

M3/21



LINDSEY ARCHAEOLOGICAL SERVICES

**Proposed Mineral Extraction on Land East of
Annpasture Lane, Tattershall Thorpe
Lincolnshire**

**Proposal for
Archaeological Evaluation**

Report

for

**Woodhall Spa
Sand and Gravel Ltd.**

LAS Report No. 686

NOVEMBER **August 2003**

25 WEST PARADE · LINCOLN · LN1 1NW

TELEPHONE 01522 544554 · FACSIMILE 01522 522211 · EMAIL las@linarch.co.uk

Lindsey Archaeological Services LLP Registered in England and Wales No. OC304247
Registered address 25 West Parade · Lincoln · LN1 1NW

VAT Registration No. 819 8029 41

Contents

List of Figures

List of Plates

1.0 Introduction	1
2.0 Site Description and Topography	
3.0 Planning Background	1
4.0 Geophysical Survey	1
5.0 Fieldwalking Results	2
6.0 Assessment of Archaeological Remains	3
Proposed Evaluation Programme	3
Aims and Objectives	3
Method	4
10.0 Acknowledgements	4
11.0 References	
Appendix 1 Flint Report	
The Figures	

List of Figures

Fig. 1 Location of Tattershall Thorpe and the development site (inset C based on the Ordnance Survey 1:10,000 map TF 21 SW. Crown Copyright, reproduced with the permission of the Controller of HMSO. LAS Licence no. AL 100002165

Fig. 2 Fieldwalking results.

Fig. 3 Proposed evaluation trenches, superimposed on the geophysical survey

Proposed Mineral Extraction on Land East of Annpasture Lane, Tattershall Thorpe, Lincolnshire Proposal for Evaluation

Introduction

Lindsey Archaeological Services (LAS) was commissioned by Woodhall Spa Sand and Gravel Ltd. To undertake a phased programme of archaeological investigation at the above site in accordance the Built Environment Officer, Lincolnshire County Council.

Site Description and Topography

Tattershall Thorpe is located approximately 29km (18 miles) south east of Lincoln in the valley of the River Bain at the south western tip of the Lincolnshire Wolds. The proposed extraction site is situated on the terrace sands and gravels and at a height of approximately 9.0m O.D and is c.8ha (20 acres) in extent. Currently under wheat the area is generally of low-grade agricultural land due, at least in part to the soil acidity.

The Bain valley has seen extensive mineral extraction in recent years. The area immediately north and east of the Iron Age double ditched enclosure has been quarried away. To the north the ground has been reinstated as lakes and to the east as grass land, although the ground level remains approximately 2-3m below that of the surrounding area.

Planning Background

A planning application for mineral extraction at the above site was submitted to Lincolnshire County Council (LCC) who requested an Environmental Impact Assessment (EIA) be undertaken. The scoping exercise carried out by LCC requested that the EIA include the following:

- The results of an archaeological evaluation of the site.
- An assessment of the potential effects on the nearby Scheduled Ancient Monument (ref 29725).

This document sets out proposals evaluation trial trenching on the site.

Geophysical Survey.

A geophysical survey carried out by Pre-Construct Geophysics in November 2003 (Bunn and Palmer-Brown 2003). Areas of potential archaeological remains have been tentatively identified. Anomalies that could represent earlier phases of occupation were identified in the form of linear and circular anomalies throughout the site. Traces of what could be ridge and furrow were also identified aligned with a part of Annpasture Lane. A third series of features

were tentatively identified with a field system beyond the south western limit of the site. It must be noted that these features were identified with some reservation as the readings were poorly differentiated

"A generally poor magnetic contrast between potentially significant geophysical anomalies across the site has prevented a clear interpretation of many of the features that were identified by the survey"

Bunn and Palmer Brown 2003, 6

Fieldwalking Results

There are relatively few finds from the site with (102 artefacts from the 8 hectares). The finds consisted of flints dating from the late Mesolithic to the early Bronze Age and ceramic finds (pottery, tile and brick) dating from medieval to the modern period. A single piece of glass, as yet undated, was also found.

Date	Prehistoric	Roman	Medieval	Post med/modern	Unknown date	Total
Flint	31					31
Pottery			13	17		30
Tile			9	13	1	23
Brick				15	3	18
Glass					1	1

Table 1, Categories of finds.

The distribution of the flint (Fig. 2) is fairly evenly spread across the field, although there seems to be very little from the south west corner of the field where only a single late Mesolithic / early Neolithic flake was recovered (197), this was also notably the earliest dated flint from the site. The remainder of the flints showed little of interest except the high percentage of burnt flint which may indicate burning in hearths (Appendix 1). Many of the burnt flints were found in the northern part of the field, possibly indicating a higher concentration of hearths in this area. The relatively wide spread of these finds (across more than 2 hectares) may mean that the area has undergone more intensive cultivation and finds incorporated in the topsoil have become dispersed, making it difficult to predict the location of these features. Unfortunately the geophysical survey did not identify any likely locations for the hearths, possibly indicating that any subsurface features have been removed.

The ceramic material seems to be concentrated in the southern part of the field. There seems to be no obvious concentration from any particular period, with a general scatter of both

Lindsey

Archaeological Services

medieval and post medieval dated pottery in the area. This accords well with the geophysical data which suggested a field system in this part of the field. The pottery probably represents a background scatter of material associated with agricultural use rather than evidence for occupation.

The other ceramic material (brick and tile) show a similar distribution with no obvious concentrations, probably representing a general background scatter but not relating to structural remains on the site.

Assessment of Archaeological Remains

There is little evidence from the investigatory methods used so far that the area contains significant archaeological remains. Although the geophysical survey has tentatively highlighted a series of features which may relate to early occupation this is not reflected in the fieldwalking. This is also supported by the aerial photographic evidence which indicated that, although there were a number of crop marks showing in some of the surrounding fields there were none visible on the proposed quarry site itself.

One possibility is that the proposed development area has different geology or land use history that masks the presence of potential archaeological remains. The fieldwalking results suggest however a more likely explanation is that there are few archaeological remains on the site. There is still uncertainty and it is proposed that a programme of trial trenching be undertaken on the site in order to examine the possibility that geological / landuse characteristics may be masking potential archaeological remains

Proposed Evaluation Programme

It is proposed that the evaluation will consist of approximately 2% or 1560m² coverage of the proposed evaluation site.

Aims and Objectives

The purpose of the evaluation will be to:

- establish the presence or absence, quality and extent of archaeological remains and their location within the development area
- gather sufficient information to enable an assessment of the potential and significance of any archaeological remains to be made and the impact which development will have upon them
- enable an informed decision to be made regarding the future treatment of any archaeological remains and consider any appropriate mitigatory measures either in advance of and/or during development

METHOD

Evaluation Trenches

The evaluation will consist of the excavation of 40 trenches; the thirty six trenches will be 20m x 2m will be 40 x 2m in length and 2 will 5m squares (positioned over 2 flints). The majority of the trenches are positioned over geophysical anomalies. Trenches, 33, 34, 35, and 37 are located in blank areas in the geophysical survey. Trenches 12 and 40 are 5m square areas positioned in order to investigate the area in the immediate vicinity on a flint blade (Trench 12) and a late Mesolithic early bronze age flint (Trench 40).

All trenches will be machine excavated to remove topsoil and over burden to the top of the first recognisable archaeological horizon. All machine excavation is to be supervised by an archaeologist.

The trenches will be hand-cleaned to reveal features in plan and carefully selected cross-sections through the features will be excavated to enable sufficient information about form, development date and stratigraphic relationships to be recorded without prejudice to more extensive investigations should these prove to be necessary.

Environmental Remains

Should any features contain charcoal, charred grain or other deposits of potential environmental interest, samples will be taken for further examination off site. Samples will normally be a maximum of 30 litres, or the total fill of a feature if less than 30 litres in volume. Where a feature is obviously rich in remains, the sample should be greater to allow for the retrieval of species less well represented. It may be appropriate to take continuous column samples if buried palaeosols survive. Material will processed off-site, wet sieving using a 50mm sieve. The flots to be dried and re-sieved to allow maximum retrieval of remains.

The possibility of industrial material is recognised. Slag, coal, fired clay etc will be collected for examination.

Human Remains

The possibility of encountering human remains is noted and provision will be made for obtaining the necessary Home Office Licence, as required under the 1857 Burials Act, should the need arise. If cremation urns or inhumations are encountered they will be recorded but not removed at this stage, unless there is risk of destruction or theft.

Treasure

The possibility of encountering items of treasure, as defined in the 1996 *Treasure Act*, is

Lindsey

Archaeological Services

noted and provision will be made for informing the necessary authorities, and providing appropriate security measures, should the need arise.

Recording Systems

LAS operates a standard context recording system, developed by its staff over the past 20 years based on MOLAS and CAS models. A full written (single context) and photographic record will be made of the site, to include site plans at a scale of 1:50 or 1:20, as appropriate, and section drawings at 1:10.

A plan of each trench will be made with section drawings of at least one side. In addition, further plans and sections will be made of individual features, or groups of features, as appropriate. The OD height will be included in all sections and spot heights on plans.

A full photographic record, in colour print, in 35mm format, will be made during the progress of the evaluation to cover principal features together with general site shots. Colour prints will accompany the evaluation report. Negatives will be stored in suitable conditions for long-term curation.

Post-Excavation

Finds processing will be carried out by LAS for distribution to the various specialists. Provision will be made for basic conservation of finds requiring stabilisation (eg metal, glass, organic remains) including X-rays for archival purposes. Work to be carried out by the Lincolnshire County Council Conservation Laboratory.

A basic archive list of pottery and animal bone will be made with an assessment of their significance in the light of the general site interpretation.

Environmental samples will be processed to establish their potential for further study but full analysis will not be carried out at this stage unless the evaluation proves to be the final stage of excavation and material of intrinsic value is identified.

Structure of Team and Assigned Tasks

Project Manager: M. Williams

Task: to coordinate, excavation and post excavation analysis.

Finds and Other Specialists to include as required

Roman pottery (Barbara Precious, freelance archaeologist)

Flint (Jim. Rylett, PCA)

Saxon and medieval pottery (Jane Young LAS)

Animal bone and environmental samples (James Rackham Environmental Consultancy)

Industrial materials (Slag etc) Jane Cowgill freelance archaeologist

Conservation (Lincoln Conservation Laboratory, Lincolnshire County Council Museums Service)

Task: Identification of finds and preparation of assessment reports

LAS reserves the right to use alternative specialists depending on availability.

Report Preparation and Contents

The report will include

- a non-technical summary of the results of the work
- location and trench plans showing the position of archaeological remains with at least one section showing the sequence of deposits in each trench. Additional plans and/or section drawings of specific features will be included as appropriate.
- a descriptive account of the recording methods used and the evaluation results, together with an assessment of their archaeological importance, their possible relationship to relevant known features adjacent to the Application Site and estimated reliability of the results
- consideration of the potential impact of the proposed development on any archaeological remains based on available data.
- specialist assessments of all categories of artefacts recovered (except modern items). Full archive lists will accompany the specialists' finds reports. These reports will comprise a basic identification of material retrieved and a general discussion of their importance. In depth analysis is not considered appropriate at this stage of evaluation.
- specialist assessment of environmental samples taken and their potential for subsequent study
- recommendations for further post-excavation work if required
- a complete context list with short description
- a photographic record of selected general views and key features

Dissemination

Two copies of the report will be supplied to the client and further copies deposited with Lincolnshire County Sites and Monuments Record (SMR) and the City and County Museum, Lincoln.

The deposition of a copy of the report at the SMR will be deemed to put all information in the public domain, unless a request is made for confidentiality. If material is to be held in confidence a timescale must be agreed with the Lincolnshire County Archaeological Officer. In normal circumstances the agreed term does not usually exceed six months.

Publication

In addition to the client report described above a short note summarising the main results of the Archaeological Evaluation will be presented for publication to the Editor of *Lincolnshire History and Archaeology* with full acknowledgement to the client, the cost of which is included in this tender.

Copyright

LAS and its sub-contractors shall retain full copyright of any commissioned reports or other project documents, including all data, text and graphics, (in accordance with IFA guidelines) under the Copyright Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification. The Museum will be given a licence to make all reasonable professional use of this material, granted that the LAS copyright is acknowledged.

Site Archive

It is proposed that the site paper archive and any archaeological finds should be deposited with the City and County Museum, Lincoln, after completion of the site analysis and subject to agreement with the landowner. LAS and its sub-contractors follow the conditions laid down by the City and County Museum, Lincoln in its document *Guidelines for the Transfer of Project Archives*, and will comply with their current requirements.

Health and Safety

All site work will be carried out in accordance with the relevant current Health and Safety legislation. A copy of the LAS Health and Safety Document is available on request and a Risk Assessment will be prepared prior to commencement of work on site.

Insurance

LAS is fully covered by Employers and Public Liability and Professional Indemnity insurances, copies of which are available for inspection on request.

Monitoring

Internal monitoring of the project will be carried out by Naomi Field (Proprietor, LAS). Responsibility for the external archaeological monitoring of this project lies with the Senior Built Environment Officer, Lincolnshire County Council.

Timetable

Trial Trenching: (40 trenches) It is anticipated that fieldwork will take upto 4 weeks on site with a team of 5 people

Finds processing: 5 day

Preparation of report, illustrations and archive: 5 days

+ Specialist reports

TERMS AND CONDITIONS

Prior to commencement of the work an Accession Number and site code will be obtained from the City and County Museum, Lincoln, in accordance with current requirements.

LAS operates according to the Codes of Conduct of the Institute of Field Archaeologists and its Standard on Archaeological Evaluations.

In the event that commencement of work is delayed or should a delay occur within the works programme without fault on the part of LAS then LAS shall be entitled to recover from the client any additional fees costs or expenditure directly or indirectly and properly resulting there from.

Work will not commence until:

- a) agreement in writing to these account settlement terms has been received by LAS.
- b) LAS has been informed in writing to whom the invoice should be addressed and (where different) the nominee liable for payment of the account.

All invoices are due strictly 30 days from date of invoice after which LAS reserves the right to charge interest under the terms of *The Late Payment of Commercial Debts (Interest) Act 1998*.

Mark Williams
Lindsey Archaeological Services
November 26th 2003

References

Bunn, D and Palmer Brown C 2003 Fluxgate Gradiometer Survey: Proposed Mineral Extraction Site Tattershall Thorpe, Lincolnshire. Unpublished report.

LAS 2003 Proposed Mineral Extraction on Land East of Annpasture Lane, Tattershall Thorpe,

Lindsey
Archaeological Services

Lincolnshire. Archaeological Specification. Unpublished

Lead off a number
Tattershall Thorpe
1971

**Land off Annpasture Road,
Tattershall Thorpe, Lincolnshire
TTAL 03**

Lithic Materials: Assessment

Report by Jim Rylatt – November, 2003

1.0 Introduction

This report relates to a small assemblage of lithic material that was recovered by fieldwalking from a site at Tattershall Thorpe, Lincolnshire. A total of 29 pieces of struck or modified flint were retrieved. An unmodified, rounded pebble, which may have served as a slingshot, was also recovered

2.0 Description

2.1 Raw material

All of the lithic artefacts examined were produced from flint. Where cortical surfaces survived it was possible to establish that the raw materials were derived from secondary deposits. The vast majority of the cores, irregular waste (chips/chunks), primary flakes and secondary flakes have areas of thin, abraded cortex. Where relatively large areas of this surface survive, it generally exhibits a rounded profile. This indicates that the nodules utilised were water-transported pebbles and cobbles. This means of transportation limits the size of the constituent nodules, and also accounts for the considerable variation in the colour, composition and quality of the components of the assemblage.

The site at Tattershall Thorpe overlies an extensive accumulation of river and glacio-fluvial sheet deposits, which are comprised of interleaving layers of sand and gravel (B.G.S., 1995). The flint pebbles have almost certainly been derived from these gravels, coming either from the site itself, or from its immediate environs. Such pebbles would have been rolled and battered by glacial and fluvial forces prior to their initial deposition, resulting in the thin, irregular and pockmarked nature of their cortex. Additionally, the extreme temperatures experienced in a glacial or periglacial environment are likely to have caused many of the nodules to fracture. This process accounts for the sub-angular, recorticated surfaces evident on a number of the artefacts examined.

The collection of flint from secondary deposits is likely to have been a relatively expedient process. This may simply have involved the inspection of tree throws, or the banks of streams and other adjacent bodies of moving water (Edmonds, 1995). Alternatively, the creation of slight delves into the upper surface of out cropping gravel beds may have proved to be a more reliable means of acquisition.

2.2 Condition

A large proportion of the assemblage (53.3%) had been heavily burnt, resulting in a change in the structure of the flint and a loss of definition to the flake surfaces and scars. In most, if not all cases this burning had occurred after the flint had been knapped.

A number of the flakes recovered (20%) exhibited evidence of post-depositional breaks, or damage along their edges. This is likely to result from rolling associated with ploughing or other taphonomic processes that cause the bulk movement of sediment.

3.0 Composition and dating

Flakes

There were eleven unmodified flakes (36.6% of the total assemblage), one of which was a primary removal, while the others also retained areas of cortex. Examination of the scars on the dorsal surfaces of the flakes indicates that there were two distinct patterns of working. There was only one blade-like flake (197), which had been removed from a prepared core, with two opposed platforms. These are morphological attributes of a highly controlled pattern of working practiced during the later Mesolithic and Early Neolithic.

Another four flakes (30, 43, 59, 63) were the product of a less formalised system of working characteristic of later Neolithic to Early Bronze Age technologies. Traits indicative of this system of lithic reduction include the use of multiple-platform cores, the production of squat flakes and, a greater tendency toward more pronounced bulbs and hinged terminations.

The other six flakes did not have traits that could be confidently attributed to one tradition.

Tools

The assemblage contained a single tool (3.3%), which suggests that activities other than core reduction were also taking place in the immediate environs of the site. This item was a plano-convex knife (110), which had serial retouch along both lateral edges and around the distal end. The majority of these items are found in association with Early Bronze Age material, and they are often recovered from funerary deposits, particularly those containing Food Vessels. The example recovered from Tattershall Thorpe is of a relatively simple form, which could either mean that it was intended to function as a basic, utilitarian tool, or that it was a relatively early example (possibly even Late Neolithic in date).

4.0 Discussion

It is evident that this small lithic assemblage represents the residues of a palimpsest of activity that took place over thousands of years. The low quantity of utilised flakes and tools suggests that there was no permanent occupation of the site throughout this period, although the possibility that there may have been a series of small temporary camps cannot be discounted. Such transitory occupation might account for the most obvious characteristic of this assemblage, namely the large proportion of the flint that has been burnt. These stones have been heated for a sustained period, which implies that there must have been several hearths in the immediate vicinity during the prehistoric period. A large proportion of the burnt flint was recovered during the early stages of the fieldwalking survey suggesting that one of the hearths might be located in the area producing finds 1 to 16. Alternatively, it is possible that this material is derived from a 'burnt flint mound', a structure analogous to the burnt mounds composed of sandstone and quartzite potboilers (Edmonds, *et al*, 1999: 67-70); such heaps of

burnt flint waste have been identified in the Cambridgeshire fens, where they have been dated to the Bronze Age.

5.0 References

- B.G.S. 1995 *Horncastle, England and Wales Sheet 115*. Solid and Drift Geology. 1: 50,000 Provisional Series. Keyworth, British Geological Survey.
- Edmonds, M. E. 1995 *Stone Tools and Society*. London, Batsford.
- Edmonds, M., Evans, C. & Gibson, D. 1999 Assembly and collection –lithic complexes in the Cambridgeshire Fenlands. *Proceedings of the Prehistoric Society*, **65** : 47-82.

TTAL 03 FLINT LIST

Find No.	Type	Date	Comp	Recort.	Burnt	Retouch	Platf	Bulb	Term	Comments
1	chunk				yes					heavily burnt & granular, some flake surfaces survive
3	chunk				yes					heavily burnt, flake surfaces survive
4	chunk				yes					large chunk, heavily burnt & granular, some flake surfaces
6	flake/chunk				yes					heavily burnt, some flake surfaces survive
7	chip				yes					heavily burnt, some flake surfaces survive
9	flake				yes		flat			heavily burnt, flake surfaces survive
12	chip				yes					heavily burnt, some flake surfaces survive
14	chunk				yes					heavily burnt & granular (calcined), some flake surfaces survive
15	chunk				yes					heavily burnt & granular, some flake surfaces survive
16	chunk				yes					heavily burnt & granular (calcined), some flake surfaces survive
30	flake (S)	L.Neo/EBA	no				flat	diff		prox. frag of thick flake; decort. flake, with thin, rounded cortex
43	flake (S)	L.Neo/EBA	no				flat	pron.		thick, relatively crude flake; distal end detached, post-dep damage
52	chunk			partly						pale grey, opaque Wolds flint; flake surfaces survive
55	chunk				yes					heavily burnt, some flake surfaces survive; some post-dep damage
57	flake (S)		no	partly					hinge	distal frag of large flake; post-dep damage to margins
59	flake (S)	L.Neo/EBA	no				flat	pron.		prox. frag of large flake; some post-dep damage to margins
63	flake (S)	L.Neo/EBA	yes				cort.	pron.	hinge	squat flake, crudely produced; some post-dep damage
71	chunk				yes					heavily burnt, possibly a pebble core fragment, with some flake surfaces
102	chunk				yes					heavily burnt, flake surfaces survive
109	pebble		yes							rounded flint pebble - possible sling shot?
110	knife	EBA	yes			yes	comp.	pron.	feath.	plano-convex knife; retouch more extensive along 1 lat edge than other
159	chunk				yes					heavily burnt, flake surfaces survive
160	flake (S)		yes				flat	pron.	feath.	irregular decortication flake; thin, rounded & abraded cortex
165	flake				yes		flat	pron.	hinge	heavily burnt, but flake surfaces survive
171	flake (S)	BA	yes				comp.	pron.	feath.	thick, irregular flake from very crudely worked core
177	flake (P)		yes				cort.	pron.	feath.	thin abraded cortex; some post-dep damage
192	flake (S)		yes				flat	v.sm.pr.	feath.	indirect percussion; thin, rounded & abraded cortex
196	chip				yes					heavily burnt, flake surfaces survive
197	flake (S)	L.Mes/E. Neo	yes				comp.	diffuse	feath.	blade-like flake, with platform edge prep on dorsal surface
199	chunk	L.Neo/BA		partly						from core with irregular flake removals
30		LM/EN 1 LN/EBA 5 EBA/BA 2			16	1				

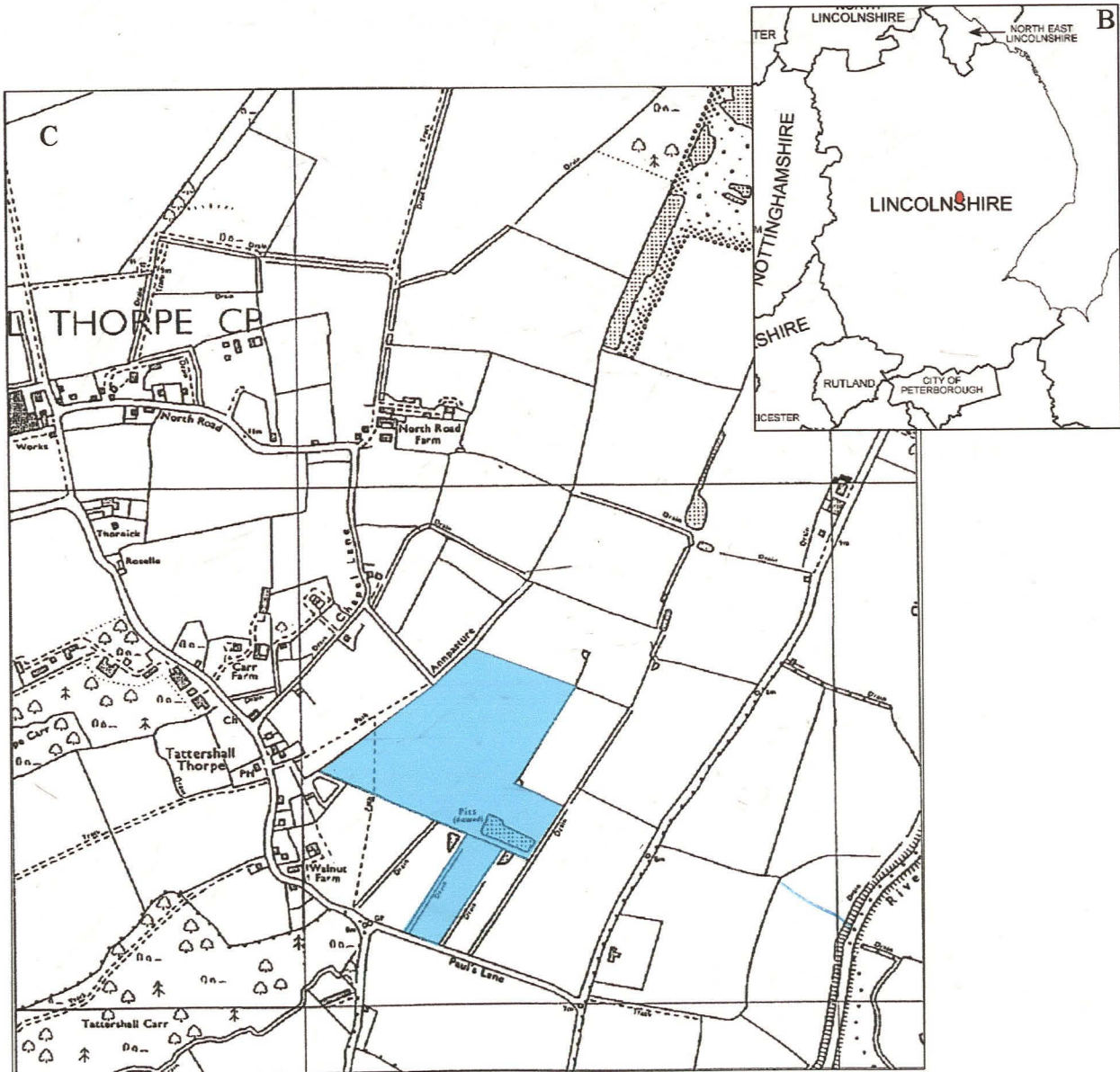
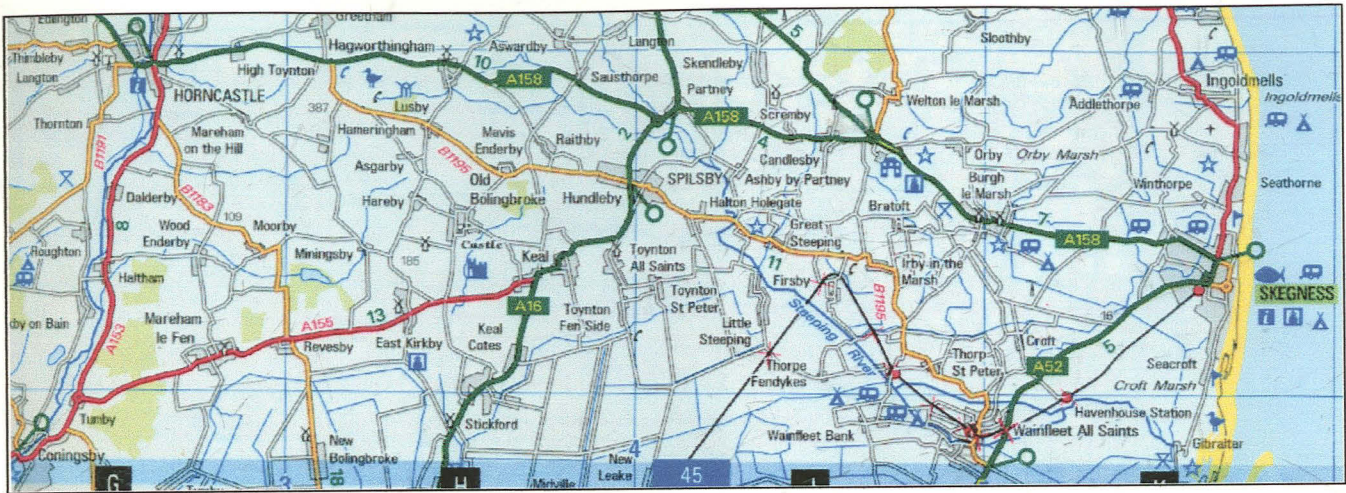


Fig. 1 Location of Tattershal Thorpe and the development site (inset C based on the Ordnance Survey 1:10,000 map TF 21 SW. Crown copyright, reproduced with the permission of the Controller of HMSO. LAS Licence no. AL 10002165.)

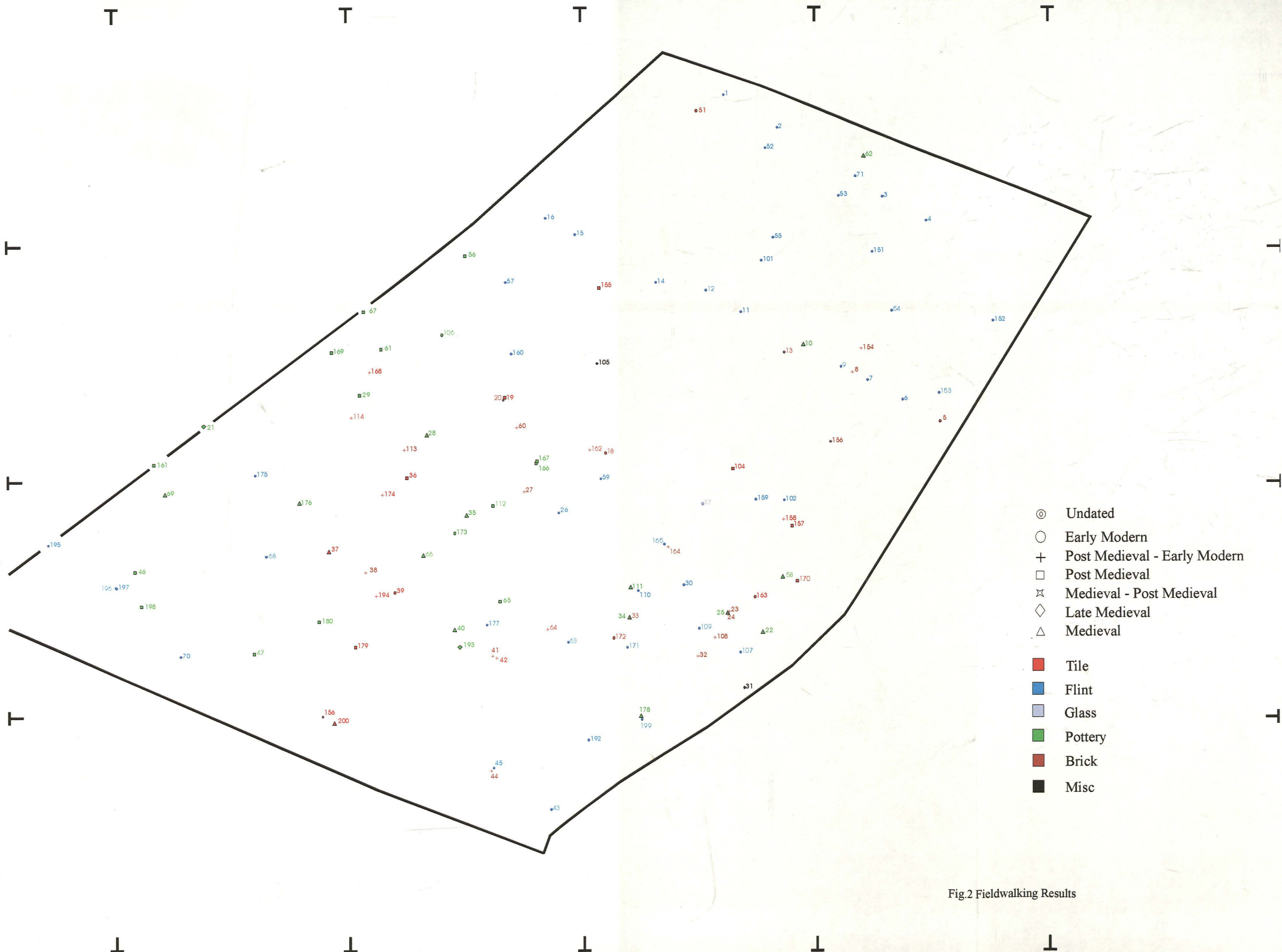


Fig.2 Fieldwalking Results

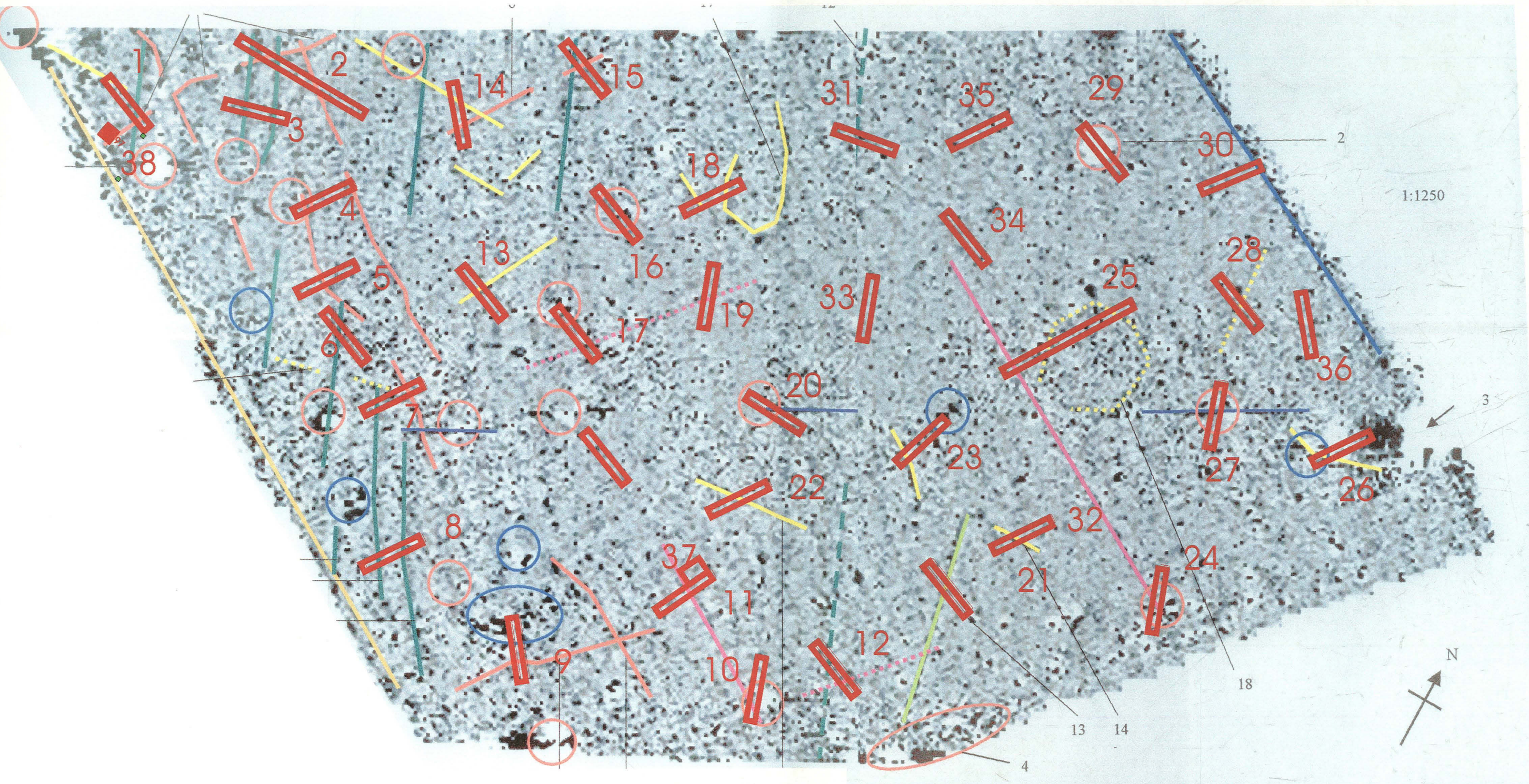


Fig. 3 Proposed trench location plan superimposed on the geophysical interpretation plan.

Linear Anomalies		Discrete Anomalies	
Group A			Ferrous type + <u>distorting effects of</u>
Group C			
			Pit-like
Group B			
Group D			
Group D1			