

# ARCHAEOLOGICAL PROJECT SERVICES



## GEOPHYSICAL SURVEY

OLD OUNDLE ROAD  
WITTERING  
PETERBOROUGH

Prepared for  
Grange Farm Leisure Ltd  
by  
Archaeological Project Services

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**Document Control**

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## 1. SUMMARY

*A detailed magnetic gradiometer survey was undertaken for Grange Farm Leisure in connection with a proposed development on land north of Old Oundle Road, Wittering, Peterborough. The survey area totalled c. 3.4ha.*

*The site is adjacent to an area of Iron Age settlement and Roman iron production.*

*The survey revealed one possible enclosure and several linear features thought to be of geological origin.*

## 2. INTRODUCTION

### 2.1 Definition of an Evaluation

Geophysical survey is a non-intrusive method of archaeological evaluation. Evaluation is defined as *'a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, quality and preservation, and it enables an assessment of their worth in a local, regional, national or international context as appropriate'* (ClfA 2014a).

### 2.2 Project Background

Archaeological Project Services (APS) was commissioned by Grange Farm Leisure to undertake a detailed magnetometer survey totalling some 4.7ha on land to the north of Old Oundle Road, Wittering, Peterborough. This was in advance of a proposed development. The work was undertaken in accordance with a method statement prepared by APS. The survey was carried out on the 18<sup>th</sup> March 2021.

### 2.3 Topography and Geology

Wittering is located 6km south of Stamford and 13km northwest of Peterborough, in the unitary authority of Peterborough (Fig. 1). The Site is located at National Grid Reference TF 0498 0250, and lies 750m northwest of the centre of Wittering as defined by All Saints' parish church (Fig. 2). The total area of the site is 4.7ha, encompassing a single field. The site is bounded by RAF Wittering to the north and Old Oundle Road to the south, which parallels a stream valley.

Local soils are of the Elnton 1 Association, comprising shallow bronze rendzinas (Hodge *et al* 1984). These have developed over a complex underlying geology. At the east of the site is Lower Lincolnshire Limestone, which (descending down a steep slope) gives way to Grantham Formation sandstone, siltstone and mudstone, then Northampton Sand Formation ironstone and finally at the west of the site is a north-south spit of Whitby Mudstone. No drift deposits are present (BGS 2021). The site descends from c.65m AOD at the northeast of the site to c.50m AOD at the southwest.

### 2.4 Archaeological Setting

Possible Iron Age settlement has been identified from a pottery scatter to the south of the site, noted during observations on a pipeline from Wing to Peterborough, though there were no associated features (Wall 1999).

Archaeological evaluation to the south of the site identified a sequence of natural, Iron Age-

Roman and later deposits. Archaeological remains were largely concentrated in a band coinciding with the former stream course through the middle of the site and near the southern edge. In the former stream valley was extensive evidence for iron production. No definite smelting furnaces were revealed although industrial residues indicated that the full range of iron making, from ore roasting to smelting and then primary smithing, took place at the site. The industrial activity appears to have been detached from any associated settlement though evidence of Iron Age-Roman occupation was identified in the southeastern corner of the site (Moulis and Peachy 2015).

Roman remains have been discovered to the southeast of the site and include two burials, one of these in a cist. The cist burial was a chance find by a farmer and subsequent field walking of surrounding fields also revealed a tile kiln (Meadows undated). Excavation showed that the kiln was likely to have been housed within a six post structure. Additional find spots including pottery and tile to the southeast may suggest settlement in this area.

Wittering is first mentioned in a charter dating to the 7th century. Referred to as *Widerigga*, the name from an Old English tribal name of *Wiðer*, implying the area of the followers or family of *Wiðer* (Ekwall 1989, 528).

Referred to as *Witheringham* at the time of the Domesday Survey, c. 1086, Wittering was held by Ansketil for Peterborough Abbey and contained 9 hides and land for 16 ploughs. In demesne were 3 ploughs, 5 slaves, 12 villeins, 7 borders and 20 sokemen with 12 ploughs between them. Three mills and woodland, measuring 2 leagues by 1 extent are also recorded (Williams and Martin 1992, 597).

In 1541 Wittering was gifted to the Bishop of Peterborough by Henry VIII, although these were the same portions and tithes that Peterborough Abbey held prior to the dissolution in 1539 (Mellows 1941, 19).

The 1885 Ordnance Survey map (Fig. 7) shows that the Site was a the western part of a single field in this period, with two paths crossing it. The site is shown in the same situation until the 1950 edition when the paths have been redirected to manor farm.

The course of the 20<sup>th</sup> century path is visible as a yellow cropmark on a 2004 Google Earth image (Fig. 8). Several cropmarks are visible to the northwest of the site on a 2018 Google Earth image and the pattern suggests these are mostly caused by geological limestone cracking.

### **3. GEOPHYSICAL SURVEY**

#### **3.1 Methods**

A magnetic gradiometry survey was carried out with a Bartington Grad 601-2 fluxgate magnetometer. The field was divided into 40m<sup>2</sup> grids using a survey grade GPS and each grid was walked systematically in a zigzag pattern, taking readings every 0.25m in traverses 1m apart.

The layout of the survey area is shown in Figure 3. At the time of survey the southern part of the field was water logged and had to be excluded from the survey, reducing the available are of the survey from 4.7ha to 3.4ha.

The survey was undertaken in accordance with Historic England (2008) and ClfA (2014b) guidelines and codes of conduct. A detailed methodology can be found in Appendix 1.

## 3.2 Results

The presentation of the data for the site comprises a greyscale print-out of the raw data (Fig. 4; clipped for display but otherwise unprocessed) and the processed data (Fig. 5). Magnetic anomalies have been identified and plotted on to an interpretative drawing (Fig. 6). In the following text, the letters in brackets refer to annotations on Figures 6.

### *Positive linear anomalies*

The majority of positive linear anomalies (highlighted with a red line) are at the eastern edge of the site and are very weak. However, two of the most prominent linear features form a right angle that may define an enclosure at least 75m long and 35m wide (A). These linear anomalies are up to 4m wide, although they have a relatively irregular edge.

Towards the west of the site is a weak positive linear anomaly that crosses the site in a northwest-southeast direction (B). This largely corresponds with the 20<sup>th</sup> century path known from historical maps, although it diverges slightly at the southeastern end.

### *Areas of positive disturbance*

An area of positive disturbance has been highlighted with red hatching (C). Although it is possible this represent a large pit feature, a geological interpretation is considered more likely.

### *Isolated positive anomalies*

Discrete positive anomalies have been highlighted with red dots. These can be caused by human-made pits, but are also very commonly caused by natural build-ups of magnetically enhanced material.

### *Bipolar anomalies*

These anomalies have been highlighted with blue cross-hatching and are very prominent in the survey. These have been interpreted as being caused by modern infrastructure.

There are some slightly weaker bipolar anomalies (highlighted with diagonal hatching) which sit in line with the 20<sup>th</sup> century path known from historical maps (D) and may represent a pathing material which has been buried.

### *Isolated dipolar response*

Examples of magnetic dipoles have been highlighted with blue dots. These are typically caused by small metallic items in the topsoil, such as nails which arrive by manuring practices and fragments of agricultural machinery. As such, these are not typically given any archaeological significance.

## 4. DISCUSSION

The majority of positive anomalies are weak and relatively irregular. While some of these are parallel features and may represent agricultural features, a geological interpretation is favoured in most cases where limestone cracking (visible on aerial photographs) and the terraces descending the slope have created the impression of regular spacing.

However, two linear anomalies in particular may form a large rectangular enclosure at the eastern edge of the site.

The remaining anomalies are almost certainly a result of modern infrastructure.

## 5. ACKNOWLEDGEMENTS

Archaeological Project Services wish to acknowledge Mr R Dunlop for commissioning this project. Paul Cope-Faulkner edited this report.

## 6. PERSONNEL

Project coordinator: Paul Cope-Faulkner  
Geophysical Survey: Ryan Godbold  
Survey processing and reporting: Jonathon Smith  
Archiving: Denise Buckley

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## 8. ABBREVIATIONS

AOD Above Ordnance Datum

APS Archaeological Project Services

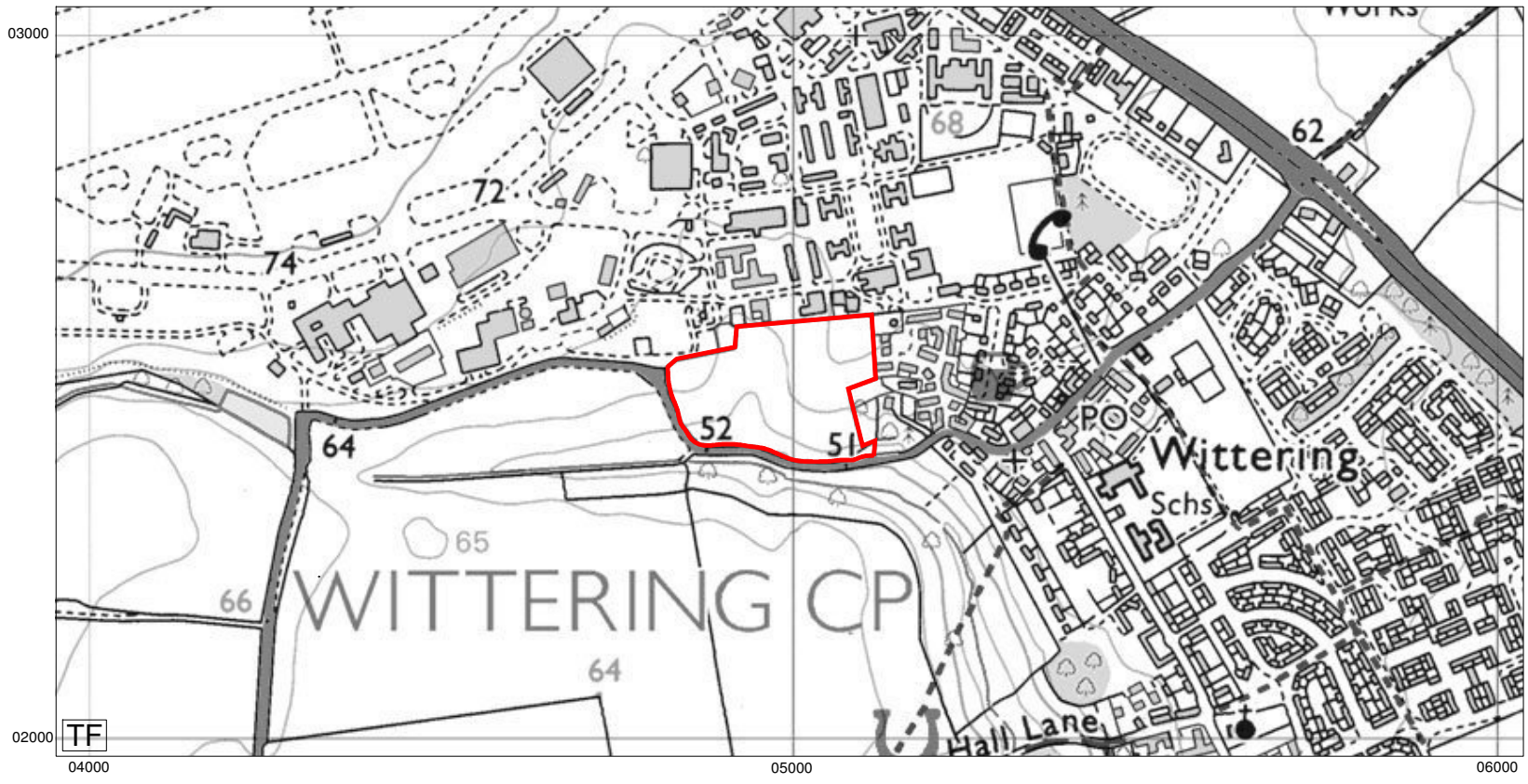
BGS British Geological Survey

ClfA Chartered Institute for Archaeologists

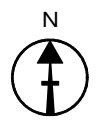


Figure 1 - General location map





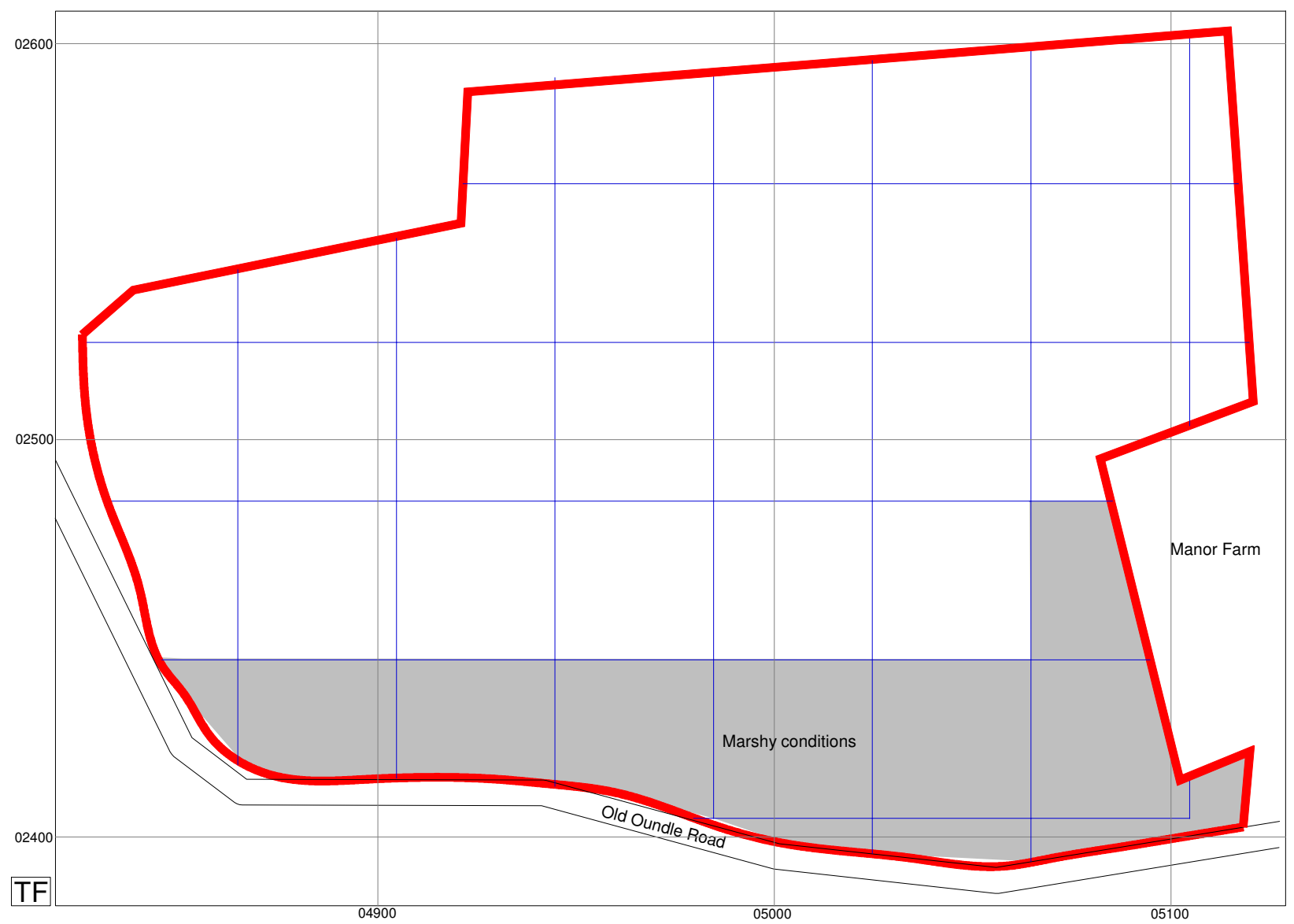
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




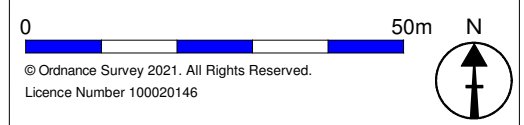
Survey Area

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Scale 1:10,000	Drawn by: JS	Report No: 16/21

Figure 2 - Survey location plan



-  Survey boundary
-  Survey square
-  Unsurveyed area

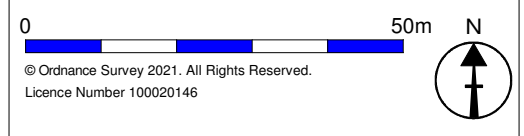
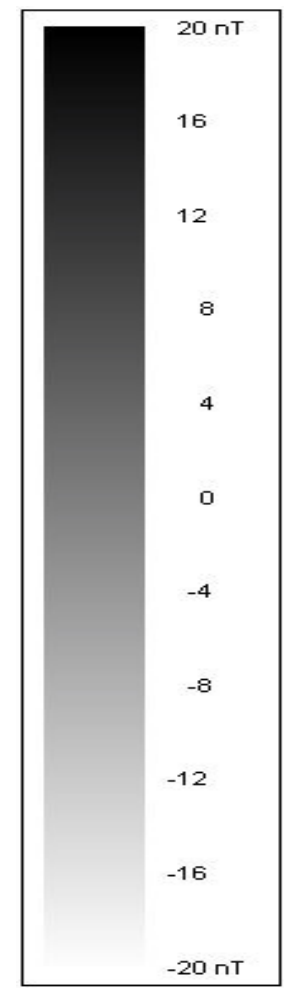
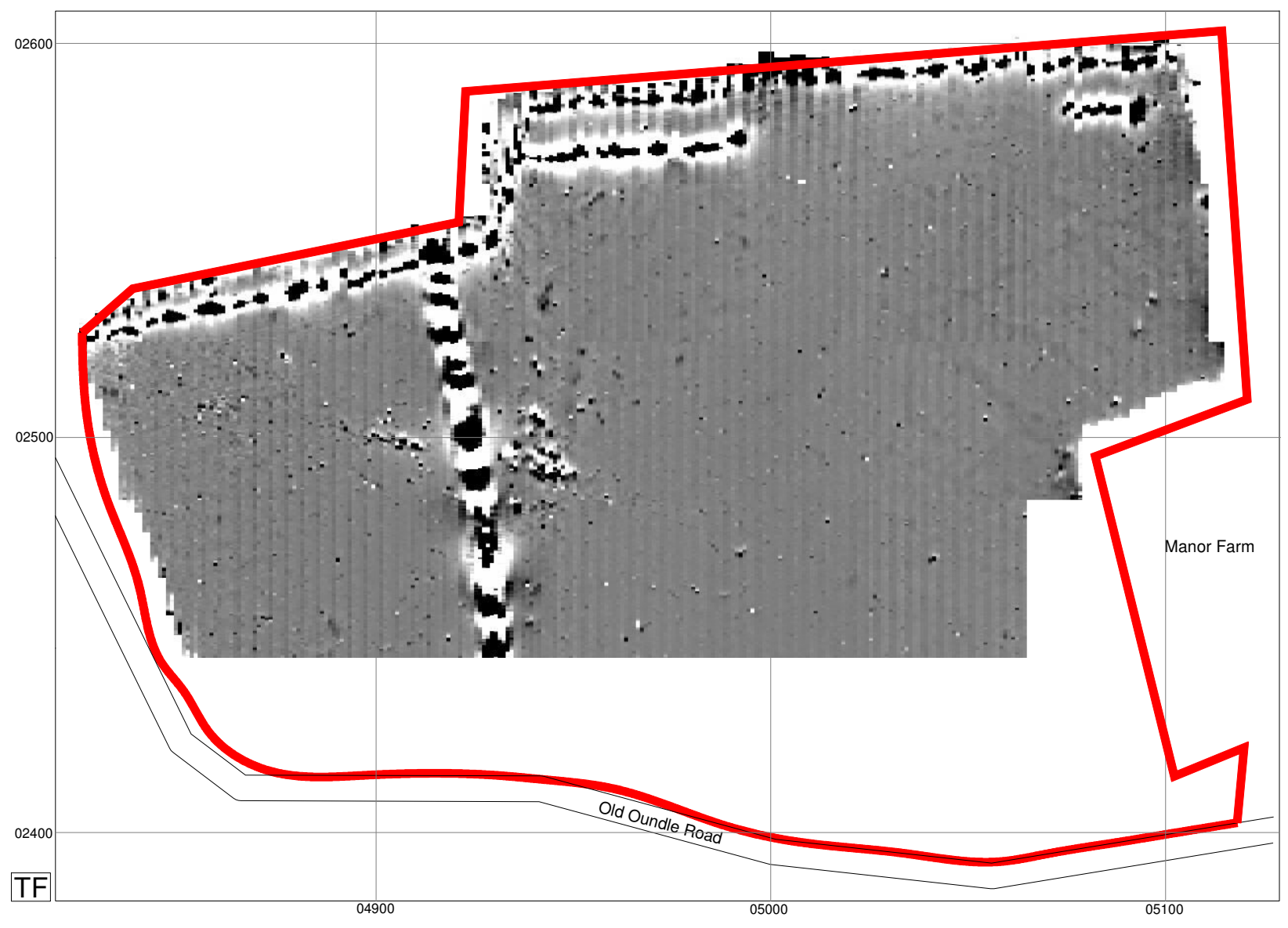


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Old Oundle Road, Wittering

Scale 1:1500<sup>@A3</sup> Drawn by: JS Report No: 16/21

Figure 3 - Site layout



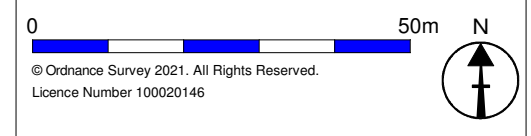
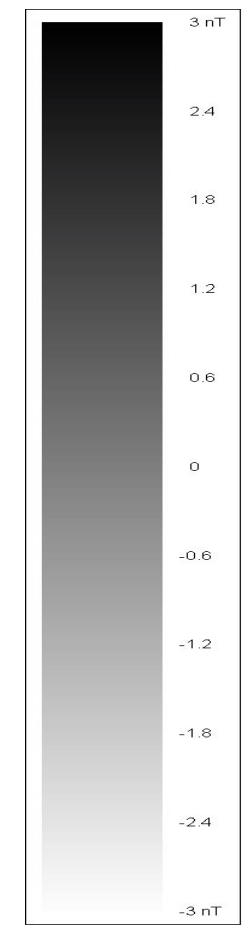
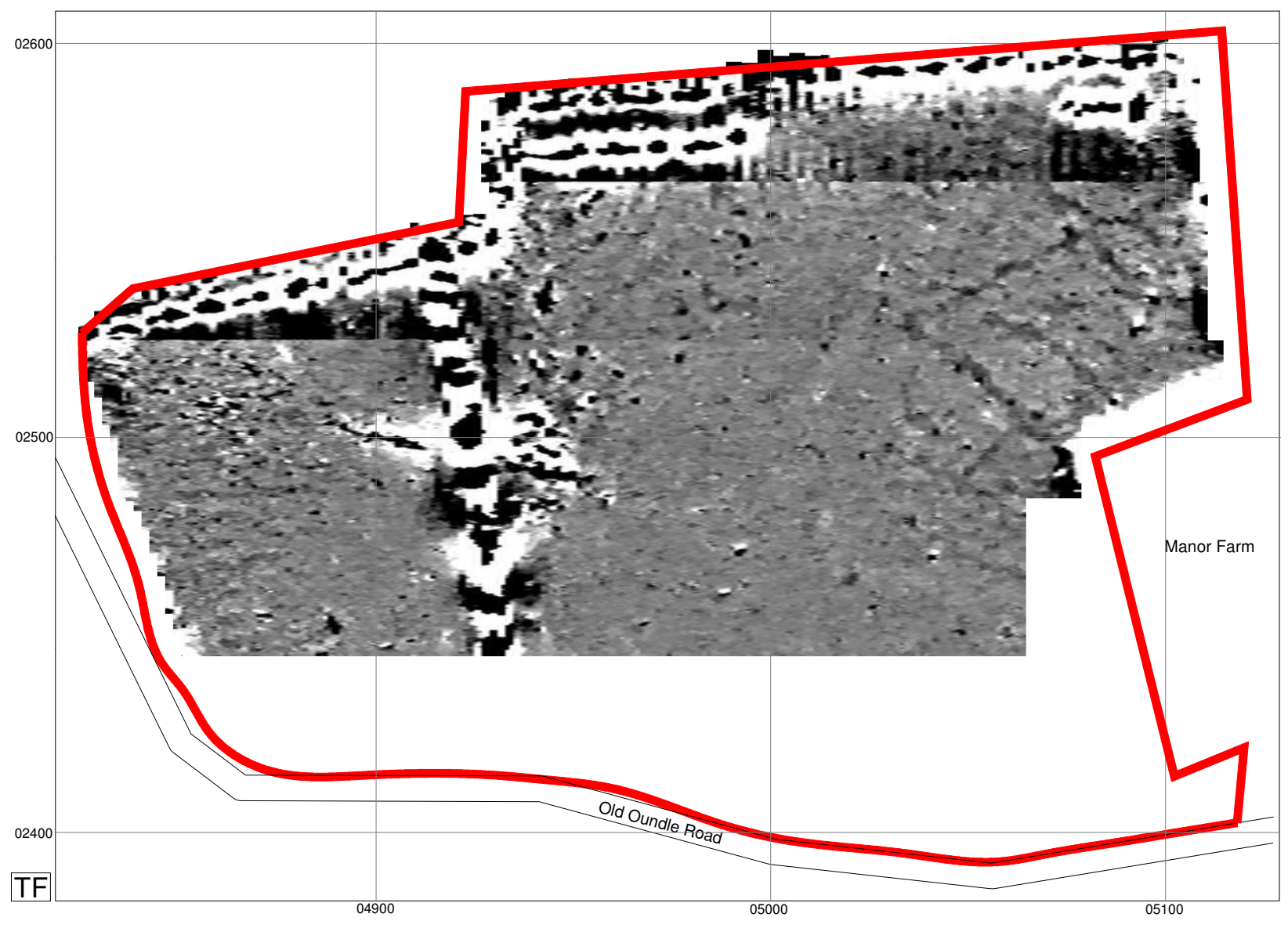
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Old Oundle Road, Wittering

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Figure 4 - Raw greyscale data

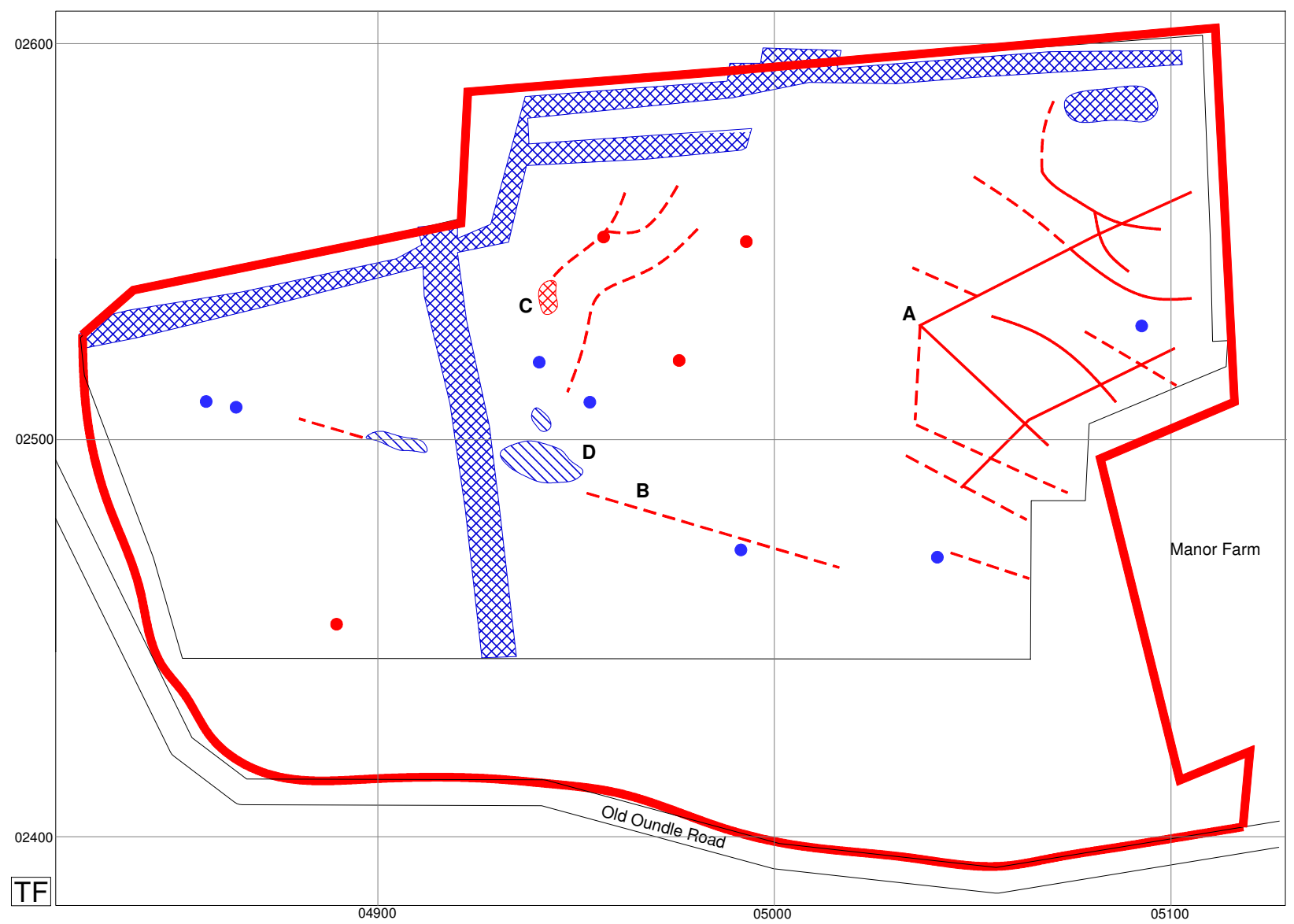


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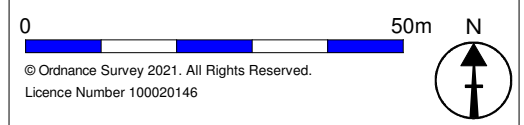
Old Oundle Road, Wittering

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Figure 5 - Processed greyscale data



KEY	
	Positive Anomaly
	Positive Linear Anomaly
	Weak Positive Linear Anomaly
	Isolated Positive Anomaly
	Bipolar Anomaly
	Weak Bipolar Anomaly
	Isolated Dipolar Response

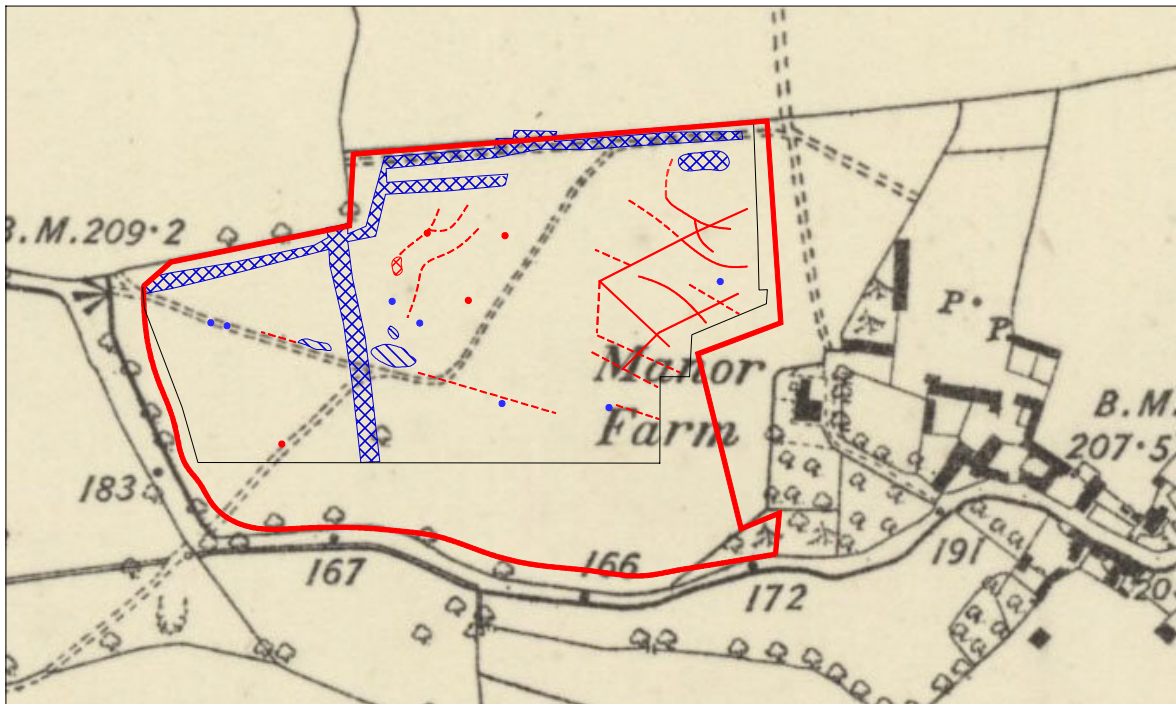


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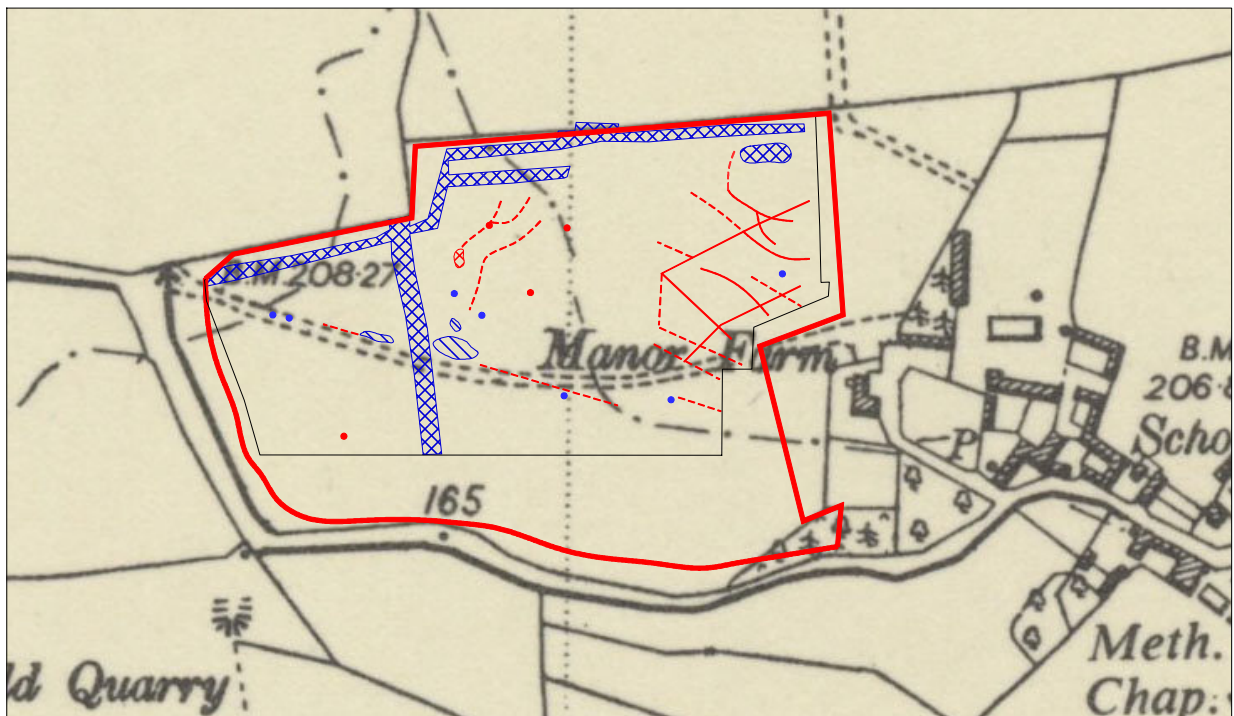
Old Oundle Road, Wittering

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Figure 6 - Interpreted data



1885 Ordnance Survey map, sheet Northamptonshire VII.NW 6"



1950 Ordnance Survey map, sheet Northamptonshire VII.NW 6"



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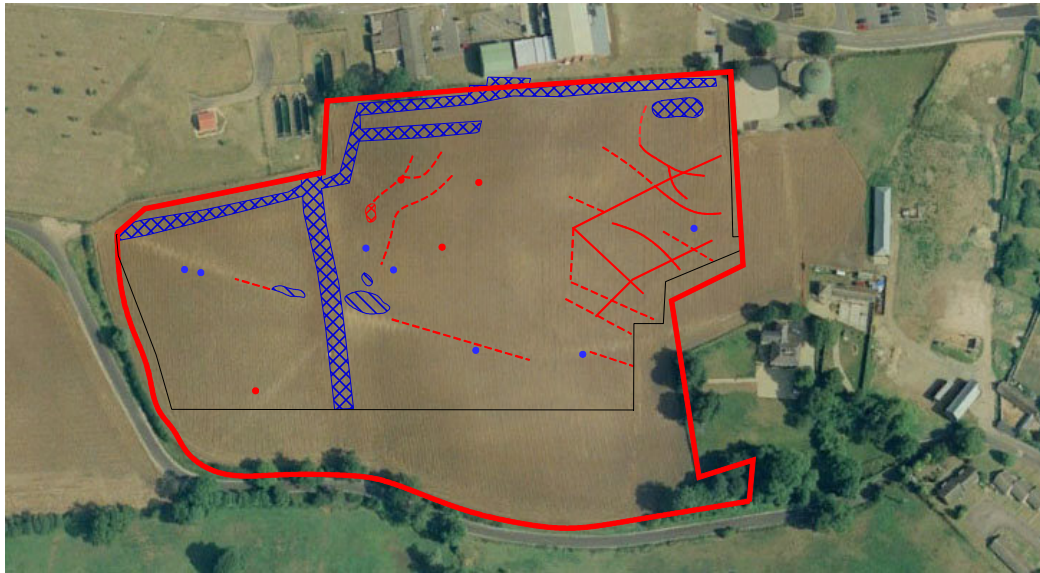
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Drawn by: JS

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Figure 7 - Survey interpretation overlaid on historical maps



2004 aerial image © Google Earth



2018 aerial image © Google Earth



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Figure 8 - Survey interpretation overlaid on aerial images