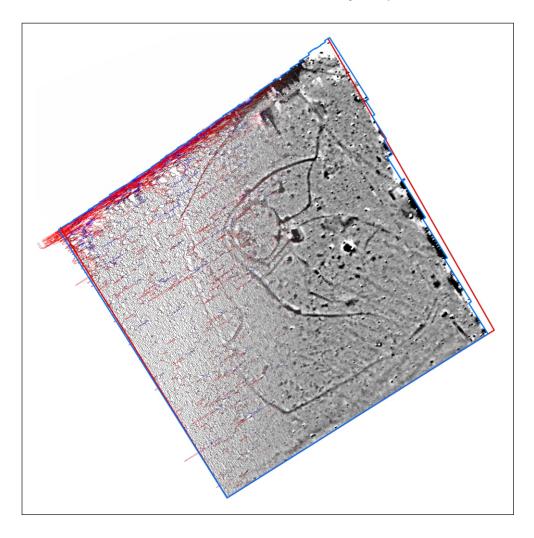


## Battledown Farm Scheduled Monument and Land at Kite Hill, Manydown Basingstoke, Hampshire

**Detailed Gradiometer Survey Report** 







# Battledown Farm Scheduled Monument and Land at Kite Hill Manydown, Basingstoke, Hampshire

## **Detailed Gradiometer Survey Report**

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# Battledown Farm Scheduled Monument and Land at Kite Hill Manydown, Basingstoke, Hampshire

## **Detailed Gradiometer Survey Report**

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# Battledown Farm Scheduled Monument and Land at Kite Hill Manydown, Basingstoke, Hampshire

### **Detailed Gradiometer Survey Report**

#### **Summary**

A detailed gradiometer survey was conducted over land at two separate sites (approximately 580 m apart); at Battledown Farm Scheduled Monument, Manydown, Basingstoke, Hampshire (Site A; centred on NGR 459590, 150295) and at the site of a probable banjo enclosure on land at Kite Hill Basingstoke (Site B; centred on NGR 459950, 151280). The project was commissioned by AECOM on behalf of Hampshire County Council with the aim of establishing the presence, extent, and nature of detectable archaeological features.

Site A, Battledown Farm Scheduled Monument (NHLE List Entry 1001835) is recorded as an Iron Age settlement identified from cropmarks. Site B is focused on a complex of cropmarks at Kite Hill recorded as a banjo enclosure and associated settlement activity. The archaeological significance of the two sites was relatively well known prior to the geophysical survey, with a complex cropmarks indicative of settlement identified from aerial photographs within both Sites. These two sites form part of a larger prehistoric landscape at Manydown which includes numerous scheduled monuments, cropmark complexes and extant prehistoric monuments.

The geophysical survey was undertaken between 19<sup>th</sup> and 30<sup>th</sup> October 2015 and a total area of 33.3 ha was surveyed across the two sites. A targeted double density gradiometer survey was conducted over a number of discrete areas of archaeological interest across Site A with the aim of resolving some of the smaller and more ephemeral features that had been identified.

The detailed gradiometer survey has been successful in detecting anomalies of archaeological interest within both Site A and Site B. The results of the geophysical survey have served to confirm the presence of the recorded features, and to clarify the form and patterning of the phases of enclosures and barrows. In addition, the survey has identified new features which were not previously recorded.

A well-documented Roman road borders the eastern extent of Site A. Due to the proximity of this feature, many of the archaeological anomalies and features in Site A in particular, but potentially also Site B, may date to the Iron Age or Romano-British periods, in particular some phases of the enclosures and field systems.

Clusters of pit-like anomalies are present across both Site A and Site B. The survey identified signs of ridge and furrow and ploughing which are likely to be medieval, post-medieval and modern in origin. Frequent ploughing trends are visible across the Sites on differing alignments..

Site A is Scheduled as a suspected Iron Age settlement and the features identified within the dataset support this interpretation, however it is clear that multi-phase activity spanning several periods is likely to be represented. A complex of at least four phases of spatially overlapping enclosures was identified in the north-east corner, including a previously unidentified banjo enclosure of probable Middle Iron Age date. The enclosures are associated with a substantial linear feature crossing the Site, comprising two parallel ditches, considered to be either a drove



way or possible double ditched 'Wessex Linear' type feature. At least four additional enclosures have been identified, three of which spatially overlie the banjo enclosure. It is likely that several of these are of Iron Age or Romano-British date. The archaeological content of the Site and the proximity of the Roman road at the eastern Site boundary support this interpretation.

Equally significant is evidence of earlier funerary activity, as represented by probable Bronze Age round barrows. Two exceptionally well-defined round barrows were known from cropmarks, and the survey has clarified their form. Additional probable barrows have been identified in the west of the Site although these features are less distinct, likely due to ploughing damage over the years.

A Roman road is recorded as running parallel to the eastern boundary of Site A. The survey did not identify any clear evidence for the presence of the road, although a linear trend recorded at the eastern Site boundary, although not indicative of such a feature, cannot be ruled out as related.

The survey has established that the densest concentration of archaeological features is located in the eastern area of Site A, as known from previously recorded cropmark data. However the survey has identified archaeological features across the entire Site, and as such, has not identified a clear spatial limit to the archaeology.

The archaeology in Site B is almost as complex as that identified within Site A, and many of these features are also potentially of Iron Age or Romano-British date. A second banjo enclosure (already been provisionally identified based on the cropmark data) has been identified which is also likely to be of Middle Iron Age date. Additional enclosures spatially overlie the banjo enclosure. As with Site A, these may well to be of Iron Age or Romano-British date. A possible section of track or road at the northern Site limit may potentially represent a trackway which links with the Roman road located c. 300m to the east.

The survey has clarified that archaeological features are present across a large proportion of the Site, however the western limit of a large enclosure appears to mark the western limit of the archaeological features. Discrete pit-like anomalies do occur across the east of the Site however.

The results of the geophysical survey indicate that substantial and complex archaeological remains are present within both Sites. As such, any mitigation strategy would naturally depend upon what development, if any, is proposed within each area. Site A is already afforded statutory protection as a Scheduled Monument and as such, no further archaeological works should be conducted within its' curtilage without consulting Historic England. The results from Site B indicate the archaeological features present here might be of equal significance to those within Site A, and would likely be considered of at least regional significance. If any development is proposed within the Sites, it is considered that further archaeological investigations will be required by the Local Planning Authority, the need for, timing and scope of which should be agreed in consultation with Historic England and the Planning Archaeologist for Hampshire County Council.



## Battledown Farm Scheduled Monument and Land at Kite Hill, Manydown, Basingstoke, Hampshire

### **Detailed Gradiometer Survey Report**

### **Acknowledgements**

Wessex Archaeology would like to thank AECOM for commissioning the geophysical survey. The assistance of Annie Calder is gratefully acknowledged in this regard.

The fieldwork was undertaken by Alistair Black, Diana Chard, Becky Hall, Alistair Salisbury and was directed by Jen Smith. Alistair Salisbury processed and interpreted the geophysical data and wrote the report. The geophysical work was quality controlled by Lizzie Richley, Gen Shaw and Garreth Davey, with the assistance of Chloe Hunnisett. Illustrations were prepared by Garreth Davey. The project was managed on behalf of Wessex Archaeology by Lucy Learmonth.



## Battledown Farm Scheduled Monument and Land at Kite Hill Manydown, Basingstoke, Hampshire

#### **Detailed Gradiometer Survey Report**

#### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology (WA) was commissioned by AECOM on behalf of Hampshire County Council to carry out a geophysical survey over land at two separate sites at Battledown Farm Scheduled Monument, Manydown, Basingstoke, Hampshire (centred on NGR 459590, 150295), hereafter 'Site A' and over land at Kite Hill Basingstoke (centred on 459950, 151280), hereafter 'Site B' (Figure 1). The survey forms part of an ongoing programme of archaeological works being undertaken ahead of proposed development in the vicinity for residential and business use.
- 1.1.2 The aim of the geophysical survey was to establish the presence/absence, extent and character of detectable archaeological remains within the survey area, and also to define the location and extent of detectable archaeological features relating to the archaeological remains, including the Scheduled Monument at Site A.
- 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, as outlined in the Written Scheme of Investigation (WSI) (WA 2015c).
- 1.1.4 As Site A is a Scheduled Monument, a Section 42 Licence for undertaking non-intrusive geophysical survey within the site was acquired prior to commencement of the survey (Historic England Reference AA/063026/5, **Appendix 1**).

#### 1.2 Site location and topography

- 1.2.1 The Site comprise two separate land parcels to the west of Basingstoke, Hampshire, located approximately 4.5 km to the west of the centre of Basingstoke and 2 km to the east of Oakley.
- 1.2.2 Site A comprises 31.1 ha at Battledown Farm Scheduled Monument and Site B at Kite Hill consists of 5.5 ha. Both survey areas are currently utilised for agricultural use and are bounded by further fields to the north, south and west with a housing development to the east.
- 1.2.3 The Sites are located on rolling hills that have a maximum height above Ordnance Datum (aOD) of approximately 121 m and a minimum of 108 m aOD.

#### 1.3 Soils and geology

1.3.1 The geology of both Site A and B is mapped as Lewes Nodular Chalk Formation, Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated). These are sedimentary bedrocks formed approximately 71 to 94 million years ago in the Cretaceous



Period, when the local environment was dominated by warm chalk seas. No superficial geology is recorded in either location (BGS 2015).

1.3.2 The soils underlying the Sites are likely to consist of shallow, well drained calcareous silty soils of the 343h (Andover 1) association (SSEW SE Sheet 6 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.

#### 1.4 Archaeological background

The following historical and archaeological background has been compiled based on publically available online resources, combined with the results of WA's previous investigations in the area, and WA's in-house resources.

#### Previous archaeological work

- 1.4.1 Previous phases of the geophysical survey have been carried out on Scheduled Ancient Monuments to the north-east ((WA 2014) and over an unscheduled area to the north (WA 2015b) in 2014 and 2015 respectively.
- 1.4.2 The 2014 survey targeted two dense areas of cropmarks located approximately 2.5 km from the Sites. Discovered were a double-ditched rectangular enclosure and two smaller enclosures. The double-ditched enclosure was interpreted as being related to a Romano-British building due to the close proximity of the Roman road that is still in use as a modern road (WA 2014).
- 1.4.3 The 2015 survey also concluded a number of features of archaeological interest were present within the survey area located approximately 1 km from the Sites. Two phases of occupation were interpreted alongside a probably banjo enclosure. The tentatively interpreted banjo enclosure would be consistent with features known to be from the Iron Age while the more rectilinear features were suspected to be of more modern provenance.

#### Designated heritage assets

- 1.4.4 The entire of Site A is designated as a Scheduled Monument under the Ancient Monuments and Areas Archaeological Areas Act 1979 (NHLE Number 1001835). The NHLE list entry identifies the monument as 'Iron Age settlement 400m SE of Battle Down Farm'. The list entry does not contain detailed information regarding the monument.
- 1.4.5 A Scheduled Monument known as White Barrow lies c. 760 m north-west of Site A.

#### Archaeological and historical context

- 1.4.6 The Sites are located within an area containing ample evidence of prehistoric funerary and settlement activity, and this is evidence by the numerous Scheduled Monuments and undesignated heritage assets recorded by the HAHBR in the vicinity.
- 1.4.7 Neither Site A nor Site B has ever been formally investigated archaeologically and thus the form, function and date of the archaeological features present within them remain uncertain. However the cropmark data transcribed from aerial photographs suggests that both Sites are likely to contain complex multi-phase archaeological features, possibly representing evidence for prehistoric and possibly Romano-British settlement, funerary and agricultural activity.



- 1.4.8 The Scheduled Monument at Site A is recorded as an Iron Age settlement, however as the record was generated from an 'old county number', the scheduling information is minimal and has not been recently updated (NHLE). The cropmark data indicates the presence within the Site of multiple enclosures, presumably indicating multi-phase occupation, as well as ring ditches and circular features indicating possible round barrows and round houses. The HAHBR record the presence of a Mid to Late Bronze Age enclosure complex on the Site, in addition to the later Iron Age and roman occupation (Monument No. 236785). The cropmarks show linear features indicating possible trackways and / or elements of field systems. Heritage Gateway also records the presence of the Seven Barrows group of upstanding round barrows within Site A.
- 1.4.9 A Roman road is recorded at the eastern edge of Site A, and cropmark of a double-ditched linear feature aligned north-north-east / south-south-west is recorded at the eastern Site edge, which likely represents this road.
- 1.4.10 Site A also contains evidence for a Neolithic flint working site, as well the recovery of Palaeolithic implements and a single Mesolithic microlith (Monument No. 236790).
- 1.4.11 To the south-west of Site A, cropmark data indicates additional archaeological features, possibly comprising elements of prehistoric field systems and enclosures. The trackways in the eastern part of the Site A can be seen to extend a fair distance to the north and the east of Site, and may relate to a possible Roman road mentioned in OS mapping. A possible round barrow is recorded c. 250 m north of Site A, near Pack Lane.
- 1.4.12 The cropmarks at Site B have been identified as including a probable banjo enclosure. Several additional enclosures can also be identified, which again strongly suggests multiperiod settlement activity. Additional cropmarks extend to the east (now developed as Kite Hill) and the south of Site B. An even more extensive area of settlement and field systems can be identified on land south of Worting Road, c. 200 m west of Site B. Roman pottery has also been recovered from the field.
- 1.4.13 The fields which lie between Site A and Site B have yielded a number of Mesolithic and flint implements including several tranchet axes and an undated adze. This may well be indicative of Mesolithic settlement activity in the area. A Roman decorated bowl was recovered from the vicinity of Site B during railway excavations.
- 1.4.14 Both Sites are likely to have remained as undeveloped agricultural land throughout the medieval and post-medieval periods. The 1st Edition OS map of 1872 for the Sites (not reproduced) indicates that Site A was comprised of three large square/ rectangular parliamentary-type fields at this point, which had been removed by the 1896 edition. Whereas Site B has remained unchanged since the 1870s.



#### 2 METHODOLOGY

#### 2.1 Introduction

- 2.1.1 The geophysical survey was undertaken by WA's in-house geophysics team between the 19<sup>th</sup> and 30<sup>th</sup> October 2015. Field conditions at the time of the survey were mostly good, with some rainy episodes throughout the period of survey.
- 2.1.2 An overall coverage of 33.3 ha was achieved. A reduction of 3.3 ha was accrued due to large field boundaries and a portion of the survey area in Site B encroaching on a new road.
- 2.1.3 Further data were acquired at a higher resolution (double-density), targeted over areas of interest to further define these features.

#### 2.2 Method

- 2.2.1 Individual survey grid nodes were established at 30 m x 30 m intervals using a Leica Viva RTK GNSS instrument, which is precise to approximately 0.02 m and therefore exceeds Historic England recommendations (2008).
- 2.2.2 The detailed 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 0.25 m intervals along transects spaced 1 m apart with an effective sensitivity of 0.03nT, in accordance with Historic England guidelines (English Heritage 2008). Data were collected in the zigzag method.
- 2.2.3 The double-density detailed gradiometer survey was conducted using a Bartington Grad601-2 fluxgate gradiometer instrument. Data were collected at 0.125 m intervals along transects spaced 0.5 m apart. Data were collected in the zigzag method.
- 2.2.4 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 throughout the survey area, with no interpolation applied.
- 2.2.5 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 2**.



#### 3 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

#### 3.1 Introduction

- 3.1.1 The detailed gradiometer survey has identified magnetic anomalies across the Site, along with areas of increased magnetic response and a large amount of ferrous. Results are presented as a series of greyscale plots, XY plots and archaeological interpretations at a scale of 1:2,000 (**Figures 2** to **10**). The data are displayed at -2nT (white) to +3nT (black) for the greyscale image and ±25nT at 25nT per cm for the XY trace plots.
- 3.1.2 Overall plot are provided as **Figures 14** to **16**. These are provided at 1:5,000 and are provided to give overall context to the Sites.
- 3.1.3 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous/burnt or fired objects, and magnetic trends (**Figure 4, 7** and **10**). Full definitions of the interpretation terms used in this report are provided in **Appendix 3**.
- 3.1.4 Numerous ferrous anomalies are visible throughout the dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.
- 3.1.5 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 present than have been identified through geophysical survey.
- 3.1.6 Gradiometer survey may not detect all services present on Site. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g. CAT and Genny) should be used to confirm the location of buried services before any trenches are opened on Site.

### 3.2 Gradiometer survey results and interpretation

3.2.1 The highest density of archaeology appears in the north-eastern portion of Site A and throughout Site B. Strong positive linear, rectilinear and circular features are apparent in the geophysical survey dataset.

#### Site A

- 3.2.2 Positive penannular and circular anomalies at **4000** and **4001** (**Figure 4**) are approximately 25 m and 30 m in diameter respectively. Typical values range from +5nT to +8nT across the features. These are interpreted as archaeology and are likely to represent the buried remains of round barrows or ring ditches. The clarity and strength of the responses may indicate a good level of preservation of the buried archaeological remains. The age of these barrows is not certain however similar pairs of round barrows have been identified in excavations undertaken by WA (WA 2015a) that have been dated to the Bronze Age.
- 3.2.3 To the south-west at **4002** (**Figure 7**) a lone positive penannular ring ditch with an apparent diameter measuring approximately 14 m is present. Values seen here are of a slightly lower order in comparison to those at **4000** and **4001**. However with readings ranging from +2nT to +5nT and the form the anomaly exhibits this has also been classified as archaeology.



- 3.2.4 Site A was known to contain a concentration of settlement activity, the reason for its designation as a Scheduled Monument. The results of the geophysical survey reflect this, and as a result the north-eastern area of Site A contains a complex pattern of multi-period settlement activity, including several overlapping phases of enclosures. It is difficult to interpret the exact form of these features due to the fact that they closely overlie each other, and naturally the relative dating of the enclosure phases cannot yet be determined. The descriptions of the forms and functions of the anomalies outlined below must therefore be considered provisional.
- 3.2.5 The irregularly curving linear anomaly **4003** (**Figure 4**) appears to demarcate the outer extents of a dense zone of archaeology. Approximately 180 m x 150 m at its longest axis, the enclosure encompasses a large area of land. The enclosure obliquely bisects the circular feature (possible round barrow) **4001**. This suggests at least two distinct phases of construction and use, with both funerary and settlement/agricultural activity represented.
- 3.2.6 Within the previously mentioned enclosure there appears to be a lattice of ditches and double ditches. Due to their shape and form these are all interpreted as being archaeologically significant.
- 3.2.7 The crosscutting relationships of the linear and rectilinear anomalies within the bounds of **4003** suggest multiple phases of archaeology. Due to the nature of a gradiometer survey it is not possible to ascertain the relative age of crosscutting features by their magnetic values alone.
- 3.2.8 A smaller internal enclosure **4004** (**Figure 4**) is sub-oval in plan, and appears to abut against the ring-ditch **4001**, and to respect this feature rather than cross-cutting it. This suggests that the ring-ditch was extant during the formation of enclosure **4004**.
- 3.2.9 Enclosure ditch **4005** (**Figure 4**) shows the opening of a possible enclosure, which could conceivably be a banjo enclosure. This class of monument refers to a distinctive type of enclosure. Banjo enclosures are characterised by being small and sub-circular in outline with an elongated entrance passageway, which gives the enclosure the appearance of a banjo or frying pan in plan form (English Heritage 2011). As a class of enclosure they are poorly understood and dated but existing evidence suggests that they originated during the Middle Iron Age with a very small number continuing in use through to the Roman Conquest (*ibid*.). The enclosure within Site A comprises the main bulb-shaped enclosure (**4005**) with two 'antennae' ditches extending to the north-east and south-west, which together form an elongated funnelled entrance passage which faces south-east. The opening measures approximately 7 m at its narrowest and extends to approximately 75 m at its widest. The form appears to be typical of an Iron Age banjo enclosure. The 'antennae' appear to adjoin with bounding linear feature **4003**.
- 3.2.10 Within the complex curvilinear anomalies is a more rectangular feature, **4006**. This comprises a rectilinear anomaly with well-defined extents showing a possible double ditched boundary or wall on its eastern and north-eastern extents. It is located centrally to the other (potentially earlier) enclosures (**Figure 4**). The identification of stratigraphic relationships is not possible based on geophysical survey data, however the form of the features combined with the local historic context of the Site provisionally suggests that this may be later than the other enclosures, perhaps of Late Iron Age or of Romano-British date. The previous geophysical surveys (WA 2014, 2015b) have both alluded to a major Roman influence within the area, and the close proximity of the Roman road at the eastern Site limit also supports this interpretation.



- 3.2.11 At least four phases of archaeology are thought to be present within this discrete zone of dense archaeology. The interpretation of these exact phases is made difficult because of the overlapping and crosscutting nature of many of the anomalies present.
- 3.2.12 A further irregularly shaped curvilinear anomaly to the south of the main enclosure complex is present at 4007 (Figure 4). It is similar in size and form to enclosure 4006 to the north. It is connected to the main enclosures by a strongly positive north / south aligned ditch. A potential opening on the western side is visible as a break in the readings taken by the geophysical survey.
- 3.2.13 Likely archaeology at **4008** (**Figure 4**) has been identified by the geophysical survey. Although the values seen across these rectilinear anomalies are of a lower order (typically between +0.5nT and +2nT) these have been classified as probable archaeology and may lie closer to the surface than the surrounding anomalies of bearing readings. These have been more fully resolved by the double density survey (**Section 3.2.40**). Their unusual cross-shaped form means their date and function remains uncertain.
- 3.2.14 A positive ditch-like anomaly extends from the eastern extent at **4009** (**Figure 4**) in a broadly west to east orientation, parallel to linear features observed to the north. It begins to become less distinct and more disordered the further it extends westward. This may be a product of modern agriculture ploughing through any extant remains. The feature likely represents part of the field system associated with one of the phases of settlement.
- 3.2.15 A pair of linear anomalies span transversely across the Site in a north-east / south-west orientation from **4010** to **4011** (**Figures 4** and **7**). They have a typical separation of 25 m. Possible interpretations include a trackway or drove way leading towards the enclosures to the north-east, alternatively they could represent landscape boundary markers of a 'Wessex Linear' type. The uppermost limb of the linear appears to diverge around the enclosures. This suggests an amount of synonymy between the drove way and the largest enclosure **4003**. The trend reaches the south-west corner of the field and appears to extend beyond the bounds of the survey, and this is supported by linear cropmark data recorded to the south-west of Site A by the Hampshire Archaeology and Historic Buildings Record (HAHBR).
- 3.2.16 The northern-most of the pair of linears at **4010** takes a sharp right-angled turn in the south-west of the Site, and from this point continues in a northerly direction, then bends to the north-west. In the centre of the Site, the linear anomaly becomes more diffuse (**4013**), and follows a meandering path, before become more distinct again in the north of the Site (**4012**).
- 3.2.17 In the south-west of Site A at **4014** (**Figure 7**) a removed circular anomaly is apparent. The readings are weaker in contrast to the other like ring ditches present at the Site. Typical values across the feature fall between 0nT and +1.5nT. Only measuring approximately 9 m in diameter it is the smallest circular feature present.
- 3.2.18 Large oblong anomalies with a negative halo and a relatively positive centre are positioned at **4015** (**Figure 7**). These are of uncertain provenance although could represent weakly defined archaeological features such as enclosures or earthwork monuments. If archaeological in origin, their dimensions could potentially indicate the presence of a monument of substantial size such as a long barrow. Surrounded by an area of increased magnetic response, these may however be of more modern origin.



- 3.2.19 A series of sub-circular positive anomalies form a regularly positioned, diffuse pattern across the centre and south of Site A. These anomalies have typical dimensions of 5 m x 5 m centred on **4016** and **4017** (**Figure 7**) are interpreted as possible archaeology. It is not possible to identify their function but it could have involved burning, refuse disposal or storage. However they could also be natural in origin such as tree throws.
- 3.2.20 Almost conjoining the ring ditch **4002** the rectilinear feature **4018** (**Figure 7**) displays an 'H' shape. It has been interpreted as possible archaeology as it moderately indistinct against the magnetic background.
- 3.2.21 A large pit-like feature is identified at **4019** (**Figure 7**). It may be significant due to lying on the end of the linear ditch feature **4020** (**Figure 7**). It is worth noting that a distinct oval features corresponding with the position of anomaly **4019** is clearly visible on online aerial mapping sources. Several segmented ditches are identified in the south-west corner of the survey area at **4021** (**Figure 7**). These may have once been connected but have been disjointed by modern agricultural processes. Due to the extent of the archaeology present at the Site they have been interpreted as possible archaeology. Nearby differentiated pits may be associated.
- 3.2.22 Distributed across the Site are clusters of positively magnetic pits, **4022** to **4025** (**Figures 4** and **7**). Some of these clusters may be more significant than others. Those positioned central to the enclosures of archaeology such as those at **4022** may be directly related to the settlement and/ or ritual activity indicated by the enclosures.
- 3.2.23 The Roman road is recorded as running parallel to the eastern field boundary in an approximately north / south orientation. The survey did not identify any clear evidence for the presence of the Roman road within Site A. A faint linear anomaly can be observed running parallel to the eastern Site boundary, in the approximate recorded location of the road (**Figure 4**) but this is thought more likely to relate to the field boundary, or heavier ploughing trends caused by soil accumulation at the boundary, than to the road itself. The trend is not considered characteristic of a metalled surface, or flanking ditches which might be expected from such a feature.
- 3.2.24 An area of intermittent positive responses with an irregular form extends westwards from the eastern survey boundary at **4026** (**Figure 4**). It is possibly related to the archaeology in the vicinity.
- 3.2.25 Large areas of increased magnetic response at **4027** and **4028** (**Figure 7**) may potentially represent historic industrial activity.
- 3.2.26 Two potential former field boundaries are identified extending across the survey area. These are positioned centrally (4029) and towards the northern Site extent (4030) respectively (Figure 7). A former field boundary has been identified in historic mapping dated to 1872 (Ordnance Survey 1892; not reproduced) that approximately correlates with the position and orientation of the boundary seen at 4029. The possible field boundary to the north is on the same orientation and has a similar form to that seen below. Although it is not seen in historic mapping it has been categorised thus. These have been alluded to in the WSI (WA 2015c)
- 3.2.27 Weak trends in the geophysical data can be seen across the survey area are thought to be agricultural in nature, most likely ploughing. These are orientated approximately east west and north south along field boundaries. It is not possible to ascertain the age of these but it is likely that they are modern in provenance.



#### Site B

- 3.2.28 The survey results from Site B have identified similar complex and multi-phased archaeological features to those in Site A, although not as many phases are apparent in Site B, as indicated by the lack of crosscutting features.
- 3.2.29 A possible banjo enclosure has been identified in Site B, comprising a circular enclosure with an elongated entrance passage (**Figure 10**). Enclosure **4031** measures approximately 35 m x 30 m. An entrance faces due east, with two parallel ditches forming a passageway extending eastwards from the entrance. The entrance passage continues for c. 25 m before widening to form the characteristic 'antennae' ditches. A small rectilinear section of ditch-like anomaly can be identified attached to the south-east side of enclosure **4031**. This possibly represents some form of ancillary enclosure to the main banjo enclosure; alternatively it represents a different phase of enclosure.
- 3.2.30 A number of other ditches, such as those at **4032** (**Figure 10**), follow the extremities outlined by the possible banjo enclosure. These are thought to be directly related and constructed at a similar time. **4032** represents a curvilinear feature which encircles, and may be associated with, the banjo enclosure **4031**. The north-eastern limit of **4032** can be seen to join with the northern 'antennae' ditch of the possible banjo enclosure. Such meandering boundary ditches are common features of banjo enclosures (English Heritage 2011).
- 3.2.31 The strongly positive curvilinear trend **4033** (**Figure 10**) appears to fade on the eastern extent. This may be a result of modern agricultural activity. It is possible this originally represented part of a second banjo enclosure as the form is somewhat similar to **3031**.
- 3.2.32 A large sub-rectangular enclosure **4035** (**Figure 10**) encompasses the smaller enclosures. The form of this outer linear feature **4035**, is similar to that seen in Site A (enclosure **4003**). The typical values across the feature are also similar, ranging from +2nT to +5nT. The western-most enclosure **4034** (**Figure 10**) is an apparent sub or ancillary enclosure to the large enclosure **4035**.
- 3.2.33 On the eastern extent the weakly defined linear anomaly **4036** (**Figure 10**) is orientated approximately north-west / south-east. It is interpreted as being the eastern limit of the large enclosure **4035**. Average values across the feature are very weak, between +0.5nT and +3nT.
- 3.2.34 A pair of parallel linear trends at **4037** (**Figure 10**) bisect laterally in the north-east of the survey area. These are on a differing alignment the rest of what is seen in this area. These may represent a section of road or trackway, potentially related to the Roman road located a short distance to the east of the Site, potentially representing a minor road linking to the main Roman road.
- 3.2.35 A right-angled ditch-like feature at **4038** (**Figure 10**) may also join with the outer extents of the enclosure boundary seen at **4035** but the survey area was limited by the fence to the north so it was not possible to clarify this.
- 3.2.36 Clusters of small pit-like features can be seen central to both of the enclosures centred on **4032** and **4039** (**Figure 10**). These may have a connection with the interpreted possible banjo enclosures. However it is not possible to be certain of this.



- 3.2.37 Several short segments of ditch-like anomalies oriented sub north-west / south-east at **4040** (**Figure 10**) appear to be regular in their spacing and show no sign of joining with the enclosures present to the north. Due to the shape and form these are interpreted as fragments of former rectilinear field systems.
- 3.2.38 An area of increased magnetic response **4041** (**Figure 10**) may show an area of disturbance created by the construction of either the modern housing estate to the east or the historic enclosure system.
- 3.2.39 Multiple pairs of parallel lines with a uniform separation of approximately 5 m can be seen in the dataset (e.g. to the southeast of **4014**). These have for the most part been assigned as linear trends. However they may have more significance that this. They may form the two parallel bounds of a square barrow but due to the lack of supporting geophysical responses they have been categorised as trends.

#### **Targeted Double Density (Figure 13)**

- 3.2.40 Due to the double density having a higher sample rate (240 readings over a 30 m traverse as opposed to 120) and a narrower transects (0.5 m rather than 1 m) a higher resolution dataset can be achieved.
- 3.2.41 Smaller discrete areas were targeted across some of the larger, definitely archaeological features with the aim of resolving spatially some of the more complex anomalies and to detect any weaker or more ephemeral anomalies in the vicinity of these that exhibited a lower magnetic contrast.
- 3.2.42 In **Area 1** the areas of increased magnetic response appear more resolved. Some internal features can be seen, such as the sub-circular anomalies at **4043** and **4044**. These have an internal diameter of approximately 4 m.
- 3.2.43 Small pit-like anomalies can be seen more clearly within the bounds of the circular ring ditch features.
- 3.2.44 The extents of the pit to the north at **4045** are well defined, giving the anomaly a clear shape.
- 3.2.45 The double density survey taken over **Area 2** has resolved some of the anomalies more fully. **4046** shows a more fully resolved round barrow with internal pits that have been made a lot more distinct from the surrounding magnetic background. The crosscutting feature is made clearer with the higher density survey.
- 3.2.46 Anomaly **4047** has been refined to a feature that has a clearer shape. Unfortunately no more information to the provenance of this particular anomaly has been found.
- 3.2.47 An indistinct area of archaeology at **4048** has also been made clearer. A more diffuse image has been refined into two distinct linear trends.
- 3.2.48 The 'cross' shaped anomalies (at **4008** in the normal resolution survey) at **4049** have a much clearer outline and form and the separate ditches can now be seen. However the date and function of these features remains uncertain. Faint linear anomalies orientated obliquely through the features have been discovered. These give a weaker response suggesting a more ephemeral feature possibly poorly surviving compared to those in the immediate vicinity.



3.2.49 A small cluster of pits at **4050** has a clearer form. Some of the pits appear to be regularly spaced and possibly suggest post pits or post-holes.



#### 4 CONCLUSION

- 4.1.1 The detailed gradiometer survey has been successful in detecting anomalies of archaeological interest in both Site A and Site B. In addition to these, anomalies interpreted as ploughing trends, areas of increased magnetic response and former field boundaries have also been identified.
- 4.1.2 The historic context of the Site is varied and complex with archaeological evidence spanning the Palaeolithic to the Romano-British periods. Previous geophysical work (WA 2014; 2015b) to the north and north-east has discovered likely enclosures which may date to the Iron Age, Romano-British and Roman periods in the vicinity of the Site.
- 4.1.3 The archaeological significance of the two Sites was relatively well known prior to the geophysical survey, with a complex cropmarks indicative of settlement identified from aerial photographs within both Sites. In the case of Site A, these were sufficiently complex to justify the Scheduling of the Site. Historic Ordnance Survey mapping indicates that upstanding earthwork monuments were also present within Site A until the early 20<sup>th</sup> century. The results of the geophysical survey have served to confirm the presence of these features, and to clarify the form and patterning of the phases of enclosures and barrows. In addition, the survey has identified many new features which were not previously recorded, principally discrete pit-like features, fragments of linear ditches and field systems, and additional, more ephemeral sections of ring ditch which might represent additional ploughed out round barrows.
- 4.1.4 Anomalies of significant archaeological interest have been identified within the survey results in both survey areas. These consist of curvilinear, linear and rectangular shaped anomalies interpreted as several phases of enclosures. These may represent phases within each age.
- 4.1.5 A well-documented Roman road borders the eastern extent of Site A. Due to the proximity of this feature, many of the archaeological anomalies and features in Site A in particular, but potentially also Site B, may date to the Iron Age or Romano-British periods, in particular some phases of the enclosures and field systems.
- 4.1.6 Also present across both Site A and Site B are clusters of pits, both within and outside the identified enclosures. It is not clear whether all of these discrete anomalies have an archaeological origin, and it might be expected that a certain proportion of these in fact represent natural tree throw hollows. However if only a fraction are of archaeological origin, then this represents a significant number of possible pits or similar features.
- 4.1.7 The survey identified signs of ridge and furrow and ploughing which are likely to be medieval, post-medieval and modern in origin.
- 4.1.8 Frequent ploughing trends are visible across the Sites on differing alignments. This is likely due to variable boundaries and different farming processes but these are likely to be medieval, post-medieval and modern in provenance.

#### Site A

4.1.9 The WSI (WA 2015c) identified that the Scheduled Monument (National Heritage List for England (NHLE) List Entry 1001835) was a suspected Iron Age settlement. The features identified from anomalies within the dataset support this interpretation, however it is clear



that multi-phase activity spanning several periods of prehistory is likely to be represented within the archaeological features identified.

- 4.1.10 The archaeological potential of Site A is characterised by a complex of at least four phases of spatially overlapping enclosures identified in the north-east corner, including a banjo enclosure (4005) of probable Middle Iron Age date. The enclosures are associated with a substantial linear feature crossing the Site, comprising two parallel ditches, considered to be either a drove way or possible double ditched 'Wessex Linear' type feature extending away from the enclosures in a north-east / south-west orientation. The unusual configuration of this feature (Figure 7), might potentially suggest that the feature was created with a ritual function, as opposed to being dictated by purely practical considerations. As the banjo enclosure wasn't previously confirmed from the cropmark data, the geophysical survey has allowed further interpretation of the Scheduled Ancient Monument.
- 4.1.11 Many clusters of pits identified within these enclosures (e.g. **4006**, **4022**) are likely to have archaeological significance but it is not possible to ascertain their age or context.
- 4.1.12 In addition to the possible banjo enclosure, at least four additional enclosures have been identified, three of which spatially overlie the possible banjo enclosure. It is likely that several of these are of Iron Age or Romano-British date, especially 4006, a rectilinear enclosure with very well defined partially double-ditched boundaries. The archaeological content of the Site and the proximity of the Roman road at the eastern Site boundary support this interpretation.
- 4.1.13 Equally significant is evidence of earlier funerary activity, as represented by probable Bronze Age round barrows. Two exceptionally well-defined penannular and circular round barrows can be seen at 4000 and 4001, and whilst these were known from cropmarks, the survey has clarified their form. One phase of enclosure ditch 4004 (Figure 4) appears to respect ring-ditch 4001 rather than cross-cutting it, which indicates multiple phases of activity within the Site. Additional probable barrows have been identified in the west of the Site (4014 and 4019), although these features are less distinct, likely due to ploughing damage over the years.
- 4.1.14 It should be noted that the 1896 25" OS map (not reproduced) shows at least three *tumulii* or barrows within Site A, two in the south-west corner and one to the south of the main enclosures. One or more of these barrows may be represented by anomalies **4014** or **4018**, but the others don't appear to correspond to any anomalies identified within the survey. This might suggest that there are additional buried archaeological features which have not been detected by the geophysical survey. Alternatively, the three mapped barrows may have been entirely removed by ploughing, such that there remain no archaeological traces of these features within the Site.
- 4.1.15 The Roman road is recorded as running parallel to the eastern field boundary in a sub north / south orientation. The survey did not identify any clear evidence for the presence of the Roman road within Site A, although a linear trend recorded at the eastern Site boundary, although not indicative of such a feature, cannot be ruled out as related.
- 4.1.16 The survey has established that the densest concentration of archaeological features is located in the eastern area of the Site, as known from previously recorded cropmark data. However the survey has identified archaeological features across the entire Site, including a double linear feature which crosses the entire Site, and discrete anomalies representing possible pits which are scattered across the Site. Two previously unidentified possible



barrows are located near the south-west corner of the Site, as well as possible fragments of prehistoric field systems. Large anomalies in the north-west corner of Site could also represent archaeological features. As such, the survey has not identified a clear spatial limit to the archaeological features within the Scheduled Monument area.

#### Site B

- 4.1.17 The archaeology in Site B is almost as complex as that identified within Site A to the south, and bears some similarities to it. Therefore many of these features are also potentially of Iron Age or Romano-British date. A second possible banjo enclosure has been identified at Site B (4027), which is also likely to be of Middle Iron Age date. This feature had already been provisionally identified based on the cropmark data. Additional enclosures spatially overlie the banjo enclosure, although the features are less complex with fewer cross-cutting relationships. As with Site A, these may well to be of Iron Age or Romano-British date. In particular, the large enclosure 4035, with ancillary rectilinear enclosure 4034 on the western edge, may represent activity towards the later end of this period of activity. A possible section of track or road at the northern Site limit may potentially represent a trackway which links with the Roman road located c. 300m to the east.
- 4.1.18 Many scattered possible pits can be seen across the Site. Due to the archaeological potential for Neolithic remains (WA 2015c) these have been classified as possible archaeology.
- 4.1.19 The survey has clarified that archaeological features are present across a large proportion of the Site, however the western limit of enclosure **4035** appears to largely mark the western limit of the archaeological features. Pit like anomalies do occur to the west of the enclosure however.



#### 5 RECOMMENDATIONS

- 5.1.1 Following the results of the geophysical survey, it is clear that substantial and complex archaeological remains are present within both Sites. As such, any mitigation strategy would naturally depend upon what development, if any, is proposed within each area. Site A is already a Scheduled Monument and thus protected under the Ancient Monuments and Archaeological Areas Act 1979. As such, no further archaeological works should be conducted within the curtilage of the monument without first seeking Scheduled Monument Consent from Historic England. The results from Site B indicate the archaeological features present here might be of equal significance to those within Site A, and would likely be considered of at least regional significance.
- 5.1.2 If any development is proposed within the Sites, it is considered that further archaeological investigations will be required by the Local Planning Authority. The need for, timing and scope of any further archaeological investigations should be agreed in consultation with Historic England and the Planning Archaeologist for Hampshire County Council.



#### 6 REFERENCES

#### 6.1 Bibliography

English Heritage, 2008. *Geophysical Survey in Archaeological Field Evaluation*. Research and Professional Service Guideline No 1, 2nd edition.

English Heritage, 2011. Introductions to Heritage Assets: Banjo Enclosures

Wessex Archaeology, 2014. *Detailed Gradiometer Survey Report, Manydown, Basingstoke, Hampshire*. Unpublished Client Report.

Wessex Archaeology, 2015a. Archaeological Evaluation Report, Bulford South SFA, Phase 2 Investigations, Bulford, Wiltshire. Unpublished Client Report.

Wessex Archaeology, 2015b. *Detailed Gradiometer Survey Report, Manydown EIP, Basingstoke, Hampshire.* Unpublished Client Report.

Wessex Archaeology 2015c, Written Scheme of Investigation for Geophysical Survey, Battle Down Farm Scheduled Monument and Land at Kite Hill Manydown, Basingstoke, Hampshire. Unpublished Client Report.

#### 6.2 Cartographic and documentary sources

1892 Ordnance Survey 25 inch map / 1:2,500 (Sheet LXXXV.10)

Soil Survey of England and Wales, 1983. Sheet 6, Soils of South West Counties. Ordnance Survey: Southampton.

#### 6.3 Online resources

UK Soil Observatory, http://www.ukso.org [accessed November 2015]

British Geological Survey, http://www.bgs.ac.uk [accessed November 2015]



### **APPENDIX 1: SECTION 42 LICENCE**



#### **SOUTH EAST OFFICE**

Ms Lucy Learmonth
Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB

Direct Dial: 01483 252000

Our ref: AA/063026/5

15 October 2015

Dear Ms Learmonth

Ancient Monuments and Archaeological Areas Act 1979 (as amended) section 42 - licence to carry out a geophysical survey

## IRON AGE SETTLEMENT 400M SE OF BATTLE DOWN FARM, MANYDOWN, BASINGSTOKE, HAMPSHIRE

Case No:SL00115537 Monument no: 486

I refer to your application dated 8 October 2015, to carry out a geophysical survey at the above site on behalf of AECOM Infrastructure and Environment UK Limited.

Historic England is empowered to grant licences for such activity and I can confirm that we are prepared to do so as set out below.

By virtue of powers contained in section 42 of the 1979 Ancient Monuments and Archaeological Areas Act (as amended by the National Heritage Act 1983) Historic England hereby grants permission for geophysical survey of IRON AGE SETTLEMENT 400M SE OF BATTLE DOWN FARM, for the areas shown on the map that accompanied your application (copy attached). This permission is subject to the following conditions.

- 1. The permission shall only be exercised by Lucy Learmonth and nominated representative/s where relevant and by no other person. It is <u>not</u> transferable to another individual.
- 2. The permission shall commence on 12 October 2015 and shall cease to have effect on 12 November 2015.
- 3. A full report summarising the results of the geophysical survey and their interpretation shall be sent in hard copy to Marie Twomey at the address below



Stonewall

EASTGATE COURT 195-205 HIGH STREET GUILDFORD SURREY GU1 3EH

Telephone 01483 252020

HistoricEngland.org.uk



#### **SOUTH EAST OFFICE**

and electronic (pdf) format to david.wilkinson@HistoricEngland.org.uk, copied to Paul.Linford@HistoricEngland.org.uk no later than 3 months after the completion of the survey.

- 4. The enclosed questionnaire shall be completed and appended to the survey report. For convenience an electronic version of this questionnaire can be downloaded from http://HistoricEngland.org.uk/advice/technical-advice/archaeological-science/geophysics.
- 5. A copy of the report shall also be sent (in their preferred format) to the local Historic Environment Record (HER). The local HER's contact details can be found at http://www.heritagegateway.org.uk/gateway/chr/default.aspx.
- 6. A record signposting your investigation shall be made with the Archaeology Data Service using their online OASIS Data Collection form no later than 3 months after completion of the survey. Please see http://oasis.ac.uk/ for details or contact oasis@HistoricEngland.org.uk for information and training.

This letter does not carry any consent or approval required under any enactment, byelaw, order or regulation other than section 42 of the 1979 Act (as amended).

You are advised that the person nominated under this licence to carry out the activity should keep a copy of this licence in their possession in case they should be challenged whilst on site.

Yours sincerely

**David Wilkinson** 

**Assistant Inspector of Ancient Monuments** 

E-mail: david.wilkinson@HistoricEngland.org.uk

cc Annie Calder, AECOM Intfrastrucutre and Environment UK Limited; David Hopkins, County Archaeologist, Hampshire County Council







#### **APPENDIX 2: 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 (WA) 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 Historic England (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 Historic England (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)

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 3: GEOPHYSICAL INTERPRETATION**

The interpretation methodology used by WA separates the anomalies into four main categories: archaeological, modern, agricultural and uncertain origin/geological.

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 subdivided 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 modern category is used for anomalies that are presumed to be relatively modern in date:

- Ferrous used for responses caused by ferrous material. These anomalies are likely to be of modern origin.
- Modern service used for responses considered relating to cables and pipes; most are composed of ferrous/ceramic material although services made from non-magnetic material can sometimes be observed.

The agricultural category is used for the following:

- Former field boundaries used for ditch sections that correspond to the position of boundaries marked on earlier mapping.
- Agricultural ditches used for ditch sections that are aligned parallel to existing boundaries and former field boundaries that are not considered to be of archaeological significance.
- Ridge and furrow used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow.
- Ploughing used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries.
- Drainage used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.

The uncertain origin/geological 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.
- Superficial geology used for diffuse edged spreads considered to relate to shallow geological deposits. They can be distinguished as areas of positive, negative or broad bipolar (positive and negative) anomalies.

