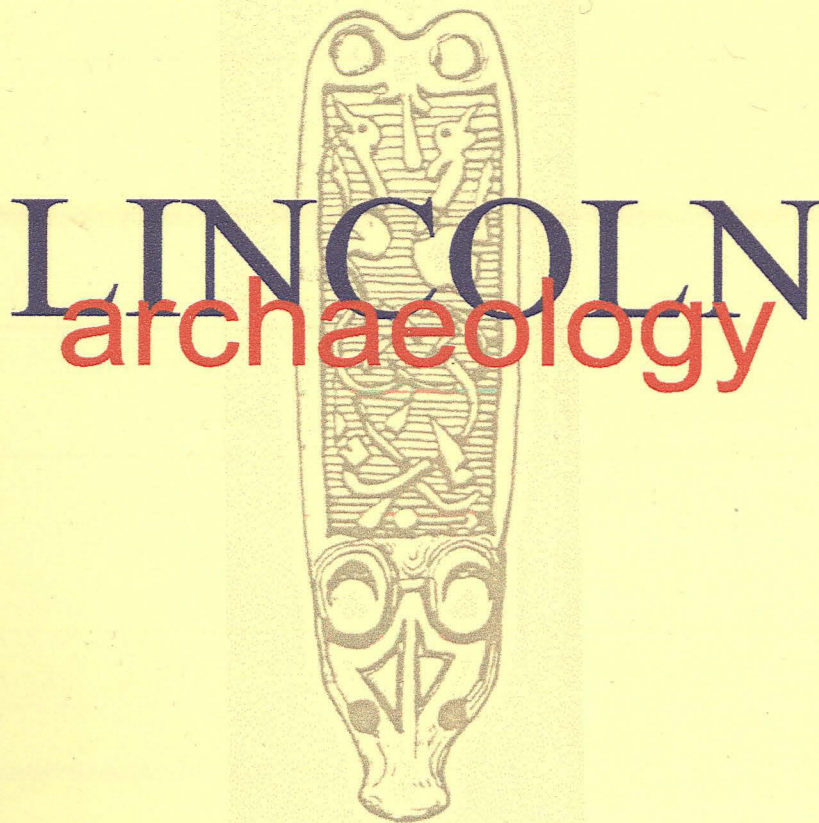


A Report to Eastman Securities Limited

June 2000



**Land south of Hawthorn Avenue,
Cherry Willingham, Lincolnshire**

**Archaeological Desk-Top Assessment
and Geophysical Survey**

By K Wragg

Report No. : 422

LINCOLN
archaeology

ack 12/6/02
1 2 JUN 00

Lincoln County Council
Administration Section

copy 10/2

EVENT L11796
SOURCES L16565 416566
PRN54548 L181483



Land south of Hawthorn Avenue, Cherry Willingham, Lincolnshire

Site Code: CWHA00
LCCM Accession No.: 2000.118
Planning Application No.: M00/P/0191
NGR: TF 0190/7282

Archaeological Desk-Top Assessment and Geophysical Survey

<i>Contents</i>	<i>Page</i>
NON-TECHNICAL SUMMARY.....	1
1.0 INTRODUCTION.....	2
2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.....	3
3.0 RESULTS & CONCLUSIONS.....	5
4.0 ACKNOWLEDGEMENTS.....	5
5.0 BIBLIOGRAPHY.....	5
6.0 LHA NOTES/ARCHIVE DETAILS.....	6
6.1 LHA NOTE DETAILS.....	6
6.2 ARCHIVE DETAILS.....	6
APPENDIX A - ARCHIVE DEPOSITION.....	7
APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS.....	8
APPENDIX C - GEOPHYSICAL SURVEY REPORT by David Bunn BSc and Andrew Hardwick BSc, Pre-Construct Geophysics.....	14

Illustrations

- Fig.1 Site location plan - scales 1:50000 & 1:2500
- Fig.2 Plan showing areas of archaeological potential
(within c. 1km radius of site) - scale 1:10000

LAND SOUTH OF HAWTHORN AVENUE, CHERRY WILLINGHAM, LINCOLNSHIRE

ARCHAEOLOGICAL DESK-TOP ASSESSMENT AND GEOPHYSICAL SURVEY

NON-TECHNICAL SUMMARY

This project was prompted by plans to develop an area of land to the south of Hawthorn Avenue, Cherry Willingham.

Hawthorn Avenue itself is not actually part of the main village of Cherry Willingham, but instead forms part of a small 'satellite' settlement approximately 1.2km to the north west. The development area lies in the administrative district of West Lindsey, c. 3km to the east of Lincoln.

The site encompasses an area of former agricultural land which, together with an adjoining site to the west, is identified in the West Lindsey District Council (WLDC) Local Plan as *Inset 38*. The present development proposals also include an area of land to the north-west currently in use as a haulage depot.

The proposed development covers an area of approximately three hectares, with the majority of the site presently under rough grass, weed cover, and sparse self-seeded oil-seed rape.

In view of the proximity of the site to areas of known (or suspected) archaeological importance, Dr Beryl Lott of the Lincolnshire County Council Archaeology Section (acting as archaeological advisor to the WLDC) recommended that a scheme of archaeological evaluation be carried out in support of an application for planning consent.

It was recommended that the evaluation should comprise the following elements:

- A desk-top assessment;
- Field-walking;
- A geophysical survey.

However, the generally overgrown nature of the site precluded field-walking, and it was therefore decided to combine the remaining two elements of the evaluation strategy, with a view to producing a single combined report.

The results of this phase of evaluation would then be used to establish a strategy for any further archaeological investigation on the site.

The City of Lincoln Archaeology Unit (C.L.A.U.) was commissioned on the 8th of May 2000 by Eastman Securities Limited (the developer) to provide the required archaeological services.

Through consultation between the C.L.A.U. and Dr Lott, it was agreed that a detailed fluxgate gradiometer survey should be carried out across the site, supported by information from a search of the Lincolnshire Sites & Monuments Record (SMR) database, together with any other pertinent archaeological sources.

In the event, however, the search of the Lincolnshire SMR revealed no evidence for archaeological activity on the site itself, although sites of archaeological potential were identified in the surrounding area.

In contrast, the geophysical survey (carried out on the 12th and 13th of May 2000, and covering approximately two-thirds of the total development area) did identify several anomalies of apparent archaeological origin.

It is thought that part of a possible enclosure/boundary feature is represented towards the eastern side of the survey area, with a number of less well defined linear anomalies are also present at the western end of the site.

It appears likely that these features represent multi-phase archaeological activity, although further work would be required to confirm this.

LAND SOUTH OF HAWTHORN AVENUE, CHERRY WILLINGHAM, LINCOLNSHIRE

ARCHAEOLOGICAL DESK-TOP ASSESSMENT AND GEOPHYSICAL SURVEY

1.0 INTRODUCTION

This project was prompted by plans to develop an area of land to the south of Hawthorn Avenue, Cherry Willingham.

Hawthorn Avenue itself is not actually part of the main village of Cherry Willingham, but instead forms part of a small 'satellite' settlement approximately 1.2km to the north west. The development area lies in the administrative district of West Lindsey, c. 3km to the east of Lincoln (see Fig.1).

The site encompasses an area of former agricultural land which, together with an adjoining site to the west, is identified in the West Lindsey District Council (WLDC) Local Plan as *Inset 38*. The present development proposals also include an area of land to the north-west currently in use as a haulage depot (see Fig.1).

The proposed development covers an area of approximately three hectares, with the majority of the site presently under rough grass, weed cover, and sparse self-seeded oil-seed rape.

In view of the proximity of the site to areas of known (or suspected) archaeological importance (see 2.0, below), Dr Beryl Lott of the Lincolnshire County Council Archaeology Section (acting as archaeological advisor to the WLDC) recommended that a scheme of

archaeological evaluation be carried out in support of an application for planning consent.

It was recommended that the evaluation should comprise the following elements:

- A desk-top assessment;
- Field-walking;
- A geophysical survey.

However, the generally overgrown nature of the site precluded field-walking, and it was therefore decided to combine the remaining two elements of the evaluation strategy, with a view to producing a single combined report.

The results of this phase of evaluation would then be used to establish a strategy for any further archaeological investigation.

The City of Lincoln Archaeology Unit (C.L.A.U.) was commissioned on the 8th of May 2000 by Eastman Securities Limited (the developer) to provide the required archaeological services.

Through consultation between the C.L.A.U. and Dr Lott, it was agreed that a detailed fluxgate gradiometer survey should be carried out across the site.

This was to be supported by information from a search of the Lincolnshire Sites & Monuments Record (SMR) database, together with any other pertinent archaeological sources.

Attendance was made on the site on the 12th and 13th of May 2000, for the purpose of the geophysical survey, with documentary research also carried out at this time.

The information in this document is presented with the proviso that further data may yet emerge. Lincoln City Council cannot, therefore, be held responsible for any loss, delay or damage, material or otherwise, arising out of this report. The document has been prepared in accordance with the Code of Conduct of the Institute of Field Archaeologists, and *The Management of Archaeological Projects 2* (English Heritage, 1991).

All Ordnance Survey maps and extracts are reproduced under Licence No. AL 100028765 unless otherwise credited

2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Within a radius of approximately 1km of the proposed development site, eleven known (or suspected) areas of archaeological potential are recorded in the Lincolnshire County SMR. These range from isolated finds of pottery and metal artefacts, to cropmarks indicating the probable locations of buried archaeological features.

In brief, the SMR results can be summarised as follows (they are listed in detail in *Appendix B*, and their locations are plotted on Fig.2):

<i>SMR No.:</i>	<i>Description:</i>
52421	Prehistoric cropmarks
52422	Rectangular ditched enclosure
52826	Roman pottery & metalwork
52831	Undated enclosures & trackway
52832	Roman cropmarks
52833	Enclosures & linear features
52834	Ridge & furrow cropmarks
52837	Enclosures & linear features
52838	Possible ploughed mound
52857	Ridge & furrow field system
52963	Curvilinear cropmark

While none of the possible areas of interest encroach onto the proposed development site, they do suggest a potentially rich historic landscape in the immediate area.

In the wider area surrounding the site (extending east to Cherry Willingham itself, and west to the Lincoln City boundary), more evidence for important archaeological sites has been found.

A number of controlled archaeological investigations have been carried out to the west of the proposed development, centred on the same site in the Greetwell area (at NGR TF 007/724 - approximately mid-way between Hawthorn Road and Greetwell Road).

Proposals to extend the existing Butterley Aggregates quarry to encompass this area have resulted in a multi-phased archaeological evaluation scheme which has been underway since 1993 (Trimble, 1997).

Recent work has involved fieldwalking, trial-trench evaluation, and an area excavation, all carried out by Lindsey Archaeological Services (LAS) between 1997 and 1999.

The fieldwalking project recovered a quantity of tile and pottery fragments of either Roman or 13th-18th century date. Concentrations of 3rd-4th century finds close to the western corner of the site appeared to indicate a focus of late-Roman occupation on the site (LAS, 1997).

These discoveries prompted the subsequent evaluation, which involved the excavation of a series of fourteen trenches and six smaller trial-pits.

Of these, four trenches, and all of the trial-pits, revealed no obvious archaeological deposits or features. Two further trenches uncovered only medieval ridge & furrow remains, and an undated possible post-hole feature, respectively.

The remaining eight trenches (all of which were concentrated in the western half of the site), however, produced evidence of occupation ranging from the mid-late Iron Age through to 4th century Roman.

In addition to various linear and curvi-linear ditches found across the area, evidence for the mysterious 'triple-ditch' feature was revealed in two of the trenches. Finds dating to the mid-late Iron Age/Early Roman periods were recovered from the fill of the ditch in one of these trenches.

A linear feature, apparently the remains of a 3rd-4th century Roman stone wall, together with other linear building remains was also uncovered. Other finds included a pit 'complex' apparently related to industrial activity, a 'ring' ditch, and the possible remains of a burial mound, all dated to the 3rd century (all refs., LAS 1998).

An area excavation carried out by LAS in 1999, further expanded on the results of the earlier phases of investigation.

While the report detailing the results of this excavation is still in production, preliminary results indicate multiple phases of activity.

Neolithic and Bronze Age activity was recorded, and the concentrated Iron-Age/Romano-British occupation indicated by

the evaluation has been confirmed. This occupation includes structures, inhumations and a barrow. It was also noteworthy that archaeological remains appeared to be present both above and below the colluvial deposits.

Most recently, C.L.A.U. has carried out an evaluation on a neighbouring site to that detailed above (at TF 0043/7273), with particular attention being given to investigating the enigmatic triple ditch feature present at this location. Again the report detailing the results is still awaiting completion, but a quantity of Iron-Age pottery was recovered from the fills of the ditches, with possible Bronze-Age pottery also represented. No conclusive evidence for occupation was revealed on this site, although some isolated features were discovered.

To the west of the proposed development, both in and around Cherry Willingham itself, numerous finds have been recovered including Prehistoric and Roman artefacts.

A Bronze Age beaker was found in the village in 1982, but unfortunately its precise find location is not known. Similarly, a Late Neolithic/late Bronze-Age palstave was recovered by a metal detectorist during September 1999 from an undisclosed location.

Roman findspots from the area of Cherry Willingham have included: the handle of an *amphora* (storage vessel); a Roman coin of Constantius (AD 335-337); quantities of Roman pottery; and a concentration of building stone, tile and 2nd-3rd century pottery.

Roman pottery has also been recovered during fieldwalking along the top of the rise to the east of the church.

Evidence for medieval occupation in the area of the village has been identified by pottery scatters, ridge and furrow cultivation remains, and a levelled mound probably indicating the position of a windmill. The present day church of S^t. Peter and S^t. Paul (constructed in 1753) lies on the site of an earlier church of at least medieval date (Jarvis, 2000).

In the actual village, archaeological discoveries have largely centred on an area of land to the east of the church. During 1978,

fieldwalking was carried out on agricultural land under threat from development, immediately to the east of the church and graveyard extension. This project uncovered about 40 sherds of Saxon pot from a very small area of land, with the pottery appearing to derive from settlement activity rather than from a cemetery.

The North Lincolnshire Archaeology Unit subsequently carried out excavations on the site in 1980, revealing the edge of a Saxon and medieval settlement. Saxon features on the site included a sunken-featured structure (associated with 9th century pottery) and a series of drainage gullies and fences. The most important find however, was the remains of a Saxon iron-smelting furnace. Pottery dating to between the 6th and 12th centuries was also recovered from the site (Jarvis, 2000).

Further residential development to the east of the church has resulted in continuing archaeological investigations in recent years.

A watching brief was carried on the site between September 1998 and February 2000 by the C.L.A.U., revealing several features of apparent archaeological origin.

Between September and November 1999 the C.L.A.U. then undertook a programme of archaeological evaluation, on behalf of Lindsey Securities Ltd, on land forming part of a large residential development off Church Lane. The eleven trial trenches revealed multi-period remains.

Trenching on the higher ground at the northern end of the site revealed concentrations of prehistoric flints of Neolithic & Bronze Age date, indicating the presence of settlement on, or in close proximity to, the site.

Although a few finds of Roman date were found during the trial trenching, there was no evidence to suggest that occupation from this period occurred on the site (although a Roman farmstead is known to lay close to the south-east corner of the development).

Extensive evidence for Anglo-Saxon occupation was, however, recorded appearing to form part of the settlement first identified in 1980.

Numerous ditches, pits and post-holes were recorded, as was evidence for Saxon

metalworking evidenced by slag and hammerscale deposits. The data relating to the Saxon occupation of the site forms the greater part of the site record and the site can therefore be viewed as being of local and regional importance. Few sites of Saxon date have been adequately excavated and even fewer have revealed the continuity of occupation that can be demonstrated on this site.

The excavation of a trench at the southern end of the site, on an area of slightly higher ground, revealed a concentration of features and finds evidence suggesting that this area may contain further, potentially important, remains of Saxon or later date.

Evidence for medieval occupation on the site was also found at the northern end of the site, comprising ditches and pond remains seemingly associated with a possible manorial fishpond complex (Jarvis, 2000).

3.0 RESULTS & CONCLUSIONS

The search of the Lincolnshire SMR revealed no evidence for archaeological activity on the site itself, although sites of archaeological potential were identified in the surrounding area (see 2.0, above and *Appendix B*, below).

The geophysical survey, however, which extended to cover approximately two-thirds of the total development area (approximately 2ha) did identify several anomalies of apparent archaeological origin (see *Appendix C*, below).

It is thought that part of a possible enclosure/boundary feature is represented towards the eastern side of the survey area, with a number of less well defined linear anomalies are also present at the western end of the site.

It appears likely that these features represent multi-phase archaeological activity, although further work would be required to confirm this.

4.0 ACKNOWLEDGEMENTS

The City of Lincoln Archaeology Unit would like to thank the following for their assistance during this project: Eastman Securities Limited, UCS Group, Rand, Market Rasen, Lincolnshire, LN8 5NJ for kindly funding this project; Mr R. Andrew Walshaw of UCS; Mr I. Pickwell of Eastman Securities; Dr B. Lott, Archaeology Officer, Lincolnshire County Council Archaeology Section, Highways & Planning Directorate, City Hall, Lincoln, LN1 1DN; the staff of the Lincolnshire SMR office, in particular Sarah Grundy & Mark Bennet; & Messrs C. Palmer-Brown, D. Bunn & A. Hardwick of Pre-Construct Geophysics, 61 High Street, Newton-on-Trent, Lincolnshire, LN1 2JP.

5.0 BIBLIOGRAPHY

Hockley J, 1992 *Lincoln Eastern Bypass: Stage 1 - Archaeological and Historical Study*, CLAU Archaeological Report No:29

Jarvis M, 2000 *Phase VI, Church Lane, Cherry Willingham, Lincolnshire - Archaeological Watching Brief*, CLAU Archaeological Report No:413

Jarvis M, 2000 *Phase VII, Church Lane, Cherry Willingham, Lincolnshire - Archaeological Evaluation*, CLAU Archaeological Report No:404

Lindsey Archaeological Services, 1997 *Land at Greetwell, Lincoln - Proposal for quarry extension*, Fieldwalking project

Lindsey Archaeological Services, 1997 *Land at Greetwell, Lincoln - Proposal for quarry extension*, LAS Archaeological Report No.: 277, Evaluation trenching

Trimble R, 1997 *Lincoln Eastern Bypass: Stage 1 - Archaeological and Historical Study, Part II*, CLAU Archaeological Report No.: 298

Wragg K 1999 *Lincoln Eastern Bypass: Archaeological Recording in conjunction with Geotechnical Trial Pitting (Phase I)*, CLAU Archaeological Report No.: 377

**6.0 LHA NOTE/ARCHIVE
DETAILS**

6.1 LHA NOTE DETAILS

CLAU CODE: CWHA00

PLANNING REFERENCE NO.: M00/P/0191

FIELD OFFICER: K.Wragg

NGR: TF 0190/7282

CIVIL PARISH: Cherry Willingham

SMR No.:

DATE OF INTERVENTION: 12 & 13/05/00

TYPE OF INTERVENTION: Archaeological
Desk-Top Assessment and Geophysical
Survey

UNDERTAKEN FOR: Eastman Securities
Limited, UCS Group, Rand, Market Rasen,
Lincolnshire, LN8 5NJ

6.2 ARCHIVE DETAILS

PRESENT LOCATION: City of Lincoln
Archaeology Unit, Charlotte House, The
Lawn, Union Road, Lincoln, LN1 3BL.

FINAL LOCATION: The City and County
Museum, Friars Lane, Lincoln.

MUSEUM ACCESSION No.: 2000.118

ACCESSION DATE:

APPENDIX A - ARCHIVE DEPOSITION

The archive consists of:

No.	Description
1	Report
2	Scale drawings

The primary archive material, as detailed above, is currently held by :

*The City of Lincoln Archaeology Unit,
Charlotte House,
The Lawn,
Union Road,
Lincoln,
Lincolnshire,
LNI 3BL.*

It is intended that transfer to the City and County Museum, Friars Lane, Lincoln, in accordance with current published requirements, under Museum Accession Number 2000.118, will be undertaken following completion of this project.

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS *(see also Fig.2)*

SMR Number:
52421 - LI52421

Site Name:
Prehistoric Cropmarks

Record Type:
Monument

Type and Date:

Enclosure: Later Prehistoric - 4000 BC to 42 AD
Pit: Later Prehistoric - 4000 BC to 42 AD
Hut Circle: Later Prehistoric - 4000 BC to 42 AD
Ring Ditch:

Materials/Evidence

Cropmark
Cropmark
Conjectural Evidence
Cropmark

National Grid Reference:

TF 0157/7395 (Centre)

Civil Parish:

Nettleham, West Lindsey, Lincolnshire

Description:

Probable/potential unknown Prehistoric cropmark enclosure, hut circle, pits and Macula, partly overlain by the Roman road. (1) (2)

Sources:

- (1) Bibliographic reference: Change and Continuity: Rural Settlement in North West Lincolnshire, Everson, P.L., Taylor, C.C. and Dunn, C.J., 1991, archive notes
- (2) Map: National Mapping Programme, Lincolnshire, RCHM, 1992-1996, TF 01/73: LI.537.13.1-4, 1994

SMR Number:
52422 - LI52422

Site Name:
Rectangular Ditched Enclosure

Record Type:
Monument

Type and Date:
Enclosure

Materials/Evidence:
Cropmark

National Grid Reference:

TF 0110/7380

Civil Parish:

Nettleham, West Lindsey, Lincolnshire

Description:

Possible Rectangular Ditched Enclosure. (1)

Sources:

- (1) Aerial Photograph: RCHM(E), Everson, P.L., 1975-90, 2990/2, 1977

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS **(continued) (see also Fig.2)**

SMR Number:
52826 - LI52826

Site Name:
Roman Pottery

Record Type:
Monument

Type and Date:
Artefact Scatter Roman - 43AD to 409AD

Materials/Evidence:
Find

National Grid Reference:
TF 0160/7368

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Third and Fourth century coarse pottery from garden. Small *Ae* Constantinopolis coin and bronze ring.
(1) (2) (3) (4)

Sources:

- (1) Index: SMR File, Greetwell, TF 07 SW:U, 1977, AJW
- (2) Index: OS Card Index, Greetwell, TF 07 SW:21, 1962, DA
- (3) Article in serial: Lincolnshire History and Archaeology, Wilson, C.M., 1970, Vol 5 P.7
- (4) Artefact: City and County Museum collection, LM.181.76

Associated Finds:

Coin Roman - 43AD to 409AD
Ring Roman - 43AD to 409AD

SMR Number:
52831 - LI52831

Site Name:
Undated Enclosures and Trackway

Record Type:
Monument

Type and Date:
Enclosure
Trackway

Materials/Evidence:
Cropmark
Cropmark

National Grid Reference:
TF 0166/7323

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Possible undated cropmark enclosures and trackway. (1) (6)

Sources:

- (1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/11, 13, 1979
- (2) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2990/1/42A, 1977
- (3) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2973/26A, 1979
- (4) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2952/22-3, 1980
- (5) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 3205/30-5; 3213/8, 1986
- (6) Map: National Mapping Programme, Lincolnshire, RCHM, 1992-1996, TF01/73: LI.537.15.1-2, 16.1, 1994

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS **(continued) (see also Fig.2)**

SMR Number:
52832 - LI52832

Site Name:
Roman Cropmarks

Record Type:
Monument

Type and Date:
Enclosure - Roman - 43AD to 409AD
Boundary - Roman - 43AD to 409AD

Materials/Evidence:
Cropmark
Cropmark

National Grid Reference:
TF 0185/7335

Civil Parish:
Reepham, West Lindsey, Lincolnshire

Description:
Possible Roman cropmark enclosures and boundary. (1) (6)

Sources:

- (1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/11, 13, 1979
- (2) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2990/1/42A, 1977
- (3) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2973/26A, 1979
- (4) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2952/22-3, 1980
- (5) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 3205/30-5; 3213/8, 1986
- (6) Map: National Mapping Programme, Lincolnshire, RCHM, 1992-1996, TF01/73: LI.537.14.1-4, 1994

SMR Number:
52833 - LI52833

Site Name:
Enclosures and Linear Features

Record Type:
Monument

Type and Date:
Enclosure
Linear Feature

Materials/Evidence:
Cropmark
Cropmark

National Grid Reference:
TF 0130/7220

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Pre-Medieval cropmark enclosures and linear features overlain by ridge and furrow. (1)

Sources:

- (1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/21, 1979
- (2) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/22; 2973/8A, 9A, 1979

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS *(continued) (see also Fig.2)*

SMR Number: 52834 - LI52834 **Site Name:** Ridge And Furrow **Record Type:** Monument

Type and Date: Ridge and furrow - Medieval - 1066 AD to 1539 AD **Materials/Evidence:** Cropmark

National Grid Reference:
TF 0130/7220

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Ridge and furrow cropmarks overlying enclosures and linear features (1)

Sources:
(1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/21, 1979
(2) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 2958/22; 2973/8A, 9A, 1979

SMR Number: 52837 - LI52837 **Site Name:** Enclosures and Linear Features **Record Type:** Monument

Type and Date: Enclosure **Materials/Evidence:** Cropmark
Linear Feature Cropmark

National Grid Reference:
TF 0140/7280

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Faint linear features and small enclosures, possibly geological features. (1)

Sources:
(1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 3213/8, 1986

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS *(continued) (see also Fig.2)*

SMR Number: 52838 - LI52838
Site Name: Possible Ploughed Mound
Record Type: Monument

Type and Date: Mound
Materials/Evidence: Levelled Earthwork

National Grid Reference:
TF 0103/7255

Civil Parish:
Greetwell, West Lindsey, Lincolnshire

Description:
Possible ploughed mound. (1)

Sources:

- (1) Bibliographic Reference: Change and Continuity: Rural Settlement in North West Lincolnshire, Everson, P.L., Taylor, C.C. and Dunn, C.J., 1991, archive notes

SMR Number: 52857 - LI52857
Site Name: Ridge and furrow field system,
Cherry Willingham
Record Type: Monument

Type and Date: Field System - Early medieval/Dark Age to medieval - 1000AD? to 1539AD
Ridge and furrow - medieval - 1066AD to 1539AD
Ridge and furrow - Early med/Dark Age to med -1000AD? to 1539AD
Materials/Evidence: Cropmark
Cropmark
Sub Surface Deposit

National Grid Reference:
TF 0336/7232 (Centre)

Civil Parish:
Cherry Willingham, West Lindsey, Lincolnshire

Description:
Ridge and furrow field system, some of which has been destroyed. (1) (2). In 1999 trial trenches dug off Church Lane to the east of Cherry Willingham identified the remains of ridge and furrow in trenches 3 and 4. However, this evidence was for ridges running east-west while the RCHM(E) survey records the ridge and furrow as running north-south. Twentieth century farming has completely obliterated the north-south ridge and furrow and the east-west ridges are earlier, possibly Anglo-Saxon. An earlier geophysical survey in this area revealed no evidence of this ridge and furrow. (3) (4)

Sources:

- (1) Aerial Photograph: RAF Postwar Collection, RAF, 1946-50, 3G/TUD/UK197 5468, 1946
- (2) Map: National Mapping Programme, Lincolnshire, RCHM, 1992-1996, TF02/72: LI.538.4.1, 1994
- (3) Excavation report: Phase VII, Church Lane, Cherry Willingham, City of Lincoln Archaeology Unit, Jan 2000, CWCA99
- (4) Excavation archive: Phase VII, Church Lane, Cherry Willingham, , City of Lincoln Archaeology Unit, 2000, LCNCC 188.99

APPENDIX B - LINCOLNSHIRE SMR SEARCH RESULTS *(continued) (see also Fig.2)*

Sources (continued):

- (5) Bibliographic reference: Change and Continuity: Rural Settlement in North West Lincolnshire,, Everson, P.L., Taylor, C.C. And Dunn, C.J., 1991, page 88, Fig.66

Associated Events/Activities:

- LI1123 Event - Intervention: Church Lane, 13/09/99 - 02/11/99
LI910 Event - Survey: Land off Ladymeers Road, 13/09/99

SMR Number: **Site Name:** **Record Type:**
52963 - LI52963 Curvilinear Cropmark Monument

Type and Date: **Materials/Evidence:**
Enclosure Cropmark

National Grid Reference:
TF 0210/7320

Civil Parish:
Reepham, West Lindsey, Lincolnshire

Description:
A faint curvilinear cropmark. (1)

Sources:
(1) Aerial Photograph: RCHM, Everson, P.L., 1975-90, 3205/30-5; 3213/8, 1986

APPENDIX C - GEOPHYSICAL SURVEY REPORT

**FLUXGATE GRADIOMETER SURVEY
LAND SOUTH OF HAWTHORN AVENUE
CHERRY WILLINGHAM
LINCOLNSHIRE**



Report prepared for the City of Lincoln Archaeology Unit
by David Bunn BSc and Andrew Hardwick BSc
May 2000

Pre-Construct Geophysics
61 High Street
Newton on Trent
Lincoln LN1 2JP
Tel. & Fax. 01777228129

Contents

	<i>Summary</i>	1
1.0	Introduction	3
2.0	Location and description	3
3.0	Methodology	4
4.0	Results	5
5.0	Conclusions	9
6.0	Acknowledgements	10
7.0	References	10
8.0	Summary of survey parameters	10

Illustrations

Fig.1 Location of site. Scale 1:25000.

Fig.2 Location of survey. Scale 1:2500.

Fig.3 Clipped greyscale image. Scale 1:1250.

Fig.4 Smooth greyscale image. Scale 1:1250.

Fig.5 Trace plot of raw data. Scale 1:1250

Fig.6 Raw data showing probable modern anomalies. Scale 1:1250

Fig.7 Interpretive plan. Scale 1:1250



SUMMARY

- *A Fluxgate Gradiometer survey was undertaken on approximately 2.0 hectares of land at Cherry Willingham, Lincolnshire*
- *The survey identified significant magnetic variation across the site and this variability is represented as a series of anomalies that are thought to indicate archaeological activity*
- *Whilst some of the magnetic anomalies represent modern activity, others appear to reflect the presence of possible enclosure or boundary features displaying archaeological potential; they are probably the result of a number of phases of activity*
- *Anomalies toward the southern and eastern edges of the site appear to represent traces of medieval ridge and furrow field system*

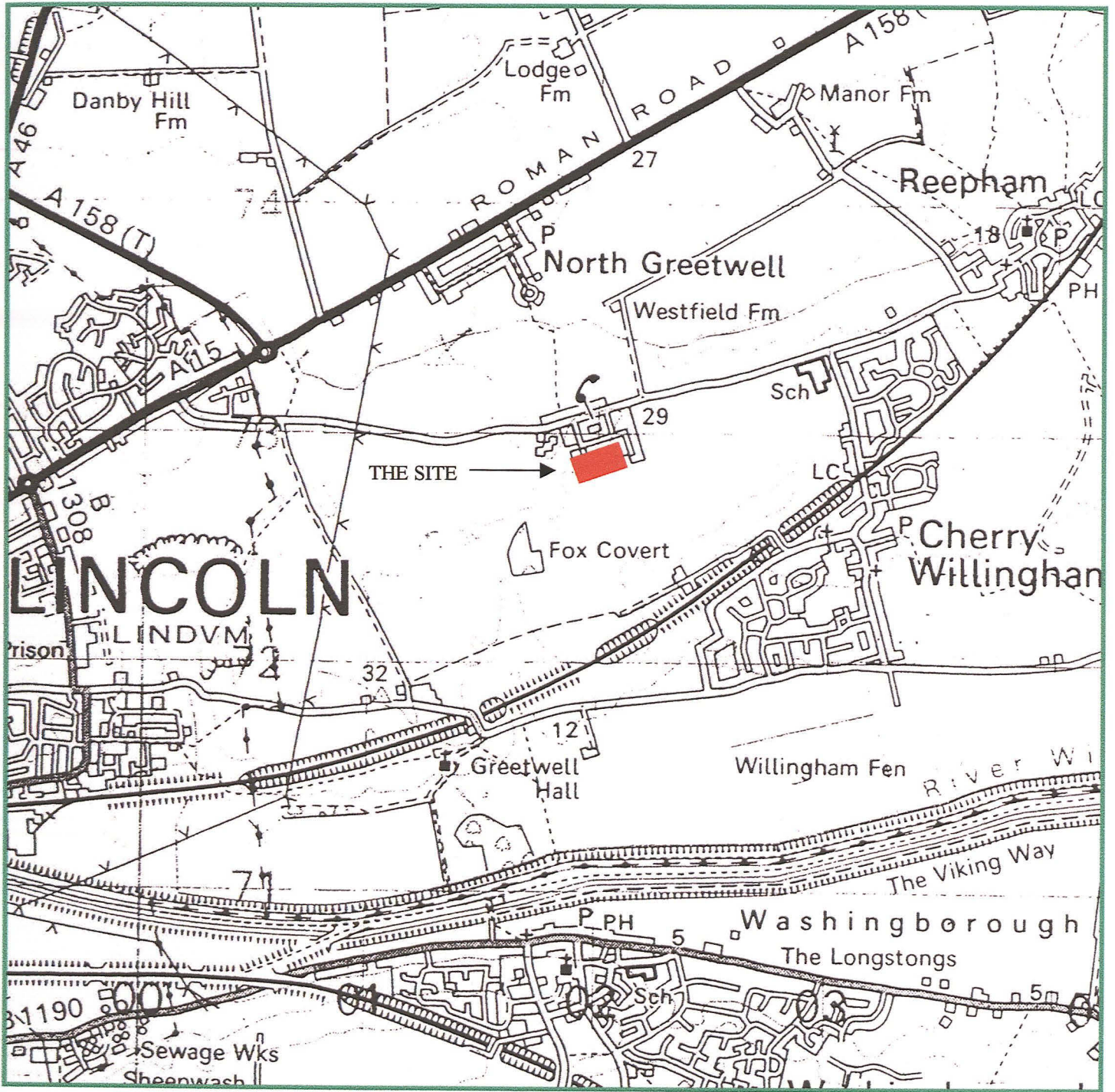


Fig.1 Location of site Scale 1:25000

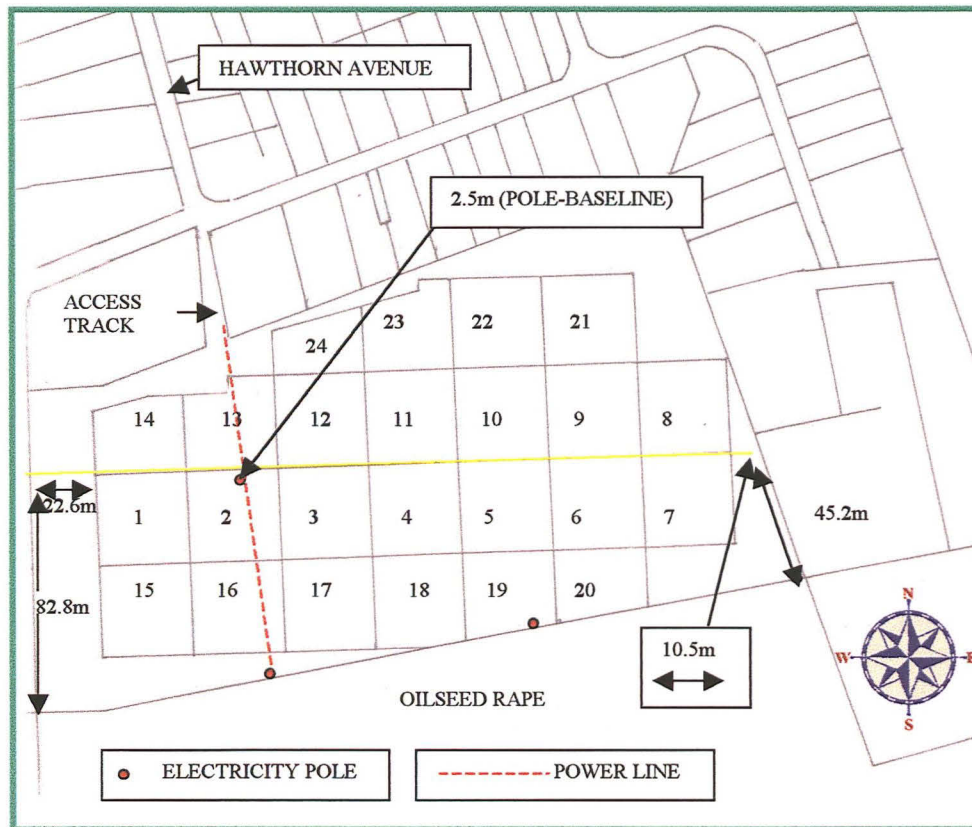


Fig.2 Location of survey Scale 1:2500

1.0 Introduction

A detailed fluxgate gradiometer survey was commissioned by the City of Lincoln Archaeology Unit, on behalf of Eastman Securities Ltd, to evaluate the archaeological potential of land off Hawthorn Avenue, Cherry Willingham, Lincolnshire. This work was undertaken in advance of a proposed residential development.

The survey was undertaken in accordance with the guidelines set out in the Lincolnshire County Council Archaeology Section publication *Lincolnshire Archaeological Handbook; A Manual of Archaeological Practice*, 1998, and in accordance with the guidelines set out in the English Heritage document *Geophysical Survey in Archaeological Field Evaluation*, 1995.

2.0 Location and description

Cherry Willingham is situated approximately 6km east of Lincoln. The site is located adjacent to a satellite development c. 600m to the north-west of the main village and

south of North Greetwell (centre on NGR TF 0190 7282). It comprises a sub-rectangular unit of approximately 2.5 hectares.

The site is currently set-aside, with residential development to the north and east, gardens to the west, and oilseed rape to the south. The ground gently slopes from the north to the centre of the site, slightly rising again toward the south; there is also a less pronounced declination from west to east. A slight ridge, extending across the site from the access track, follows the north-south alignment of a power line. Crop regeneration, up to 0.6m high, prevented observation of subtle topographical differences.

In the vicinity of the site, evidence of possible archaeological remains is largely derived from cropmarks; there is ridge and furrow to the south and west (overlying possible pre-medieval features) and a possible Roman enclosure/boundary to the north (closer to North Greetwell). Finds include 3rd and 4th century pottery, an AE Constantinopolis coin and bronze ring (all to the north of the site).

Beneath the topsoil, the drift geology comprises Upper Jurassic clays, which overlie a relatively thin deposit of rubbly limestone corn brash. Beneath this are the Great Oolitic and Lincolnshire limestones.

3.0 Methodology

Detailed area survey using a fluxgate gradiometer is a non-intrusive means of evaluating the archaeological potential of a site. The fluxgate gradiometer detects magnetic anomalies caused by areas of high or low magnetic susceptibility. These areas are caused by changes in the composition of the subsoil or the underlying geology. Archaeological features are the result of man-made changes to the composition of the soil and the introduction of intrusive materials such as brick and stone. These features create detectable magnetic anomalies. In addition, activities which involve heating and burning will create magnetic anomalies, as will the presence of ferrous metal objects. By examining the anomalies detected by a fluxgate gradiometer survey, geophysicists can often translate the data into archaeological interpretation.

The area survey was conducted using a *Geoscan Research* fluxgate gradiometer (model FM36) with an electronic sample trigger set to take 4 readings per metre (a sample interval of 0.25m). The zigzag traverse method of survey was used, with 1m wide traverses across 30m x 30m grids. The base line was established along the centre of the site (see Fig.2). Pegs were placed at the datum points, along the base lines and at grid corners elsewhere. The sensitivity of the machine was set to detect magnetic variation in the order of 0.1 nanoTesla.

The data from the survey was processed using *Geoplot* version 3.0. It was desloped (a means of compensating for sensor drift during the survey by subjecting the data to a mathematical bias sloping in the opposite direction of the bias created by sensor drift), and clipped to reduce the distorting effect of extremely high or low readings caused by ferrous metals on the site. The results are plotted as greyscale and trace images.

The survey was carried out by David Bunn and Andrew Hardwick on 12th and 13th May 2000. The weather was fine and sunny.

4.0 Results

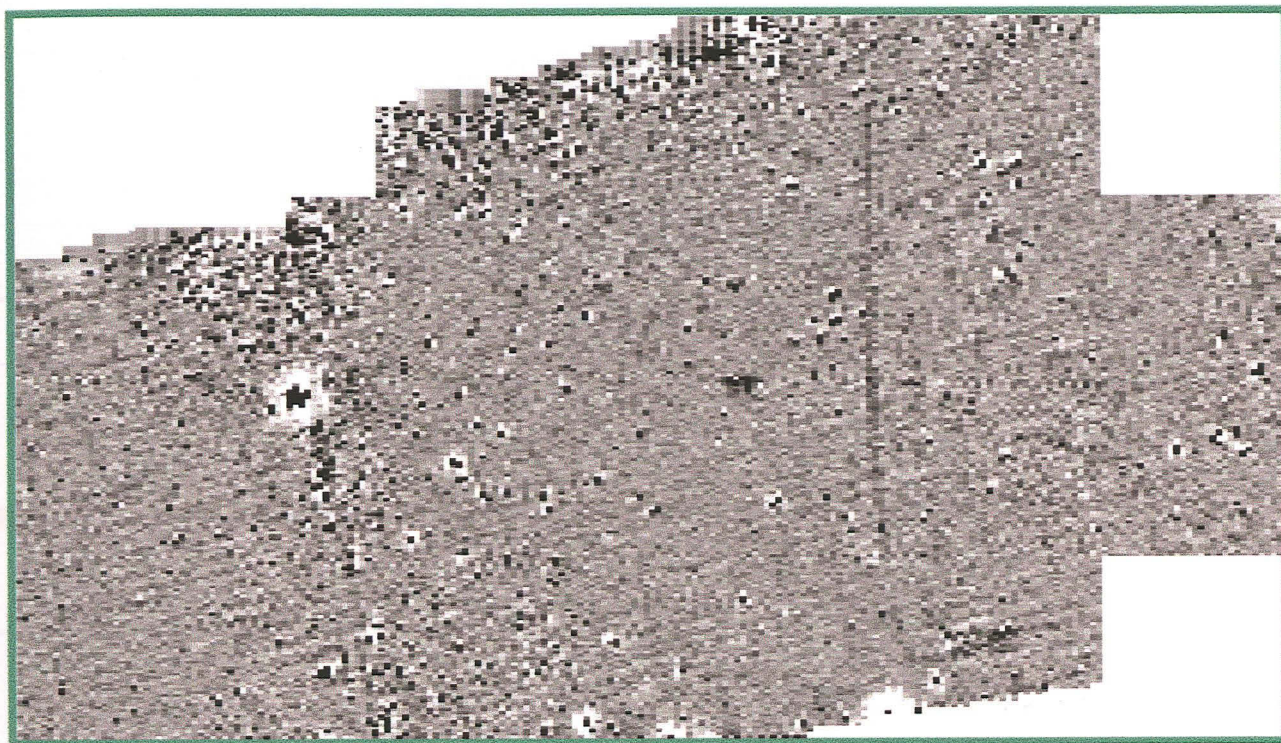


Fig.3 Clipped greyscale image Scale 1:1250

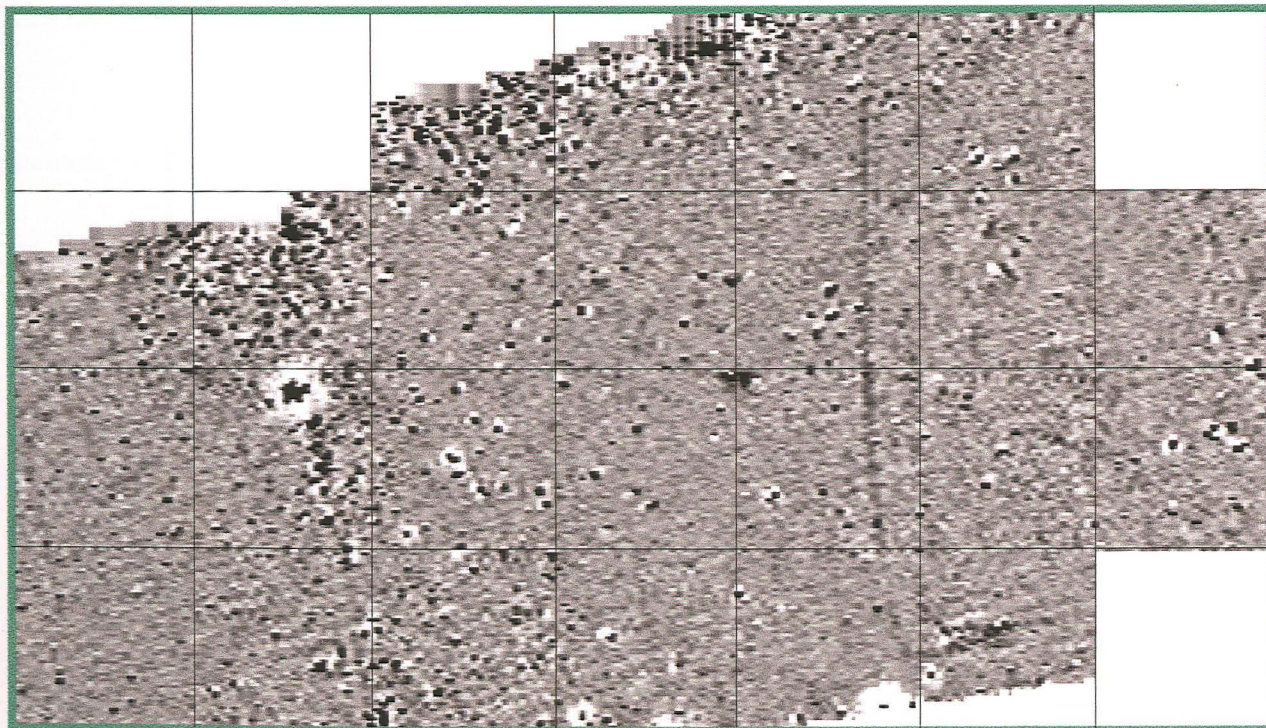
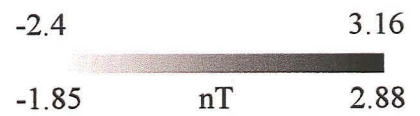


Fig.4 Smoothed greyscale image Scale 1:1250

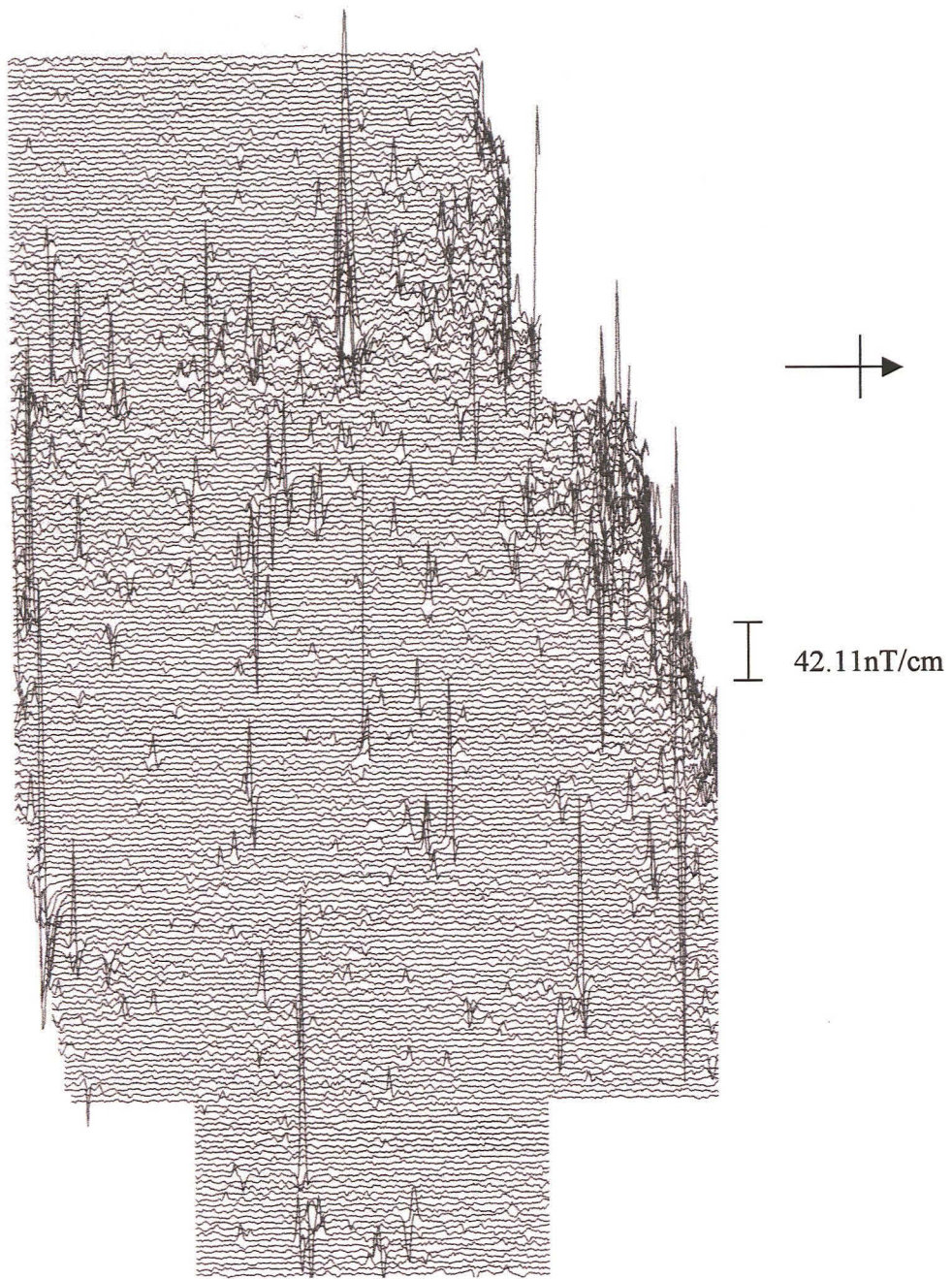


Fig.5 Trace plot of raw data Scale 1:1250

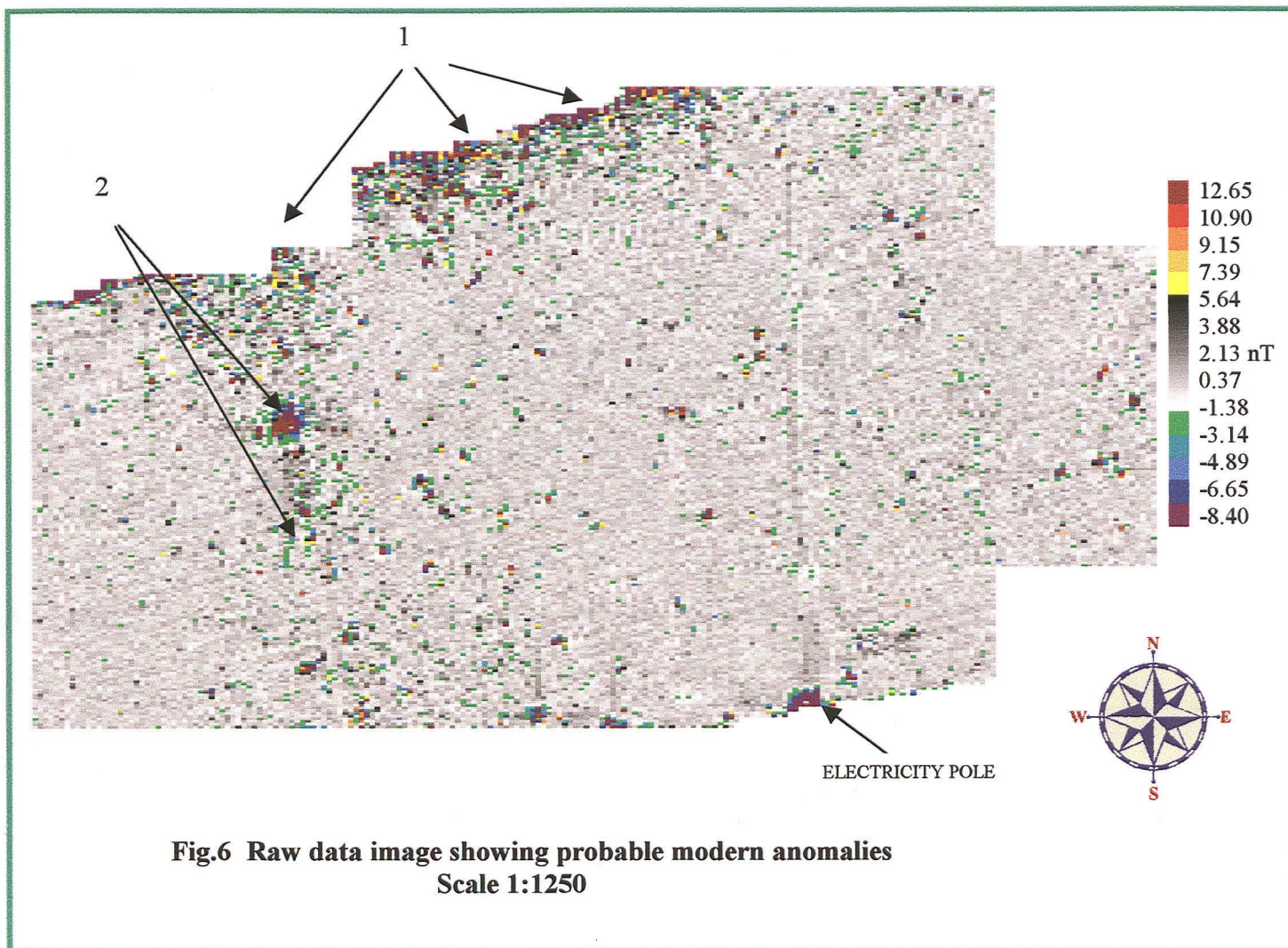


Fig.6 Raw data image showing probable modern anomalies
Scale 1:1250

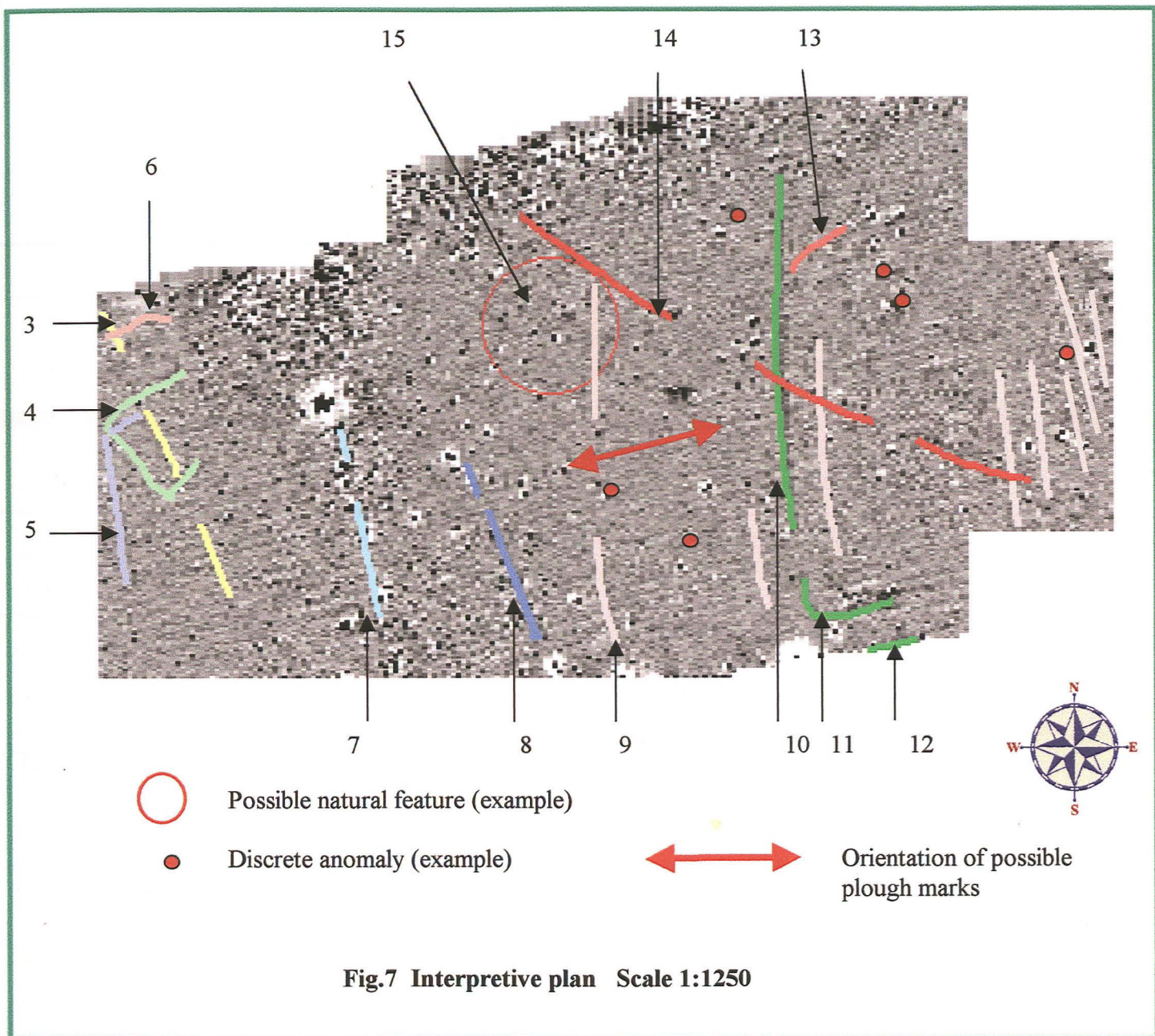
The site displayed a wide range of magnetic variability, reflecting features of both modern and of potential archaeological origin (Figs.3-7).

Figure 6 represents anomalies of wide magnetic variation in contrast to the homogenous background (see trace plot, Fig.5). The greatest concentration occurs to the northwest (close to houses and the site access lane, Fig.6:1), and along the slight ridge that relates to the electricity pole/power line (Fig.2:2). The latter probably represents a hedge-bank, the remains of a recently removed field boundary).

Less dense scatters of discrete anomalies across the site (shown coloured) probably reflect modern activity (agricultural discard, areas of burning), although their possible archaeological significance should not be discounted.

Anomalies of less magnetic variability are represented by Figure 7. Although a number of these features display significant archaeological potential, it should be noted that geological processes may account for some of the more irregular anomalies; for example, reticulation, the glacial fracturing of the limestone bedrock (Fig.7: circled red).

The survey area is characterised by faint striations orientated WNW/ESE which respect the north boundary of the site: these are probably the result of modern ploughing (Fig.7).



Anomaly

- 3 Diffuse, interrupted linear extending roughly north-west to-south-east on the western edge of the site and paralleling the eastern boundary. Possibly associated with anomalies 4-6, but lack of definition makes interpretation of these relationships difficult. It may represent an earlier field boundary.
- 4 Possible three-sided boundary/enclosure feature; tentative interpretation.
- 5 Indistinct curvilinear feature, appears to abut anomaly 3 at its northern end.
- 6 Short irregular linear abutting or bisecting anomaly 3: possibly of geological origin(similar natural processes may account for parts of anomalies 3-5).

- 7 Faint linear feature masked by modern litter, probably relating to a grubbed out hedge; this anomaly corresponds closely with the slight bank noted as an earthwork, the line of electricity poles and the concentration of ferrous material (anomaly 2).
- 8 Indistinct linear anomaly, on a similar alignment to anomaly 7; appears to be in between two high, dipoles, but this may be coincidental.
- 9 Diffuse linear feature, mirrored by similar anomalies (coloured pink), orientated north-south. This possibly represents the remnants of medieval ridge and furrow; the slight curve from the main alignment at the southern end of these features is reminiscent of the reverse 'S' morphology of strip fields. This results from ploughing with oxen, which required a larger turning circle when approaching the headland.
- 10 Distinct, slightly curving anomaly extending north-south, probably related to anomaly 11 to form part of an enclosure/ boundary feature. The orientation of the former seems to respect the furrows described above (anomaly 9); however those to the west of anomaly 10 appear to extend further south than the return (anomaly 11).
- 11 See anomaly 10.
- 12 Tentatively flagged, due to its location on the edge of the survey; ill-defined and parallel to modern plough marks (see above), this anomaly does seem to resemble and respect anomaly 11.
- 13 Slight linear variance which may respect anomaly 10 at its western end.
- 14 Indistinct and irregular linear anomaly orientated NW/SE: possibly a boundary feature or pipeline.
- 15 Anomalies of probable geological origin (example).

Discrete anomalies displaying less magnetic variation (Fig.6: monochrome, Fig.7: examples coloured red) may relate to pieces of brick and tile, or areas of burning. Consequently, they may have some archaeological significance.

5.0 Conclusions

The survey detected anomalies of potential archaeological significance, including the edge and corner of a possible enclosure/boundary feature toward the eastern end of the site. Additionally, there are a number of less clearly defined linear anomalies on the western side, which possibly represent a number of phases of activity. Other linear anomalies may reflect earlier field boundaries (of possible archaeological potential) and/or under ground pipes of relatively recent date. The probable remains of a recently removed hedge were also detected.

Traces of medieval ridge and furrow, and probable modern plough marks (respecting the eastern and northern boundaries of the site respectively) were detected.

The natural magnetic variability of the site and the presence of modern debris may be masking or confusing the morphology of these and other potentially significant archaeological features.

The scatters of discrete anomalies, for the most part, are probably the result of modern activity (resulting from the proximity to an existing settlement, agricultural discard, etc). Others, however, may pre-date such recent activity and possess archaeological potential.

Detailed survey by fluxgate magnetometer is only capable of detecting features that alter the magnetic susceptibility of soils or are magnetically different to the soils or features around them. It remains a possibility that there are archaeological features within the survey area that were not detected.

6.0 Acknowledgements

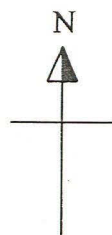
Pre-Construct Geophysics would like to thank the City of Lincoln Archaeology Unit for this commission.

7.0 References

- Clark, A J 1990 *Seeing beneath the soil*. London.
- David, A 1995 *Geophysical Survey in Archaeological Field Evaluation*. London, English Heritage, Research & Professional Services Guidelines No 1.
- Gaffney, C, Gater, J & 1991 *The use of Geophysical techniques in archaeological evaluations*. Institute of Field
Ovenden, S Archaeologists, Technical Paper, No 9.
- LCC 1998 *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice*. Lincoln, Built Environment Section, Lincolnshire County Council.

8.0 Summary of survey parameters

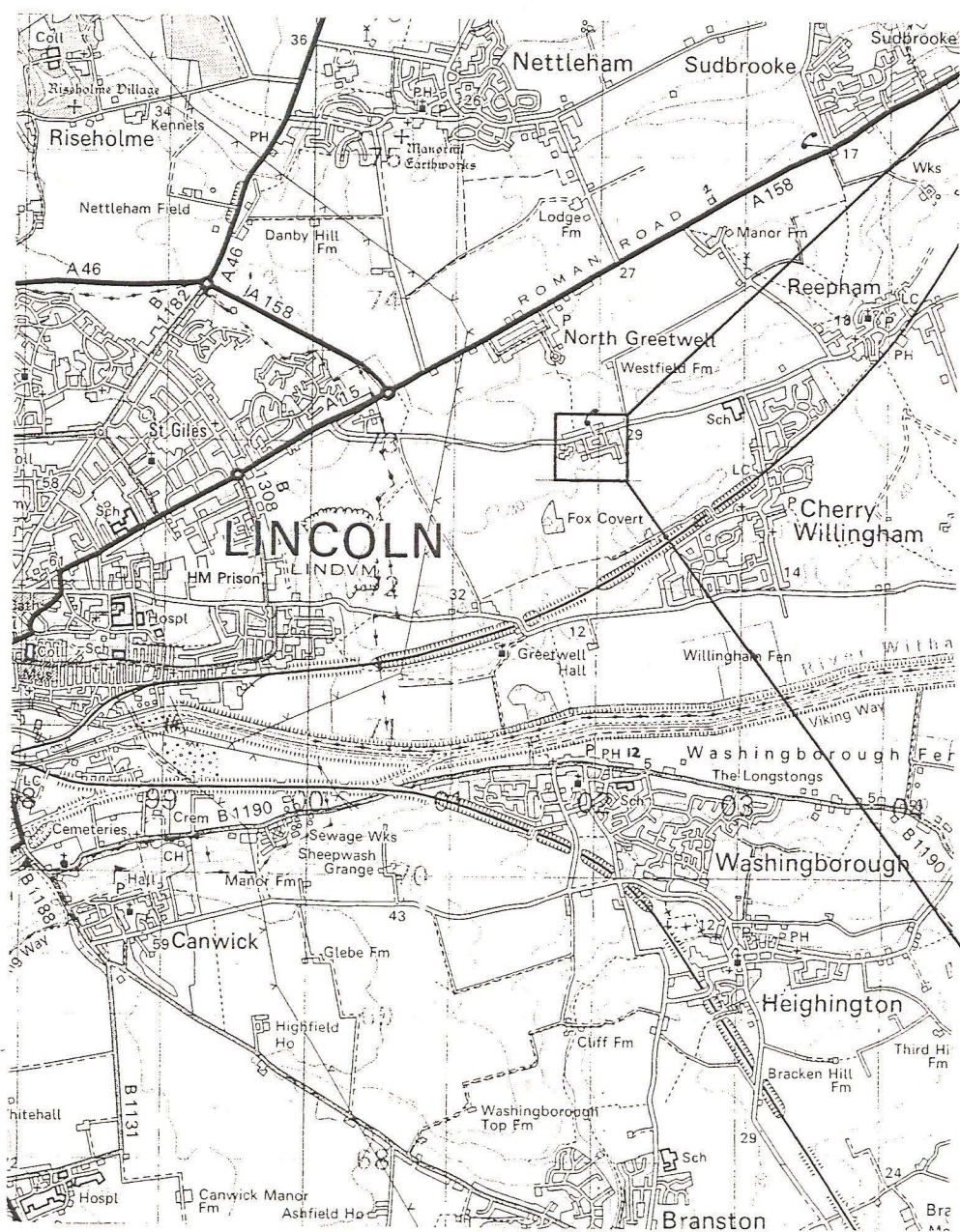
Instrument:	Geoscan Research Fluxgate Gradiometer FM 36 with Sample Trigger ST1
Resolution:	0.1 nT
Grid size:	30m x 30m
Sample interval:	0.25m
Traverse interval:	1m
Traverse method:	Zigzag



CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: CWAH00	PLAN/ELEV/SECTION NO:	
CLIENT: Eastman Securities Ltd.		
DESCRIPTION: Site Location Plan		
SCALE:	ARCHIVE NO:	
DRAWN BY:	CHECKED:	DATE:
MUSEUM ACCESSION NO: 2000.118		

1:2500

1:50 000



© Crown copyright.

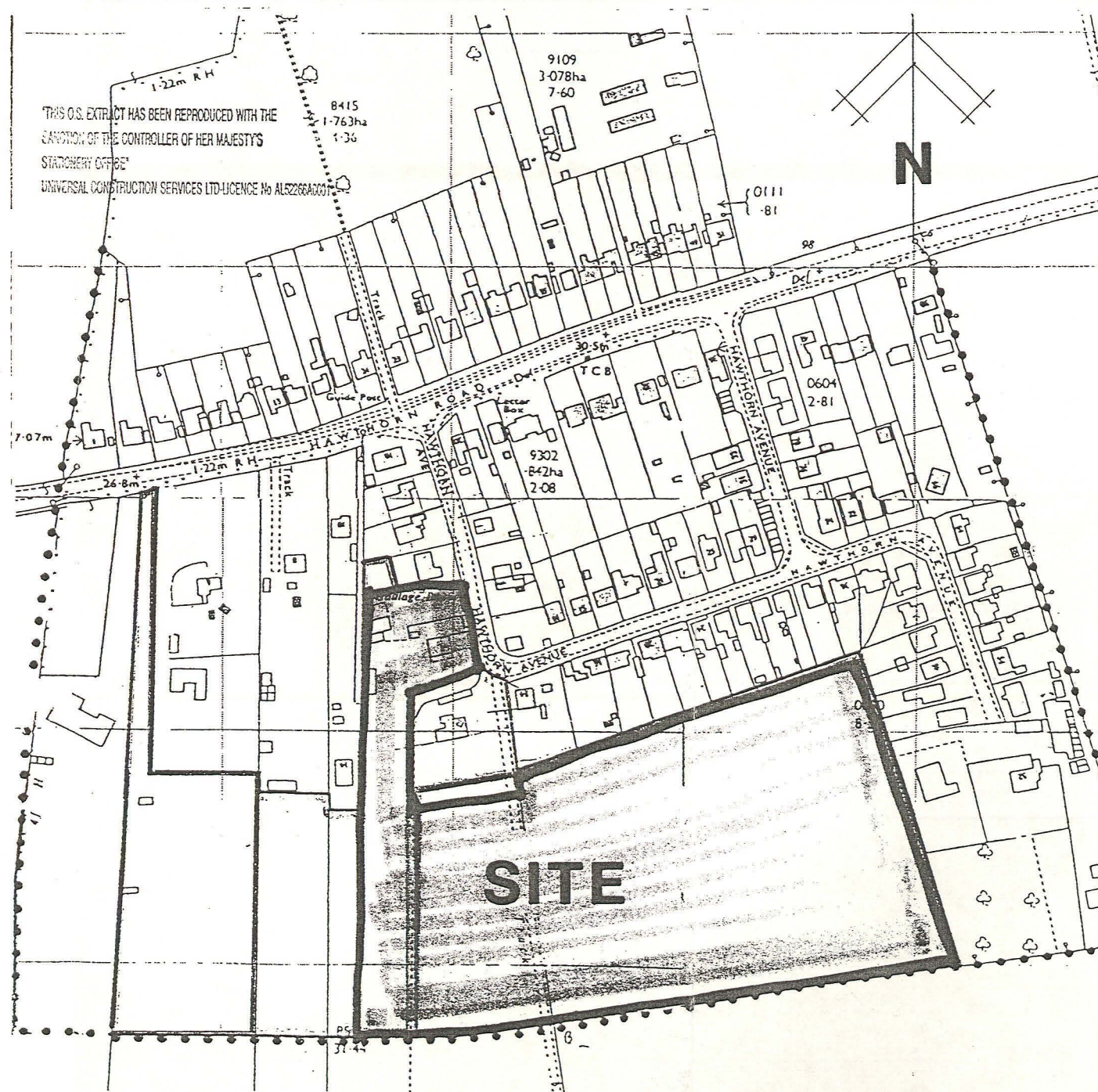

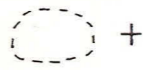
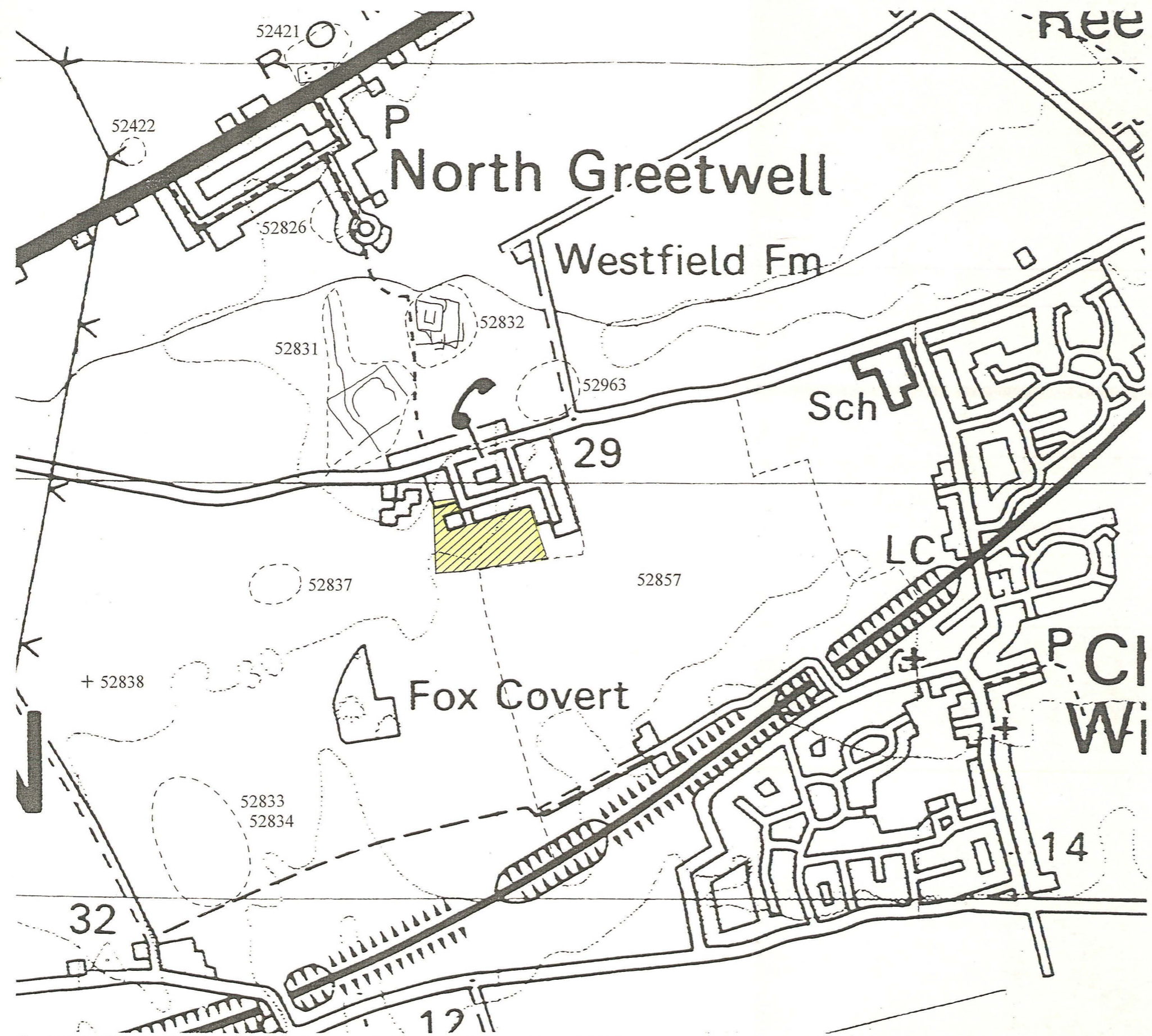


Fig.1

CITY OF LINCOLN ARCHAEOLOGY UNIT		
SITE CODE: CWHA00	PLAN/ELEV/SECTION NO:	
CLIENT: Eastman Securities Ltd.		
DESCRIPTION: Plan Showing Areas of Archaeological Potential (Within c.1km Radius of Site)		
SCALE: 1:10 000	ARCHIVE NO:	
DRAWN BY:	CHECKED:	DATE:
MUSEUM ACCESSION NO: 2000.118		



- KEY
-  Location of Site
 -  Location of Archaeological Site/Findspot
 - 52421 SMR Reference Number



Based upon the 1992 1:50 000 Landranger 121 Ordnance Survey map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office, © Crown copyright, by City of Lincoln Archaeology Unit/Lincoln City Council, Charlotte House, Union Road, Lincoln, under Licence No. AL 100028765.

Fig.2