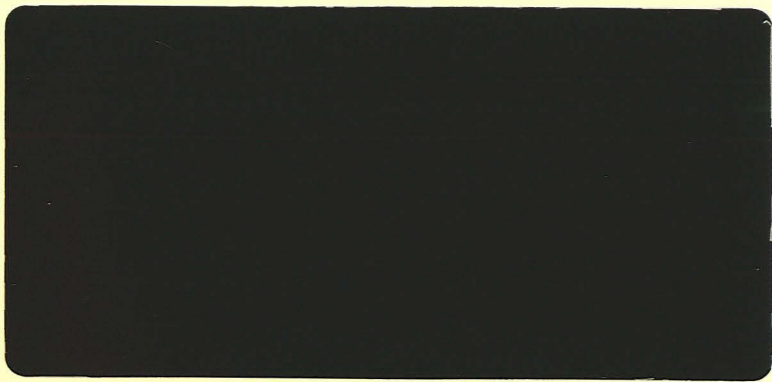


98/15

**ARCHAEOLOGICAL WATCHING BRIEF  
ON LAND AT  
ABBAY FARM, KIRKSTEAD,  
LINCOLNSHIRE  
(AFK 98 & KAD 98)**



**A P S**  
ARCHAEOLOGICAL  
PROJECT  
SERVICES



order 10/9  
accepted 23/09/98

0 4. SEPT 98

Lincolnshire County Council  
Archaeology Section

EVENT L13769  
SOURCES L18416 L18417  
40104 Undated  
40112 Med to post-med.

**ARCHAEOLOGICAL WATCHING BRIEF  
ON LAND AT  
ABBAY FARM, KIRKSTEAD,  
LINCOLNSHIRE  
(AFK 98 & KAD 98)**

Work Undertaken For  
Mr. W. Nelstrop

Report Compiled by  
Jenny Young BA (Hons)

August 1998

National Grid Reference: TF 193 614  
City and County Museum Accession No: 146.98

A.P.S. Report No: **46/98**

*Archaeological Project Services is an IFA Registered Archaeological  
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## 1. SUMMARY

*A geophysical survey and archaeological watching brief was undertaken during the excavation of a drainage pipe trench and geotechnical test pits to determine the archaeological implications of the proposed creation of a reservoir at Abbey Farm, Kirkstead, nr. Woodhall Spa, Lincolnshire. The proposed reservoir is situated close to the remains of Kirkstead Abbey founded in the 12th century. Part of the medieval drainage works from the abbey also extend into the area of investigation.*

*Geophysical survey did not clearly identify any archaeological remains, but was hampered by natural conditions at the site. However, some features were recorded and their positions correspond with the locations of buried ditches, identified on aerial photographs.*

*During the excavations an ancient stream course was identified and several ditches recorded. These were mostly located immediately south of the abbey in the drain trench excavation. A dump of demolition material of probable 14th-17th century date was also recorded in the drain trench. This may suggest the presence of buildings nearby. Medieval, 14th-15th century, pottery was also retrieved from the drain trench, though no artefacts were recovered during the test pitting on the proposed reservoir site.*

## 2. INTRODUCTION

### 2.1 Definition of a Watching Brief

*An archaeological watching brief is defined as 'a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons within a specified*

*area or site ...., where there is a possibility that archaeological deposits may be disturbed or destroyed' (IFA 1997).*

### 2.2 Planning Background

On the 30th April 1998 and 6th and 7th May 1998, an archaeological watching brief was undertaken during excavation of drainage pipe trenches and geotechnical test pits on land at Abbey Farm, Kirkstead, Lincolnshire. Archaeological monitoring was recommended by the Archaeological Officer (LCC) during these operations in order to determine the presence of archaeological remains and superceded a recommendation for an archaeological evaluation. The work was carried out to record archaeological deposits encountered during the excavations and to determine both the geological and archaeological implications of a proposed agricultural reservoir.

Archaeological Project Services was commissioned by Mr. W. Nelstrop to undertake an archaeological watching brief in accordance with requirements defined by The Standard Brief for Archaeological Projects in Lincolnshire (LCCAS 1997, 3.12.3).

### 2.3 Topography, Geology and Soils

Kirkstead is located approximately 22km southeast of Lincoln and 10km southwest of Horncastle in the administrative district of East Lindsey, Lincolnshire (Fig.1).

The site lies to the west of Tattershall Road, and is located approximately 5m OD at National Grid Reference TF 193 614 (Fig 2). Rectangular in shape, the site is approximately 4 hectares in extent.

The area under investigation lies to the southern end of a grassed field at the base of a slight east-west valley. The undulating

ground slopes westward down towards the River Witham. No earthworks were noted on visiting the site although aerial photographic evidence suggests the site is traversed by ditches aligned approximately east-west.

Local soils are predominantly of the Aldeby Association, typically sandy loam or loamy sand (Robson *et. al.* 1974, 31). Areas of Nocton, Downholland and Isleham Association soils also cross the site and comprise humose and peaty soils, possibly developed in former tributaries of the Witham (*ibid.* 26).

These soils overlie a drift geology of predominantly sand and gravel deposits that comprise the second river terrace of the Witham (BGS 1995). This overlies boulder clay or till and underlying these deposits is a solid geology of Jurassic clays of the Ancholme Group (*ibid.*)

## 2.4 Archaeological Setting

The site is located in an area of known archaeological activity of prehistoric and later date. Neolithic and Early Bronze Age stone tools represent the earliest finds from the investigation area, though there is no firm evidence of prehistoric settlement in the vicinity.

Iron Age settlement has been identified close to the investigation area. A boundary ditch, gullies and pit were revealed in evaluation at Witham Road, Woodhall Spa and a large triple ditched enclosure, positioned on a slight promontory to the south of Kirkstead Abbey, has been identified from aerial photographs.

Romano-British settlement is restricted to a single site comprising earthworks of banks and ditches recorded in 1929.

Place-name evidence suggests that the

settlement had originated during the medieval period. Historical documentation of Kirkstead first occurs in the Pipe Rolls of 1157 when it was referred to as *Chirchesteda*. The name is derived from a slightly Scandinavianized form of the Old English *ciricstede* meaning the site of a church (Ekwall 1974, 280). Woodhall possibly has an earlier origin as it is mentioned in the Danelaw Charters of the 12th century and the place-name is derived from the Old English meaning a hall in the wood (*ibid.* 531).

Neither location is mentioned in the Domesday Survey of 1086 but it is likely that the land was held by Eudo from one of the surrounding manors at either Tattershall Thorpe, or Kirkby-on-Bain (Foster and Longley 1976).

Hugh, son of Eudo and Lord of Tattershall, gave land for monks of the Cistercian order to build Kirkstead Abbey in 1139 (Page 1988, 135). The first location chosen for the monastery was unsuitable as it lay within a marsh and was not large enough. Leave to move to a suitable location was granted by Robert, the son of Hugh, in 1187. However, a certain amount of controversy surrounds details regarding the move to a new location and the date of the charter, as Robert is thought to have died before 1185 and the architectural styles are thought to predate 1175 (RCHME n.d., 1).

Despite the discrepancies in the early history of the abbey, it is known that Kirkstead prospered in the first one hundred years of its existence. The tax returns for 1291 give a value of between £345 and £369 (RCHME n.d., 2; Page 1988, 137). The basis of this wealth relied on the large sheep flocks kept up by the abbey at Kirkstead and granges in Lincolnshire and Yorkshire. The land they owned in the vicinity included the manor of Woodhall and the profits from the



rectory of Woodhall church (Page 1988, 137). Up to 40 sacks of wool per year were being produced at Kirkstead and represents, along with Revesby and Spalding, the highest in the county (Owen 1981, 66). Alternative sources of revenue came from quarries in the Wolds and salterns, salt producing sites, at Fishtoft (*ibid.* 68.). Fishing in the River Witham was also a prime interest and a grant was given to the Abbot extending its fisheries over the Witham valley between 1239-45, thus allowing the abbey to fish freely during floodtimes (Hallam 1965, 103).

Between 1230-40, Kirkstead Abbey was responsible for building the small church of St. Leonard south of the abbey and 100m west of the proposed reservoir. The history of the church is overshadowed by the abbey, although it has been referred to as '*chapel ante portas*', meaning Gate Chapel (Pevsner and Harris 1989, 418).

Kirkstead Abbey was dissolved in 1537 during the Reformation. Remains of the abbey lie about 300m northwest of the proposed reservoir site and comprise an outer bank and moat, the earthworks of individual buildings as well as a surviving fragment of the south transept wall. Cropmarks indicate an elaborate system of drainage, enclosures and fishponds surrounding the abbey.

Other medieval remains include the possible site of a moated enclosure near Old Hall Farm, supposed medieval vaulted cellars beneath Abbey Lodge Inn and a boat discovered whilst digging for clay.

Post-medieval archaeology within the environs of the abbey is represented by three mounds located in the abbey precinct which are likely to be post-medieval pottery kilns. Recent work by RCHME has also identified the possible remains of a post-dissolution house. A number of gullies

and field systems dating to the post medieval period have also been identified (Cope-Faulkner 1998).

Several listed buildings are located in the immediate area, including Old Hall, Old Abbey Farm and Abbey Lodge Inn (DoE 1986), some of which incorporate reused masonry from the nearby abbey (Cope-Faulkner 1998).

### 3. AIMS

The aim of the watching brief was to record and interpret archaeological features exposed during ground disturbance.

### 4. METHODS

Prior to the excavation of pipe and geotechnical trenches, a geophysical survey of the site (Appendix <sup>1</sup>β) using both gradiometry and magnetic susceptibility was undertaken, to evaluate the extent of archaeological remains in the area, if any.

Pipe and geotechnical trenches were excavated by machine. A total of 19 trenches, each measuring 5m by 4m, were opened by mechanical excavator under archaeological supervision to a depth of 5m. The locations of the trenches (Fig. 3) were surveyed by professional surveyors. A recently cleaned dyke was also examined and the features revealed were recorded using a *Geodolite Total Station Theodolite*. Spoil heaps were inspected for archaeological artefacts which were collected.

Excavation of the trenches was observed and sections of the exposed deposits were recorded at a scale of 1:10 and 1:20 and recorded to a depth of 1m. Photographs were taken during groundworks, depicting the setting of the site and recording the

deposits encountered.

Each archaeological deposit or feature identified in the watching brief was allocated a unique reference number (context number) with an individual written description. Recording of deposits encountered during the watching brief was undertaken according to standard *Archaeological Project Services* practice.

## 5. RESULTS

### 5.1 Geophysical Survey Results

Geophysical survey (Appendix 1) did not clearly identify any archaeological features in the investigation area. However, a number of magnetic anomalies were detected during the survey. These anomalies were attributed to disturbance caused by trees, a possible disused pond and discarded agricultural material. However, some of the magnetic anomalies correspond, approximately, with the positions of cropmarks of probable ditch features. Naturally reduced iron panning also produced a ferro-magnetic signal, which reduced the effectiveness of the survey technique.

### 5.2 The Stratigraphic Sequence

Finds recovered during machining were examined and a date was assigned where possible. Records of deposits exposed during groundworks were also examined. A list of all contexts and interpretations appears as Appendix 4. Phasing was assigned based on the nature of the deposits and recognisable relationships between them, supplemented by artefact dating. Stratigraphic matrices of all identified deposits was produced. Three phases were identified:

Phase 1: Geological deposits

Phase 2: Medieval/Post-medieval deposits

Phase 3: Later/Undated deposits

Archaeological contexts are described below. The numbers in brackets are the context numbers assigned in the field.

### 5.3 Phase 1: Geological Deposits

The earliest recorded deposits within the pipe trench were encountered at a depth of 0.55m and comprised mid brown sandy silt (008) above yellowish brown sand (006), which in turn overlay yellow sand and stone (007).

Excavation of geotechnical trenches exposed various natural deposits comprising clays (023) and (028), in some cases intercalated with sands (024), (027), (019), (020) and (036); and sands and gravels (030), (035), (037), (038), (041), (042).

An east-west palaeochannel (052), greater than 1.2m deep, with smooth to steep sides and an undulating concave base was recorded in a recently cleaned field dyke on the west side of the proposed reservoir area (Fig. 8).

### 5.4 Phase 2: Medieval/Post-medieval Deposits

During pipe trenching south of the abbey, a deposit of mid brown sandy silt (015) containing large stone and tile fragments of 14<sup>th</sup> - 17<sup>th</sup> century date was recorded and interpreted as a demolition dump (Fig. 7).

### 5.5 Phase 3: Later/Undated Deposits

A ditch (005) and a possible furrow (010) (Fig. 5) were recorded during pipe trenching. Neither feature yielded dateable material. Cutting into the natural geology, ditch (005) was aligned northeast-southwest, with steep sides and a base

obscured by ground water level.

To the east of (005), also cutting the natural geology, a possible ditch or furrow (010) running northwest-southeast, 2.08m wide and 0.5m deep with concave sides and base was recorded.

Within the geotechnical trenches, a possible ditch/pit (044) with a concave base (Fig. 4), cut into the natural geology in Trench 7.

Two ditches (046) and (048) were recorded nearby in a recently cleaned dyke (Fig. 8). Ditch (046) had stepped sides and a concave base and was recorded running east-west. The other ditch, (048), was also aligned east-west and had steep concave sides. This was filled by mid brown silty sand (032). Neither feature contained artefacts.

Layers of subsoil were recorded both in the pipe and geotechnical trenches. In the pipe trench, deposits of brownish black sandy silt (011 and 014) and brownish yellow silty sand (002) represent such deposits.

Within the geotechnical trenches deposits of subsoil comprising sands (022) and (034), greyish brown sandy silt (029) and greyish brown clay (033) were encountered.

Cutting through the subsoil (022) in Test Pit 4 was a trench for a ceramic land drain (054).

Overlying subsoil (022) and natural deposits (023), (027), (036) and (041), a layer of iron panning (025 and 026) was recorded. Although a natural deposit, this was consigned to this phase as it overlay the subsoil in places.

A layer of dark greyish brown sandy silt forms the topsoil at the site. This layer

ranged in thickness from 0.16m to 0.36m. Medieval pottery and tile was recovered as unstratified material during excavation of the pipe trench.

## 6. DISCUSSION

Archaeological investigations within the area of development has recorded a sequence of geological, medieval and later deposits.

The earliest recorded deposits (Phase 1) were natural glaciofluvial clays, sands and sands and gravels, deposited during and after the last ice age. Additionally, a natural palaeochannel, perhaps a tributary of the Witham, was also identified. The position of this palaeochannel corresponds with, and probably provides an extension of, an adjacent pond (Fig. 8).

Several ditches were revealed predominantly in the northern part of the investigation area, close to the remains of the abbey. These ditches were undated and lacked clear functional indicators. However, it is probable that the ditches functioned as boundaries or for water management, or both. Aerial photographs reveal cropmarks of ditches, generally interpreted as an elaborate drainage system, surrounding the abbey. It is possible that the ditches identified in the present investigation were part of the drainage system. Only one of the ditches (048) identified in the excavations was definitely correlated with one of the cropmarks. However, a second ditch (046), is on the line of, and between, a cropmark (to the east) and an earthwork (to the west), and probably constitutes part of the same linear feature.

Just south of the abbey remains a demolition deposit was identified. This probably signifies the location of a

building. Containing tile of 14<sup>th</sup> - 17<sup>th</sup> century date, it is possible that this deposit derives from a building demolished at about the time of the dissolution of the abbey in 1537.

Above the archaeological remains was a subsoil deposit which may have originated as a result of ploughing. Partial iron panning above the subsoil probably resulted from mineralisation at the level of the water table. The field drain and topsoil reflect relatively recent agricultural use of the land.

## 7. CONCLUSIONS

Archaeological investigations, including geophysical survey and a watching brief during the excavation of drains and test pits, were carried out prior to the proposed construction of a reservoir at Abbey Farm, Kirkstead.

Geophysical survey did not clearly identify any archaeological remains, though site conditions inhibited the effectiveness of the technique. However, slight magnetic anomalies were recorded and these coincide with the positions of cropmarks of probable buried ditches.

A small number of archaeological features, mostly ditches, were recorded and were mainly located in the drain pipe trenching immediately south of the abbey remains, though none of them contained dating evidence. A spread of demolition debris of apparent 14th-17th century date and perhaps signifying the site of a building, was also revealed in this area. A palaeochannel was also encountered.

The relative absence of archaeological features in the proposed reservoir site suggests that this area lies outside the zone of remains associated with the abbey.

Although not identified in the investigation, palaeoenvironmental material may survive in the area through both waterlogging and charring.

## 8. ACKNOWLEDGEMENTS

Archaeological Project Services would like to acknowledge the assistance of Mr W. Nelstrop who commissioned the fieldwork and post-excavation analysis. The work was coordinated by Gary Taylor and this report was edited by Gary Taylor and Tom Lane. The finds were kindly commented on by Paul Cope-Faulkner, Hilary Healey and Gary Taylor.

## 9. PERSONNEL

Project Coordinator: Gary Taylor  
Site Supervisor: Fiona Walker  
Finds Processing: Denise Buckley  
Illustration: Paul Cope-Faulkner, Phil Mills  
Post-Excavation Analysis: Jenny Young

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## 11. ABBREVIATIONS

APS	Archaeological Project Services
BGS	British Geological Survey
DoE	Department of the Environment
IFA	Institute of Field Archaeologists
LCCAS	Lincolnshire County Council Archaeology Section
LoE	Limit of Excavation

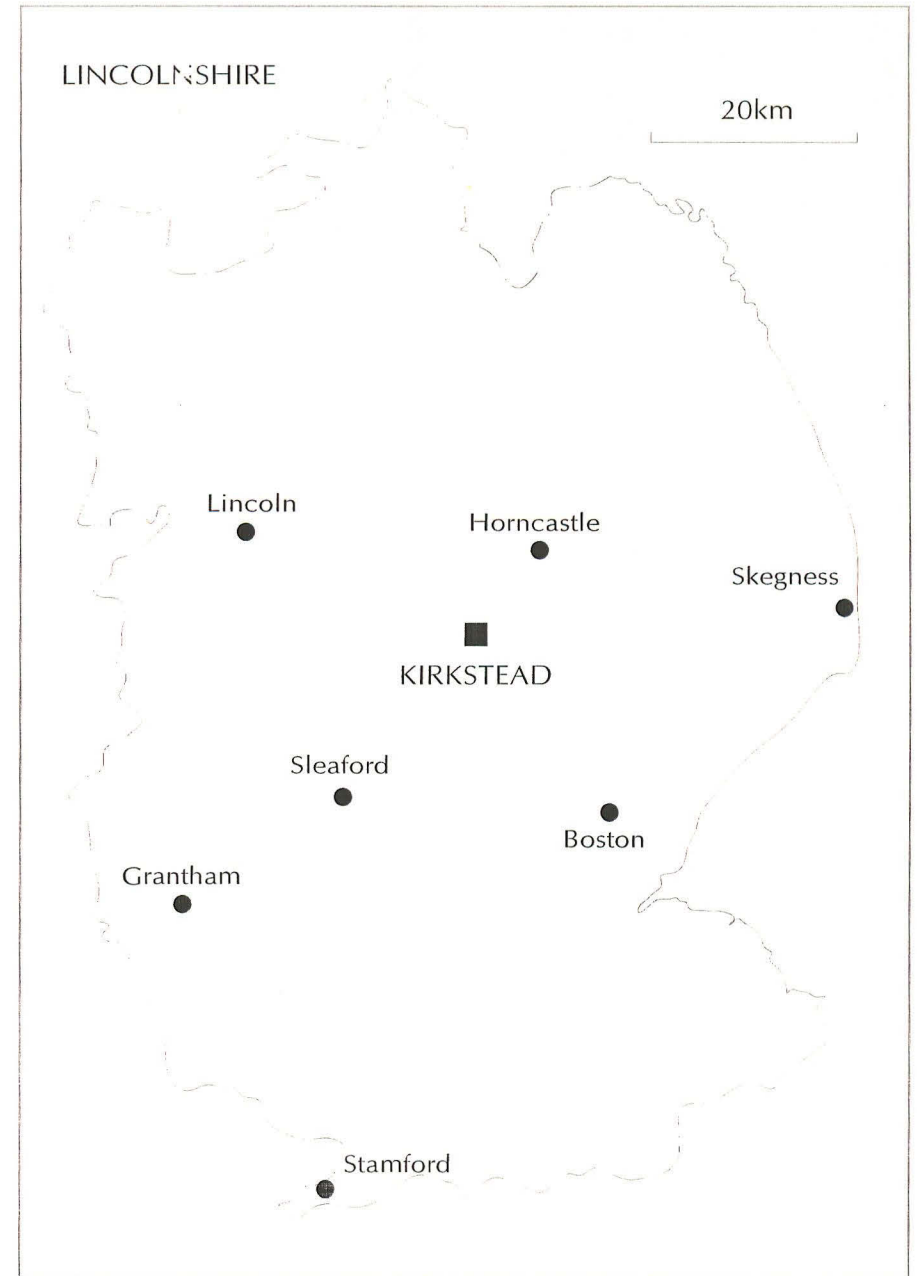
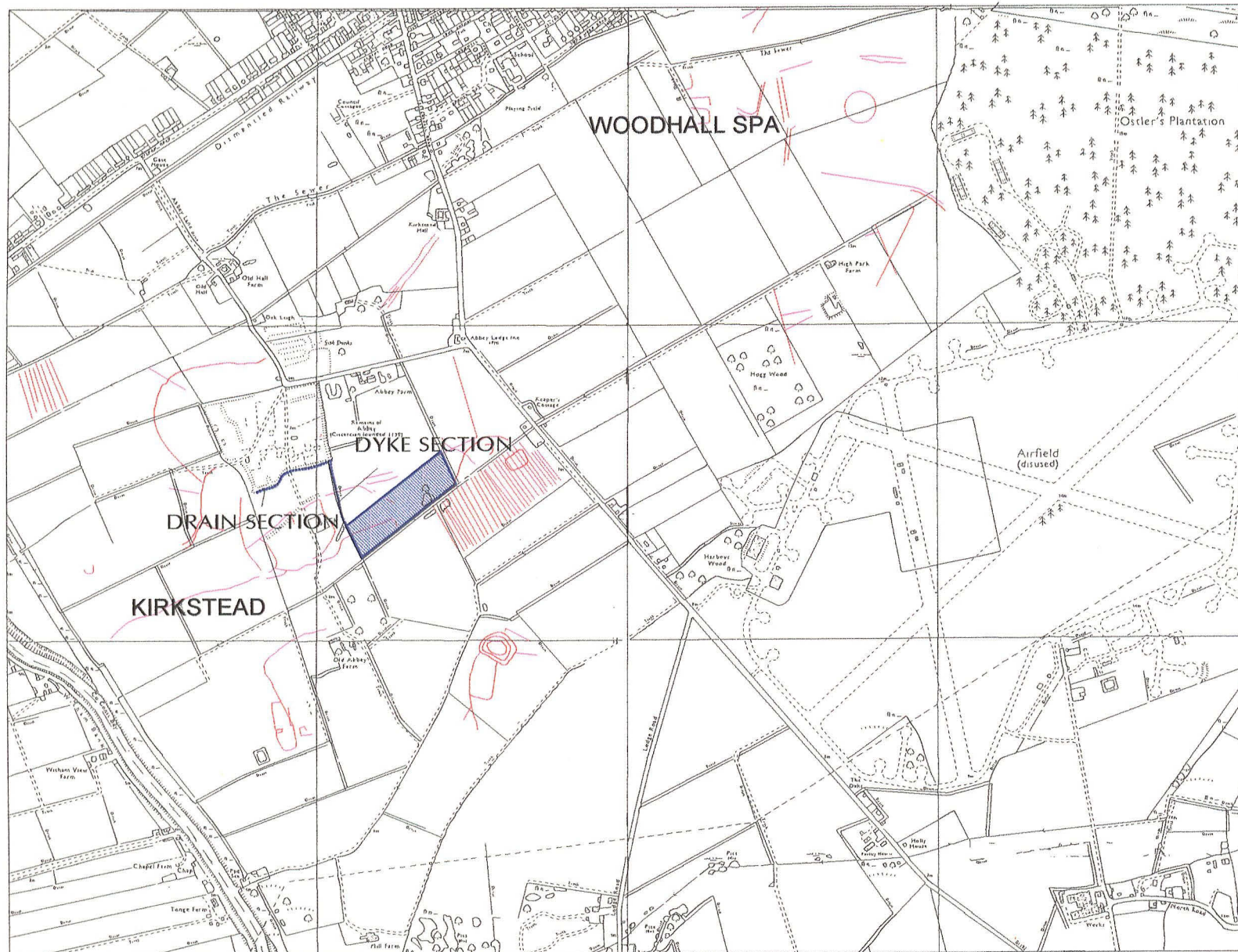


Figure 1 - General Location Plan



Crop Marks



Proposed reservoir location

Figure 2 - Site Location Plan

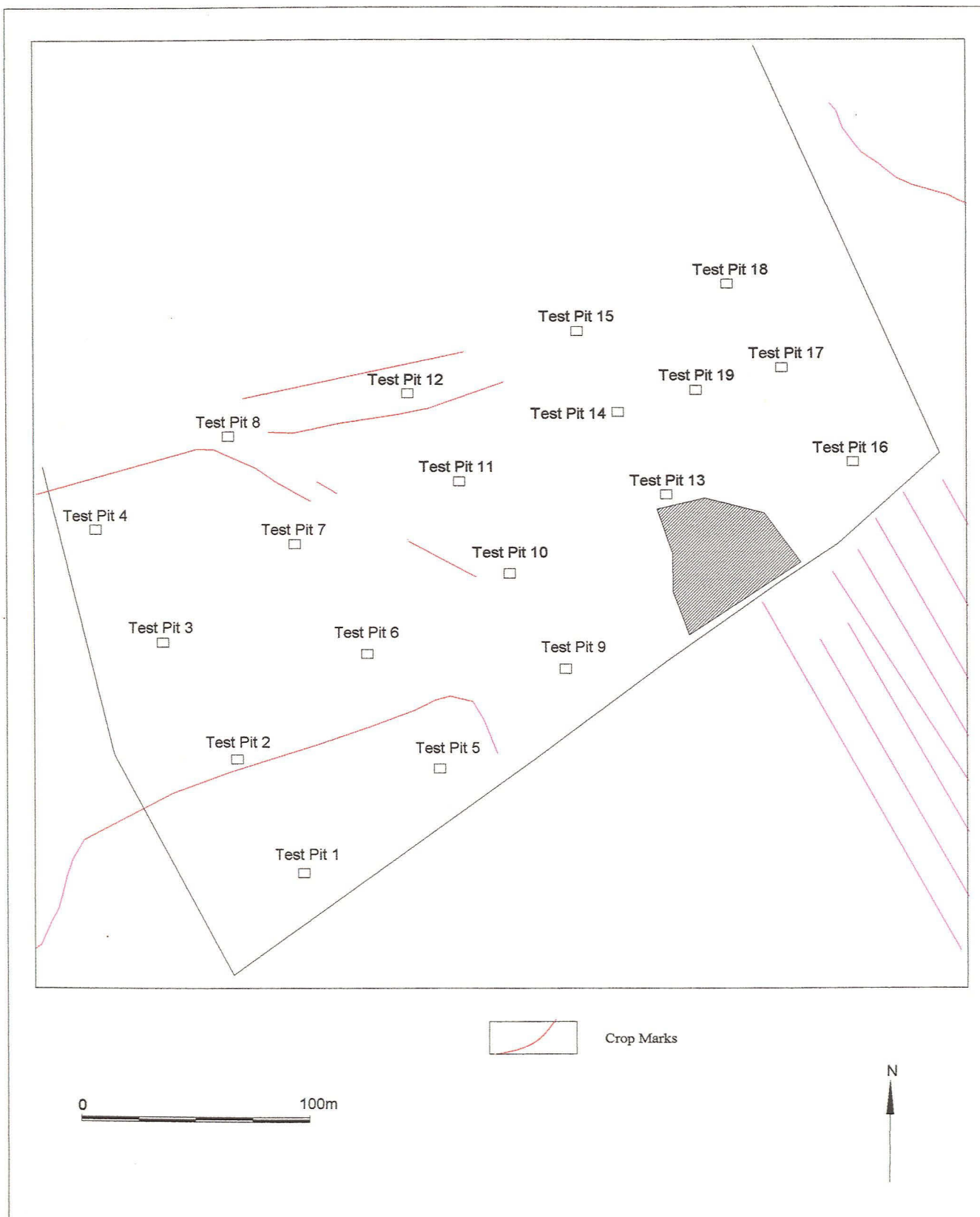


Figure 3 - Geotechnical Trench Location Plan, proposed reservoir area, showing crop marks



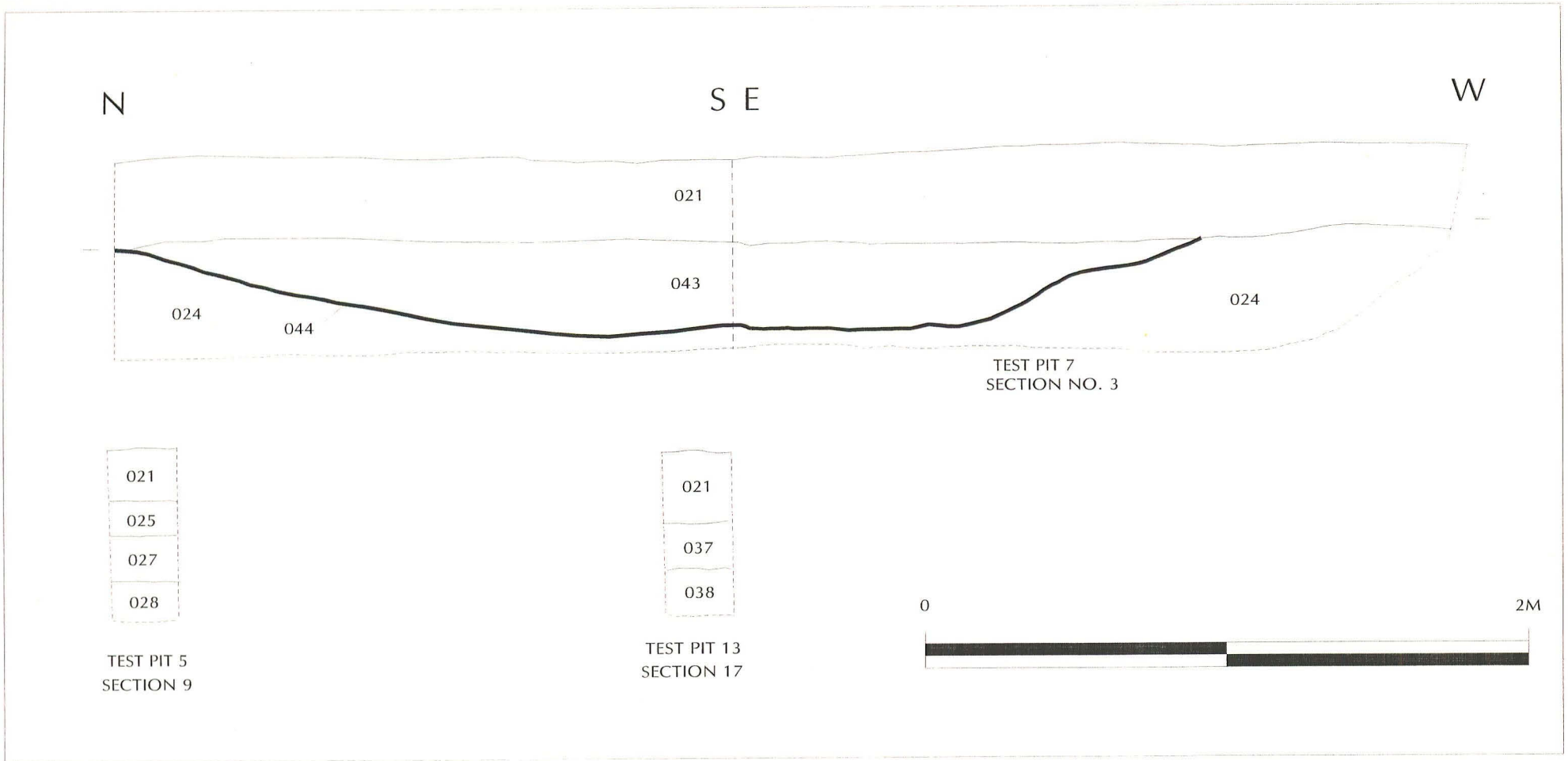


Figure 4: Sections 3, 9 and 17

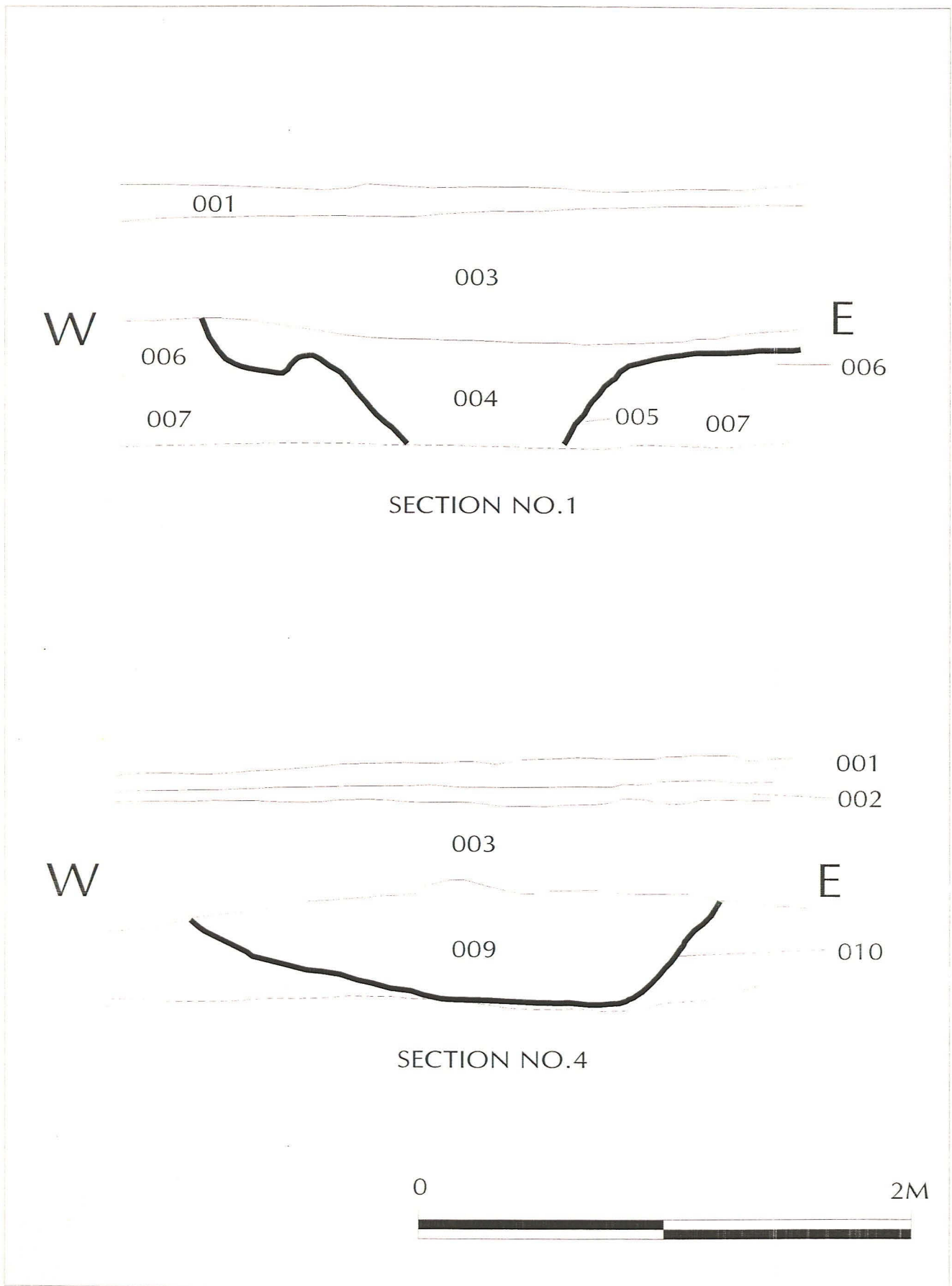


Figure 5: Sections 1 and 4, drain trench

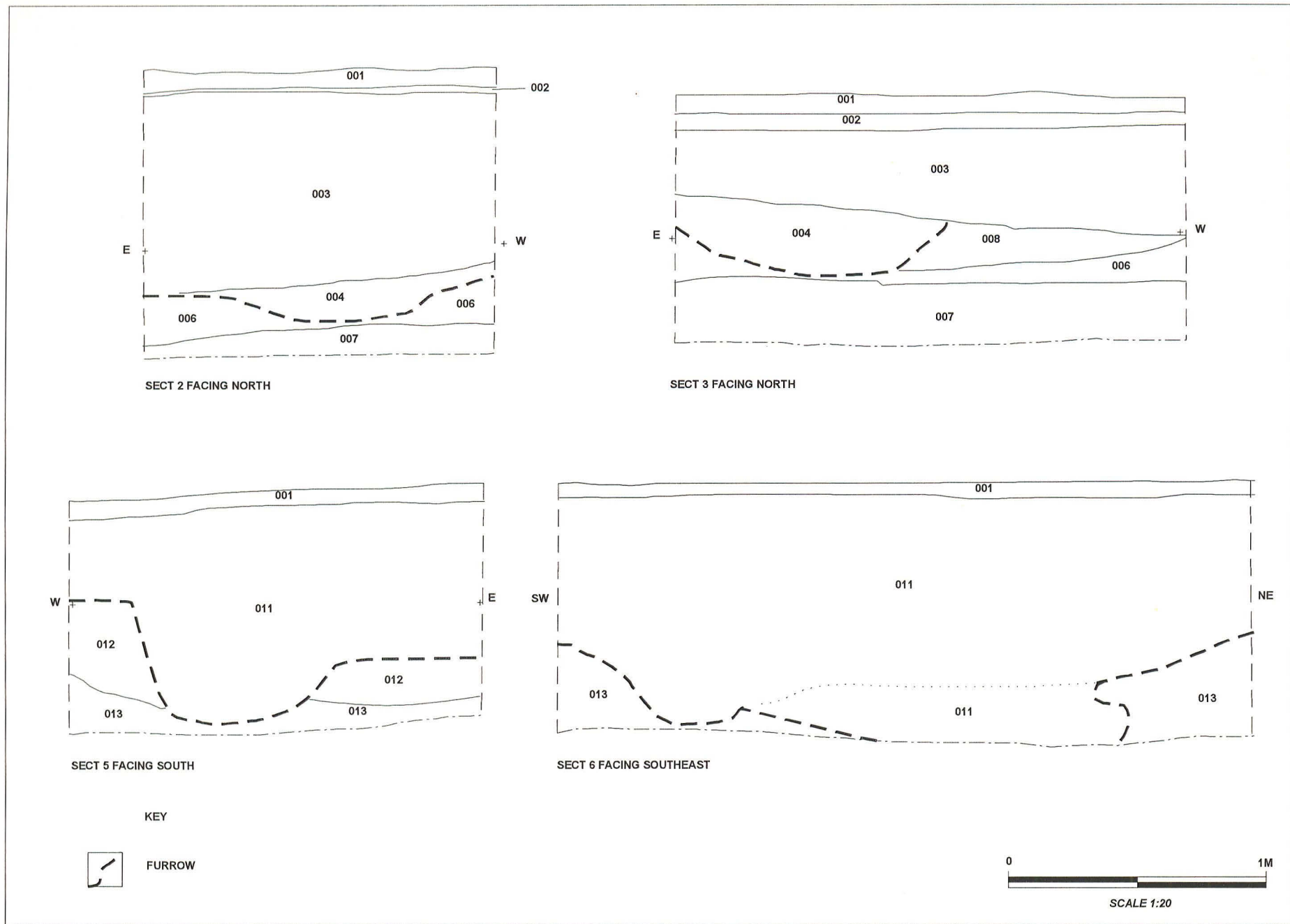


Figure 6: Sections 2-3 and 5-6, drain trench

Figure 7: Location of Drainpipe Trench,  
showing positions of sections



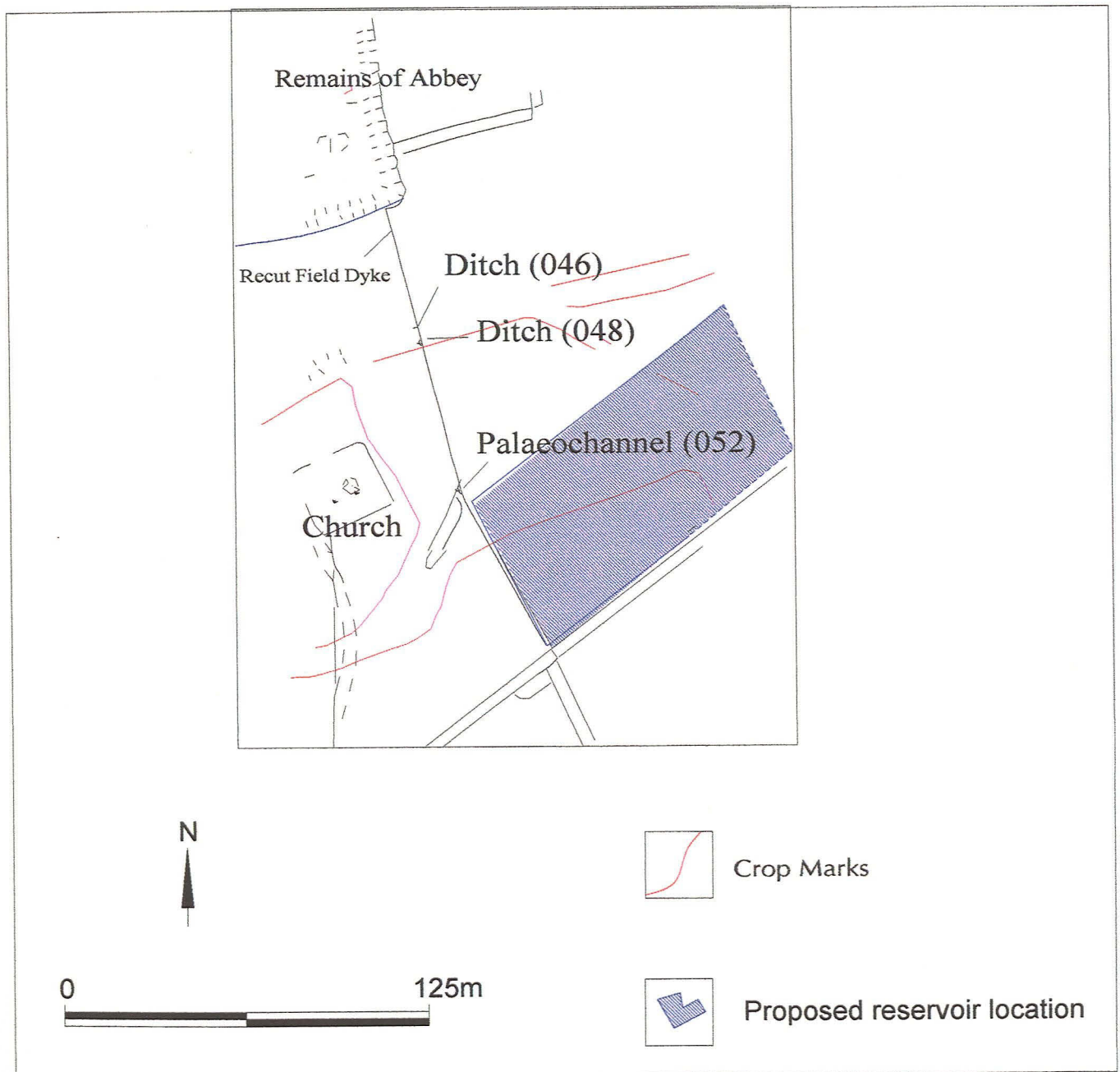


Figure 8 - Recut Field Dyke, showing recorded features and cropmarks



Plate 1 : General view of site looking northeast,  
showing pipe trench.



Plate 2 : View of Section 1 showing ditch cut (005).

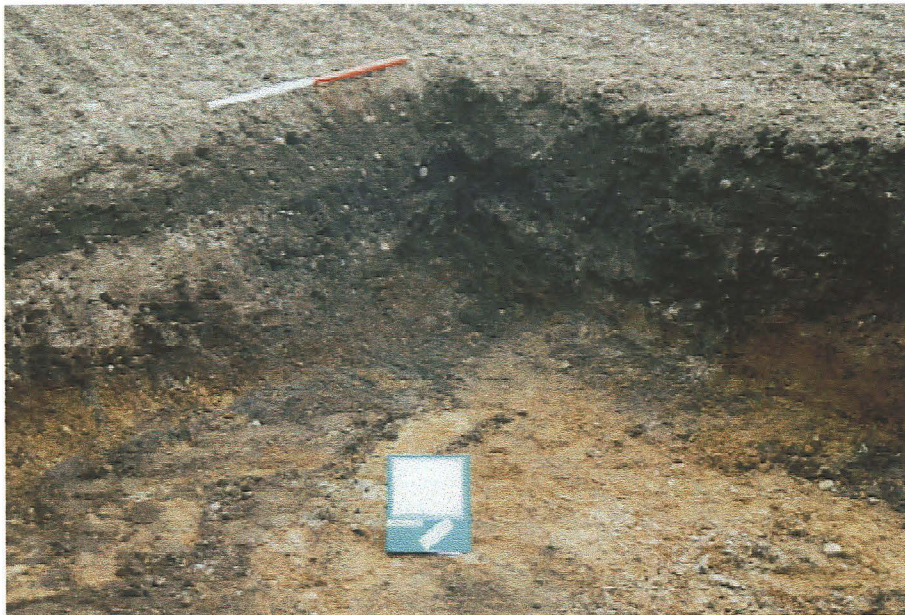


Plate 3 : Test Pit 7, showing ditch/pit (044)



Plate 4 : Recut field dyke showing ditch (046)  
and test pitting area to rear

## **Appendix 1**

### **KIRKSTEAD, GEOPHYSICAL SURVEY Engineering Archaeological Services Ltd**

#### **INTRODUCTION:**

NGR Centred on TF 194 615 & TF 206 618

#### **LOCATION AND TOPOGRAPHY**

Two areas were surveyed one immediately to the southeast of Kirkstaed Abbey, the other adjacent to Hogg Wood and the airfield. The area near the abbey was under stubble with a slight slope to the southern boundary. The second area had been ploughed and weathered and was flat.

#### **ARCHAEOLOGICAL BACKGROUND**

Field 1 lies adjacent to Kirkstaed Abbey and aerial photographs suggest the possibility of linear features extending into this area.

Field 2 again has some aerial photographic evidence for linear features.

#### **AIMS OF SURVEY**

It was hoped that a combination of scanning and detailed magnetometry would detect any archaeological features and help clarify their nature and extent.

#### **SUMMARY OF RESULTS**

No archaeological features were detected.

#### **SURVEY RESULTS:**

##### **AREA**

An area of approximately 12.8 Ha was scanned and the 10% in 5 blocks was surveyed in detail.

##### **DISPLAY**

The results are displayed as Grey Scale Image and as X-Y Trace plots.

#### **RESULTS**

##### **Complicating Factors**

Field 1 - close to the southern boundary there is evidence for a layer of iron pan beneath the topsoil. Normally iron pan exists as "ferric oxide" which is non-magnetic, however close to the ditch on the southern boundary the pan layer is directly on top of a blue clay deposit which would seem to have reacted as a reducing agent converting some of the iron pan to "triferric tetroxide" which is ferro-magnetic.



Field 2 had been ploughed but was well weathered as a result the surface was uneven this can give rise to a noisy signal at times. Some evidence for iron pan was seen on the surface.

### **Scanning**

No features were detected during scanning. The area close to the ditch to the southeast of the abbey had some very large ferro-magnetic anomalies but these were consistent with the effects of the pan deposits mentioned above, there was no evidence of archaeological features.

### **Detailed Survey:**

Five blocks were surveyed across the area.

#### **Area 1**

This area is fairly quiet. Towards the centre of this strip a number of feint anomalies can be seen illustrated in Figure 7. These correspond to a large depression in the field which may mark the position of a former pond, the anomalies probably represent tree pits. There are a number of small ferro-magnetic anomalies, illustrated in blue, which are consistent with agricultural debris e.g. horse shoes and plough points.

#### **Area 2**

This area is fairly quiet. A single ferro-magnetic anomaly can be seen in the data, illustrated in blue on the interpretation, this is caused by a power cable pole.

#### **Area 3**

This area has a number of magnetic anomalies some of which seem to be ferro-magnetic in character and some which are not. This area had some evidence of iron panning visible on the weathered surface, it also lies within the former extent of Hogg Wood. All of these features are probably natural in origin with a variety of factors affecting them including possible pan deposits, tree removal disturbance and possible periglacial features.

#### **Area 4**

Two linear features cross this area. These are probably land drains. In addition there are a number of ferro-magnetic anomalies which could be the result of panning and/or disturbance.

#### **Area 5**

This area is very quiet with no features.

## MAGNETIC SUSCEPTIBILITY

Soil samples were taken from random locations in both fields to assess the magnetic susceptibility of the soils. A number of sub-soil samples were obtained for comparison

Sample	Volume susceptibility $\chi_v$	Mass susceptibility $\chi_m$
Grid 2	16	12.7
Grid 4	26	19.8
Grid 5	18	14.1
Grid 9	23	17.0
Grid 12	29	25.7
Grid 17	20	17.5
Grid 20	21	17.6
Grid 21	17	13.5
Grid 25	19	17.1
Grid 26	20	18.0
Grid 32	20	18.9
Trial hole top	126	117.8
Trial hole pan	505	500.0
Trial hole ss	21	15.8
Grid 21 ss	15	10.6

The susceptibilities as measured show fairly low levels and poor contrast with the subsoil samples. The effect of the reduced iron pan can be seen in the results from the trial hole.

In general the results demonstrate conditions that while not ideal for magnetic survey though which do not preclude it.

## CONCLUSIONS

No archaeological features were detected.

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

Surveyed by Ian Brooks.  
March 1998

## TECHNIQUES OF GEOPHYSICAL SURVEY:

### Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remanance which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

**Resistivity:**

This relies on the variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than magnetometry' this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

**Magnetic Susceptibility:**

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

**INSTRUMENTATION:**

1. Fluxgate Gradiometer - Geoscan FM36
2. Resistance Meter - Geoscan RM4/DL10
3. Magnetic Susceptibility Meter - Bartington MS2

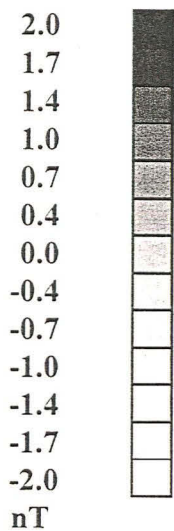
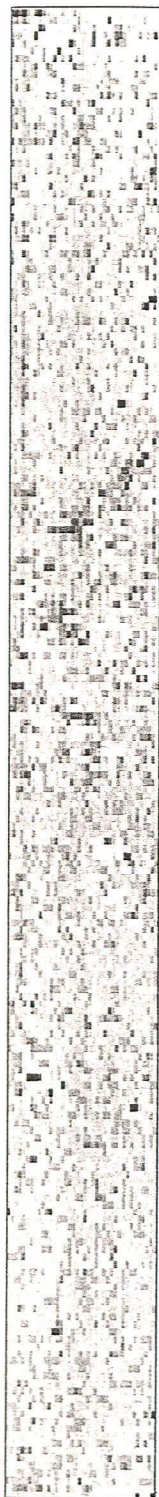
**METHODOLOGY:**

For Gradiometer and Resistivity Survey, 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at either 0.5m or 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. Final analysis is carried out back at base.

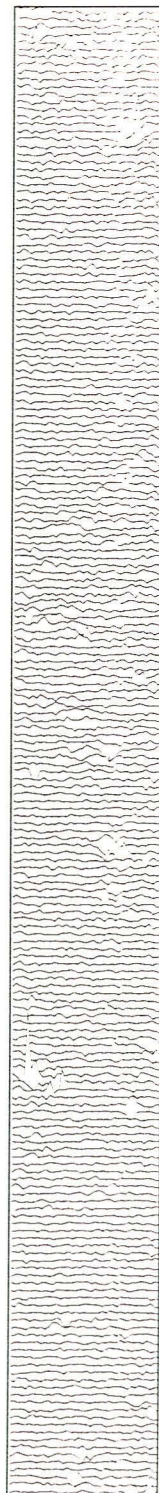
For magnetic scanning transects 10m apart are laid out across the survey area any features detected are measured and their position shown on the location map.

For Magnetic Susceptibility Survey a large grid is laid out and readings logged at 10m intervals along traverses 10m apart, data is again configured and analysed on a laptop computer.





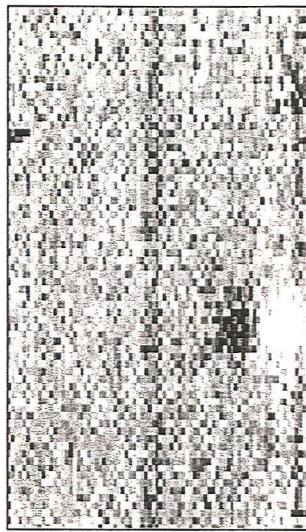
20nT



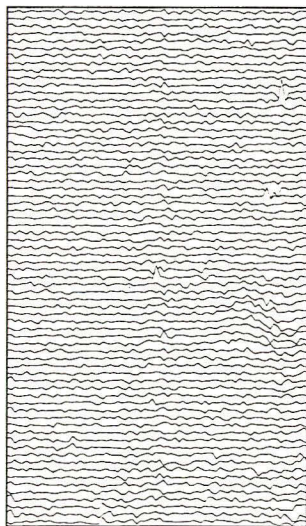
Kirkstead  
Area 1 - Magnetometer Data

Scale 1:1000

Figure 2



2.0  
1.7  
1.4  
1.0  
0.7  
0.4  
0.0  
-0.4  
-0.7  
-1.0  
-1.4  
-1.7  
-2.0  
nT

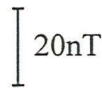
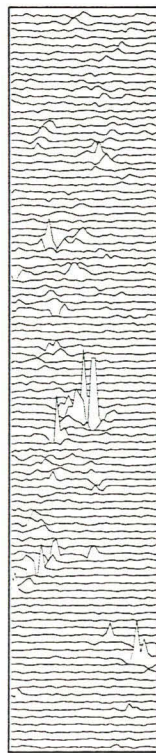
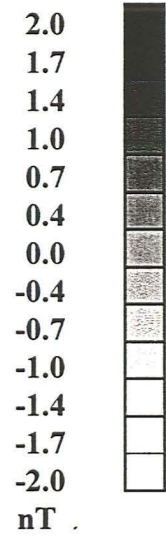


20nT

**Kirkstead  
Area 2 - Magnetometer Data**

Scale 1:1000

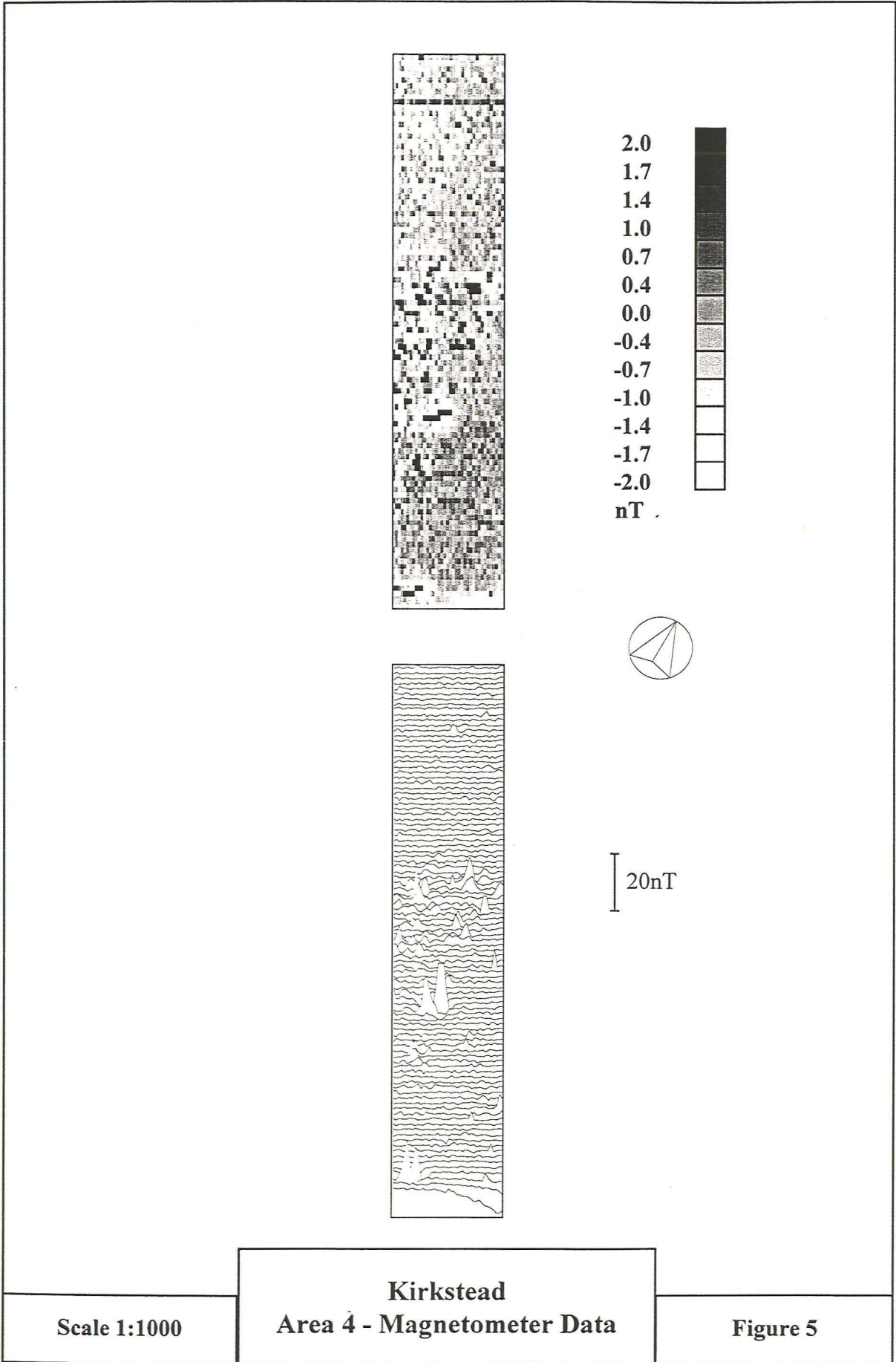
Figure 3



Scale 1:1000

Kirkstead  
Area 3 - Magnetometer Data

Figure 4

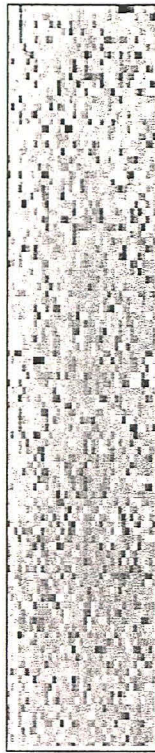


Scale 1:1000

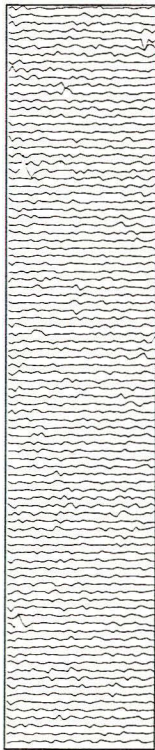
Kirkstead  
Area 4 - Magnetometer Data

Figure 5





2.0  
1.7  
1.4  
1.0  
0.7  
0.4  
0.0  
-0.4  
-0.7  
-1.0  
-1.4  
-1.7  
-2.0  
nT

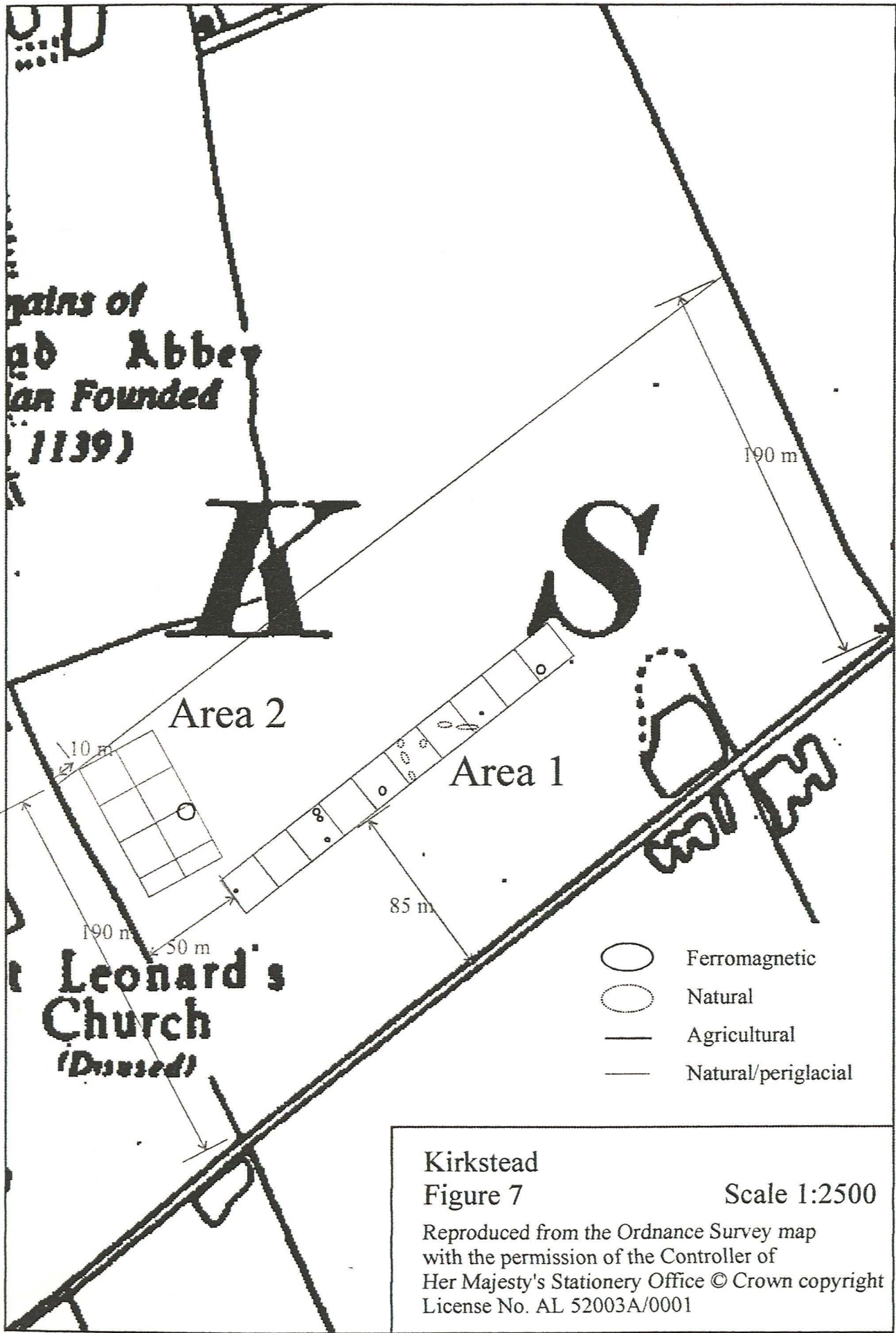


20nT

Scale 1:1000

Kirkstead  
Area 5 - Magnetometer Data

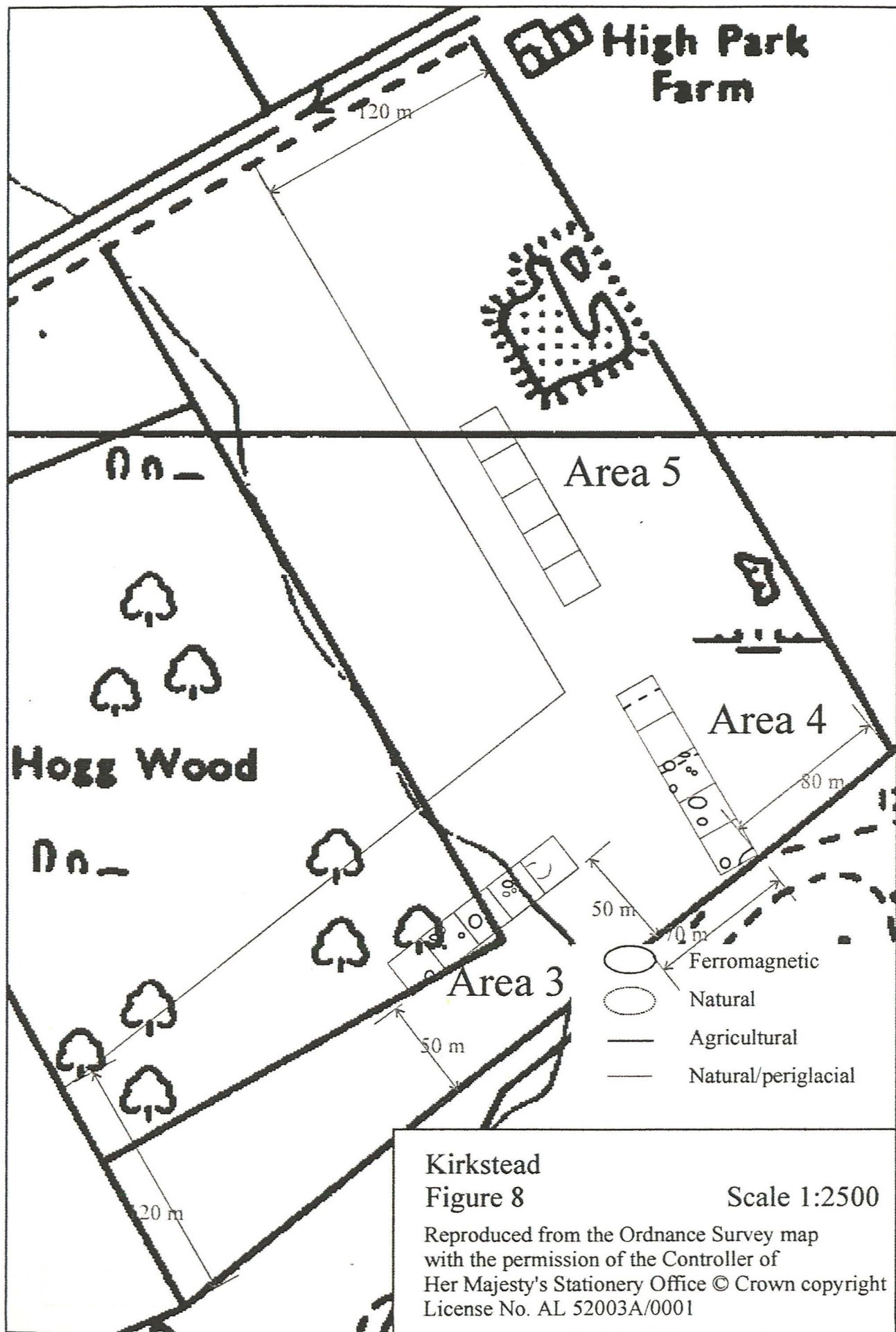
Figure 6



Kirkstead  
Figure 7

Scale 1:2500

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## Appendix 2

### CONTEXT SUMMARY

(KAD 98)

CONTEXT NO.	AREA	DESCRIPTION	INTERPRETATION
001	DRAIN	Moderate, dark brown sandy silt containing occasional rounded small to medium stones.	Topsoil.
002	PIPE TRENCH	Moderate, light brownish yellow silty sand containing moderate small stones.	Subsoil.
003	PIPE TRENCH	Moderate, dark brown sandy silt containing small to medium stones.	?Buried soil.
004	PIPE TRENCH	Moderate, dark blackish brown silty sand containing occasional to moderate medium rounded stones and occasional iron staining.	Fill of (005).
005	PIPE TRENCH	Linear cut with steep sides (0.64m wide x 0.44m deep).	Ditch.
006	PIPE TRENCH	Moderate, light to mid yellowish brown sand.	Natural geology.
007	PIPE TRENCH	Loose, yellow sand and stone.	Natural geology.
008	PIPE TRENCH	Moderate, mid brown sandy silt.	Natural geology.
009	PIPE TRENCH	Moderate, dark brownish black sandy silt containing frequent small to medium rounded stones.	Fill of (010).
010	PIPE TRENCH	Linear cut with concave sides and base (2.08m wide and 0.5m deep).	Furrow/Ditch.
011	PIPE TRENCH	Moderate to firm, dark brownish black stony sand and silt containing occasional ash and clay patches.	Subsoil.
012	PIPE TRENCH	Soft, light whitish grey fine sand and silt.	Subsoil.
013	PIPE TRENCH	Moderate to firm, mid reddish yellow sand containing frequent stones.	Natural geology.
014	PIPE TRENCH	Soft, dark brownish black sandy silt containing moderate small to medium stones, occasional tile, charcoal and large stones.	Subsoil.
015	PIPE TRENCH	Moderate, mid brown sandy silt containing frequent medium to large stones, tile and pot.	Demolition dump.
016		Finds retrieval.	
017		Finds retrieval.	

(AFK 98)

CONTEXT NO.	TRENCH	DESCRIPTION	INTERPRETATION
021	ALL	Moderate, dark greyish brown sandy silt containing moderate rounded pebbles and angular flints.	Topsoil.
022	1 & 18	Moderate, mix of light to mid grey, dark orange, light brown and white sand containing moderate rounded pebbles.	Subsoil.
023	4 & 7	Moderate to firm, yellow to yellowish orange clay containing occasional angular flints and light brown to orangish brown sands.	Natural geology.
024	4 & 7	Moderate to firm, mix of yellow and light orange and grey sands containing moderate angular flints and rounded pebbles.	Natural geology.
025	1, 5, 8, 11, 12, 15, 17, & 18	Moderately concreted, dark reddish brown silt containing occasional stone.	Natural iron pan.
026	1 & 16	Concreted, dark reddish brown concreted silt containing stone.	Natural iron pan.
027	1, 5, 8, 9, 10, 12, 16 & 17	Moderate, light yellowish white sand containing moderate stone.	Natural geology.
028	1, 3, 4, 5 & 9	Firm, light bluish grey clay.	Natural geology.
029	3	Moderate, mid greyish brown sand and silt containing frequent stone.	Subsoil.
030	3	Moderate, mid reddish brown gritty sand.	Natural geology.
031	DRAIN	Moderate to firm, mid to dark blue grey humic silt with lenses of reddish brown silty sand containing some clay and occasional medium angular and sub-angular flints.	Primary fill of (026).
032	DRAIN	Moderate, mid brown silty sand containing moderate medium rounded stones and organic matter.	Primary fill of (028).
033	4	Moderate to firm, greyish brown clay.	Subsoil.
034	6	Soft to moderate, light yellowish brown sand containing occasional gravel.	Subsoil.
035	6	Moderate, mid orange sand containing frequent gravel.	Natural geology.
036	15	Moderate, orange sand.	Natural geology.
037	13	Moderate, mid orange gritty sands and gravels containing patches of white stone and sand.	Natural geology.

038	13	Moderate, reddish yellow sand and gravel.	Natural geology.
039	14	Moderate, mix of orange and mid greyish brown sand containing moderate iron pan and occasional stone.	Subsoil.
040	14	Moderate, orange and light grey sands.	Natural geology.
041	11	Moderate, yellowish orange sand and gravel.	Natural geology.
042	10	Moderate, orange sand and gravel.	Natural geology.
043	7	Moderate, light grey to dark black grey silty sand containing moderate stones.	Primary fill of (024).
044	7	Cut with concave sides and base (3.8m wide and 0.5m deep).	?Ditch/Pit.
045	DRAIN	Moderate, mid to dark brown silty sand containing occasional clay patches, small to medium rounded quartz pebbles and angular to sub-angular flints.	Secondary fill of (026).
046	DRAIN	Linear cut with stepped sides and a concave base	Ditch.
047	DRAIN	Moderate, mid to dark brown silty sand containing occasional clay patches, small to medium rounded quartz pebbles and angular to sub-angular flints.	Secondary fill of (028).
048	DRAIN	Linear cut with steep sides and a concave base	Ditch.
049	DRAIN	Compact, mid brown silty sandy gravel containing poorly sorted small to medium angular and sub-angular flints and cherts, rounded quartz and limestone and medium to large flints and quartz.	Tertiary fill of (032).
050	DRAIN	Not recorded.	Secondary fill of (032).
051	DRAIN	Moderate to firm blue clay.	Primary fill of (032).
052	DRAIN	Linear cut with steep sides and an undulating base.	Palaeochannel.
053	4	Dark orange, sand containing moderate rounded pebbles, angular flints and land drain.	Primary backfill of (034).
054	4	Linear cut with straight sides and a concave base (0.65m deep x 1.2m wide).	Land drain.
055	4	Light to mid grey sand containing occasional angular flints and rounded pebbles.	Secondary backfill of (034).

## Appendix 3

### THE FINDS

*By Paul Cope-Faulkner BA, Hilary Healey MPhil and Gary Taylor MA*

#### Provenance

All of the material was recovered from subsoil and a dumped deposit and was random in distribution, although the medieval artefacts (contexts 016 and 017) were recovered as unstratified artefacts from the drain cutting on the south side of the abbey earthworks.

All of the pottery was made in Toynton All Saints, 20km to the east of the site. It is probable that the ceramic building material was also produced in the general locality, some of it perhaps at Kirkstead itself.

#### Range

The range of material is detailed in the tables.

The earliest artefacts are fragments of pottery of probable 14<sup>th</sup>-15<sup>th</sup> century date. However, ceramic building material, particularly roof tile, of broadly late medieval to post-medieval date is the most abundant aspect of the assemblage. The assemblage consists of pottery, roof tile and animal bone. The tile fragments from (015) are large and unabraded and, as such, are likely to reflect the proximity of a building, probably of late medieval or post-medieval date.

*Table 1: The Artefacts*

CONTEXT	DESCRIPTION	DATE
014	3x tile, 1 burnt	
015	1x hip tile	?14th-17th century
	1x roof tile	
016	1x tile	
017	2x Toynton ware, 1 jug, 1 pancheon	14th-15th century
	4x tile, 1 nib-tile	

*Table 2: The Animal Bone*

CONTEXT	DESCRIPTION	NOTES
014	1 pig ulna	
	1 cattle-size scapula	sawn
016	1 cattle metatarsus	?dog gnawed
	1 horse metatarsus	
	1 cattle-size unidentified limb bone	
	2 sheep sized unidentified limb bone	unfused epiphysis (juvenile)
	1 dog tibia	copper staining
017	1 rib, horse or cattle	

### **Condition**

All of the material is in good condition and presents no long-term storage problems. The assemblage should be archived by material class. Large and unworn pieces of ceramic building material were recovered from (015).

### **Documentation**

Medieval and post-medieval artefact assemblages from throughout the county have previously been examined and reported. In particular, collections of material of these periods have been recovered at several sites in close proximity and evidence of post-medieval pottery production has been identified within the abbey complex itself (Marjoram 1973, 43). A collation and synthesis of the archaeological and historical background of the site was produced prior to this field investigation (Cope-Faulkner 1998)

### **Potential**

In general, the assemblage has limited potential. The pottery and ceramic building material suggests the presence of tile-roofed buildings of late medieval date and such are known from the abbey immediately to the north. However, the presence of particularly large tile fragments in (015) may signify the the very close proximity of a building and these artefacts therefore are of moderate significance.

### **References**

Cope-Faulkner, P, 1998 *Desk-top Assessment of the Archaeological Implications of Proposed Reservoir Construction at Woodhall Spa and Kirkstead, Lincolnshire (WSK98)*, unpublished APS report 14/98

Marjoram, J, 1973 *Archaeological Notes 1972, Lincolnshire History and Archaeology* 8



## Appendix 4

### THE ARCHIVE

The archive consists of:

52	Context records
6	Sheets of scale drawings
3	Photographic record sheets
1	Box of finds
2	Stratigraphic matrices

All primary records and finds are currently kept at:

Archaeological Project Services  
The Old School  
Cameron Street  
Heckington  
Sleaford  
Lincolnshire  
NG34 9RW

The ultimate destination of the project archive is:

Lincolnshire City and County Museum  
12 Friars Lane  
Lincoln  
LN2 1HQ

The archive will be deposited in accordance with the document titled *Conditions for the Acceptance of Project Archives*, produced by the Lincolnshire City and County Museum.

Lincolnshire City and County Council Museum Accession Number: 146.98

Archaeological Project Services Site Codes: AFK98 and KAD98

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

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## Appendix 5

### GLOSSARY OF TERMS

<b>Bronze Age</b>	Part of the prehistoric era characterised by the introduction and use of bronze for tools and weapons. In Britain this period dates from approximately 2000-700 BC.
<b>Context</b>	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, <i>e.g.</i> (004).
<b>Geophysical Survey</b>	Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry survey and resistivity survey.
<b>Iron Age</b>	Part of the prehistoric era characterised by the introduction and use of iron for tools and weapons. In Britain this period dates from approximately 700 BC - AD 50.
<b>Layer</b>	A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.
<b>Medieval</b>	The Middle Ages, dating from approximately AD 1066-1500.
<b>Natural</b>	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity.
<b>Neolithic</b>	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4000-2000 BC.
<b>Post-medieval</b>	The period following the Middle Ages, dating from approximately AD 1500-1800.
<b>Prehistoric</b>	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1 <sup>st</sup> century AD.
<b>Romano-British</b>	Pertaining to the period from AD 43-410 when Britain formed part of the Roman Empire.