



Archaeological Services  
University of Durham

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# **Land at the Down Ampney Estate, Field Barn, Latton, Wiltshire**

## **geophysical surveys**

*for*

**Scott Wilson Ltd**

*on behalf of*

**Co-operative Group Ltd**

**Report 2135**

January 2009

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*West One, Wellington Street, Leeds LS1 1BA*

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## **1. Summary**

### ***The project***

- 1.1 This report presents the results of geophysical surveys conducted over a Scheduled Ancient Monument south-east of Latton on the Down Ampney Estate in Wiltshire. The works comprised geomagnetic survey of approximately 32ha.
- 1.2 The works were undertaken by Archaeological Services Durham University on behalf of the Co-operative Group Ltd in accordance with instructions from Scott Wilson Ltd.

### ***Results***

- 1.3 Many archaeological features were detected across the site, including possible and probable barrows, a multi-phase settlement defined by ditched enclosures, numerous other enclosures, trackways, probable quarries, field boundaries and traces of former ridge and furrow cultivation. The types of features identified could reflect activity from the Neolithic to post-medieval periods.
- 1.4 Whilst a number of these features had been noted on aerial photographs, many were previously unknown and have now been recorded, adding value to existing knowledge.

## **2. Project background**

### ***Location*** (Figure 1)

- 2.1 The study area comprised land on the Down Ampney Estate immediately south-east of the village of Latton in north Wiltshire. Located to the north-east of the A419, the 32ha study area covered two fields forming a broadly square site (NGR centre: 409674 195337; SU 09674 95337), the whole of which is a Scheduled Ancient Monument (WI900).

### ***Objective***

- 2.2 The principal aim of the surveys was to provide further information on the Co-operative Group's landholdings within the Down Ampney Estate, specifically to assess the nature and extent of sub-surface features of potential archaeological significance within the scheduled area.

### ***Methods statement***

- 2.3 The surveys have been conducted in accordance with a specification prepared by Scott Wilson Ltd (Appendix, this report), following consultation with Melanie Pomeroy-Kellinger, the archaeological officer for Wiltshire County Council.
- 2.4 The surveys were undertaken with a licence granted by English Heritage under Section 42 of the Ancient Monuments and Areas Act 1979 (as amended by the National Heritage Act 1983).

### ***Dates***

- 2.5 Fieldwork was undertaken between 2<sup>nd</sup> and 12<sup>th</sup> December 2008. This report was prepared between 12<sup>th</sup> December 2008 and 15<sup>th</sup> January 2009.

### ***Personnel***

- 2.6 Fieldwork was conducted by Jamie Armstrong, Matt Claydon, Edward Davies, David Graham, Andy Platell, Adam Rogers and Natalie Swann (Supervisor). This report was prepared by Duncan Hale, the Project Manager, with illustrations by Edward Davies, David Graham, Janine Wilson and Linda Bosveld (Graphics & Production Manager).

### ***Archive/OASIS***

- 2.7 The site code is **DAL08**, for **Down Ampney Latton 2008**. The survey archive will be supplied on CD to Scott Wilson for deposition with their project archive, and to the English Heritage Geophysics Team, in due course. Archaeological Services is registered with the **Online Access to the Index of archaeological investigationS** project (OASIS). The OASIS ID number for this project is **archaeol3-53833**.



### **3. Archaeological and historical background**

- 3.1 An archaeological desk-based assessment (DBA) of the general area was conducted by Scott Wilson (2008). Summary information from that assessment is presented in the survey specification (Appendix, this report).
- 3.2 The north-eastern part of the study area contains a complex of cropmarks representing a probable late Iron Age and Roman settlement, comprising enclosures, trackways, ditches, pits and possible buildings. Further cropmarked features, including enclosures, tracks and ring-ditches have been identified in the west, south and east of the site. Some of these features have been confirmed by limited intrusive investigations.

### **4. Landuse, topography and geology**

- 4.1 The study area comprised two arable fields (Areas A & B) occupying low-lying, predominantly flat land in the Upper Thames Valley. The mean elevation of the site is approximately 80m OD.
- 4.2 The solid geology comprises Upper Jurassic Oxford Clay and Kellaways Beds. These are generally overlain by Pleistocene deposits of sand and gravel, with alluvium uppermost along the north bank of the Thames. The gravels, known as the Northmoor Sand and Gravel Member or Upper Thames Gravels, typically formed terraces which have been variously re-worked by the meandering rivers that run through the area: the Thames, Churn, Coln, Swill Brook and Ampney Brook.

### **5. Geophysical survey**

#### ***Standards***

- 5.1 The surveys and reporting were conducted in accordance with English Heritage guidelines *Geophysical survey in archaeological field evaluation, 2<sup>nd</sup> edition* (David, Linford & Linford 2008); the Institute of Field Archaeologists Technical Paper No.6, *The use of geophysical techniques in archaeological evaluations* (Gaffney, Gater & Ovenden 2002); and the Archaeology Data Service *Geophysical Data in Archaeology: A Guide to Good Practice* (Schmidt 2002).

#### ***Technique selection***

- 5.2 Geophysical survey enables the relatively rapid and non-invasive identification of sub-surface features of potential archaeological significance and can involve a variety of complementary techniques such as magnetometry, earth electrical resistance, ground-penetrating radar and electromagnetic survey. Some techniques are more suitable than others in particular situations, depending on a variety of site-specific factors including the nature of likely targets; depth of likely targets; ground conditions; proximity of buildings, fences or services and the local geology and drift.

- 5.3 In this instance, it was known from aerial photographs that cut features such as ditches and pits would be present across parts of the study area, and that other types of feature such as wall foundations and fired structures (for example kilns and hearths) might also be present.
- 5.4 Given the anticipated shallowness of targets and the non-igneous geological environment of the study area a geomagnetic technique, fluxgate gradiometry, was considered appropriate for detecting the types of feature mentioned above. This technique involves the use of hand-held magnetometers to detect and record anomalies in the vertical component of the Earth's magnetic field caused by variations in soil magnetic susceptibility or permanent magnetisation; such anomalies can reflect archaeological features.

#### ***Field methods***

- 5.5 A 30m grid was established over each survey area using a Trimble Pathfinder Pro XRS global positioning system with real-time correction.
- 5.6 Measurements of vertical geomagnetic field gradient were determined using Bartington Grad601-2 dual fluxgate gradiometers. A zig-zag traverse scheme was employed and data were logged in 30m grid units. The instrument sensitivity was set to 0.1nT, the sample interval to 0.25m and the traverse interval to 1.0m, thus providing 3600 sample measurements per 30m grid unit.
- 5.7 Data were downloaded on site into a laptop computer for initial processing and storage and subsequently transferred to a desktop computer for processing, interpretation and archiving.

#### ***Data processing***

- 5.8 Geoplot v.3 software was used to process the geophysical data and to produce continuous tone greyscale images of both raw and filtered data and trace plots.
- 5.9 The greyscale images and interpretations are presented in Figures 2-6; selected trace plots are provided in Figure 7. In the greyscale images, positive magnetic anomalies are displayed as dark grey and negative magnetic anomalies as light grey. A palette bar relates the greyscale intensities to anomaly values in nanoTesla.
- 5.10 The following basic processing functions were applied to each dataset to produce the greyscale images shown in Figures 2 and 3:

<i>clip</i>	clips, or limits data to specified maximum or minimum values; to eliminate large noise spikes; also generally makes statistical calculations more realistic.
<i>zero mean traverse</i>	sets the background mean of each traverse within a grid to zero; for removing striping effects in the traverse direction and removing grid edge discontinuities.
<i>despike</i>	locates and suppresses iron spikes in gradiometer data.

<i>destagger</i>	corrects for displacement of anomalies caused by alternate zig-zag traverses.
<i>interpolate</i>	increases the number of data points in a survey to match sample and traverse intervals. In this instance the data have been interpolated to 0.25m x 0.25m intervals.

- 5.11 A low pass filter with Gaussian weighting was also applied to each dataset to produce the greyscale images shown in Figure 4.

***Interpretation: anomaly types***

- 5.12 Colour-coded geophysical interpretations are provided (Figure 5). Specific anomalies or groups of anomalies have been assigned numbers (eg ‘**a1**, **a2**’) in the text and on the interpretation drawings for ease of identification.

- 5.13 Three types of geomagnetic anomaly have been distinguished in the data:

<i>positive magnetic</i>	regions of anomalously high or positive magnetic field gradient, which may be associated with high magnetic susceptibility soil-filled structures such as pits and ditches.
<i>negative magnetic</i>	regions of anomalously low or negative magnetic field gradient, which may correspond to features of low magnetic susceptibility such as wall footings and other concentrations of sedimentary rock or voids.
<i>dipolar magnetic</i>	paired positive-negative magnetic anomalies, which typically reflect ferrous or fired materials (including fences and service pipes) and/or fired structures such as kilns or hearths.

***Interpretation: features***

- 5.14 Colour-coded archaeological interpretations are provided (Figure 6). References cited in the text below as ‘SWPN...’ refer to feature numbers assigned in the desk-based assessment report (Scott Wilson 2008).
- 5.15 Except where stated otherwise in the text below, positive magnetic anomalies are taken to reflect relatively high magnetic susceptibility materials, typically sediments in cut archaeological features (such as furrows, ditches or pits) whose magnetic susceptibility has been enhanced by decomposed organic matter or by burning. The remains of such features have been detected throughout the study area.
- 5.16 Small, discrete dipolar magnetic anomalies have been detected in both survey areas. These almost certainly reflect items of near-surface ferrous and/or fired debris, such as horseshoes and brick fragments, and in most cases have little or no archaeological significance. A sample of these is shown on the geophysical interpretation plan, however, they have been omitted from the archaeological interpretation plan and the following discussion.

- 5.17 A number of features are common to both survey areas. A particularly intense, linear, dipolar magnetic anomaly (**a1**) crossing the study area approximately north-west/south-east almost certainly reflects a ferrous service pipe; in the southern field this has been recorded as a cropmark on aerial photographs.
- 5.18 A low earthen mound was present to the north of the pipeline in both fields, also aligned approximately north-west/south-east. The mound is evident in the survey data as a band of both positive and negative magnetic anomalies (**a2**) and is almost certainly a former land boundary, joining with existing boundaries at each side of the study area. A broad band of particularly smooth magnetic data to the immediate north of the bank suggests that earth was scraped up from that side to form the bank.
- 5.19 Similarly, an irregular though well-defined zone of disturbed ground (**a3**) has been detected along the entirety of the south-western boundary of the site, adjacent to the present A419 road and 'The Street'. The anomalies here could reflect disturbance associated with the construction of the modern road, however, the remains of a possible early quarry have previously been noted in this area (SWPN75). It is quite likely that all of this disturbed ground is due to quarrying undertaken for the construction of the Ermin Way, the major Roman road between Cirencester and Silchester (and beyond, London to Caerleon), which underlies the modern roads here. The quarrying appears to stop either side of a double-ditched trackway in Area A (**a4**), indicating that the track was probably already in place before the late AD 40s when the Ermin Way was built.
- 5.20 Also common to both surveys is a series of regularly-spaced, parallel, slightly arcuate positive magnetic anomalies (**a5**). These anomalies almost certainly reflect traces of very broad ridge and furrow cultivation. To some extent the presence of these anomalies has complicated the identification and interpretation of earlier features, particularly in the north-eastern corner of the site where magnetically enhanced material from the earlier features has become incorporated into the later furrow fills.
- 5.21 Double-ditched trackways (SWPN76 & 187) have been detected in both surveys as pairs of parallel, arcuate positive magnetic lineations (**a4**, **a6**); the southerly of the two, at least, appears to be associated with a former settlement in the north-eastern part of the site (SWPN34). The northern trackway may also be relatively early as it does not appear to be contemporary with the ridge and furrow remains in the west of Area B, however, it appears to abut a substantial boundary feature or ridge and furrow headland in the eastern half of the site. It could be concluded that this trackway is not contemporary with the boundary which it abuts; rather, the trackway has been cut by the boundary and traces of its former presence removed by later landuse within the enclosed area to its north-east.
- 5.22 The settlement has been detected primarily as a broad concentration (over about four hectares) of intense linear positive magnetic anomalies in Area A (**a7**), the majority of which reflect infilled ditches while others almost certainly

reflect pits, some quite large. Many of the ditches define tracks, large and small enclosures both rectilinear and curvilinear, and smaller discrete features. Several of the enclosures overlap, indicating more than one phase of settlement. The geomagnetic survey has detected many more features than have been transcribed from aerial photographs.

- 5.23 Although there are some small dipolar magnetic anomalies in this area, there are no more than would be expected in most geomagnetic surveys. Those that are present here could reflect near-surface ferrous litter or, if contemporary with the settlement, could reflect small ovens and hearths. There is certainly not the quantity of dipolar magnetic anomalies that would be expected from industrial workings, nor the quantity of fired material that might be expected from Roman tiles if a villa had been on the site. Indeed, it has not been possible to identify any anomalies here which might reflect stone wall-footings.
- 5.24 Two curvilinear magnetic anomalies (**a8**, **a9**) have been detected approximately 100m south of the settlement, near to Lertoll Well farmhouse. These almost certainly reflect a large oval ditch, measuring *c.*42m along its longest axis, and an adjacent small ring-ditch, measuring *c.*12 in diameter. The former could be the quarry ditch for an oval barrow, a rare middle Neolithic burial monument. Only about 50 such monuments have been positively or tentatively identified in England, all in the south, in a linear scatter from Dorset to Norfolk. Oval barrows are typically isolated monuments at locations without extensive views ([www.eng-h.gov.uk/mpp/mcd/ob.htm](http://www.eng-h.gov.uk/mpp/mcd/ob.htm)), as is the case here. The latter ring-ditch could be associated with a number of former structures and functions, including a roundhouse or small bowl barrow. Small dipolar/positive magnetic anomalies, which could possibly reflect pits, postholes, fired pots or small fire sites within these features could however also reflect recent ferrous/fired litter.
- 5.25 Another curvilinear anomaly (**a10**), in the south-eastern part of the site, almost certainly reflects a ring-ditch of *c.*35m diameter. This feature has previously been noted on aerial photographs and interpreted as a probable Bronze Age round barrow ditch (SWPN16). As above, possible discrete features within the ring-ditch may or may not be associated with it.
- 5.26 Three sides of a probable rectilinear ditched enclosure (**a11**) have been detected in the southern corner of the site, adjacent to the service pipe. This enclosure has also been noted on aerial photographs (SWPN189). The enclosure extends beyond the survey area and measures *c.*40m in width by at least 70m in length. No internal features have been identified.
- 5.27 In addition to the features described above, there are several other features of potential archaeological significance in survey Area B to the north and west. The geomagnetic survey of this field has detected many more features than have been transcribed from aerial photographs.
- 5.28 A series of probable rectilinear ditched enclosures (**a12**) has been detected along the north-western boundary to the site, including those identified on aerial photographs (SWPN185). At least four enclosures are evident, and

additional ditch features may represent further divisions or different phases of use. The enclosures overlap with the prominent ditched trackway in this field and so do not appear to be contemporary with it. Although the relationship is in part obscured by the pipeline, the enclosures may be associated with a long ditched boundary to the south-west (**a13**).

- 5.29 Parts of further enclosures may also survive in the northern corner of the site, evident as several rectilinear and curvilinear ditches (**a14**).
- 5.30 Also in the northern part of the site are two relatively weak curvilinear positive magnetic anomalies with many smaller anomalies along their length (**a15**), which may reflect discontinuous ditches or large post/stone settings, some forming two sides of an enclosure. Whilst these anomalies could reflect many types of features and sites, it is possible that in this instance they could reflect the remains of a palisaded enclosure, given the number of other known Neolithic sites in the area.
- 5.31 Relatively little of the settlement complex in Area A continues into Area B, with the exception of some of the more substantial enclosure ditches. A prominent linear feature along the northern side of the settlement appears to be a later headland associated with the ridge and furrow.
- 5.32 An unusual cluster of anomalies has been detected in the western corner of the site (**a16**), close to the probable early quarries. The cluster is similar to the quarry anomalies in that it is irregular in shape and comprises many positive and negative values, however, these are relatively intense here and appear more ordered; several linear features can be discerned amongst the noise. It is possible that some of these anomalies reflect structural features rather than just disturbed or backfilled ground.
- 5.33 The remains of further discrete ditch and pit features have almost certainly been detected in both fields.

## **6. Conclusions**

- 6.1 Geomagnetic surveys were undertaken over a Scheduled Ancient Monument covering approximately 32ha of land at Field Barn, Latton, on the Down Ampney Estate in Wiltshire.
- 6.2 Many archaeological features were detected across the site, including possible and probable barrows, a multi-phase settlement defined by ditched enclosures, numerous other enclosures, trackways, probable quarries, field boundaries and traces of former ridge and furrow cultivation. The types of features identified could reflect activity from the Neolithic to post-medieval periods.
- 6.3 Whilst a number of these features had been noted on aerial photographs, many were previously unknown and have now been recorded, adding value to existing knowledge.

- 6.4 The precise nature and date of many of the detected features could only be determined by excavation.

## **7. Sources**

David, A, Linford, N, & Linford, P, 2008 *Geophysical survey in archaeological field evaluation, 2<sup>nd</sup> edition*, English Heritage

Gaffney, C, Gater, J, & Ovenden, S, 2002 *The use of geophysical techniques in archaeological evaluations*, Technical Paper 6, Institute of Field Archaeologists

Schmidt, A, 2002 *Geophysical Data in Archaeology: A Guide to Good Practice*, Archaeology Data Service, Arts and Humanities Data Service

Scott Wilson 2008 *Land at the Down Ampney Estate, Cultural Heritage Desk-based Assessment*. Unpublished report for Hanson Aggregates.

## **Appendix: Specification for survey**



Co-operative Group Ltd

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### **Land at the Down Ampney Estate Field Barn, Latton, Wiltshire**

#### **Specification for Detailed Magnetometry Survey at SAM WI900**

**Report**  
November 2008



Co-operative Group Ltd  
Down Ampney Estate: Field Barn, Latton, Wiltshire  
D120526



## Revision Schedule

**Land at the Down Ampney Estate: Field Barn, Latton, Wiltshire**  
**Specification for Detailed Magnetometer Survey of SAM WI900 Settlement southeast of Latton**

November 2008

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	November 2008	Draft 1	Leonora O'Brien Archaeological Consultant	David Aspden Archaeological Consultant	Annette Roe Technical Director
02	November 2008	Final	Leonora O'Brien Archaeological Consultant	David Aspden Archaeological Consultant	Annette Roe Technical Director

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Figure 1 – Site Location Plan

Figure 2 – Geophysical Survey Area

## Appendices

Appendix 1 – Archaeological Standards and Guidelines

Co-operative Group Ltd  
Down Ampney Estate: Field Barn, Latton, Wiltshire  
D120526



## 1 Introduction

- 1.1 Scott Wilson has been commissioned by the Co-operative Group Ltd to undertake a detailed magnetometry survey to provide further information on their landholdings within the Down Ampney Estate.

## 2 Site Description and Location

- 2.1 The survey area is located immediately southeast of the village of Latton, north of Cricklade, in north Wiltshire (Figure 1). It encompasses a single, large, square field centred on NGR 409674 195337. The total area of the field is c. 32ha. To the east lie fields and the disused Down Ampney airfield, to the northwest is the village of Latton and to the south and west the A419, which approximately follows the course of Ermine Street Roman road. The course of the River Churn, a tributary of the Thames, is located south of the A419.
- 2.2 The survey area is a Scheduled Ancient Monument.
- 2.3 The survey area is currently agricultural land and is located east of the Latton Lakeside Mobile Home Park.
- 2.4 Topographically the area occupies a low-lying, flat section of the Upper Thames Valley. The solid geological deposits comprise Middle Oolite deposits of Corallian, Oxford Clay and Kellaways Beds. These are overlaid by superficial deposits of sand and gravel forming free-draining gravel terraces, known as the Upper Thames Gravels.
- 2.5 The gravel terraces were deposited in a series by the rivers that run through the area, the Thames, Churn, Coln, Swill Brook, and Ampney Brook. The rivers have since cut down through the gravel terraces into the underlying strata, leaving the terraces fragmentally preserved on the sides of the river valleys.



### 3 Archaeological Background

- 3.1 The landscape in which the survey area lies is known to have been exploited and settled since the early prehistoric period and previous archaeological investigations in the Cotswold Water Park have identified sites and finds indicating human activity from the Palaeolithic to the modern day. Within the proposed survey area, however, no evidence for either Palaeolithic or Mesolithic activity has been identified.
- 3.2 There appears to have been a particular focus for Neolithic settlement and ritual activity around Lechlade where a number of waterways joined the Thames, providing access to the surrounding area. A causewayed camp has been identified from cropmark evidence at Charnock Wood, northeast of the site. A Neolithic pit has been excavated on the line of the A419 to the southeast of Latton, immediately south of the application area (SU09NE45).
- 3.3 Bronze Age evidence surrounding the site predominantly comprises cropmarks of ring-ditches indicating the presence of barrows (burial mounds). Several have been excavated at Marston Meysey, to the east; the results of the fieldwork generally indicate poor survival due to the impacts of post-medieval and modern ploughing. A row of three probable Bronze Age round barrows have been identified as cropmarks on air photographs along the eastern side of the application area (SU09NE600, 601 & 602). Excavation in the 1990s undertaken northwest of Latton, at Latton Lands, identified a Bronze Age enclosed settlement with pits, ditches, a waterhole and several post-built roundhouses (Stansbie and Laws 2004).
- 3.4 During the Iron Age the area was occupied by the *Dobunni* tribe, who had their 'capital' at what is now Cirencester. Cropmarks in the area surrounding the site suggest the presence of settlement to the southwest of Marston Meysey, north of Cricklade, northeast of Down Ampney, and within the scheduled area immediately to the southeast of Latton.
- 3.5 The application area contains extensive Iron Age and Romano-British remains. In the northeast of the site cropmarks on air photographs indicate a probable late Iron Age and Roman settlement at Field Barn, consisting of enclosures, a triple-ditched enclosure, trackways, ditches, pits and a substantial building, possibly a Roman villa (SU09NE147; SU09NE25; (SMR 9516). This settlement was first recorded by antiquarian John Aubrey in 1676, who recorded a pavement (mosaic) (Grinsell 1957). Fieldwork in 1983 produced evidence for two possible Romano-British buildings, with pottery and tile scatters. Two small pits found in 1974 contained abraded pot sherds and ox bone (Phillips nd).
- 3.6 A ditched trackway leads from the Field Barn settlement through the application area to Latton Bridge on Roman Ermin Street to the south (SMR9599). This track was investigated in an evaluation which identified a sequence of three undated trackways, and traces of wheel-ruts (SU09NE615).
- 3.7 Settlement remains have also been recorded in the vicinity of route of Ermin Street, now the A419. Fieldwork undertaken in advance of the A419 Latton Bypass, northwest of Latton, recorded a Romano-British settlement site and farmstead (AM899). Excavation in advance of road construction at Court Farm, immediately south of the application site, identified 2<sup>nd</sup> to 4<sup>th</sup> century pits and the site of a small road-side building. Finds included pottery, animal bone and building debris (SU 09 NE 44; Mudd 1998). Stray finds of Roman pottery have also been

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- recovered south of Ermin Street (SU 09 NE 21). Further Roman remains have been excavated along the course of Ermin Street towards Cricklade, including a Romano-British quarry (17817) and a probable Roman settlement northwest of High Bridge, interpreted as a possible river port on the River Churn (SU19SW22).
- 3.8 A small Roman settlement has been excavated at Cricklade, where pottery and tile of late 1st to 4th century date and 4th century coins was recovered. A tombstone fragment and inhumations were also found, perhaps indicating a small cemetery (SU09SE7). The possible site of a Roman villa has been identified on Cricklade High Street south of the Roman settlement, where 2<sup>nd</sup> to 4<sup>th</sup> century pottery, wall plaster, tesserae and tile fragments were noted (SU09SE27). Within Latton itself are the remains of two Roman columns, one of which may have been used as a font since they reputedly came from Water Eaton church.
- 3.9 With the exception of the Saxon *burh* of Cricklade, early medieval activity is sparsely represented in the area, limited to only a few drainage ditches to the west and south of Eysey. No early medieval remains are known to exist within the application area.
- 3.10 At Latton, the possible remains of a shrunken medieval village are visible as earthworks including enclosures, building and track-way (SU09NE127). The village contains the remains of a wayside cross at the junction of the main road and the road leading to the church. A hoard of 12<sup>th</sup> century coins was found near the church between 1860 and 1900 (SU09NE37).
- 3.11 The most notable recent changes to the area have been the construction of the Thames and Severn Canal, which runs to the south of the site and the construction of Down Ampney Airfield. Areas near the site are currently subject to mineral extraction, with lagoons to the west of the A419, the result of extensive quarrying.
- 3.12 The undated cropmarks of enclosures, ditches, pits, and a trackway have been identified in the western part of the application area (SU 09 NE 142; SU 09 NE 143; SU 09 NE 144; SU 09 NE 145).

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## 4 Project Objectives

4.1 The objectives of the detailed magnetometer survey are:

- to further investigate the presence of archaeological remains indicated by cropmarks;
- to define the extent of any such anomalies; and
- to characterise, if possible, any such anomalies.

## 5 Survey Areas

5.1 The detailed magnetometer survey will cover the area defined in Figure 2. The total area to be surveyed measures c. 32ha.

5.2 If there are any areas that cannot be surveyed the Archaeological Contractor will inform Scott Wilson immediately and details of these will be provided in the interim report.

5.3 This project involves the magnetometer survey of a Scheduled Monument. Scott Wilson will apply to English Heritage in order to obtain a Section 42 licence for this work to proceed.



## 6 Methodology

- 6.1 This specification defines the methodologies to be used and adhered to. All work shall be carried out in accordance with the Standards and Guidance and Code of Conduct of the Institute of Field Archaeologists (1999), guidelines outlined in *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008), and other current and relevant best practice and standards and guidance (Appendix 1).
- 6.2 A detailed magnetometer survey will be carried out over the designated survey area using either a Geoscan FM 36 Fluxgate Gradiometer or a Bartington GRAD 601 Fluxgate Gradiometer (or similar electronic instrument). Readings should be taken at 0.25m intervals on traverses 1m apart within 30m by 30m grids.
- 6.3 The data should be downloaded at regular intervals on site onto a laptop computer for initial processing and storage. This will ultimately be transferred to a desktop computer for further processing, interpretation and archiving. Geoplot v.3 software (or comparable) will be used to interpolate the data to form an array of regularly spaced values at 0.25m x 0.25m intervals. Continuous tone greyscale images of raw data and an x/y trace plot will also be produced. Palette bars relating the greyscale intensities to anomaly values in ohms will be included with the images. Any algorithms used in processing the data should be detailed within the report.
- 6.4 The raw and processed data will be presented in the report. The processed drawings should be accurately located and presented in relation to the Ordnance Survey base plan for the site and the survey markers should be accurately plotted to aid in the laying out of subsequent evaluation or excavation areas, if deemed necessary. Interpretation plots will be included in the report.
- 6.5 An experienced operator will undertake the survey in order to provide consistent results with regard to pattern recognition and to provide initial screening of noise resulting from recent ferrous disturbance and local magnetic pollution.
- 6.6 During the survey a record should be made of surface conditions and sources of modern geophysical interference that may have a bearing on subsequent interpretation of field data.
- 6.7 The survey grid/transects must be established by electronic means (using an EDM Total station or similar instrument). This must be accurately tied in with the National Grid. This should be internally accurate to  $\pm 10$  cm, and the grid locatable on the 1: 2500 Ordnance Survey map.
- 6.8 The Archaeological Contractor will place permanent survey markers at the site such that the location of the survey can be easily re-established.

## 7 Reporting

- 7.1 Verbal progress reports will be provided to Scott Wilson on request and upon completion of the geophysical survey works. An interim grey-scale plot, interpretation plot and short statement of results will be submitted to Scott Wilson within 48 hours of completing the survey.
- 7.2 An assessment report will be submitted within 2 weeks of the completion of fieldwork. The report will include the following and will follow those guidelines set by English Heritage (1995, 5):
- a non-technical summary;
  - site location;
  - archaeological and historical background;
  - methodology;
  - aims and objectives;
  - results (to include full description, assessment of condition, quality and significance of results identified);
  - general and detailed plans showing the location of the surveyed areas accurately positioned on an Ordnance Survey map base (to a known scale);
  - colour/grey scale plots to aid interpretation. The plots will be contoured (if appropriate) to allow trends to be shown superimposed over data without obscuring it;
  - an interpretative plot;
  - statement of potential with recommendations for future survey; and
  - conclusions.
- 7.3 One copy of the complete report will be submitted to Scott Wilson as a draft. In finalising the report the comments of Scott Wilson will be taken into account.
- 7.4 Seven bound hard copies, one unbound master-copy and a digital version of the report and illustrations will be produced within one week of the receipt of comments on the draft report. The digital report shall comprise a CD containing a complete version of the report in PDF format and separate digital text (in Microsoft Word format) and CAD mapping files (in ESRI GIS or AutoCAD format) and any other illustrations or plates.
- 7.5 The raw and processed data will be presented in the report. The processed drawings will be accurately located and presented in relation to the Ordnance Survey base plan for the area and the survey markers should be accurately plotted to aid in the laying out of subsequent surveys.



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## 8 Dissemination

- 8.1 The survey report will be submitted to English Heritage by Scott Wilson.

## 9 Archive Deposition

- 9.1 When instructed by the client, the Archaeological Contractor will liaise with an appropriate repository to obtain agreement in principle of the acceptance of the documentary archive for long term storage and curation. The archive will be produced to the standards outlined by Management of Archaeological Projects Second Edition (MAP2) (English Heritage 1991) and Management of Research Projects in the Historic Environment (English Heritage 2006).

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## 10 Monitoring

- 10.1 The Archaeological Contractor will be subject to regular monitoring by Scott Wilson who will be given full access to site records or any other information.

## 11 Confidentiality and Publicity

- 11.1 All communication regarding this project is to be directed through Scott Wilson. The Archaeological Contractor will refer all inquiries to Scott Wilson without making any unauthorised statements or comments.
- 11.2 The Archaeological Contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of Scott Wilson.

## 12 Copyright

- 12.1 The Archaeological Contractor will assign copyright in all reports and documentation/images produced as part of this project to The Co-operative Society. The Archaeological Contractor retains the right to be identified as the author/originator of the material. This applies to all aspects of the project.
- 12.2 The Archaeological Contractor may apply in writing to use/disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.

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## 13 Resources and Timetable

- 13.1 All archaeological personnel involved in the project should be suitably qualified and experienced professionals. The Archaeological Contractor will provide Scott Wilson with staff details including CVs of the Project Manager, Site Supervisor and Site Assistants.
- 13.2 The fieldwork will take place during December 2008. An interim report including greyscale plots, interpretation plots and a short statement of results will be submitted to Scott Wilson within 48 hours of the completion of each phase.
- 13.3 The date for submission of the final report will be 2 weeks after the completion of the survey. Scott Wilson should be informed at the earliest opportunity if this is not achievable.

## 14 Insurances and Health and Safety

- 14.1 The Archaeological Contractor will provide Scott Wilson with details of public and professional indemnity insurance prior to fieldwork commencing.
- 14.2 The Archaeological Contractor will have their own Health and Safety policies compiled using national guidelines and which conform to all relevant Health and Safety legislation. A copy of the Health and Safety policy will be submitted to Scott Wilson in advance of fieldwork.
- 14.3 The Archaeological Contractor will undertake a risk assessment detailing project specific Health and Safety requirements. The risk assessment will be submitted to Scott Wilson in advance of commencement of site work. If amendments are made to the assessment during the works, Scott Wilson must be provided with the amended version at the earliest opportunity. Health and Safety will take priority over archaeological issues.
- 14.4 If available Scott Wilson will provide information regarding the approximate location of known services within the area of investigation. The Archaeological Contractor will, however, be responsible for identifying any buried or overhead services and take the necessary precautions to avoid damage to such services, prior to investigation.

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## 15 Access Arrangements and Site Information

- 15.1 Scott Wilson will arrange access to the survey areas, and provide contact details for project personnel as necessary.

## 16 General Provisions

- 16.1 The Archaeological Contractor will undertake the works to the specification issued by Scott Wilson and in any subsequent written variations. No variation from, or changes to, the specification will occur except by prior agreement with Scott Wilson who will consult with the English Heritage.
- 16.2 All communication on archaeological matters will be directed through Scott Wilson.

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## 17 References

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### **Aerial photographic sources:**

- E /BWV61 Cambridge University Aerial Photograph Unit
- E /CUB73-5 Cambridge University Aerial Photograph Unit
- E/BCE87 Cambridge University Aerial Photograph Unit
- D/SU0995/1-21 English Heritage
- D/SU0995/22/256-8 English Heritage
- D/SU0995/23 English Heritage
- D/SU0995/24/84-7 English Heritage
- D/SU0995/26 English Heritage
- D/SU0995/27/217-221 English Heritage

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## Figures

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## Appendix 1

### Archaeological Standards and Guidelines

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#### Archaeological Standards and Guidelines

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Land at the Down Ampney Estate  
Specification for Magnetometer Survey

November 2008



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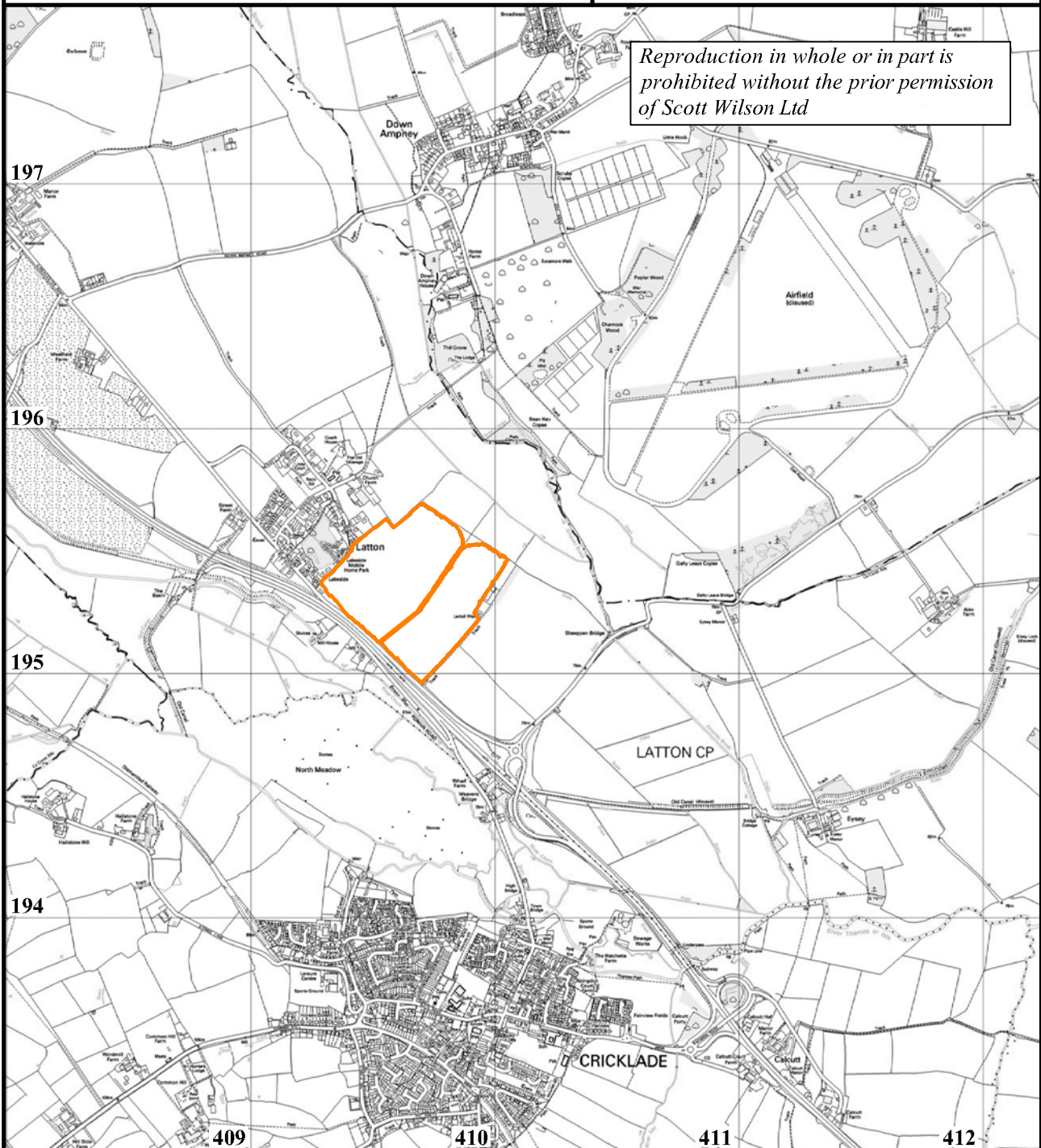
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Land at the Down Ampney Estate, Field Barn, Latton,  
Wiltshire  
geophysical surveys

Report 2135  
Figure 1  
Site location

for  
**Scott Wilson Ltd**  
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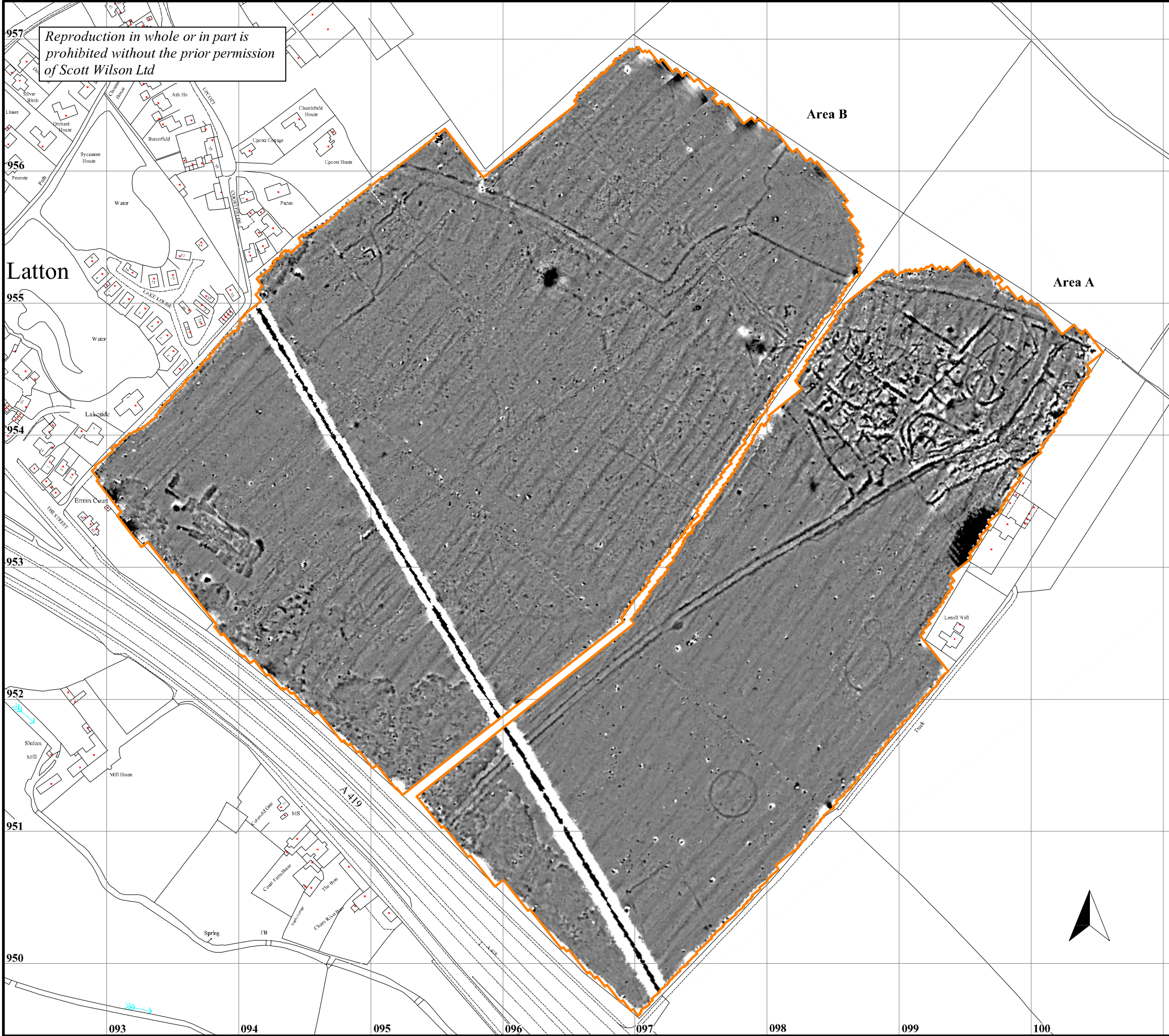
survey outline



scale 1:25 000 - for A4 plot







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**Land at Down Ampney Estate,  
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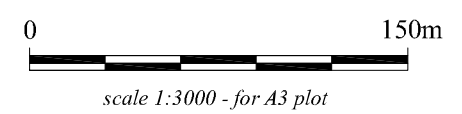
**geophysical surveys**


**Report 2135**

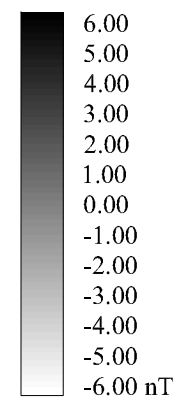
Figure 2

Overview of survey results

for  
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on behalf of  
**Co-operative Group Ltd**

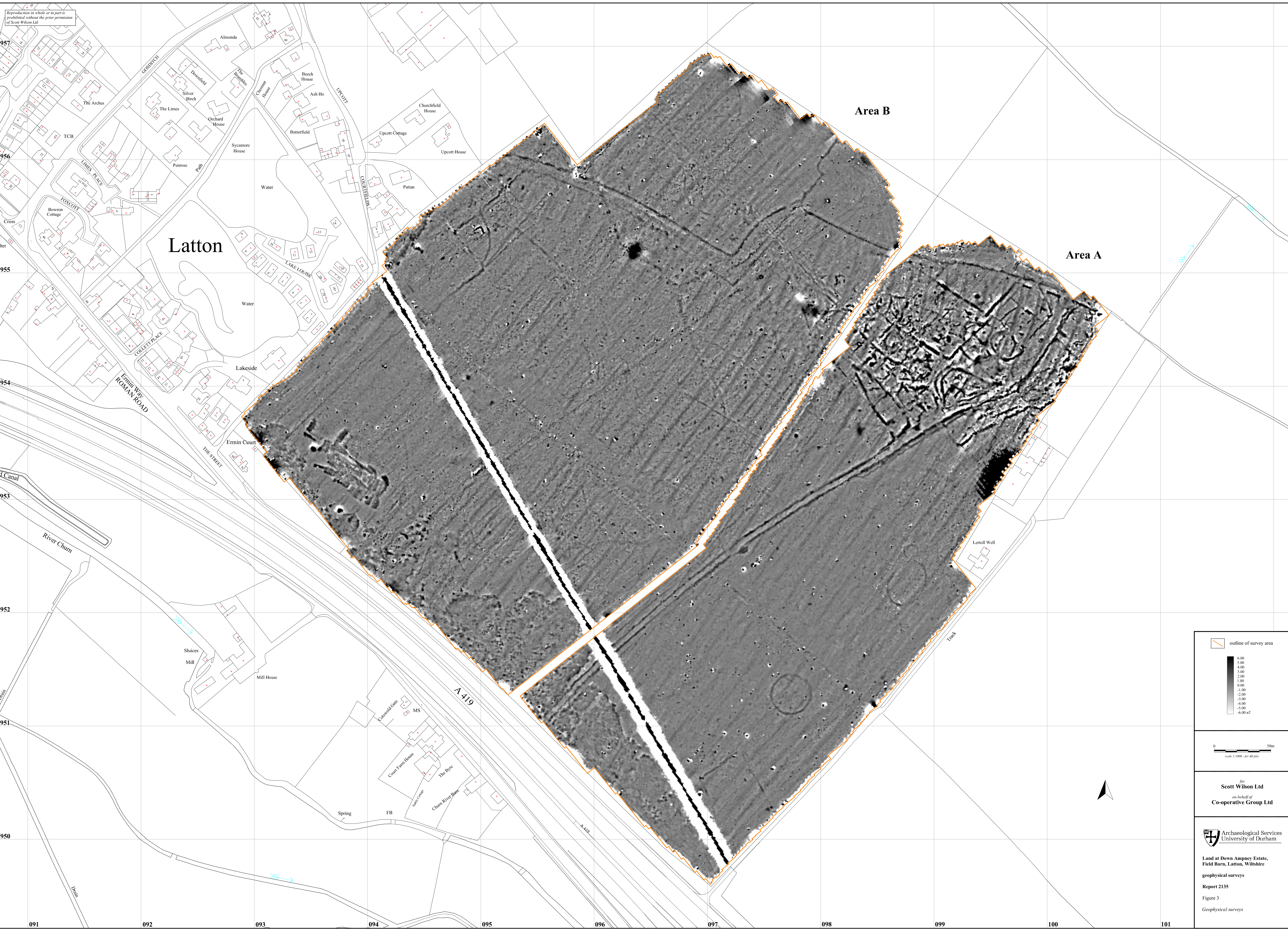


 outline of survey area





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outline of survey area

6.00  
5.00  
4.00  
3.00  
2.00  
1.00  
0.00  
-1.00  
-2.00  
-3.00  
-4.00  
-5.00  
-6.00 nT

0 50m  
scale 1:1000 - for A3 plot

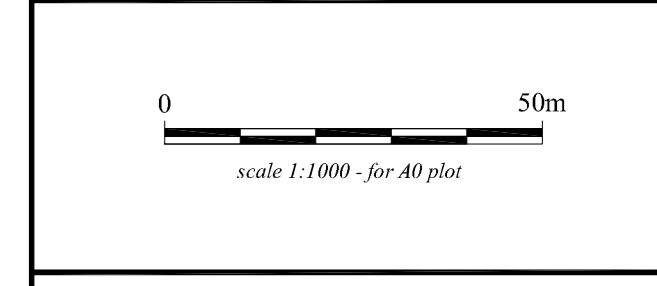
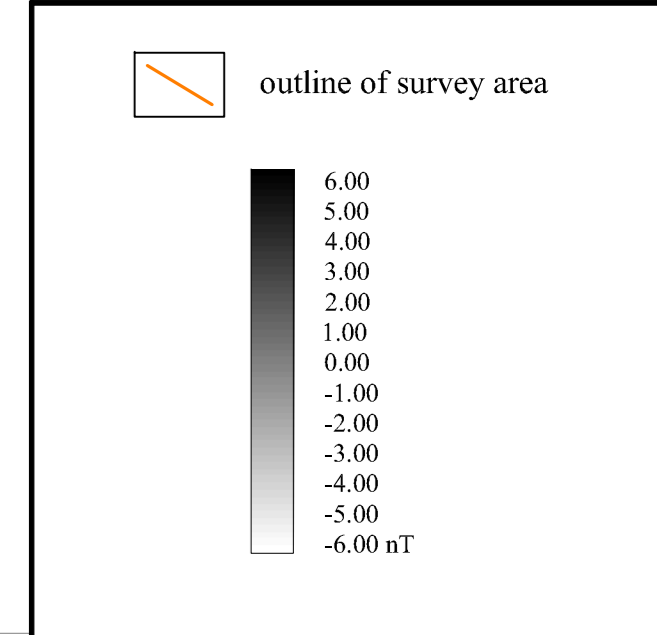
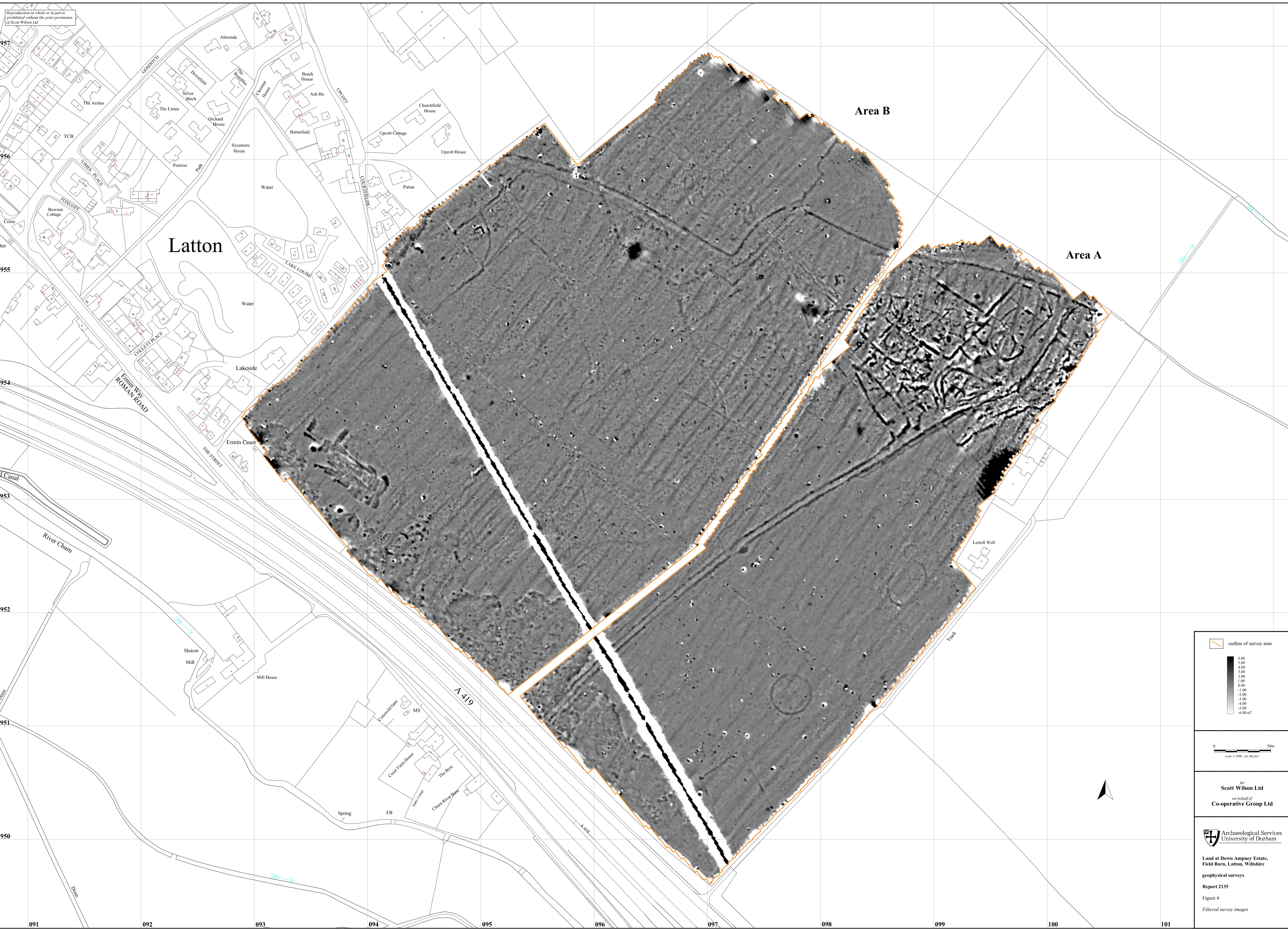
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**Scott Wilson Ltd**  
on behalf of  
**Co-operative Group Ltd**

Archaeological Services  
University of Durham

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Field Barn, Latton, Wiltshire  
geophysical surveys  
Report 2135  
Figure 3  
Geophysical surveys



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Figure 4  
Filtered survey images



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- outline of survey area
- positive magnetic anomalies
- negative magnetic anomalies
- dipolar magnetic anomalies

0 50m  
scale 1:1000 - for A0 plot

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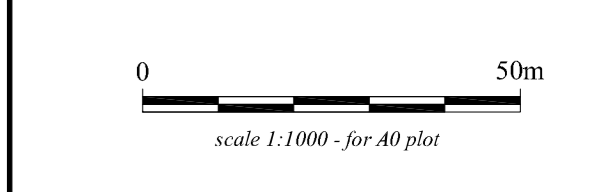
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geophysical surveys  
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Figure 5  
Geophysical interpretations



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- outline of survey area
- soil-filled features
- service pipes
- orientation of ridge and furrow
- disturbed ground
- earthen bank
- possible stone features



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Figure 6  
Archaeological interpretations



Figure 7: Trace plots of geophysical data

