

**ARCHAEOLOGICAL DESK BASED ASSESSMENT  
AND GEOPHYSICAL SURVEY:**

**PROPOSED QUARRY,  
BOILING WELLS FARM,  
NEAR SLEAFORD, LINCOLNSHIRE**

NGR: TF 0435 4550

Report prepared for Halletec Associates Ltd.

by

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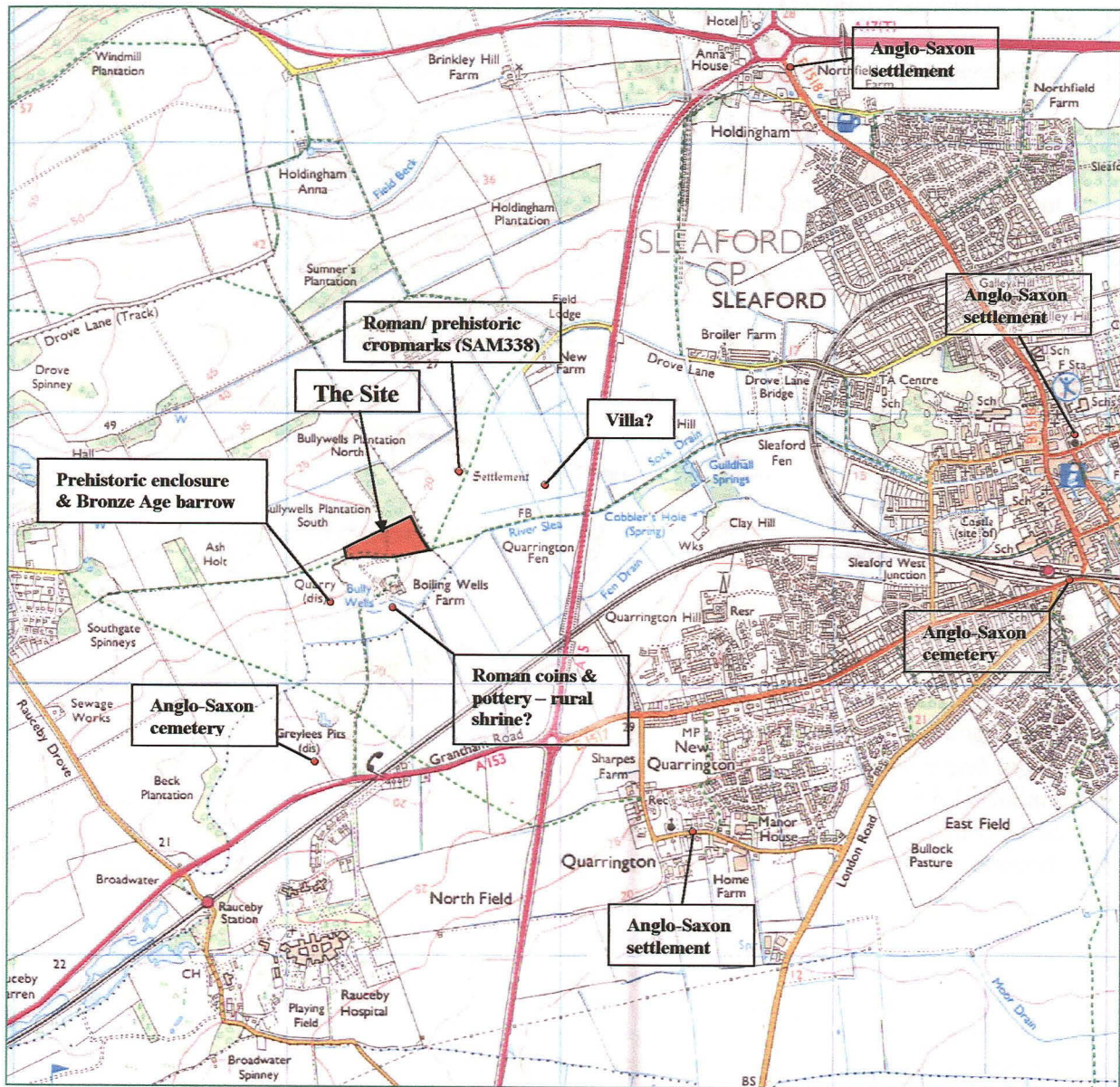
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### *Summary*

- *An archaeological desk-based assessment and geophysical survey has been undertaken to assess the archaeological potential of a proposed quarry on land at Boiling Wells Farm, near Sleaford, Lincolnshire.*
- *A study area of 1km radius from the centre of the site was assessed. This area contained cropmarks indicative of Neolithic and Bronze Age barrows, as well as prehistoric pit alignments, linear boundaries and enclosures. Further cropmarks indicated Romano-British enclosures and a possible villa site. Finds at the Bully Wells spring have suggested the presence of a possible rural shrine. To the south of the site, an Anglo-Saxon cemetery has been identified, while there is evidence of medieval ridge and furrow closer to, and on, the site. During the 19<sup>th</sup> century the surrounding area was quarried for limestone, and a lime kiln was built to the south of the site.*
- *A Scheduled Ancient Monument extends north-eastwards from the east end of the site, consisting of later prehistoric and/or Romano-British cropmarks. A south-westerly element of this complex extends into the proposed development area. This represents the only previously confirmed evidence of archaeological activity on the site.*
- *The wealth of the material within the study area suggests that the archaeological potential of the site is moderate to high. As the impact of the proposed development is likely to be substantial, further intrusive works are recommended.*



**Fig.1: Site location, showing the development area outlined in red, in relation to major sites in the vicinity (Scale 1:25000)**  
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## 1.0 Introduction

Pre-Construct Archaeology (Lincoln) was commissioned by Hallette Associates Ltd. (on behalf of their client) to undertake an archaeological desk based assessment on the site of a proposed quarry on land at Boiling Wells Farm, near Sleaford, Lincolnshire (fig. 1).

This programme of research has been requested in order to assess the archaeological potential of the proposed development area, and to assess the threat that development poses to the archaeological resource. This approach is consistent with the procedures set out in the Lincolnshire County Council publication *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice* (LCC, 1998), and national guidelines produced by the Institute of Field Archaeologists (IFA, 1999).

The background research and compilation of this report was undertaken by Chris Clay of Pre-Construct Archaeology (Lincoln) in June/July 2004.

## 2.0 Site location and description

Boiling Wells Farm is situated in the administrative district of North Kesteven, and the civil parish of South Rauceby, approximately 2km west of Sleaford. The site lies immediately to the north of Boiling Wells Farm. It comprises a broadly triangular block of land, measuring approximately 275m east to west, and a maximum of 140m north to south. A disused quarry and the farmyard and buildings of Boiling Wells Farm bound it to the south, with Bullywells Plantation South and open farmland to the north. A boundary running along the east side marks the line of the parish boundary between South Rauceby and Sleaford. A gravel track runs broadly north-north-west to south-south-east through the centre of the site; from the farmyard to the fields beyond. The central National Grid Reference is TF 0435 4550.

## 3.0 Geology and topography

The site lies on the north side of the Slea valley, which meanders westwards to the Ancaster Gap and eastwards through Sleaford. The Slea valley and Ancaster Gap represent a glacial valley, which has carved an east-west route through the limestone escarpment that typifies the geology of this region. The two settlements are located at the either side of the escarpment; Ancaster to the west where the Gap opens out into the Witham Valley; Sleaford to the east, where the escarpment gives way to the low-lying fenland. As such, both towns occupy crossroads between points where movement east – west and north – south is facilitated. Traditionally, communities have been attracted to settle such important crossroads; a situation illustrated by the known north – south prehistoric routes of the Jurassic Way (running through Ancaster), and Mareham Lane (running through Sleaford). Other such gaps in the limestone escarpment are occupied by Lincoln to the north and, further north still, the villages of Kirmington and Barnetby-le-Wold in the Kirmington Gap, both of which were preceded by major Iron Age and Romano-British settlements.

The proposed development area exhibits a very gentle, slightly uneven slope downwards from north-west to south-east, overlooking the River Slea. It is divided by a gravel track running broadly north – south across the middle of the site. The highest point is at the north-west corner of the site, which lies at c.25m above Ordnance Datum, dropping to c.20m to the south-east.

The local soils are of the Marcham Association; well drained loamy soils, suitable for arable farming (Hodge et.al, 1984). These overlie Jurassic deposits of Lincolnshire Limestone, with Ironstone deposits towards the east side of the site (British Geological Survey, 1972).

#### **4.0 Planning background**

A planning application has not yet been submitted for the proposed development area, although Halletec Associates Ltd., in consultation with the Senior Built Environment Officer for Lincolnshire County Council, have agreed a scheme of archaeological investigation to assess the archaeological potential of the site and to inform any future application for planning permission. This document forms an initial non-intrusive phase of the programme of archaeological investigation.

#### **5.0 Objectives and methods**

The purpose of this report is to identify and assess archaeological remains that may be sensitive to intrusive groundworks associated with developing the area and, if necessary, to suggest further methods by which the site may be evaluated in advance of works.

Data for this report was obtained for a 1km radius around the proposed development area, and this was selected from the following sources of information:

- the County Sites and Monuments Record for Lincolnshire (SMR); including isolated find spots, scheduled ancient monument records, and published and unpublished reports of developer funded archaeological fieldwork.
- the Lincolnshire Archives Office (LAO): tithe awards, enclosure maps, and early editions of Ordnance Survey maps.
- the Lincolnshire Local Studies Library (LSL): relevant local history books and journals.
- Aerial photographs held by the National Monuments Record, Swindon (NMR): to identify archaeological features, as defined by cropmarks and soilmarks.
- A site visit, undertaken by the author on Wednesday 23<sup>rd</sup> June 2004.

## 6.0 General archaeological and historical background

Tentative evidence of settlement in the study area begins in the prehistoric period, and is restricted to small numbers of isolated findspots of flint implements, such as an axe head of Neolithic date and a Bronze Age scraper. Firmer evidence of prehistoric activity is derived from recent fieldwork c.200m south-west of the site which identified a ditched enclosure of prehistoric date and the largely ploughed out remains of a Bronze Age barrow (HTL ref. NK 59.39). The presence of a barrow is significant, as these features often acted not only as graves for important individuals but as memorials to the past and territorial markers (Woodward, 2000), which suggests that a well-established community lived and worked within the study area during the 2<sup>nd</sup> millennium BC.

Further to the south, aerial photography has identified two circular double ditched enclosures and an incomplete circular cropmark, interpreted as the remains of Bronze Age barrows. In the same area, a rectangular cropmark has been taken to indicate the presence of a Neolithic long barrow (HTL ref. 1049819). These features are sandwiched between two cropmarks identifying converging pit alignments (HTL ref. 1049818). Although undated, these features are usually taken to be of Bronze Age or Iron Age date, and represent major landscape divisions.

Aerial photography has identified numerous cropmarks in the study area, which may be indicative of later prehistoric agricultural enclosures and field boundaries (fig. 2). Most significantly, a palimpsest of enclosures and linear features has been identified extending north-north-eastwards from the east end of the proposed development area, broadly following the contours of the landscape. The significance of the cropmarks has resulted in Scheduled Ancient Monument status (SAM 338). Although no excavation has yet taken place on these remains, their morphology suggests an Iron Age or Romano-British date. Identified features include linear boundaries, agricultural or settlement enclosures, and at least one ring ditch indicative of a roundhouse. There appears to be several phases of activity represented, as there is considerable overlapping of features. Although the cropmarks themselves extend into the proposed development area, the scheduled area extends north-eastwards from the east end of the current site.

Beyond the study area, on the east side of the town, substantial traces of Iron Age settlement activity have been identified. Excavations to the south of Boston Road in 1990 identified part of a substantial Middle Iron Age palisaded enclosure, so far paralleled only by a similar structure at Thetford in Norfolk (Elsdon, 1997).

To the north of Boston Road, a later Iron Age site of international significance has been investigated. The site at Old Place has been subject to a number of archaeological excavations, beginning in the 1960's. These various phases of work exposed a major settlement and associated agricultural enclosures, lying at the point where the prehistoric route of Mareham Lane crosses the River Slea. Most importantly, the site yielded large numbers of coin pellet moulds and crucible fragments, suggesting the presence of a late Iron Age mint. The material from this site represents the largest such collection from Iron Age Europe, and combined with the abundance of high quality local pottery and imported finewares, suggests that it was



on a par with the major Corieltauvian settlements at Lincoln and Leicester (Elsdon, 1997).

Settlement evidence at Old Place continued into the Romano-British period, with the construction of corn driers, agricultural buildings and a well-appointed two storey stone built residence, possibly that of a wealthy landowner with commercial interests in the nearby fenland. Several infants had been buried in the area of this building, perhaps as foundation burials, and a number of adult burials were found in farmland to the west. The prehistoric route of Mareham Lane was metalled for several hundred metres where it passed through the area of settlement, and was connected to the outlying farmland by a number of small trackways (Clay, 1998).

The study area has yielded abundant evidence of Romano-British activity. The cropmarks, which comprise SAM 338, may have a Romano-British component to them, superseding the later prehistoric constituent. To the east of these cropmarks, three sides of a clearly defined rectangular enclosure have been identified, with several internal subdivisions. These cropmarks are very straight, with sharp right angles, and are strongly reminiscent of the complex of buildings at the heart of a Roman villa estate (HTL ref. 1050593).

Further evidence derives from casual finds within the study area of pottery, coins, and a 1<sup>st</sup> century AD enamelled brooch, found by metal detector c. 1km to the north-east of the site. The antiquarian Edward Trollope records the discovery of numerous coins of the Emperor Constantine around Bully Wells spring head, within 100m of the site, and this area has also yielded "a dark coloured urn containing a small implement like an awl, and further coins" (Trollope, 1872). This has tentatively been cited as the a possible small shrine at the spring head, which marks the source of the Sleas proper; it being little more than a small beck west of this point.

The Anglo-Saxon period is well represented within the study area. A cemetery has been identified at Greylees Pits, approximately 800m south-south-west of the site. This was excavated in 1824, after being discovered during gravel extraction. The cemetery contained both cremations and inhumations. Associated burial goods included spearheads, a horse harness, crystal, glass and amber necklaces and pottery. The site also revealed a possible Roman stone coffin lid, a coin of Valens and Roman pottery. A watching brief exposed a further eight inhumations 500m further east, again yielding Anglo-Saxon pottery, a bronze buckle, a knife and shield boss (SMR ref. 60375, Trollope, 1872). A much larger cemetery (possibly containing around 600 burials) was disturbed during works associated with the railway, first in 1858, and subsequently in 1882 when the construction of Sleaford Station necessitated a substantial excavation. It was possible to date some of the grave goods to the mid 7<sup>th</sup> century (Elsdon, 1997).

For a long time, these cemetery sites represented the only evidence of Anglo-Saxon activity in the area, other than a few isolated metal detector finds. However, the Domesday Book lists a total of eighteen mills on the Sleas at the time of the Conquest, as well as two churches in Quarrington and a third in Rauceby (Pawley 1990, Morgan & Thorn, 1986), further suggesting the presence of an established Saxon population. The first demonstrable archaeological evidence was found in Sleaford Market Place in 1978, when resurfacing work allowed a short programme of excavation. The

excavations exposed a series of slots, gullies and post holes of 8<sup>th</sup>/9<sup>th</sup> century date. These were largely interpreted as the remains of animal pens, although the presence of charcoal rich fills, potboilers and fragments of loom weights is evidence of domestic activity (Mahany & Roffe, 1979).

In 1995 excavations in advance of housing development off Town Road, in Quarrington, exposed more definite evidence of Anglo-Saxon settlement activity, closer to both the known cemeteries and the development area (it lies c.1.5km east-south-east of the site). The site was occupied from the early Anglo-Saxon period into at least the 8<sup>th</sup> century, and yielded abundant evidence of domestic and agricultural activity, as well as extensive evidence of metalworking (SMR ref. 60487).

Further settlement evidence was identified during excavation work in 2001 in advance of construction of a McDonald's restaurant at Holdingham roundabout. A *grubenhauser* building, and a post-built structure were identified, as well as associated pottery, loomweights and animal bone. The site was dated to the Early – Middle Saxon period (D. Trimble, *pers. comm.*).

There is limited archaeological evidence of medieval activity within the study area. Evaluation trenching c.200m south of the site did however identify ridge and furrow, indicative of medieval farming (HTL ref. NK 59.38). The Domesday Survey for the parishes of Sleaford, Quarrington and Rauceby list numerous powerful landowners with estates in the area, owned by the King, Remigius, Bishop of Lincoln, the Bishop of Durham, Ramsey Abbey, Robert of Vessey, Robert of Stafford, Geoffrey Alselin and Odger the Breton (Morgan & Thorn, 1986). No doubt the site fell into one of these estates as pasture or arable land. Sleaford itself also remained an important centre in the Middle Ages; Alexander, Bishop of Lincoln endowed the town with a castle c.1134, to be followed by the church of St. Denys later in the century (Pevsner & Harris, 1989). The castle played host to King John in 1216, on his way to Newark Castle where he later died (Mee, 1970). The castle was still in good condition when Leland visited the town in the 1540s (Chandler, 1993), and Henry VIII visited twice in 1541, and entertained a Portuguese ambassador here on his second visit (Trollope, 1872). However, it was beginning to fall into disrepair during the 17<sup>th</sup> century, the building stone gradually being poached for reuse in the town (Pevsner & Harris, 1989).

In 1792 an Act of Parliament was passed allowing a consortium of local merchants and landowners to subscribe funds for the construction of the Sleaford Navigation, canalising the Slea, and enabling river trade to reach Lincoln and Boston (and hence the sea) via the Witham. During the 18<sup>th</sup> century, quarrying was underway at Boiling Wells, immediately to the south of the site, exploiting the soft limestone, which was crushed to use in fertiliser, and roasted in kilns to make quicklime for mortar. This was being shipped to kilns in Sleaford, and from 1842, a kiln was in operation at Boiling Wells Farm, making quicklime (Pawley, 1990).

## **7.0 Archaeological potential**

### **7.1 Cartographic information (figs. 3,4)**

A number of maps of the Sleaford area were available for consultation at the Lincolnshire Archives Office, although most of these focus on the town itself. An undated map of North and South Rauceby (pre-1801) shows a spring at the easternmost edge of the map, which is not annotated, but appears to be at the correct location for Bully Wells. No other associated buildings, field boundaries or other landmarks are shown in this location.

The earliest map available showing the proposed development area dates to 1863, and is a map of the estates of the Marquess of Bristol showing the route of the proposed new railway (fig. 3). The buildings of Boiling Wells Farm have not yet been constructed, and, despite the presence of the quarry, the lime kiln built in 1842 is also absent (although present on later maps, see below). The field boundaries running along the north and east sides of the site are evident, but there is no evidence of any internal features within the development area, such as the track which now bisects the site. The wooded areas of Bully Wells Plantation North and Bully Wells Plantation South also predate this map.

The Lincolnshire Archives Office held a microfiche copy of the 6" Second Edition Ordnance Survey map (1906) (fig. 4). By this time, Bullywells Farm had been built. The map also shows the quarry immediately to the south of the site, containing a kiln. It is uncertain whether this is the kiln known to have been built in the early 19<sup>th</sup> century, or indeed if it was still in use. The boundaries to the north and east are still evident, and a boundary and track now define the south edge of the site, with another boundary to the west.

### **7.2 Aerial photographic records (figs. 5,6)**

A search was requested of the aerial photographic collection held at the National Monuments Record, Swindon. From this, one oblique and two vertical frames were selected, although only the vertical shots were available. These were taken on May 7<sup>th</sup> 1948 (NMR ref. RAF/58/B/22 Frame 5260) and July 5<sup>th</sup> 1976 (NMR ref. OS/76137 Frame 152).

There appear to have been a number of changes in the layout of the fields surrounding the site during the 28 years that separate the two shots. For example, in the 1948 photograph (fig. 5), a boundary extends from the south-east corner of the site to the north-east. This has been removed by 1976, but is still visible as a crop mark running across a much larger field. The 1976 photograph (fig. 6) was taken during a period of severe drought, which greatly increased the visibility of many cropmarks. As a result, several of the cropmarks shown on fig. 2 are clearly discernible.

Within the proposed development area itself, few changes are evident between the two photographs. Two cropmarks of note however, are visible on the site. An amorphous dark patch is visible beneath the track, and this only appears on the 1948 shot. To the east of this and visible on both shots is an elongated elliptical dark area,

which is aligned broadly north-west to south-east and is surrounded by a lighter 'halo'. This appears to relate to the position of a low mound; observed during the site visit (see below). Without further investigation, is uncertain whether this characteristic is archaeologically significant or represents a relatively recent feature.

### 7.3 Sites and Monuments Record

The Sites and Monuments Record for Lincolnshire was consulted, as were the records held by Heritage Lincolnshire using a study area of 1km radius from the centre of the site. Much of this information has been incorporated into section 6.0, above:

<i>Record no.</i>	<i>Grid Ref. (TF)</i>	<i>Description</i>	<i>Period</i>
<b>HTL</b>			
1049490	0507 4615	2 enclosures, 1 25m x 25m in one 80m across	Prehistoric/Romano-British
1049818	0339 4422 to 0379 4448 0327 4469 to 0381 4509	Pit alignments. Alignment to east c.870m long runs c.NNE-SSW. Alignment to west runs NE-SW with dog-leg. Converge to NE and run either side of barrows (1049819)	Prehistoric
1049819	0362 4485	Long barrow cropmark c.45m x 20m + two circular doubled ditched barrow enclosures, and a third probable barrow ring ditch.	Neolithic - Bronze Age
1049832	0442 4443	Six-sided enclosure cropmark c.60 x 55m	Prehistoric/Romano-British
1050590	0483 4650	D-shaped enclosure with incomplete cropmarks of two rectangular enclosures on east side	Prehistoric/Romano-British
1050591	0402 4613	110m long stretch of broadly N-S ditch	Undated
1050592	0454 4500	200m long stretch of curving WNW-ESE ditch	Undated
1050593	0492 4571	3 sides of c.130m enclosure. Double ditches on W & N. 18m x 18m enclosure in NE corner. Ditches run off to N & E. ?villa	Romano-British?
NK 57.21	051 456	Flint arrowhead	Prehistoric
NK 57.22	0527 4467	Flint axehead	?Neolithic
NK 57.26	0381 4457	Flint scatter	Prehistoric
NK 57.42	052 453	Cropmarks of ditches & enclosures	Prehistoric/Romano-British
NK 57.55	0421 4607	Disc brooch with silver inlay. Found by metal detectorist	Iron Age/Romano-British
NK 57.66	0526 4464	Flint scraper found during watching brief	Bronze Age
NK 57.106	0520 4620	1 <sup>st</sup> century AD Enamelled brooch	Romano-British
NK 57.109	0563 4560	Scatter of 12 greyware sherds	Romano-British
NK 59.20	04 45	Gallo-Belgic E gold stater	Iron Age
NK 59.21	042 453	Pottery scatter	Romano-British
NK 59.35	0.67 4550	Coin - minim. Found by metal detectorist	Romano-British
NK 59.36	0422 4585	Coin. Found by metal detectorist	Romano-British
NK 59.37		Buckle & strap end. Found by metal detectorist	Anglo-Saxon
NK 59.38	044 453	Trenching in advance of quarrying. 26 trenches identified numerous linear features and a palaeochannel containing prehistoric flint, plus ridge and furrow and post-medieval field boundaries	Prehistoric, medieval, post-medieval

59.39	0415 4530	Trenching in advance of quarrying. 6 trenches identified enclosure ditch with c.60 postholes in base plus remains of barrow	Prehistoric/Bronze Age
<b>Lincs SMR</b>			
TF04NW O	044 453	Urn containing coins and awl like implement plus coins of Constantine at spring head of Slea. Possible shrine?	Romano-British (4 <sup>th</sup> century?)
TF04NW CE	055 454	Base sherd of Midlands Black Ware	Romano-British
TF04NE CF	055 454	Shell gritted rim sherd and post-medieval sherd	Romano-British and post-medieval
TF04NE CG	056 455	Pottery scatter	Romano-British – post-medieval
60375	041 447	Anglo-Saxon cremation/inhumation cemetery at Greylees Pits, yielding numerous metal finds, jewellery, pottery, some Roman finds. Possible extension to cemetery at 046 447	Romano-British and Anglo-Saxon
60487	0570 4455	Excavations of extensive Anglo-Saxon settlement and metalworking site	Anglo-Saxon
SAM 338	Centres on 0463 4576	Series of linear cropmarks and enclosures, trending NNE-SSW. Some overlap suggesting multi-phase settlement	Prehistoric/Romano-British

#### 7.4 Site visit

The author visited the site on Tuesday June 22<sup>nd</sup> 2004. The incline of the area, downwards towards the Slea, is very gentle, almost imperceptible in places. To the east of the track, which bisects the site, the incline is slightly steeper, particularly in the very south-east corner of the field. A low mound (c.1m high) was observed in the south-west quadrant of the field, broadly homologous to a cropmark observed from the aerial photographs (see above). It was not possible to investigate this any further due to the presence of electric fencing and three horses.

In the field to the west of the track, the ground cover consists of low grass, c.0.5m high. To the east, this grass has been cropped short by grazing horses. Electric fencing runs along the north side of the site and along both sides of the track. This fencing diverges from the track on its east side, the area between the two containing a small patch of long grass and an area of patchy grass with a static caravan. A public right of way runs along the south side of the site between an electric fence and a wooden fence.

#### 7.5 Geophysical survey

##### 7.5.1 Methodology

Gradiometry is a non-intrusive scientific prospecting technique that is used to determine the presence/absence of some classes of sub-surface archaeological features (eg pits, ditches, kilns, and occasionally stone walls). By scanning the soil surface, geophysicists identify areas of varying magnetic susceptibility and can interpret such variation by presenting data in various graphical formats and identifying images that share morphological affinities with diagnostic archaeological remains.

The use of gradiometry should help to establish the presence/absence of buried magnetic anomalies, which may reflect sub-surface archaeological features, and therefore form a basis for a subsequent scheme of archaeological trenching, if required.

The gradiometer survey was undertaken using a Bartington Grad-601 Dual Fluxgate Gradiometer. Zigzag traverse method of survey was used, with 1.0m wide traverses across 30m x 30m grids (Table 1).

Data was downloaded in the field into ArcheoSurveyor 28.4.0. The results are presented as greyscale and trace plot images along with an interpretative plan (Figure 9).

**Table 1**

Instrument	Bartington Grad-601 dual fluxgate gradiometer
Grid size	30m x 30m
Sample interval	0.25m
Traverse interval	1.0m
Traverse method	Zigzag
Sensitivity	0.1nT
Processing Software	ArcheoSurveyor (v.28.4.0)
Weather conditions	Showers and sunshine
Area Surveyed	1ha
Date of survey	2 <sup>nd</sup> July 2004
Survey personnel	Peter Heykoop
National Grid Reference	TL 5870 4506

### 7.5.2 Analysis and interpretation of results (Figs. 7-9)

The gradiometer survey has identified some potentially significant anomalies; some of which appear to correlate with cropmark evidence, and these are discussed below.

A series of linear anomalies (1) running approximately north-south appear to denote the remains of ridge and furrow cultivation. This ridge and furrow appears to truncate a sinuous anomaly (2) running east to west, which appears to broaden and become more diffuse magnetically on the west side of the existing track, which divides the field into two halves. This anomaly could well be a natural limestone fissure, as the site lies on the side of a glacial valley.

Close to the existing track, and to either side, are two large highly magnetic anomalies (circled pink): most likely caused by a nearby caravan, farm machinery and other modern ferrous materials.

At the eastern end of the survey, adjacent to the cropmark complex (SAM 338), which extends to the north-east of the proposed application site, a rectilinear anomaly (3) was detected. This denotes a ditch forming two sides of a possible enclosure, as depicted in the aerial photographic interpretation plot (fig. 2). Conjoined and staggered from the south-west corner of the enclosure ditch, is a linear anomaly (4)

indicating a ditch-like feature. A further short linear anomaly (5) was detected running parallel to the southern arm of the enclosure ditch.

Adjacent to the track is a north-west to south-east aligned elongated anomaly (6, circled red), complete with white halo. This appears to correlate with cropmark evidence (see section 7.2). Topographically, this forms a low mound (see above) and it has been suggested that it may indicate the remains of a funerary monument, such as a prehistoric long barrow. To support this further, a ploughed out Bronze Age barrow has been recently excavated some 200m to the south-west of the proposed site, beyond which lie a further complex of funerary monuments and a pit alignment. It is also possible that the anomaly may denote an area of modern dumped material, given the close proximity of caravan and farm rubbish, although the trace plot does not resemble a magnetic signature typical of modern ferrous debris and this may be further evidence that it reflects a more significant feature.

Immediately to the south of 6 is a fairly broad L-shaped anomaly (7).

A semi-circular anomaly (8) was detected to the west of 3. This may represent a feature of potential archaeological significance. However, due to the local geology, the possibility remains that this is some kind of glacial fracture (eg ice wedge).

In several areas, a number of discrete anomalies (9) were detected, which may represent pit-like features. Another substantial pit-like feature is located immediately to the south of anomaly 6.

### 7.5.3 Conclusion

The survey has identified a series of potentially significant anomalies, the majority of which lie towards the east side of the proposed development zone. Part of a rectangular enclosure, ditches, pits and an elongated anomaly were detected that suggests at least limited continuation of the cropmark complex immediately to the north-east. Of particular note is the elongated sub-oval anomaly (6), which could indicate the truncated remains of a prehistoric burial mound. The elongated mound is situated at the centre of a linear complex of archaeological remains, which follows the contour of the river valley.

Other anomalies detected include medieval ridge and furrow cultivation and modern ferrous debris.

### 7.6 General considerations

Rich archaeological evidence of several periods has been identified within the study area, and some of this evidence occurs within the proposed development zone. Aerial photography and geophysical survey has identified linear cropmarks at the east end, forming an extension to the extensive ribbon development of later prehistoric and Romano-British cropmarks; collectively listed as SAM 338. Immediately to the west of this is a low mound that may also be of potential archaeological significance. The site overlooks the valley of the River Sleas, and is on the same contour as a series of prehistoric funerary monuments, detected to the south-west (see fig. 2).

The general landscape surrounding the site has yielded a diversity of archaeological remains. For the prehistoric period, numerous cropmarks have been recognized, including pit alignments, Neolithic and Bronze Age barrows, and linear boundaries. Excavations less than 200m from the site identified a possible barrow, and several enclosure and boundary features. This suggests that, in the later prehistoric period, there was a settled population living in or close to the study area, with an established concept of territory and property.

The Romano-British period is well represented, in no small part, by an abundance of cropmarks. SAM 338, extending from the eastern boundary of the site may be of Roman date, and to the east of this cropmark complex, a possible villa has been identified (fig. 2). The study area also contains numerous isolated findspots of Roman pottery, coins and metalwork. Most significantly, there is the possibility that there was a shrine at Bully Wells spring, as attested by the discovery of multiple loose coins, and a ceramic vessel containing coins and a metal implement. The date of this material is assuredly Roman, but the nature of such a shrine is more Iron Age than Roman in character. The religious beliefs of Iron Age Britain were largely animistic, focused on places such as sacred groves, marshes, ponds and springs (Cunliffe 1991, de la Bedoyere 1993). It is possible that such a site existed at the Bully Wells spring in the Iron Age, with religious activities continuing into the Roman period.

Evidence for the Anglo-Saxon period is represented in the area by the cremations and inhumations found at Greylees Pits, and Grantham Road further to the east. It is uncertain whether these two findspots represent part of the same cemetery or two separate burial areas, one preceding the other. It does appear however, that the main foci of Anglo-Saxon activity are beyond the study area, with the major cemetery lying beneath the railway station; and the known settlements being located in Sleaford market place, Holdingham roundabout, and in Quarrington, c. 1.5km east-south-east of the site.

The medieval and post-medieval periods are also represented within the study area. Traces of ridge and furrow have been identified on the site by geophysical survey, and were also exposed in excavations 200m south of the site. This suggests that the proposed development area lay in a primarily agricultural zone during this period, supplying the population of Sleaford, which remained an important regional market throughout the medieval and post-medieval periods.

## **8.0 Impacts to the archaeological resource**

Any recent impacts to the archaeological resource are deemed to be limited. Map research has produced no evidence of any buildings on the site. A gravel track runs across the site, constructed after 1906, but this will have had little or no effect on the underlying archaeology. Ploughing of the uppermost deposits will have caused the only widespread impact. However, the cropmarks identified by aerial photography, and the geophysical survey anomalies suggest that this impact is limited. Currently the site is pasture, although it is not clear to what extent the area has been ploughed in previous centuries.



## 9.0 Conclusions

The research conducted for this report has yielded a wealth of archaeological data within the 1km radius study area, some of which is within the boundaries of the site itself. An extension of SAM 338 encroaches into the eastern edge of the proposed development area, with the result that development in this area will have an impact on the archaeological resource. The cropmarks defined by aerial photography have been augmented by the results of the geophysical survey, identifying further features that may be related to this complex. Furthermore, the low mound that was identified during the site visit, as well as by geophysical survey and aerial photography, may be a feature of considerable archaeological significance, possibly in a funerary context. Other remains of later prehistoric and Romano-British date have been identified very close to the site, possibly influenced by the proximity of the Bully Wells spring, which marks the head of the River Slea.

In considering the general diversity and density of archaeological remains that occur within the study area, and in considering the known or suspected remains that appear to occur within the proposed development zone, the archaeological potential of the site is concluded to be **moderate – high**.

## 10.0 Mitigation

This assessment provides both an objective and partly subjective potential for exposing archaeological deposits in the face of a proposed development. It has concluded that the site is of moderate to high archaeological potential, and that the proposed development could impact upon archaeological remains in the area. To obtain a more accurate appraisal of the actual potential, a number of steps could be taken.

As part of the initial programme of non-intrusive investigation, a geophysical survey of the site has already been undertaken, the results of which are included in this report (7.5 above). This technique can detect features such as linear ditches, rubbish pits and walls. It also allows the more accurate positioning of evaluation trenches, should these be required at some future date.

In this instance, given the potential of the site to contain archaeologically significant deposits, trial excavation may be advisable. Such trenching should be located across potentially significant geophysical anomalies, in order to establish their date range, profile and if possible, function. Trenching should be concentrated towards the east end of the site, where cropmarks associated with SAM 338, beyond the zone of scheduling, have been identified. The low mound visible in this area of the field should also be a focus of further intrusive investigation. Intrusive evaluation of these features may provide dating evidence to prove or disprove the assumption that the cropmarks relate to later prehistoric or Romano-British settlement and agricultural activity. Naturally, this area of the site should not be concentrated on to the extent that the west side of the site is neglected. Possible trenching could be located to intercept the large east – west linear anomaly, tentatively interpreted as a geological feature, and further trenches to ensure that the interpretation of the ridge and furrow is correct, and that this is not masking any earlier remains.

## 11.0 Acknowledgements

Pre-Construct Archaeology (Lincoln) would like to thank Halletec Associates Ltd. for this commission. Thanks are due also to the site owner, Mr. David Bellamy for allowing access, and to Jo Hambley at Heritage Lincolnshire; Sarah Grundy at Lincolnshire SMR and the staff of the Lincolnshire Archives Office for providing relevant information.

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SLVDC 11/2: "*Copy of an award for enclosing the open fields, meadows, pastures, fens, commonable and waste lands in the parish of New Sleaford with the hamlet of Holdingham and the parish of Quarrington in the County of Lincoln which said award was made under an Act of Parliament passed in the 34<sup>th</sup> year of the reign of his majesty King George III (1794)*", 1880, Sleaford (Lincolnshire Archives Office)

3 Cragg 1/30: "*Plan of townships of North Rauceby and South Rauceby in the County of Lincoln*", Date unknown (Lincolnshire Archives Office)

PSJ 13/6: "*The Lincolnshire estate of the most honourable The Marquess of Bristol, December 1863*", (Lincolnshire Archives Office)

1906 Ordnance Survey 2<sup>nd</sup> edition 6" map, (microfiche copy, Lincolnshire Archives Office)

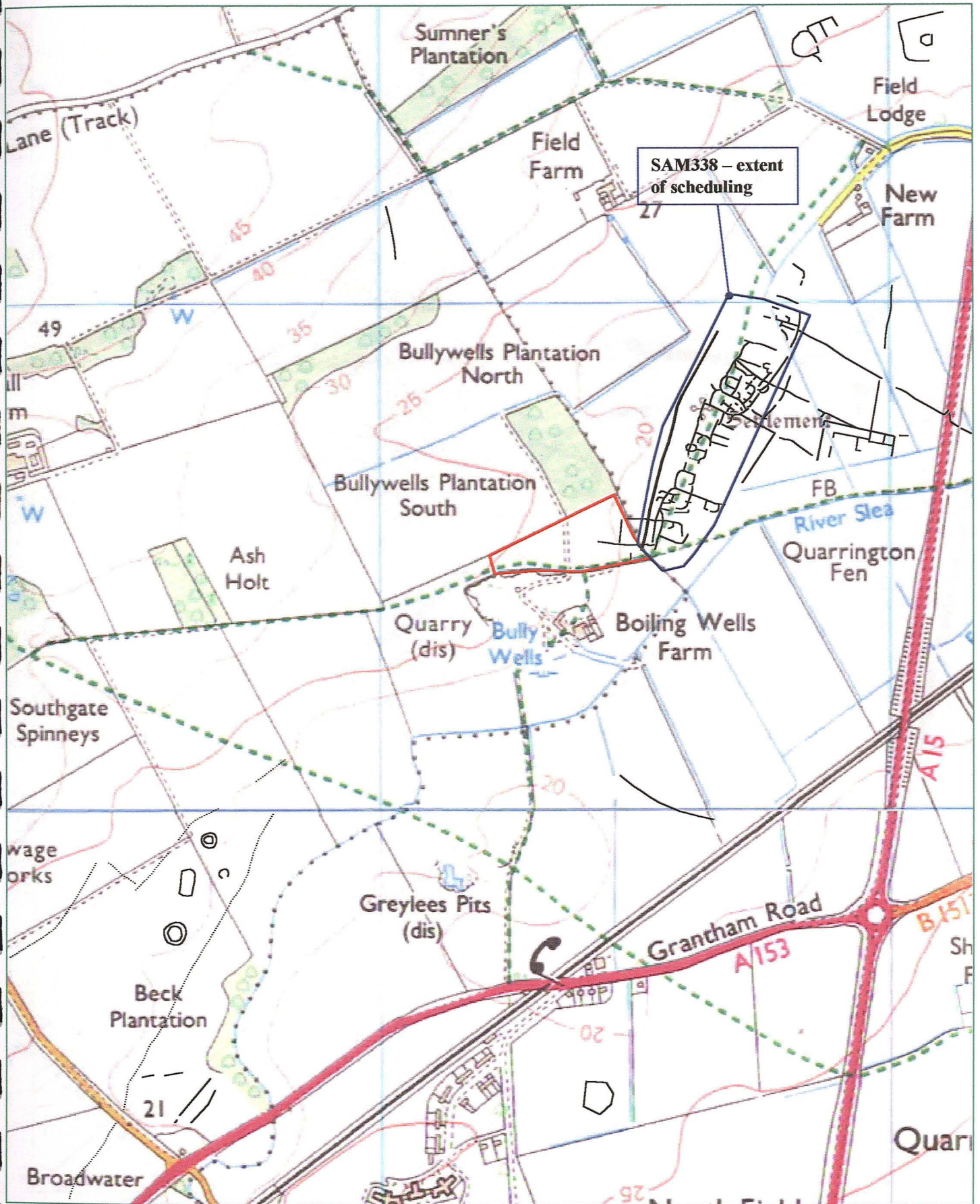
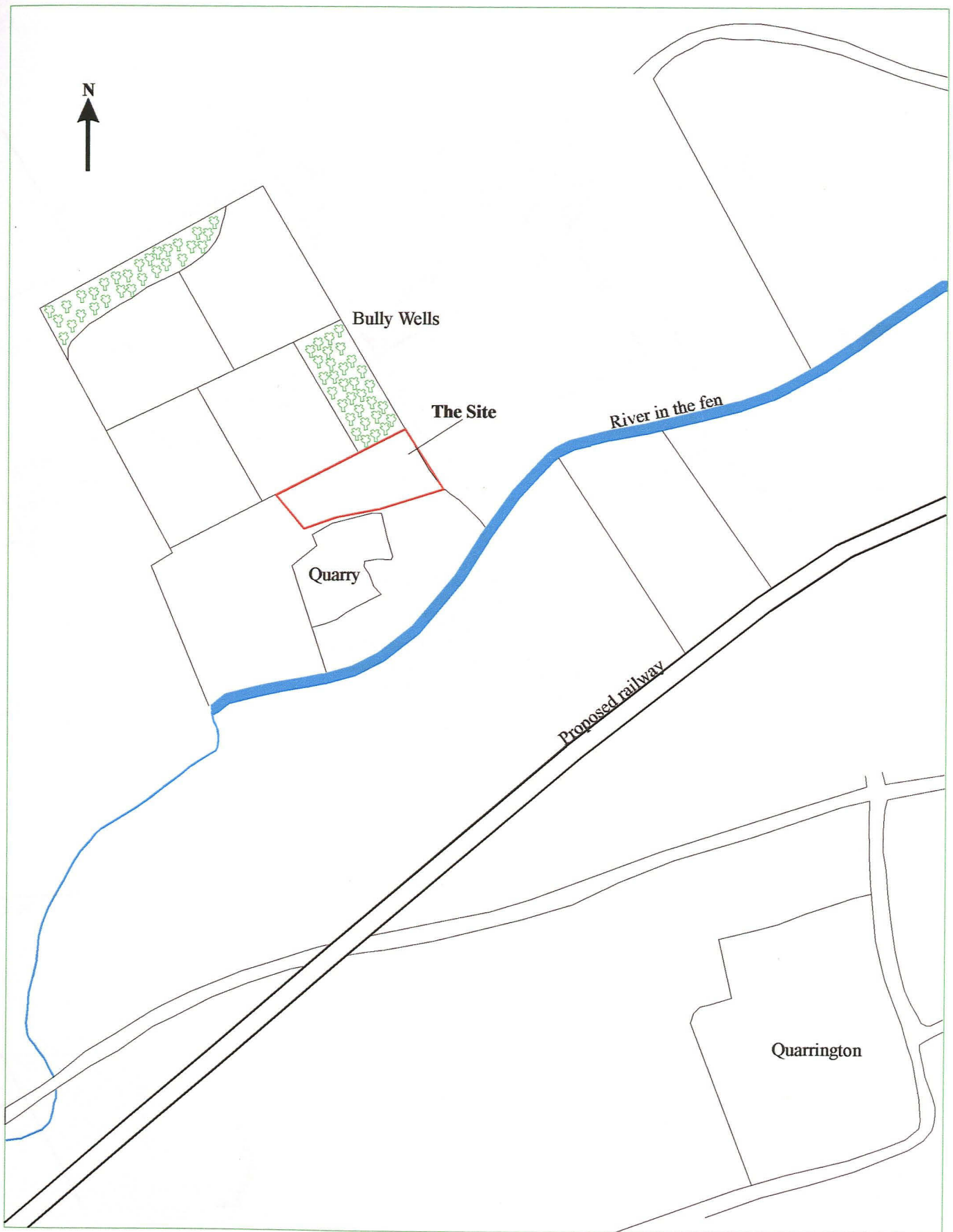


Fig. 2: Plan of the development area (outlined in red) shown in relation to the cropmarks recorded from aerial photography in the vicinity of the site (scale 1:10,000) (O.S. Copyright License No. A1 515 21 A0001)



**Fig. 3:** "The Lincolnshire estate of the Most Honourable The Marquess of Bristol".  
Map drawn in 1863 to show proposed route of the new railway line (not to scale)

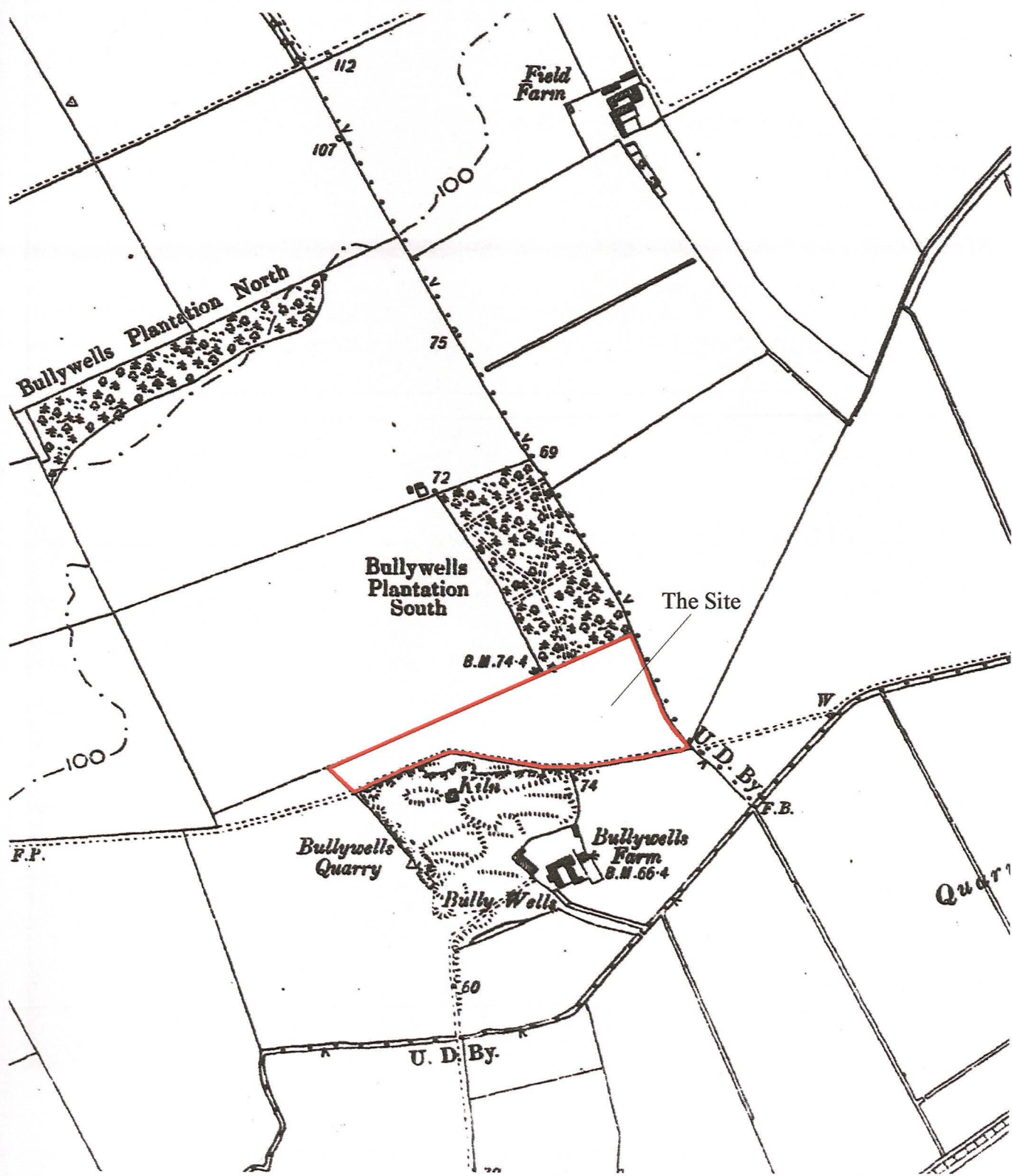
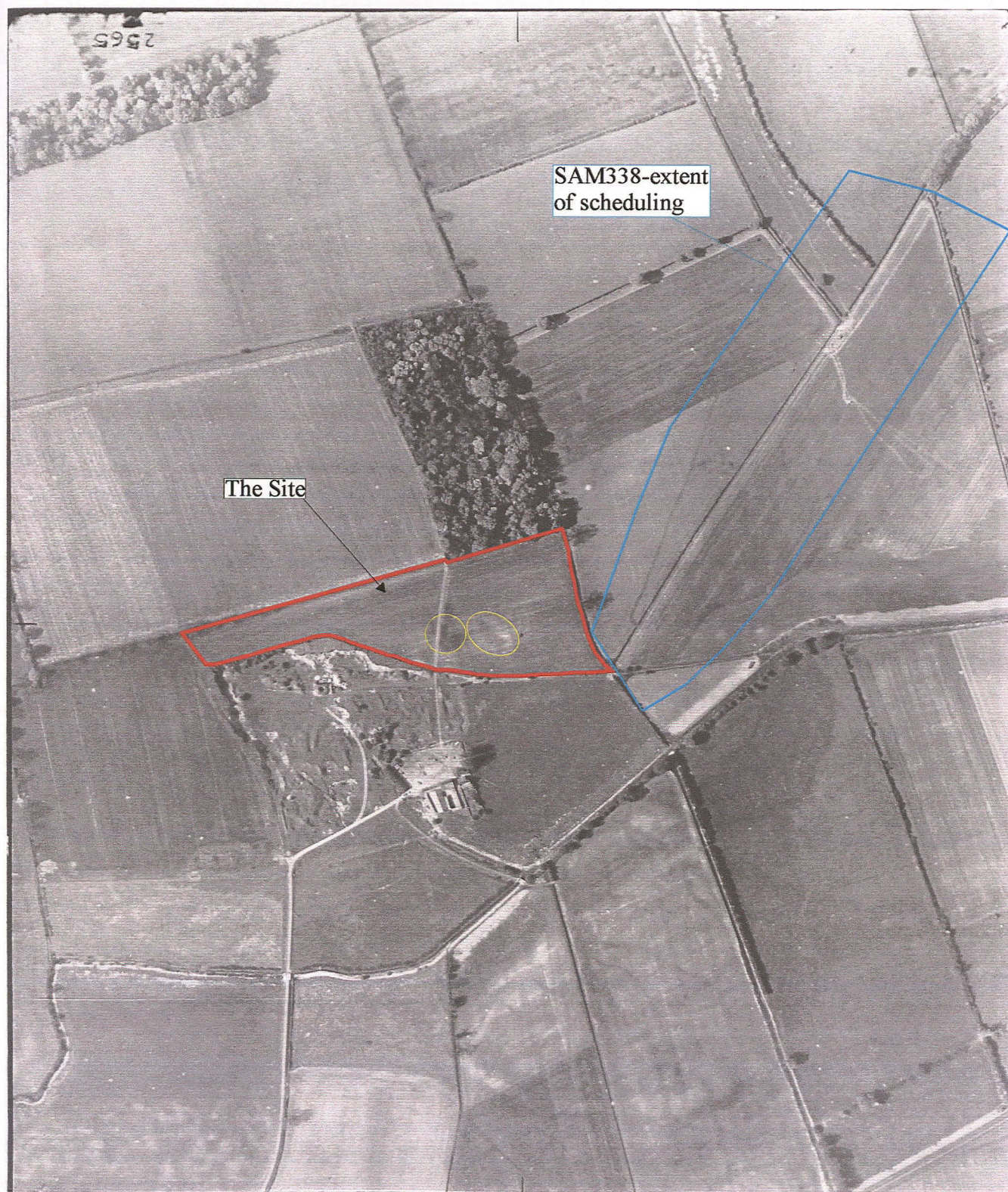
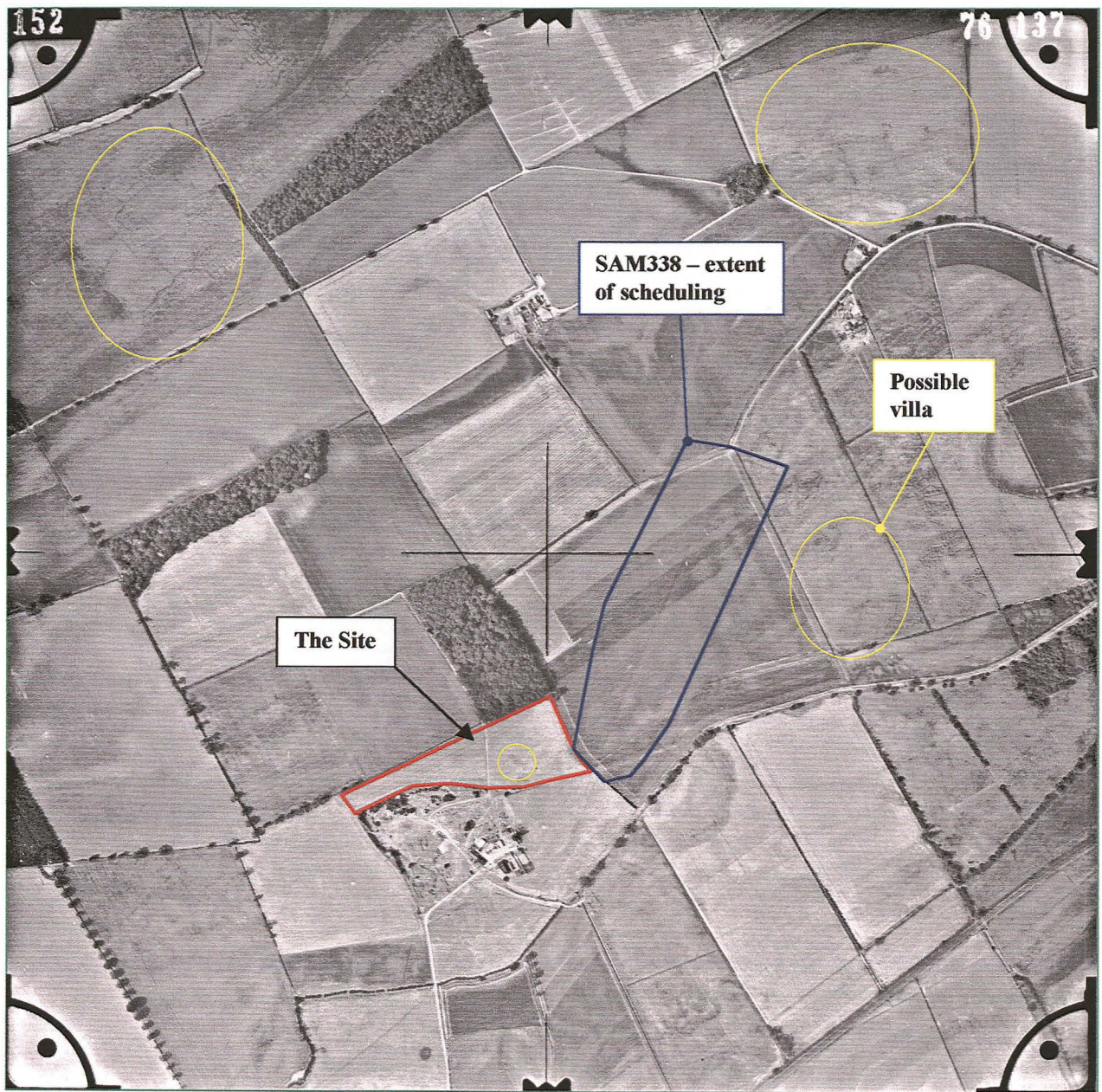


Fig. 4: Extract from Second Edition Ordnance Survey 6" map (1906). (Scale 1:10,000)



**Fig. 5:** Aerial photograph of the site taken in May 1948. The site is outlined in red, and cropmarks of potential archaeological significance are circled in yellow. The scheduled area of SAM 338 is outlined in blue. (Scale 1:5000)



**Fig. 6:** Aerial photograph of the site taken in July 1976. The site is outlined in red, and cropmarks of potential archaeological significance are circled in yellow. The scheduled area of SAM 338 is outlined in blue (scale 1:10,000)





**KEY**

□ Application Area

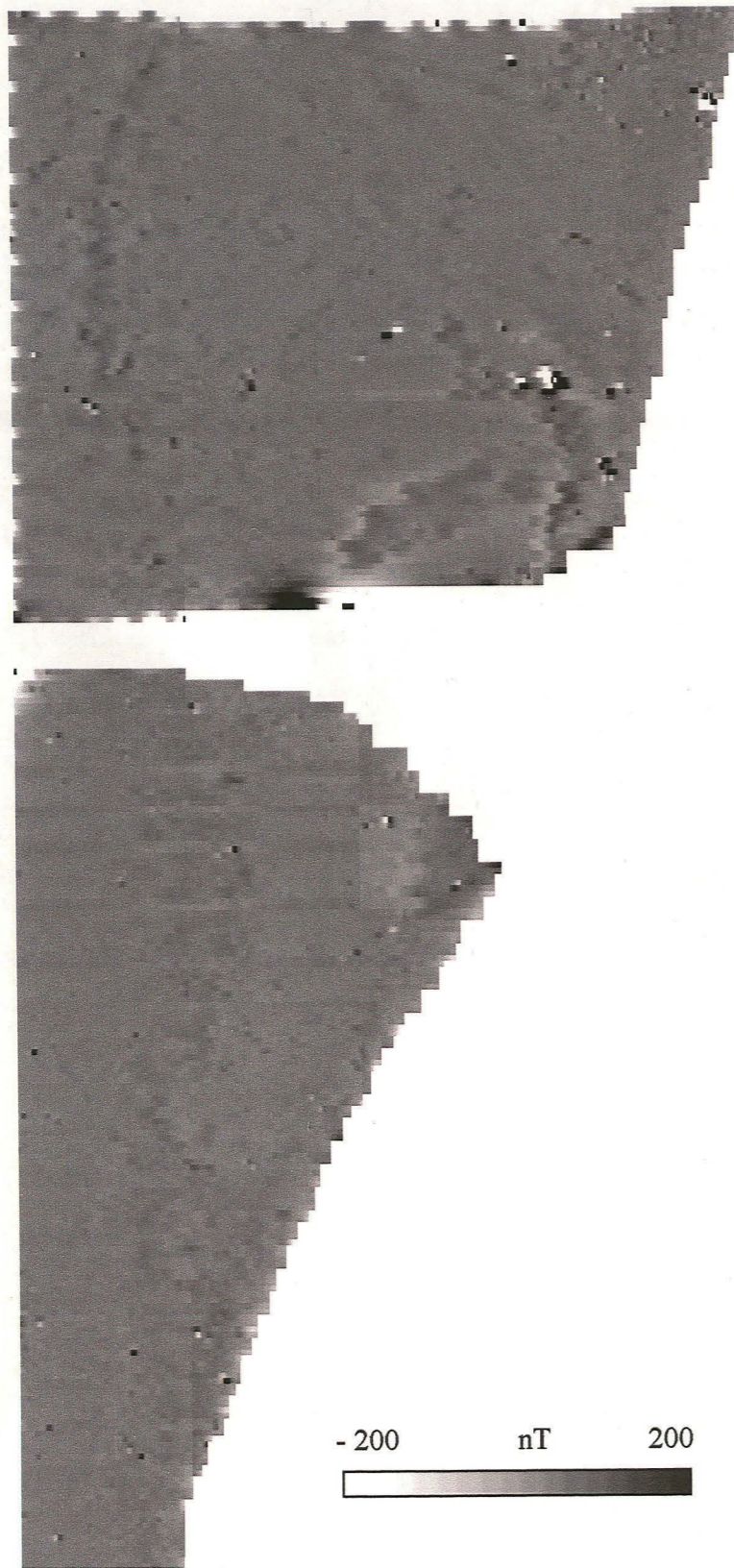
**Fig. 7: Location of geophysical survey with principal features highlighted (scale 1:1250)**

**Hallette Associates Ltd**  
 Chartered Surveyors, Geological & Environmental Consultants  
 Market Drayton Tel 01820 - 698035  
 Lincoln Tel 01522 544655

**TITLE: Boiling Wells Farm - Application Area**

JOB NO: H0176/2	DATE: 25/11/03
DRG NO: 0176/2/3	DRAWN BY: HGJ
SCALE: 1 : 1250	OS Copyright reserved Hallette Associates Ltd License No ES028940 Copyright Reserved

RAW DATA



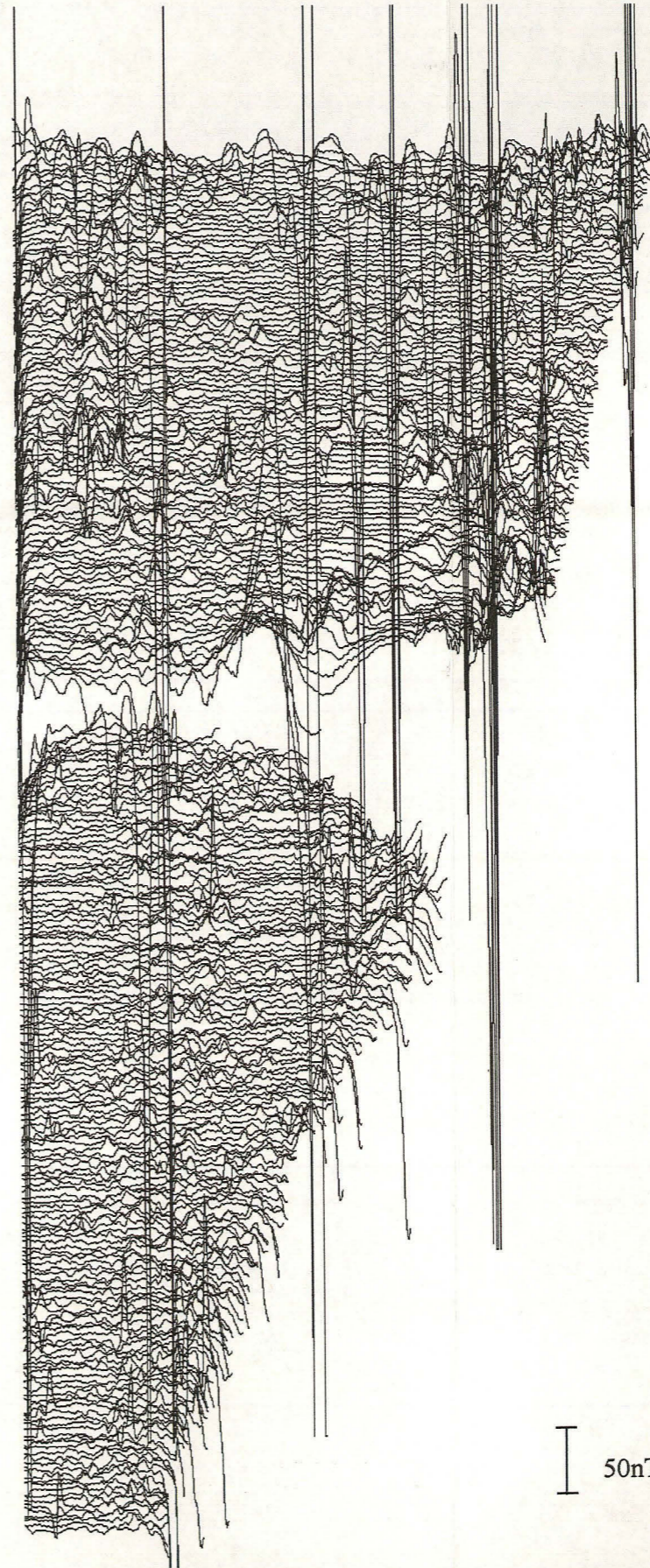
- 200      nT      200

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60m

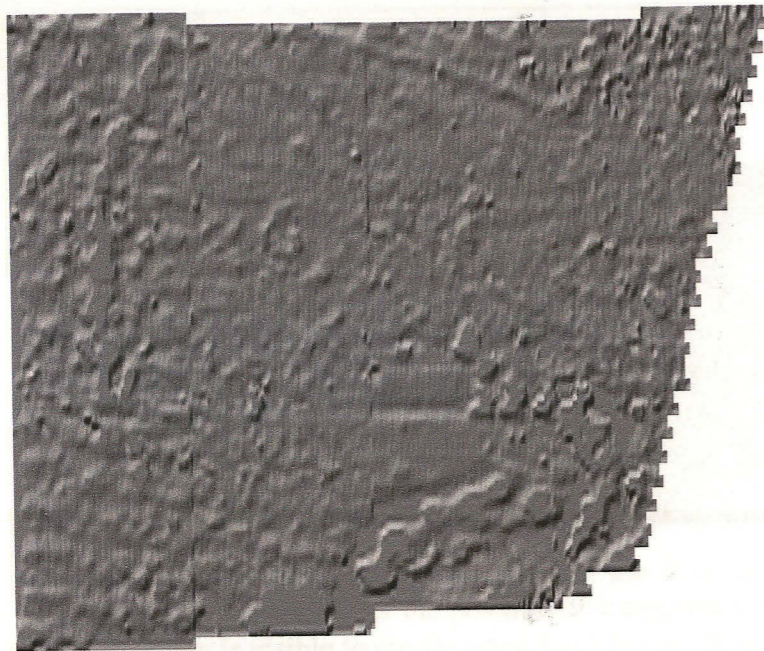
TRACE PLOT OF UNCLIPPED DATA



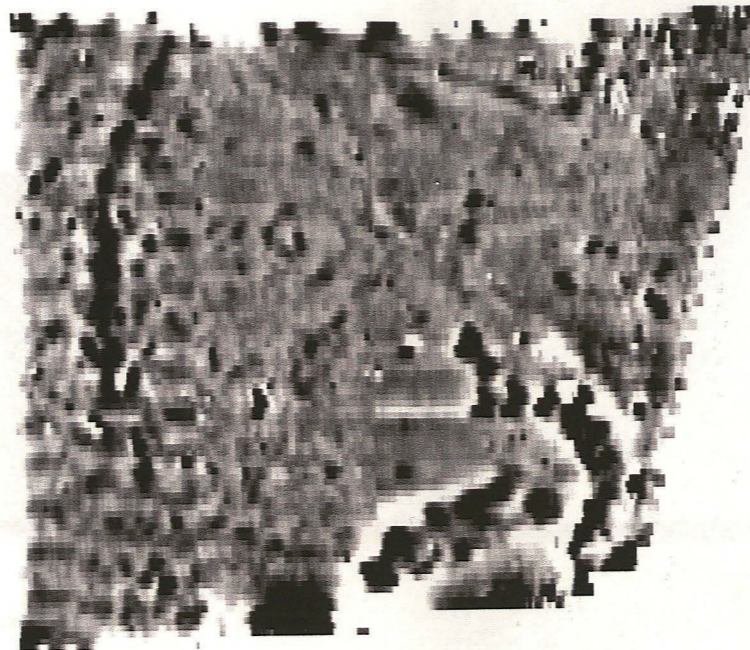
50nT

Fig.8: Gradiometer survey – greyscale of raw data and trace plot, scale - 1:1250

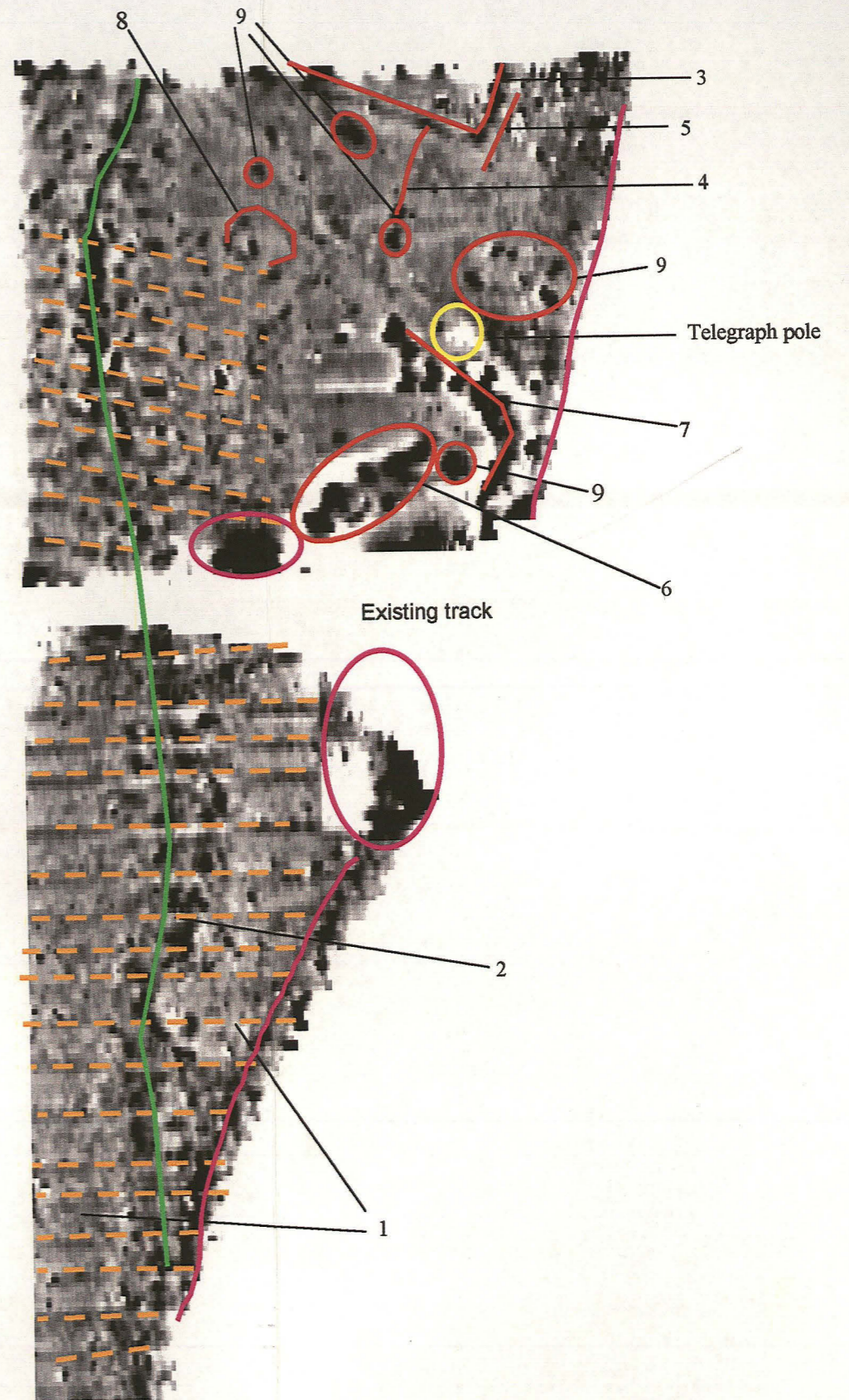
RELIEF PLOT



GREYSCALE IMAGE OF ENHANCED DATA



INTERPRETIVE PLAN



Towards Flat Away  
Sun position

- 1.5 nT 1.5



Fig. 9: Gradiometer survey – Enhanced data and interpretive plan, scale – 1:1250

APPENDIX 1: Colour plates



**Pl. 1:** View of the eastern portion of the development area. The low mound that marks the position of a cropmark and geophysical anomaly is visible to the far right. Looking south-east.



**Pl. 2:** Western portion of the development area. Looking west