradiometer survey was conducted over land at Pashley Farm, Ninfield, East Sussex. The project was commissioned by Parker Dann Chartered Town Planning Consultants, on behalf of Vogt Solar Ltd, with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features on the Site ahead of the proposed development.

The Site comprises a single arable field to the south of Pashley Farm; the proposed Site totals 18.8ha and gradiometer survey was undertaken over all accessible parts of the Site, excluding an area of ancient woodland measuring 0.3ha. The Site occupies undulating land lying at a maximum height of c. 16m above Ordnance Datum (aOD) towards the centre of the Site and a minimum height of c. 8m aOD at the southern end of the Site.

A desk-based assessment conducted by Wessex Archaeology (2013) established that there is a possible archaeological interest within the Site. This is defined as the potential for the presence of buried archaeological remains, in particular relating to the agricultural practices of the medieval, post-medieval and modern periods. A large farmstead has been known at Pashley Farm since 1288 and it is likely that the Site was part of this farmstead from an early date. To date no archaeological investigation has been undertaken within a 1km radius of the Site so the potential for buried remains dating to the Prehistoric to Anglo-Saxon periods is unknown.

The detailed gradiometer survey has been successful in detecting anomalies of probable and possible archaeological interest within the Site, in addition to extinct field boundaries, regions of increased magnetic response, ploughing trends and trends of uncertain origin.

Former field boundaries present on historic mapping have been clearly identified within the dataset along with a modern trackway, a probable earlier drainage ditch and other possible field boundaries. Three L-shaped anomalies of probable archaeological origin have also been identified which may represent small enclosures or earlier field divisions.

In places, strong ploughing trends reflecting current and historic agricultural activity can be seen; it is likely that the difference in response indicates sub-surface deposits being ploughed to the surface, although it is not possible to determine whether these are archaeological or geological in origin.

The spreads of increased magnetic response identified across the Site may be associated with the ploughed out remains of archaeological deposits or it is equally possible that they are the result of a change in geology.

The results from the geophysical survey will be used to aid and inform the County Archaeologist of any further archaeological evaluation and mitigation strategies that may be required in connection with the development proposals.

Land at Pashley Farm, Ninfield, East Sussex

Detailed Gradiometer Survey Report

Acknowledgements

The detailed gradiometer survey was commissioned by Parker Dann Chartered Town Planning Consultants, on behalf of Vogt Solar Ltd, and the assistance of Debbie Marriage is gratefully acknowledged in this regard. Wessex Archaeology would also like to thank the landowner, Mr T. Pilbeam, for granting access to the survey area.

The fieldwork was undertaken by Sarah Mounce, Jo Condliffe, Rachel Chester, Clara Dickinson and Jen Smith. Sarah Mounce processed and interpreted the geophysical data in addition to writing this report. The geophysical work was quality controlled by Ben Urmston. Illustrations were prepared by Adela Murray-Brown. The project was managed on behalf of Wessex Archaeology by Rob De'Athe.

Land at Pashley Farm, Ninfield, East Sussex

Detailed Gradiometer Survey Report

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology has been appointed by Parker Dann Chartered Town Planning Consultants, on behalf of Vogt Solar Ltd, to carry out a Geophysical Survey on land at Pashley Farm, Ninfield, East Sussex. The Site is centred on National Grid Reference (NGR) 570630 110180 and is hereafter referred to as 'the Site' (**Figure 1**).

1.1.2 The geophysical survey was carried out in advance of potential development at the Site in order to establish the presence/absence, extent and character of detectable archaeological remains within the Site.

1.1.3 This report presents a brief description of the methodology followed, the detailed survey results and the archaeological interpretation of the geophysical data.

1.2 The Site

1.2.1 The Site is located in East Sussex, approximately 4km to the north east of Bexhill on Sea and 7km to the south west of Battle. The village of Ninfield lies 1.8km to the north of the Site (Figure 1).

1.2.2 The Site comprises an irregular parcel of land of approximately 18.8ha, situated over one agricultural field containing a small area of ancient woodland measuring 0.3ha. The boundary of the Site is delineated on most sides by mature hedgerow or woodland however, the south eastern corner is partially bound by hedgerow and a small stream.

1.2.3 The Site is bounded on all sides by agricultural land of irregular shapes and varying sizes. Part of the eastern boundary is bound by the Sweet Willow Pumping Station. A track leading from the north of the Site runs to Pashley Farm and beyond to the A269.

1.2.4 The Site is situated close to the southern periphery of the High Weald, and the nearby Pevensey Levels are situated to the east. The Site is located within a small valley with gentle hills rising to the north east, west and south. Within the Site the topography undulates with a maximum height of c.16m above Ordnance Datum (aOD) towards the centre of the Site and a minimum height of c. 8m aOD at the southern end of the Site.

1.2.5 The underlying geology is mapped as Wadhurst clay formation, a Mudstone formed 132-137 million years ago (British Geological Survey). The soils underlying the Site are likely to be typical stagnogley soils of the 711e (Wickham 1) association across the majority of the Site with stagnogleyic argillic brown earths of the 572i (Curtisden) association towards the northern end (SSEW 1983). Soils derived from such geological parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.

2 ARCHAEOLOGICAL BACKGROUND AND POTENTIAL

2.1 Introduction

2.1.1 A full detailed description of the archaeological background to the Site has been presented in a Desk-Based Assessment (DBA) previously produced by Wessex Archaeology (WA 2013). For the purposes of this report a summary of those findings has been presented below.

2.1.2 There is no record of any previous intrusive archaeological investigation within the Site or the Study Area. This is likely due to a lack of modern development within the surrounding landscape and, as a result, the recorded heritage resource within the area is relatively sparse.

2.1.3 There are no designated heritage assets or known non-designated heritage assets within the Site.

Prehistoric to Anglo-Saxon

2.1.4 To date there is no recorded evidence dating to the Prehistoric to Anglo-Saxon periods from within the Site area. This is due to the Site's rural location and lack of modern development that requires archaeological investigation. This deficiency of evidence does not indicate a lack of settlement activity at these times, just the lack of opportunity for intrusive investigation.

2.1.5 The High Weald is known to have been exploited since at least the Mesolithic period however much of this appears to have been temporary as very few substantial settlement sites exist that date to the later prehistoric periods. The Weald is known to have been exploited due to high concentrations of Iron ore found in this area. This began in the Iron Age and continued into the Romano-British period.

2.1.6 The Site lies within the High Weald which was largely dominated by woodland established before 1600AD. Due to an area of ancient woodland within the Site boundary and at the peripheries of the Site, it is possible that the Site may well have been wooded during the earlier periods. The presence of an area of assart wood within the Site is typical of the late Anglo-Saxon and early medieval clearance of the woodland as much of it was undertaken by the landowners themselves and their families. These areas of woodland provided shelter for animals as well as cutting down on the time and effort to completely clear the woodland.

2.1.7 The Domesday Book of 1086 indicates which areas had been settled at this time. The Site lies approximately 700m from Ninfield which was recorded as a small settlement of 11 households and a church in 1086. A larger settlement is recorded at Hooe comprising 77 households as well as meadows, areas for grazing pigs, a mill, 30 salthouses and a church (Domesday Online). The name Ninfield translates to 'the newly taken open land' perhaps indicating its recent clearance of the woodland in this area. Ninfield was known as Nerewelle at the time of the Domesday Book in 1086 and Nimenfeld in 1245. The nearby settlement at Hooe Common is thought to be of Anglo-Saxon origin due to the Anglo-Saxon word Hooe meaning ridge and also its entry in the Domesday Book as a very large settlement by 1086. This indicates an established settlement at this time placing its origins in the middle Anglo-Saxon period (Domesday Online).

Medieval

2.1.8 The medieval period saw a continued effort to tame the landscape to make it cultivatable; areas of marshland and forest were reclaimed and cleared to make way for new market

towns and agricultural land. Little woodland clearance or establishment of new villages or hamlets took place between 1348 and 1800. The landscape appears to have stayed the same between these dates except for the introduction of railways, roads and canals in the later 1700s.

2.1.9 The medieval period is quite well represented within the Study Area due to documentary evidence and Listed Buildings from the medieval period. The barn west of Tanyard House (Grade II Listed) is located 960m to the west of the Site. It is a timber framed barn first built between 1350 and 1599 and was associated with the tanning industry, which underwent later modifications in the 17th and 18th centuries. Similarly the barn at Longdown Farm located 670m to the west of the Site was constructed between 1533 and 1566 with later adaptations including Longdown Farmhouse in the 18th century.

2.1.10 Medieval settlement areas are known at Hooe Common 634m, 890m and 980m to the west of the Site. In addition to this a medieval hamlet is known at Russell's Green 870m to the north west of the Site.

2.1.11 Medieval farmsteads dating to the 13th and 14th centuries are recorded within the Study Area, at Gotham Farm 830m south east of the Site, at Thorne Farm located 750m to the northeast, Pashley Farm located 530m to the north, and Russell's Green located 830m north west of the Site.

2.1.12 The Site lies within the remit of the current Pashley Farm; it is possible that the Site was part of this medieval Farmstead when it was recorded in 1288 as owned by Robert de Passeleye.

Post- medieval

2.1.13 In the post-medieval period the dispersed rural settlement pattern established in the preceding centuries was consolidated. Post-medieval evidence from the wider Study Area comprises known structural evidence rather than buried remains. Listed Buildings dating to the post-medieval period consist of farmhouses and their associated buildings. Grade II* Listed Hollis Street Farmhouse and its associated barn lie 900m to the north of the Site were constructed in the 1700s.

2.1.14 Other 18th century farmhouses include Tanyard House located 920m north east of the Site, Whydown Farmhouse 420m to the south, Pashley Farmhouse 630m to the north, Ackehurst Farmhouse and its associated oasthouse and granary located 700m to the west of the Site. Miller's Farmhouse located 780m north west and South Cottage 960m north west of the Site also date to the post-medieval period. A post-medieval windmill is known to have existed 700m to the north east of the area for development. These buildings would have contributed to the rural environment of the Study Area at this time comprising a wide expanse of agricultural land with scattered farmsteads and swathes of woodland.

2.1.15 Ashburnham Place is a Grade II* Registered Park and Garden created in 1767 to accompany Ashburnham Manor which had been occupied in several different constructions since the mid-12th century. The lakes and garden layout still remain.

19th century and modern

2.1.16 Cartographic evidence of the Site can indicate the land use from the mid-19th century onwards and can be indicative of earlier field systems and agricultural practices. The Tithe map of the parish of Ninfield from 1842 shows the Site to be enclosed farmland made up of irregular parcels of land consisting of arable land and some woodland. The north east

corner of the Site was used for growing hops, an important produce in the south east of England. The remaining fields were arable except for two areas of woodland, one on the southern part of the Site (later cleared) and the small area of woodland in the centre of the Site which remains today.

3 AIMS

3.1 Geophysical Survey

3.1.1 The aim of the project was to conduct a geophysical survey over the proposed site in an attempt to establish the presence/absence, extent, character and date of archaeological remains within the survey area. The information recovered will assist in the determination of further evaluation and mitigation strategies for the proposed development.

3.1.2 The objectives of the archaeological survey were to:

- *Conduct a detailed survey which covers as much of the specified area as possible, allowing for artificial obstructions;*
- *Clarify the presence/absence and extent of any buried archaeological remains within the Site;*
- *Characterise any other remains of significance identified during the detailed survey; and*
- *Produce a report which will present the results of the geophysical survey in sufficient detail to allow an informed decision to be made concerning the Site's archaeological potential*.

4 METHODOLOGY

4.1 Introduction

4.1.1 The detailed gradiometer survey was conducted using a Bartington Grad601-2 dual fluxgate gradiometer system. The survey was conducted in accordance with English Heritage guidelines (2008).

4.1.2 The geophysical survey was undertaken by Wessex Archaeology's in-house geophysics team between 27th November and 5th December 2013. Field conditions at the time of the survey were good, with the survey area having been harvested and left fallow.

4.2 Method

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

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

4.2.3 Data from the survey was subject to minimal data correction processes. These comprise a zero mean traverse function (±5nT thresholds) applied to correct for any variation between

the two Bartington sensors used, and a de-step function to account for variations in traverse position due to varying ground cover and topography. These two steps were applied to the entire survey area with no interpolation applied.

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

5 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

5.1 Introduction

5.1.1 The gradiometer survey has been successful in identifying anomalies of probable and possible archaeological interest across the Site. Previous field boundaries, regions of increased magnetic response and linear trends have also been detected.

5.1.2 Results are presented as a series of greyscale and XY plots, and archaeological interpretations, at a scale of 1:2000 (**Figures 2** to **4**). The data are displayed at -2nT (white) to +3nT (black) for the greyscale images and the XY trace plots are presented at 25nT per cm.

5.1.3 The interpretation of the datasets highlights the presence of potential archaeological anomalies, field boundaries, ploughing trends, ferrous/burnt or fired objects, and areas of increased magnetic response (**Figure 4**). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.

5.1.4 A number of ferrous anomalies are visible throughout the detailed survey dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.

5.2 Gradiometer Survey Results and Interpretation

5.2.1 Towards the northern end of the survey area is a linear band of strong positive and weak anomalies at **4000** which is slightly curved and orientated roughly east – west. This anomaly has been interpreted as a field boundary as it appears on historic mapping up until the 1990s. Earlier maps of this, up until the 1909 edition of the Ordnance Survey Map (WA 2013), identify it as being an established field boundary with trees and hedgerows. This may account for the relatively large width of the anomaly. To the north of this linear is a large area of increased magnetic response at **4001** with linear trends aligned north west – south east and ploughing trends oriented north east – south west. Some of these linear trends may be the result of ploughing or field drains. It is likely that this spread of increased magnetic response is a result of the ploughing trends which have either created a spread of anthropogenic debris or a variation in the geology.

5.2.2 To the south of anomaly **4000**, towards the eastern extent of the survey area and situated at **4002** is an L-shaped positive anomaly which has been interpreted as probable archaeology. A similar linear anomaly oriented north west – south east is at **4003**. Both these anomalies may have an archaeological origin however they also appear on a similar alignment to the plough trends and so may be the result of better preserved ridge and furrow. Located at anomaly **4003** is a second linear of weak positive response oriented north east – south west and may also be of probable archaeological origin. It is possible that this anomaly extends further south westwards at **4009** and **4010** where it has also been interpreted as probable archaeology. This anomaly may relate to the trackway identified on historic mapping up until the 1961-1962 edition of the Ordnance Survey Map (not reproduced here).

5.2.3 Towards the centre of the northern half of the survey area is an interrupted linear positive anomaly located at **4004**. This anomaly has been interpreted as a field boundary as it appears as such on historic mapping up until the 1990s and extends as far north east as anomaly **4000** and as far south west as anomaly **4007**. Aligned parallel with anomaly **4004** is a similar linear positive anomaly at **4006** which has also been interpreted as a previous field boundary. This boundary is only present on the 1842 Ninfield Tithe map and has been removed by the time of the 1863 edition of the Ordnance Survey Map (WA 2013).

5.2.4 Located within the area defined by anomalies **4000**, **4004**, **4006** and **4007**, a series of linear weak positive anomalies located at **4005** has been interpreted as possible archaeological remains. The longer linear anomaly aligned east southeast – west northwest may be an earlier field boundary not identified on any mapping, whereas the remaining three linears may represent better preserved ridge and furrow.

5.2.5 Located at **4007** is a long linear anomaly of positive and negative response aligned roughly east – west and turning towards the south east at its eastern extent. This has been interpreted as a field boundary and appears on Ordnance Survey mapping up until the 1990s. Similar to anomaly **4000**, it is partially recorded as an established field boundary up to the 1909 edition of the Ordnance Survey Map (WA 2013). Running parallel with this along its south eastern extent is an interrupted linear of weak positive response located at **4008**. This has been interpreted as possible archaeology and may have functioned as a trackway running along the previous field boundary.

5.2.6 Towards the western extent of the survey area at **4011** is an interrupted linear positive anomaly oriented roughly north – south and may extend further south where it has been identified at **4017**. Both anomalies are interpreted as previous field boundaries and appear on historic mapping up until the 1980s (not reproduced here). Running parallel with this is a similar anomaly at **4015**, which extends further southwards and has been interpreted as probable archaeology as it may represent a field boundary. At the southern extent of **4015** is a similar linear anomaly running perpendicular which has also been interpreted as probable archaeology.

5.2.7 Extending out from the western limits of the survey area on a roughly east – west alignment is a linear anomaly of positive and weak response located at **4012**. This anomaly has been interpreted as a previous field boundary and appears on historic mapping up until the 1909 edition of the Ordnance Survey Map (WA 2013). It is possible that this field boundary, although not recorded on any mapping, may have continued further to the east where it is identified as possible archaeology at **4013**. It is also possible that this anomaly represents a field drain. The large area of increased magnetic response surrounding **4013** is likely to be a spread of anthropogenic debris as a result of ploughing.

5.2.8 Located at **4014**, within the very south west corner of the survey area, is a curvilinear anomaly of strong positive and negative response. Its sinuous shape suggests that it has a geological origin rather than the result of an anthropogenic change.

5.2.9 A strong positive L-shaped anomaly which has been interpreted as probable archaeology as it may represent a field boundary or enclosure is situated at **4016**. A similar L-shaped anomaly but with a weak positive response is located at **4019**. This may also represent an enclosure or it is possible that the linears are better preserved ridge and furrow. Located just the east at **4020** are two linears of increased magnetic response which may have an archaeological origin or again is the result of well-defined ridge and furrow.

5.2.10 Extending out from the southern limits of the survey area at **4018** is a linear anomaly of weak and positive response, oriented north east – south west. This anomaly is interpreted as a previous field boundary as it appears on historic mapping up until the 1980s. It is likely that its location is now defined by a field drain.

5.2.11 Located at **4021** is an oval shaped feature of increased magnetic response; this may have an anthropogenic origin or it could be a variation in the geology as it is located at the base of a dip where the field is prone to flooding.

5.2.12 Towards the very south eastern limits of the survey area at **4022** is a strong positive anomaly aligned north east – south west which is interpreted as probable archaeology. Part way along its length, there is a roughly linear anomaly of increased magnetic response which appears to extend out from **4022** towards the north west. This anomaly may have formed an earlier drainage ditch to those presently located along the eastern and southern extents of the survey area.

6 CONCLUSION

6.1.1 The detailed gradiometer survey has been successful in detecting anomalies of probable and possible archaeological interest within the Site, in addition to extinct field boundaries, regions of increased magnetic response, ploughing trends and trends of uncertain origin.

6.1.2 A number of field boundaries recorded on historic mapping have been identified. Those located at **4004**, **4006**, **4001**, **4012**, **4017** and **4018** are not as well defined as the two situated at **4000** and **4007**. This is most likely due to the fact that they were removed at an earlier stage and weren't as well established during their lifetime. It is likely that field boundaries **4006**, **4011**, **4012**, **4017** and **4018** were replaced by field drains as suggested by their magnetic response.

6.1.3 A number of linear anomalies interpreted as having a probable archaeological origin may represent earlier field boundaries, with the exception of anomaly **4022** which is likely to have functioned as an earlier drainage ditch. Anomalies **4003**, **4009** and **4010** are likely to represent the trackway recorded on the 1937-1951 and 1961-1962 editions of the Ordnance Survey Maps (not reproduced here).

6.1.4 The linear anomalies of possible archaeology are likely to reflect areas of better preserved ridge and furrow, although they could equally be the response made from earlier ploughed out field boundaries.

6.1.5 In places, strong ploughing trends reflecting current and historic agricultural activity can be seen; it is likely that the difference in response indicates sub-surface deposits being ploughed to the surface, although it is not possible to determine whether these are archaeological or geological in origin.

6.1.6 The spreads of increased magnetic response may be associated with the ploughed out remains of archaeological deposits or it is equally possible that they are the result of a change in geology. This geological change may be the result of flooding as in most areas the anomaly of increased magnetic response surrounds a ditch or field drain.

6.1.7 No modern services were identified from the survey data; however a gradiometer will not be able to locate and identify all services present on the Site. This report and accompanying illustrations should not be used as the sole source for the service locations and appropriate equipment (e.g. CAT and Genny) should be used to confirm the location of buried services before any ground works take place on Site.

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

7 REFERENCES

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APPENDIX 1: SURVEY EQUIPMENT AND DATA PROCESSING

Survey Methods and Equipment

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

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

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

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

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

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

Post-Processing

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

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

Typical data and image processing steps may include:

- Destripe – Applying a zero mean traverse in order to remove differences caused by directional effects inherent in the magnetometer;
- Destagger – Shifting each traverse longitudinally by a number of readings. This corrects for operator errors and is used to enhance linear features;
- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data)
- Periodic Filter – This function is used to reduce or remove the amplitude of regular, periodic features present in the data. This is most commonly used to correct for operator error during the collection of data;
- Low Pass Filter – The low pass filter can be used to remove small scale, high frequency spatial detail. It is used to suppress noise in the data to enhance larger and weaker anomalies;
- Add – The add function simply involves adding or subtracting data values to a selected area of the data

Typical displays of the data used during processing and analysis:

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

APPENDIX 2: GEOPHYSICAL INTERPRETATION

The interpretation methodology used by Wessex Archaeology separates the anomalies into two main categories: archaeological and unidentified responses.

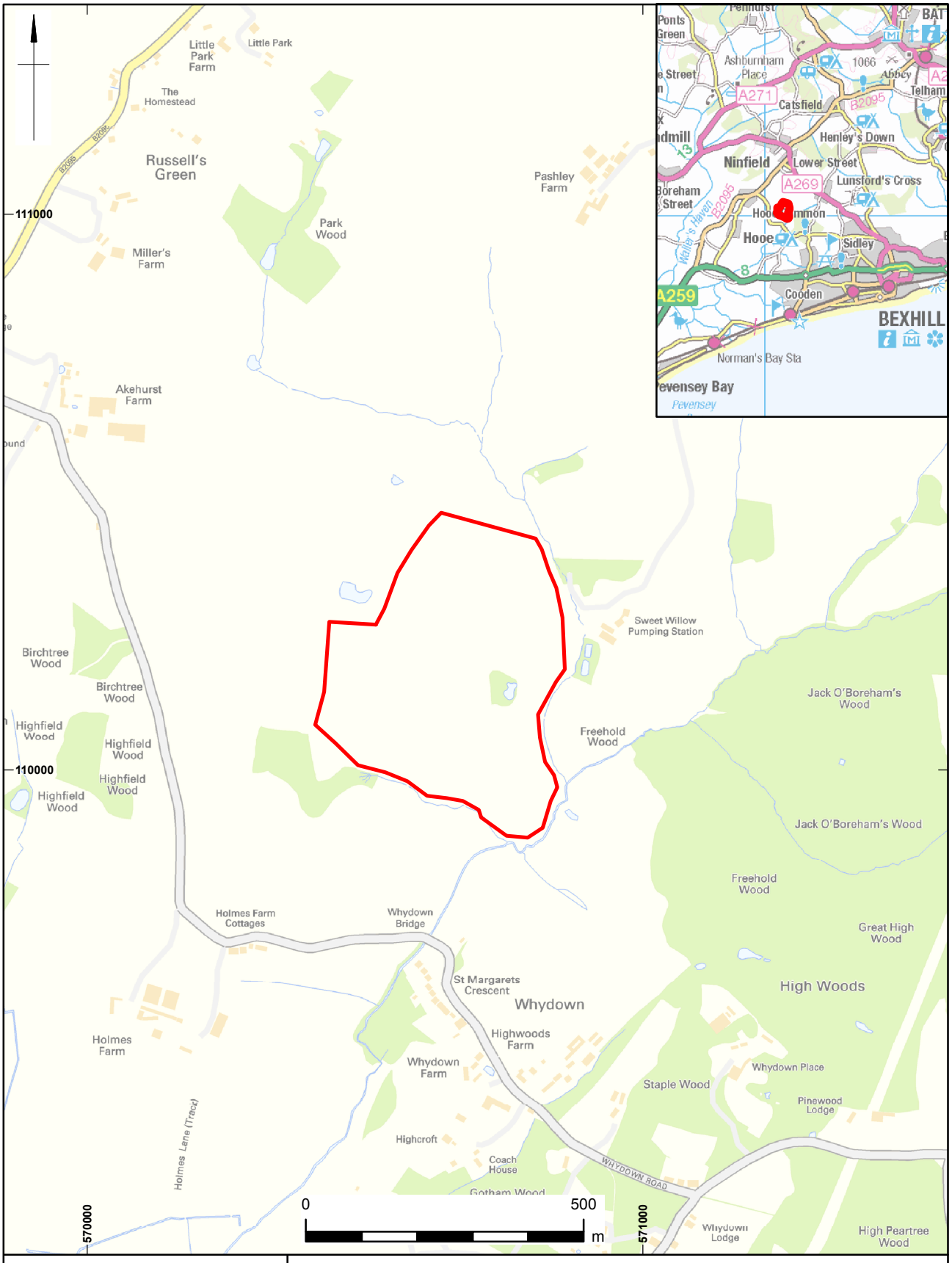
The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided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

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

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

- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies.
- Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin.

Finally, services such as water pipes are marked where they have been identified.



Site

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Site Location Plan

Figure 1

570500

110500

110000

+3nT

-2nT

0

200

m

Detailed Survey Extents

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Greyscale

Figure 2

670500

110500

110000

+25nT

-25nT

0

200

m

Detailed Survey Extents

Date:	12.12.2013	Revision Number:	0
Scale:	1:2000 at A3	Illustrator:	AMB
Path:	R:\PROJECTS\100541 Pashley Farm, Ninfield\GIS\FigsMXD\100541_Geophys_Fig03.mxd		

XY Trace

Figure 3

570500

110500

4001

4000

4006

4005

4004

4002

4003

4007

4008

4011

4009

4010

4013

4012

4014

4015

4017

4018

4016

4021

110000

4019

4022

4020

Detailed Survey Extents

Trends

Field Drains

Ploughing

Probable Archaeology

Possible Archaeology

Field Boundaries

Ferrous

Geology

Increased Magnetic Response

0

200

m

Date:	12.12.2013	Revision Number:	0
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Path:	R:\PROJECTS\100541 Pashley Farm, Ninfield\GIS\FigsMXD\100541_Geophys.mxd		

Interpretatoin

Figure 4

wessex archaeology

salisbury rochester sheffield edinburgh

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