

JB

M2/5

**INTERIM REPORT OF  
ARCHAEOLOGICAL WATCHING BRIEF  
ON LAND AT WHISBY QUARRY,  
THORPE ROAD, ~~WHISBY~~, EAGLE & SW  
LINCOLNSHIRE DODDINGTON  
(WTR98)**



**A P S**  
ARCHAEOLOGICAL  
PROJECT  
SERVICES

Event L12878

Source 47545  
47546

Mon: L182697 62228  
L182699 62229  
L182700 62230

INTERIM REPORT OF  
ARCHAEOLOGICAL WATCHING BRIEF  
ON LAND AT WHISBY QUARRY,  
THORPE ROAD, ~~WHISBY~~, EAGLE & SWINETHORPE  
LINCOLNSHIRE DODDINGTON & WHISBY  
(WTR98)

Work Undertaken For  
Lafarge Aggregates Ltd

February 2002

Report compiled by  
Tobin Rayner BSc (Hons), AIFA

National Grid Reference: ~~TF~~<sup>SK</sup> 890 666  
Planning Application No's: N.23.27.64/828/96 and N.23.27/825/96

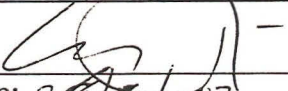
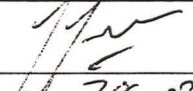


A.P.S. Report No: 37/02



## Quality Control

Project Coordinator	Gary Taylor
Site Staff	Rachael Hall, Tobin Rayner and Fiona Walker
Surveying	James Albone and Rachael Hall
Environmental Assessment	Andrea Snelling
Illustration	Tobin Rayner
Photographic Reproduction	Tobin Rayner
Post-excavation Analyst	Tobin Rayner

Checked by Project Manager	Approved by Senior Archaeologist
	 Tom Lane
Date: 28/2/02	Date: 28.02.02

## CONTENTS

### List of Figures

### List of Plates

1.	Summary .....	1
2.	Introduction .....	1
2.1	Definition of a Watching Brief .....	1
2.2	Background .....	1
2.3	Topography and Geology .....	1
2.4	Archaeological Background .....	2
3.	Aims .....	2
4.	Methods .....	2
5.	Results .....	3
5.1	The Stratigraphic Sequence .....	3
5.2	Phase 1: Natural deposits .....	3
5.3	Phase 2: Undated deposits .....	3
5.4	Phase 3: Prehistoric deposits .....	3
5.5	Phase 4: Post-medieval deposits .....	3
5.6	Phase 5: Modern deposits .....	4
6.	Discussion .....	4
6.1	Phase 1: Natural deposits .....	4
6.2	Phase 2: Undated deposits .....	4
6.3	Phase 3: Prehistoric deposits .....	5
6.4	Phase 4: Post-medieval deposits .....	5
6.5	Phase 5: Modern deposits .....	5
7	Conclusions .....	5
8	Acknowledgements .....	6
9.	Bibliography .....	6
10.	Abbreviations .....	7

### Appendices

1	Specification
2	Context Summary
3	The Finds by <i>Hilary Healey and Gary Taylor</i>
4	Environmental Assessment by <i>Andrea Snelling</i>
5	Glossary
6	The Archive

## **List of Figures**

- Figure 1 General location plan
- Figure 2 Site location plan
- Figure 3 Areas of investigation
- Figure 4 Archaeological setting
- Figure 5 Site plan of mineral extraction area
- Figure 6 Plan of features recorded in mineral extraction area
- Figure 7 Plans of excavated features
- Figure 8 Feature sections

## **List of Plates**

- Plate 1 View of stripped area along access road
- Plate 2 Topsoil stripping in mineral extraction area
- Plate 3 Initial stripped access route within mineral extraction area, looking east
- Plate 4 View of stripped mineral extraction area, looking northwest
- Plate 5 Ditches (008) and (010) revealed in the northern half of mineral extraction area, looking northwest
- Plate 6 Ditch (018), section no. 6, looking west
- Plate 7 View of undated pit (025), looking east
- Plate 8 Pit (020) containing burnt stones, looking north

## 1. SUMMARY

*An archaeological watching brief was undertaken on land at Thorpe Road, Whisby Quarry, Lincolnshire during topsoil stripping prior to mineral extraction at the site.*

*Several archaeological sites and find-spots dating from the Lower Palaeolithic (350,000-1000,000 BP) to the Anglo-Saxon period have been recorded nearby.*

*A desk-top assessment of the quarry identified three probable Bronze Age barrow cropmarks, however, archaeological investigations revealed no trace of these features.*

*Natural sands and gravels, deposited when the River Trent flowed through the Lincoln Gap prior to the last ice age, were the earliest layers encountered. Cutting these deposits were several undated features, a probable prehistoric pit containing burnt stones and post-medieval boundary ditches. Extensive plough marks were recorded cutting these deposits and a probable 19<sup>th</sup> century cistern was also revealed. Overlying all the features was a modern topsoil.*

*Finds retrieved from this investigation included burnt stones, Romano-British tiles and post-medieval and modern tiles, brick and field drains.*

*The environmental samples produced a small data set, which allowed only limited interpretation suggesting either there was little activity associated with the features or that preservation was particularly bad.*

## 2. INTRODUCTION

### 2.1 Definition of a Watching Brief

An archaeological watching brief is defined as, 'a formal program of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits maybe disturbed or destroyed,' (IFA 1999).

### 2.2 Background

Between 13<sup>th</sup> and 27<sup>th</sup> August 1998 and the 29<sup>th</sup> August and 28<sup>th</sup> September 2001, a watching brief was undertaken on land at Thorpe Road, Whisby Quarry, Lincolnshire. Two areas were investigated: an access road and a gravel extraction area (Fig. 3).

Archaeological Project Services was commissioned by Richard Allott, on behalf of Lafarge Aggregates Ltd, to undertake the works during topsoil stripping prior to mineral extraction at the site. The investigations were carried out in accordance with a specification prepared by Archaeological Project Services (Appendix 1).

### 2.3 Topography and Geology

Whisby Quarry is situated 10km southwest of Lincoln and 30km north of Grantham in the civil parish of Eagle and Swinethorpe, North Kesteven District, Lincolnshire (Fig. 1).

The site is located between the villages of Whisby and Eagle and is centred on National Grid Reference ~~SV 25~~<sup>SV 26</sup> 890 666. Encompassing some 60 hectares, the site lies on a north-south slope, the height varying between 13 and 15m OD (Fig. 2 and 3).

Local topography describes a small east to west stream valley running through the site with a gentle slope upwards to the north. This stream, the Pike Drain, subsequently flows into the River Witham 7km to the east at Bracebridge, south of Lincoln.

Local soils are of the Blackwood Association, typically deep sandy and coarse loamy soils developed in glaciofluvial drift (Hodge *et al.* 1984, 127). Beneath the soils is a drift geology of older river sand and gravel which in turn overlies a solid geology of Lower Lias clays and shales (BGS 1973).

#### 2.4 Archaeological Setting

Whisby Quarry is located in an area of known archaeological activity dating from the Lower Palaeolithic (350,000-100,000 BP), represented by two 'Clactonian' flaked tools (May 1976, 16).

Two Neolithic (4200-2250 BC) stone axes, one polished and imported from the Lake District, have been found in Thorpe-on-the-Hill (NK64.1, 2).

A desk-top assessment of the proposed quarry extension identified three circular cropmarks located south of Job's Lane (APS 1994, 4) (Fig. 4). These were interpreted as Bronze Age barrows, together forming a small barrow cemetery. However, later archaeological investigations revealed no trace of these features though prehistoric flint artefacts were recovered (Cope-Faulkner 1997). Other Bronze Age activity has been recorded *c.* 2km to the south and includes a probable barrow, Early Bronze Age pottery and a barbed and tanged arrowhead (NK64.3, 4 and 5).

No Iron Age or Romano-British finds have been recorded from the vicinity of the site, with the exception of an Iron Age beehive quern found in Eagle (SMR 60418) and the

Fosse Way. This important Roman thoroughfare connecting Exeter and Lincoln lies within 2.8km of the investigation area (Margary 1973, 221). Two Anglo-Saxon crosses are recorded from All Saints' Church, Eagle and support place-name evidence of the area being settled in the Scandinavian era (9th-10th centuries AD).

### 3. AIMS

The aim of the watching brief was to record, interpret and establish the extent and survival of all archaeological remains exposed during all phases of topsoil and subsoil disturbance. The objectives were to determine the form, function, spatial arrangement, date and sequence of any archaeological remains encountered.

### 4. METHODS

The watching brief was undertaken during the preliminary ground works phase of development. Topsoil was removed by mechanical excavator (Plate 1 - 4) and where archaeological remains were revealed these were cleaned by hand and excavated in accordance with the specification for investigation (Appendix 1).

All available section faces and stripped areas of the groundworks were examined for archaeological features. The depth and thickness of each deposit was recorded. Each deposit or feature revealed was allocated a unique reference number (context number) with an individual written description. Sections were drawn at a scale of 1:10 and plans at a scale of 1:20. The location of features was surveyed using a Geodolite Total Station in conjunction with a Psion Datalogger. A photographic record was also compiled of the site during work to show specific stages, and the layout of the

archaeology and groups of features where their relationship was important. Recording of deposits encountered during the watching brief was undertaken according to standard Archaeological Project Services' practice.

## 5. RESULTS

### 5.1 The Stratigraphic Sequence

Finds recovered from the deposits identified during the watching brief were examined and a date assigned where possible (Appendix 3). Records of the deposits encountered were also examined. A list of all contexts and interpretations appears as Appendix 2. Phasing was based on the nature of the deposits and recognizable relationships between them, supplemented by artefact dating where relevant. Five phases were identified:

Phase 1	Natural deposits
Phase 2	Undated deposits
Phase 3	Prehistoric deposits
Phase 4	Post-medieval deposits
Phase 5	Modern deposits

Context numbers appear in brackets, and these refer to the individual cut and deposit descriptions recorded during the watching brief.

### 5.2 Phase 1: Natural deposits

(Fig. 5 and 6) Natural yellow and white sand and gravel (003 and 004) were the earliest deposits recorded across the site. Recorded cutting the natural in the northeast corner of the gravel extraction area was a hollow (012) containing a dark brown sandy silt (011) with moderate gravel inclusions. Other natural features were also revealed across the site cutting the natural deposits and represent hollows, tree throw holes and animal disturbance.

### 5.3 Phase 2: Undated deposits

(Fig. 5 - 8) A larger sub-circular pit (025) measuring 1.40m wide was recorded in the northeast corner of the gravel extraction area and contained a dark blackish brown sandy silt (024) with frequent gravel inclusions (Plate 7). Located to the southwest of pit (025) was a 0.45m wide sub-circular feature (027) with steep sides and a slightly concave base. This possible post hole was filled by a black clayey silt (026) with occasional gravel inclusions. An environmental sample was taken from each of these deposits and contained a small amount of charcoal but no other artefactual evidence (Appendix 4).

To the southeast of the natural hollow (012) was a 0.50m wide sub-oval feature (014) with vertical sides and a flat base. Filling this possible post hole was a 0.18m thick dark brown silt (013).

An east-west linear ditch (006) with steep sides and a flat base measuring at least 12.00m long x 0.90m wide x 0.20m deep was recorded to the northwest of (014) and contained a dark greyish brown sandy silt (005) with frequent gravel.

### 5.4 Phase 3: Prehistoric deposits

(Fig. 5 - 8) Approximately 5.00m to the northwest of pit (025) was a sub-circular feature (020) (Plate 8). Measuring 0.85m wide x 60mm deep this pit contained a black organic sandy silt with frequent burnt stones (019). An environmental sample taken from this deposit yielded charcoal, a possible hazelnut shell and further burnt stones (Appendix 4).

### 5.5 Phase 4: Post-medieval deposits

(Fig. 5 - 8) Located in the northeast corner of the gravel extraction area, running east-west across the site, was a ditch (008, 016 and



018) measuring at least 62.00m long x 1.35m wide x 0.50m deep (Plate 5 and 6). This feature contained two fills, a primary mid grey sandy silt (021 and 022) and a secondary mid greyish brown to dark brown sandy silt (007, 015 and 017), both with frequent gravel inclusions. A piece of post-medieval tile was retrieved from deposit (017), whilst an environmental sample revealed only a small amount of charcoal (Appendix 4).

A similar east-west linear (010) was recorded running parallel with (008, 016 and 018), 2.50m to the southwest. Measuring at least 27.00m long this ditch contained a light brownish grey sandy silt (009) with frequent gravel. Due to the alignment of this feature and its similarity to ditch (008, 016 and 018) it has also been assigned a post-medieval date.

#### **5.6 Phase 5: Modern deposits**

Located halfway along the access road was a circular brick cistern. This probable 19<sup>th</sup> century feature measured approximately 1.1m in diameter by 1.8m deep and had ceramic pipes entering it at about 1m from the surface.

Overlying the natural and sealing all the features was a 0.40m thick layer of dark greyish brown sandy silt (001) and (002) with moderate gravel inclusions. These deposits were recorded across the whole gravel extraction area and access road, and represent the modern surface. Modern ceramic drain fragments and occasional roofing tile, together with two worn fragments of Roman tile, were retrieved from (001).

Frequent plough marks were revealed cutting the natural and truncating the underlying features suggesting recent extensive agricultural activity.

## **6. DISCUSSION**

Archaeological investigations on land at Thorpe Road, Whisby Quarry were carried out during topsoil stripping prior to mineral extraction and have revealed a sequence of natural and archaeological deposits.

### **6.1 Phase 1: Natural deposits**

The earliest deposits recorded across the area were sands and gravels. These layers are derived from the former course of the River Trent when it passed through the Lincoln Gap, some time before 80,000 years BP. Several of the natural features cutting these alluvial deposits probably represent tree throw holes implying a woodland landscape at an indeterminate time in the past.

### **6.2 Phase 2: Undated deposits**

The shallow nature of ditch (006) gives no indication of its function, whilst dating is uncertain due to the lack of artefactual evidence. It is, however, probable that the shallowness of the feature is due to truncation by agricultural activity. It is likely, therefore, that the ditch pre-dates agricultural use of the land and thus is no later than the post-medieval period. Its location and comparable alignment to the post-medieval dated ditches to the south may imply a similar date and function. However, this is only a speculative suggestion and therefore the ditch must remain undated.

The samples taken from the fills of the possible pit and post hole (025) and (027) contained no artefactual evidence and it has therefore been suggested that they may be natural features (Appendix 4). However, their location adjacent to pit (020) may imply an association, though their function must remain uncertain. Similarly, possible

post hole (014) must also be considered in a corresponding manner due to its location adjacent to the post-medieval ditch (008, 016 and 018) and the undated ditch (006).

### **6.3 Phase 3: Prehistoric deposits**

It is likely that the fill of pit (020) is from an area of *in situ* burning, given the presence of fire-cracked stone and the significantly greater amount of charcoal. Three of the burnt stones display evidence of localized polish on their surfaces, though the cause and meaning of this is unknown. Heat-affected stones, particularly in mounds, are a common feature of the prehistoric period, and later, and were probably used for cooking and also for primitive sauna or steam chambers and in textile production (Brossler 2001, 133). Although burnt stones also occur on Roman and later sites, the dearth of any dating evidence associated with the present finds perhaps indicates that they derive from prehistoric activity. Because all the burnt stones were recovered from a single pit it is probable that they represent cooking activity with the recovery of a possible hazelnut shell increasing this proposition. Furthermore, the absence of bone and shell is probably associated with a preservation factor, indicating acidic or decalcified soils.

The lack of other features of this date suggests that the activity was either transient or that later ploughing has destroyed any associated features that may have existed.

### **6.4 Phase 4: Post-medieval deposits**

The close association of ditches (008, 016 and 018) and (010), parallel and only 2.50m apart, suggest that these two features formed a field boundary with a probable hedge line located in between. The termination of ditch (010) implies a change of this border into a

single ditched construction. The dating of these features to the post-medieval period suggests that the land was being enclosed and parcelled into different blocks at this time. The tile retrieved from the fill of the ditch probably derived from manuring and suggests the area was being ploughed and used for agriculture purposes during this period.

### **6.5 Phase 5: Modern deposits**

The probable 19<sup>th</sup> century circular brick cistern is likely to be associated with a contemporary building although this structure was not revealed during the investigation.

The topsoil recorded overlying all the features represents the modern surface. Frequent topsoil-filled plough marks were revealed cutting the natural and truncating the underlying features suggesting extensive agricultural activity in the past.

Modern ceramic drain fragments and occasional roofing tile were retrieved from the topsoil. Interestingly two Romano-British tile fragments were also retrieved and imply the presence of a Romano-British building in the general vicinity of the site although these sherds probably represent a manuring scatter. The lack of other artefacts of the period suggest that any such building was not in the investigation area, nor close proximity.

## **7. CONCLUSIONS**

Archaeological investigations on land at Thorpe Road, Whisby Quarry were carried out during topsoil stripping prior to mineral extraction and revealed a sequence of archaeological deposits across the area.

Archaeological remains were mostly located

in the northern part of the monitored mineral extraction area. These remains of probable prehistoric and later date, were not abundant though evidence of attrition by ploughing was extensive. Additionally, the soils of the area appear to be acidic, conditions which are not conducive to the preservation of bone and shell.

Evidence of probable prehistoric activity was identified through the remains of a pit containing burnt stones.

No Roman dated features were recorded though, the Romano-British tiles retrieved from the topsoil indicate the presence of a building of the period somewhere in the general vicinity.

Post-medieval activity, in the form of ditches, was identified in the northeast corner of the mineral extraction area. These features suggest a reorganization of the landscape with areas of the land being enclosed.

Modern ceramic retrieved from the topsoil, and the probable 19<sup>th</sup> century cistern imply an increased land use during the period generally associated with agriculture.

The material collected from the environmental samples produced a small data set, which allowed only limited interpretation suggesting either there was little activity associated with the features or that preservation was particularly bad.

## 8. ACKNOWLEDGEMENTS

Archaeological Project Services would like to acknowledge the assistance of Richard Allott of Lafarge Aggregates Ltd for commissioning the archaeological watching brief. The work was coordinated by Gary Taylor and this report was edited by Tom

Lane. Jo Hambly, the Heritage Officer for North Kesteven District Council permitted examination of the relevant files. Mark Bennet allowed access to the County Sites and Monuments record.

## 9. BIBLIOGRAPHY

APS, 1994, *Desk-top Assessment for the Proposed Western Extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire* Unpublished Report

BGS, 1973, *Lincoln, Solid and Drift edition* Sheet 114

Brossler, A., 2001, 'Reading Business Park: the results of phases 1 and 2', in J. Bruck (ed), *Bronze Age Landscapes Tradition and Transformation* (Oxbow Books)

Cope-Faulkner, P., 1997, *Archaeological Evaluation for the proposed western extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire* Unpublished APS report no. 22/97

HTL, 1993, *Desk Top Assessment for the Proposed Eastern Extension of Whisby Quarry, Thorpe-on-the-Hill, Lincolnshire* Unpublished report

Hodge, C.A.H., Burton, R.G.O., Corbett, W.M., Evans, and Seale, R.S., 1984, *Soils and their Use in Eastern England*, Soil Survey of England and Wales 13

IFA, 1999, *Standard and Guidance for an Archaeological Watching Brief*.

Margary, I.D., 1973, *Roman Roads in Britain*

May, J., 1976, *Prehistoric Lincolnshire*, History of Lincolnshire 1

## 10. ABBREVIATIONS

APS	Archaeological Project Services
BGS	British Geological Survey
BP	Before Present
HTL	Heritage Trust of Lincolnshire
IFA	Institute of Field Archaeologists
OD	Ordnance Datum
SMR	Sites and Monuments Record
NK	North Kesteven District Council



Plate 1: View of stripped area along access road

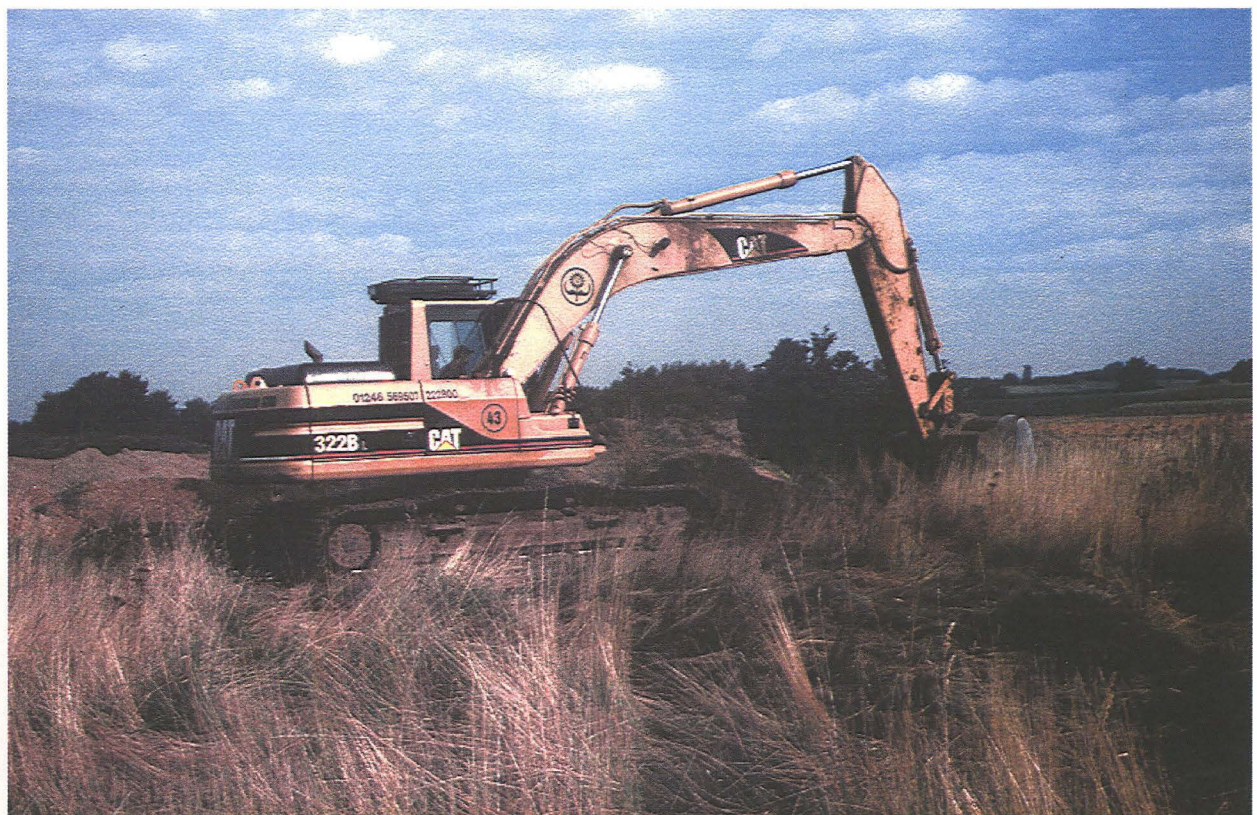


Plate 2: Topsoil stripping in mineral extraction area



Plate 3: Initial stripped access route within mineral extraction area, looking east

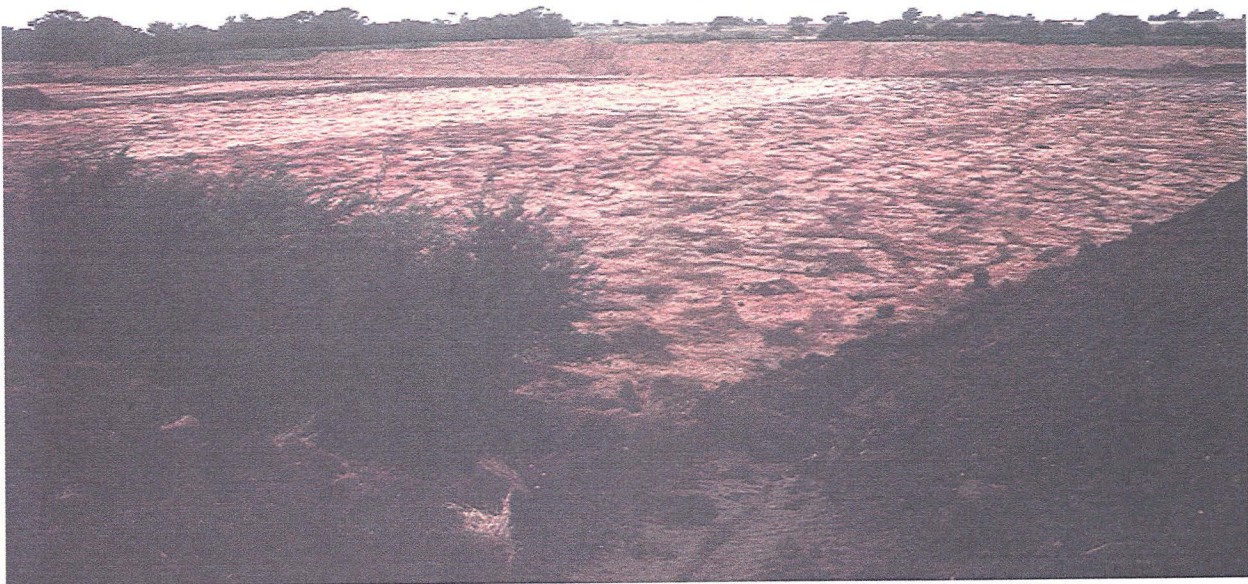


Plate 4: View of stripped mineral extraction area, looking northwest



Plate 5: Ditches (008) and (010) revealed in the northern half of mineral extraction area, looking northwest



Plate 6: Ditch (018), section no. 6, looking west



Plate 7: View of undated ?pit (025), looking east



Plate 8: Pit (020) containing burnt stones, looking north



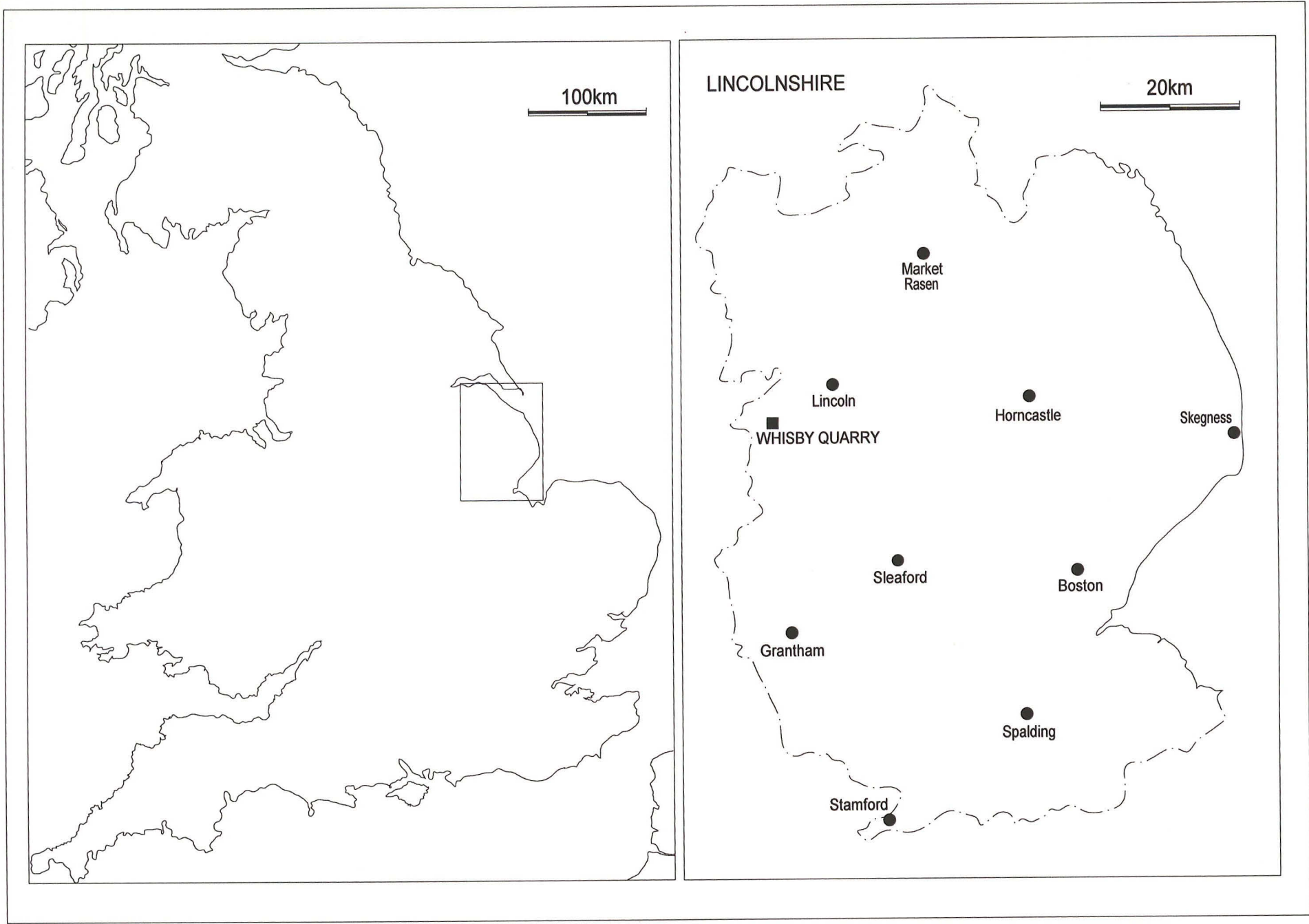


Figure 1: General location plan

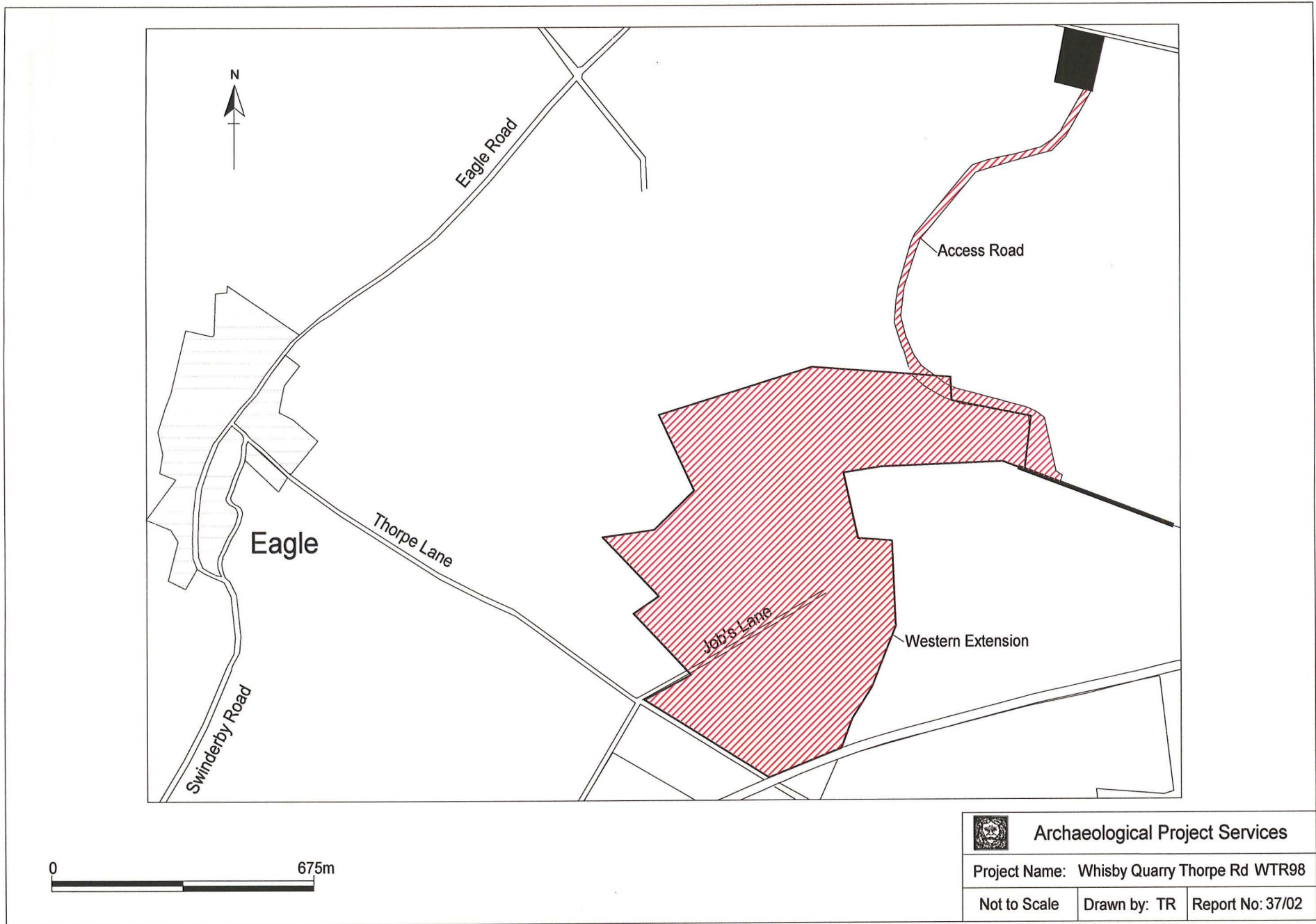
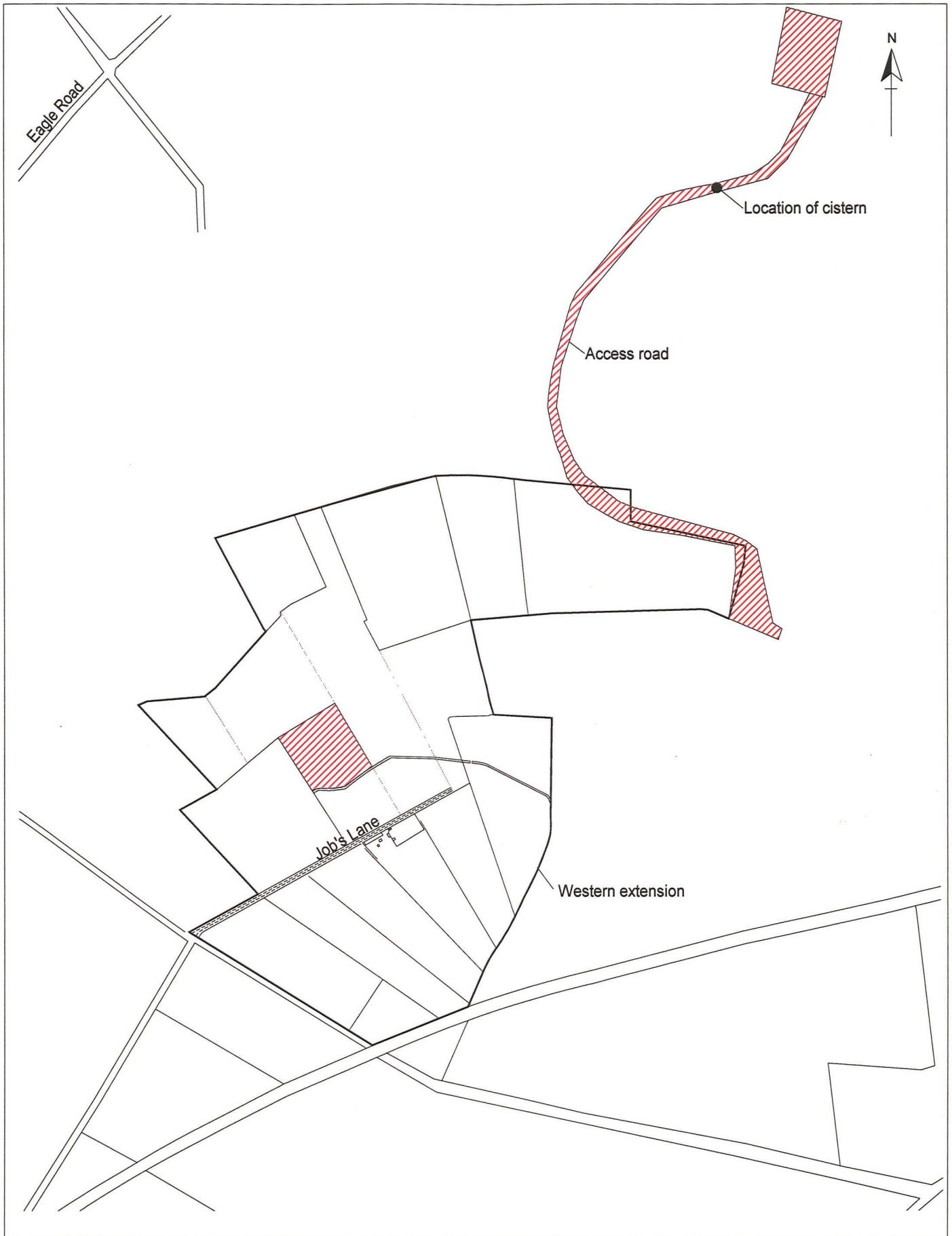



Figure 2: Site location plan



 Areas of investigation



Archaeological Project Services

Project Name: Whisby Quarry Thorpe Rd WTR98

Scale: 1:10000

Drawn by: TR

Report No: 37/02

Figure 3: Areas of investigation

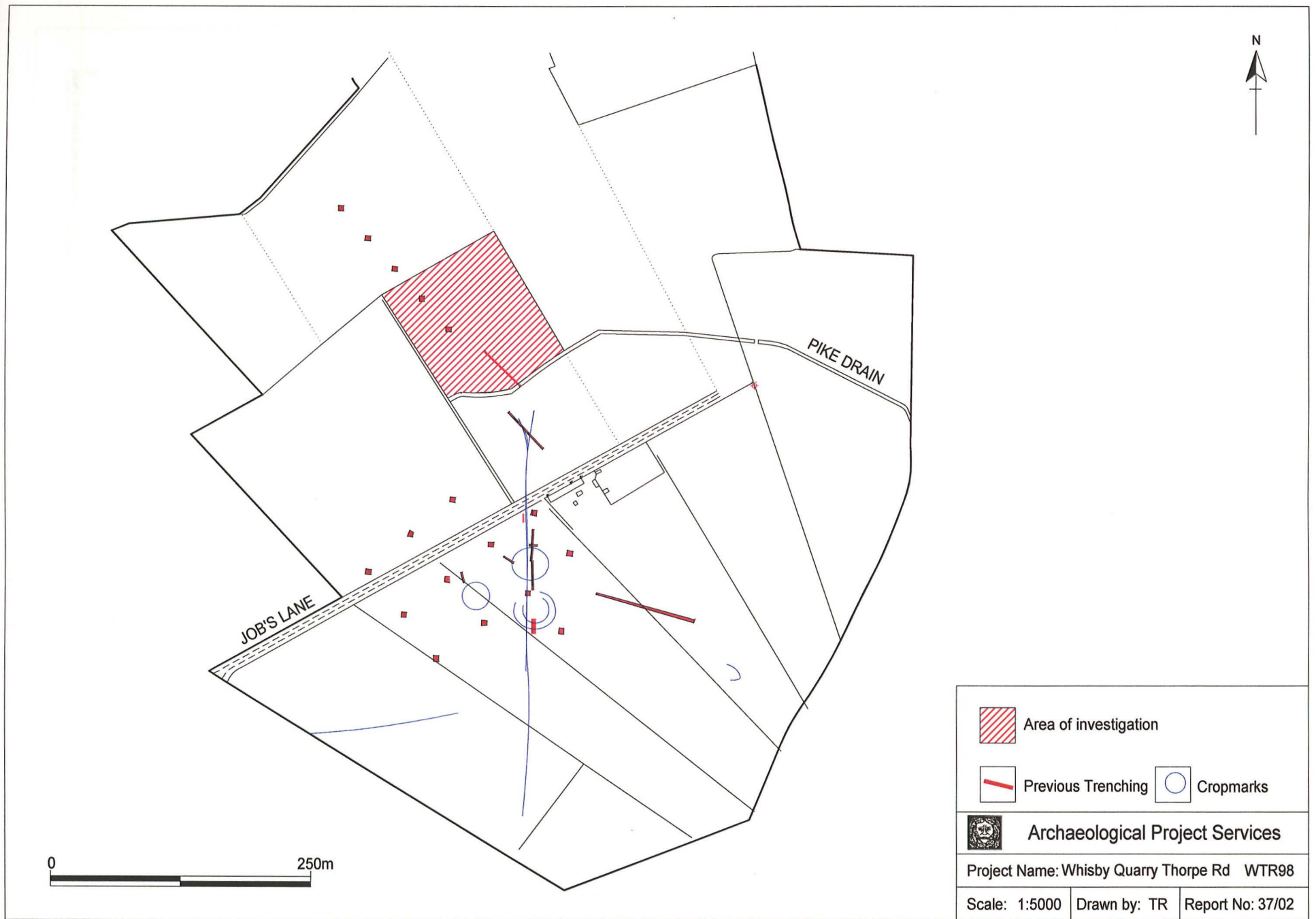


Figure 4: Archaeological setting

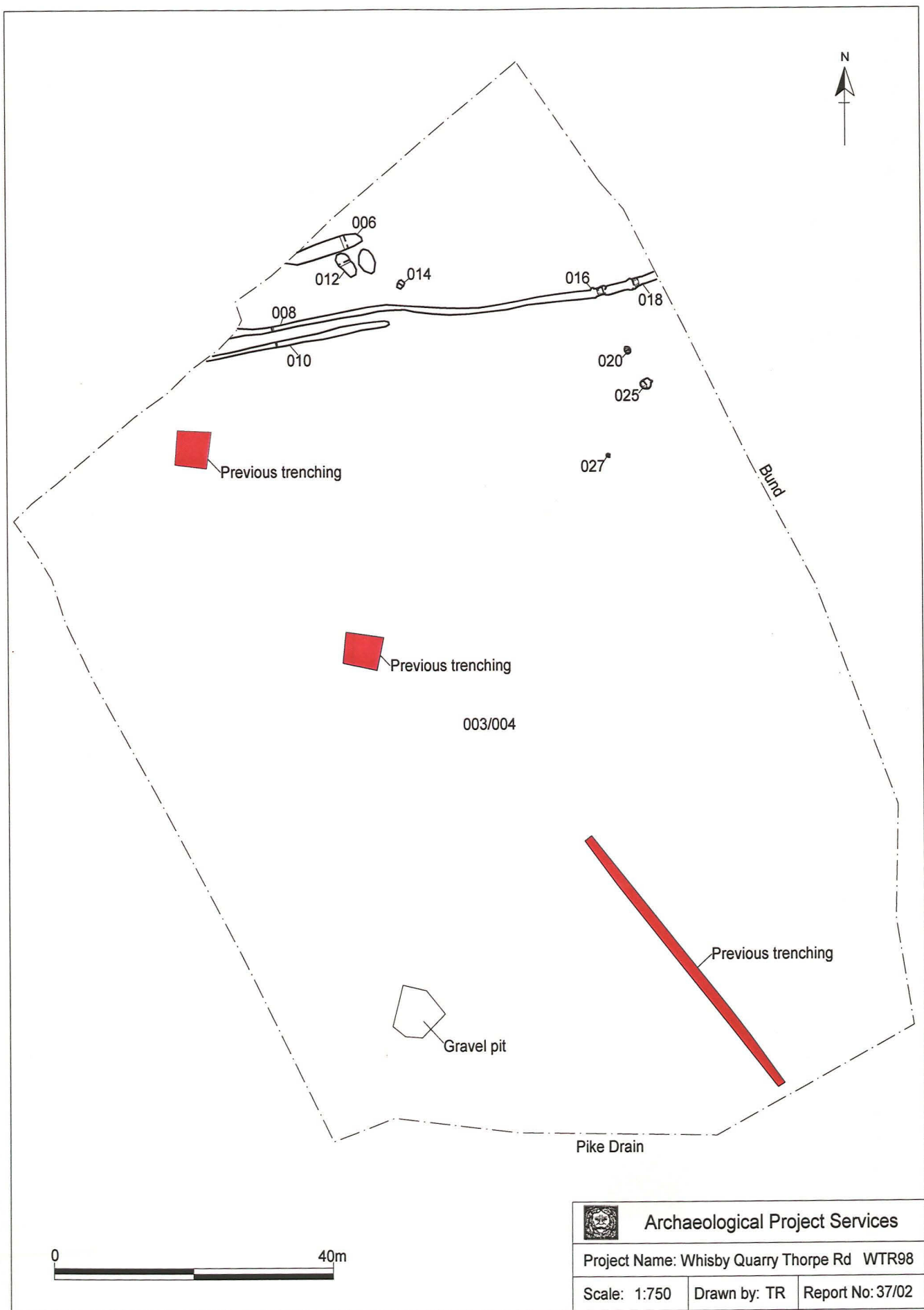


Figure 5: Site plan of mineral extraction area

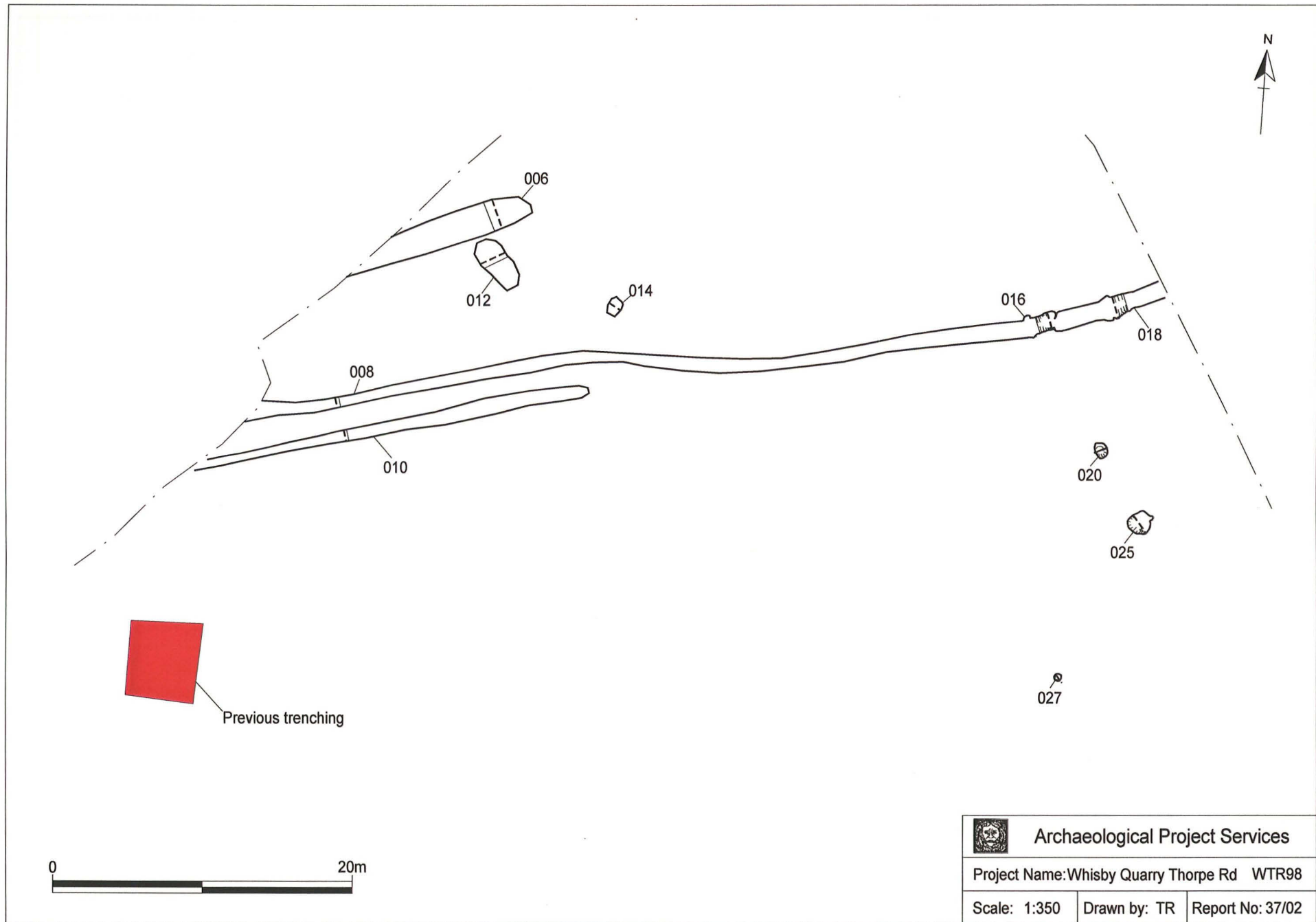


Figure 6: Plan of features recorded in mineral extraction area

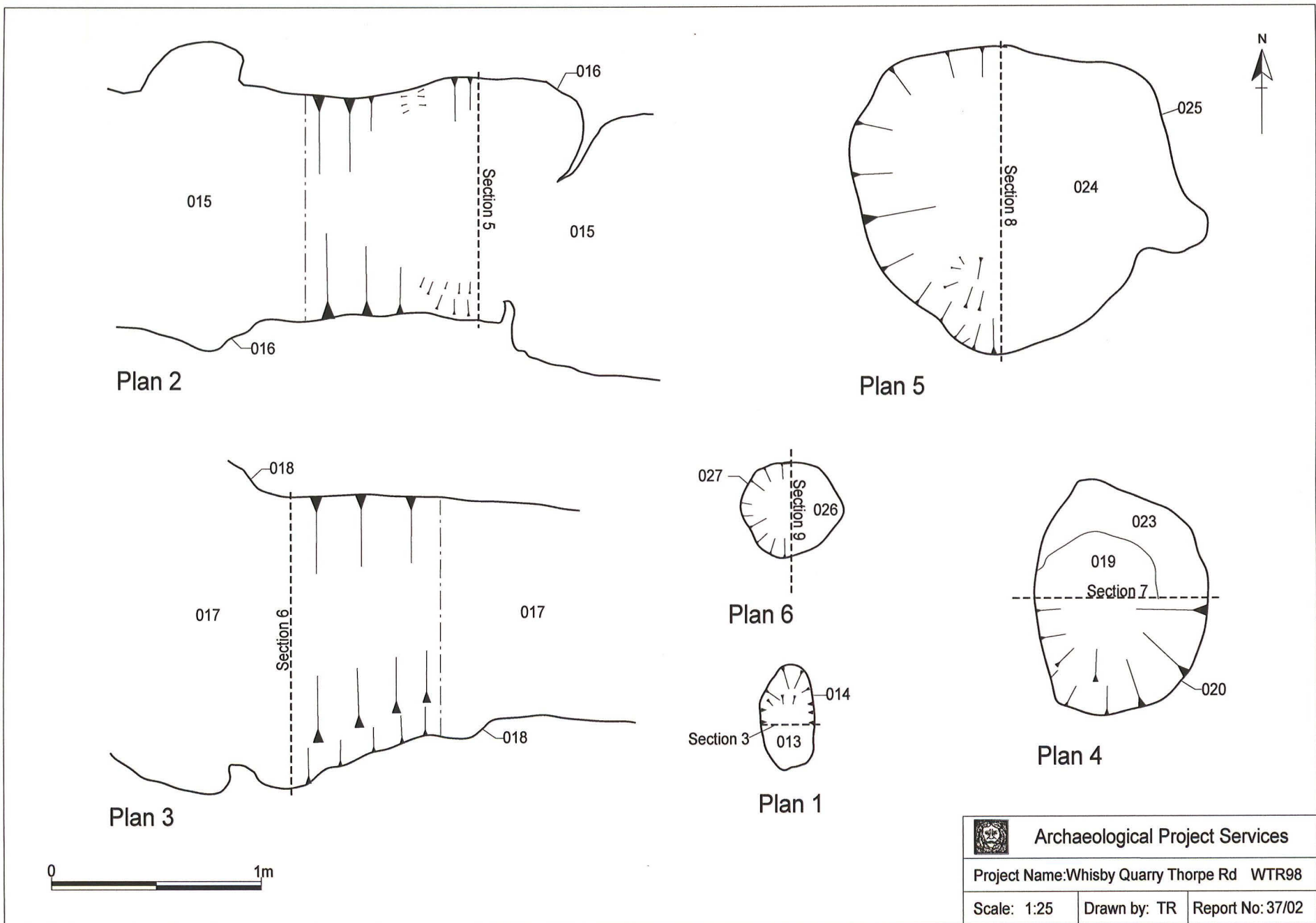
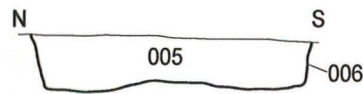
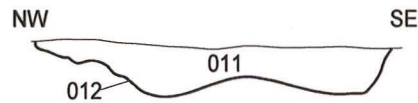


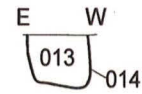
Figure 7: Plans of excavated features



Section 1



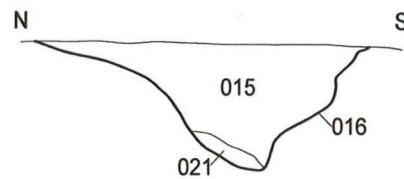
Section 2



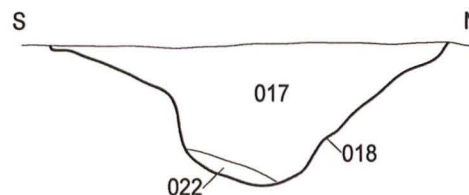
Section 3



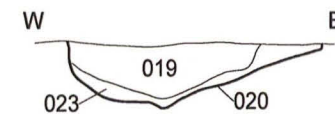
Section 4



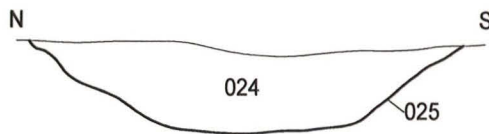
Section 5



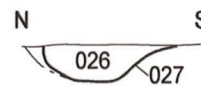
Section 6



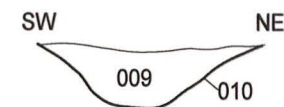
Section 7



Section 8



Section 9



Section 10




	Archaeological Project Services	
Project Name: Whisby Quarry Thorpe Rd WTR98		
Scale: 1:25	Drawn by: TR	Report No: 37/02

Figure 8: Feature sections



## Appendix 1

### Specification for an archaeological watching brief on land at Whisby Quarry, Thorpe Road, Whisby, Lincolnshire

#### 1 SUMMARY

- 1.1 A watching brief is required during construction of an access road and quarrying at Whisby Quarry, Thorpe Road, Whisby, Lincolnshire.
- 1.2 Previous research into the site identified a possible prehistoric cemetery, evident as cropmarks on aerial photographs.
- 1.3 The watching brief will be undertaken during groundworks associated with the development. The archaeological features exposed will be recorded in writing, graphically and photographically.
- 1.4 On completion of each stage of the fieldwork a report will be prepared detailing the results of the investigation. A full report will also be produced at the conclusion of all stages of fieldwork. These reports will consist of a narrative supported by illustrations and photographs..

#### 2 INTRODUCTION

- 2.1 This document comprises a specification for an archaeological watching brief during the construction of an access road and subsequent quarrying at the Whisby Quarry Western Extension, Thorpe Road, Whisby. The site is located at national grid reference SK 890 666, and is shown on Figures 1 and 2.
- 2.2 This document contains the following parts:
  - 2.2.1 Overview.
  - 2.2.2 Stages of work and methodologies.
  - 2.2.3 List of specialists.
  - 2.2.4 Programme of works and staffing structure of the project.

#### 3 SITE LOCATION

- 3.1 Whisby Quarry Western Extension is situated 10km southwest of Lincoln and 30km north of Grantham in the administrative district of North Kesteven. The site is located between the villages of Eagle and Whisby at national grid reference SK 890 666. Two fields in the quarry area, and a section of new access road, have been designated for the archaeological watching brief.

#### 4 PLANNING BACKGROUND

- 4.1 Planning permissions (application number N.23.27.64/828/96) for the western extension of Whisby Quarry, and for vehicular access (N.23.27/825/96), have been granted by Lincolnshire County Council subject to conditions including the implementation of a council-approved written scheme of works for an archaeological watching brief. This document is submitted as such a scheme.

#### 5 SOILS AND TOPOGRAPHY

- 5.1 The site is on a gentle north-south slope and lies at approximately 14m OD. Soils at the site are Blackwood Association typically deep sandy and coarse loamy soils, developed in glaciofluvial drift (Hodge *et al.* 1984, 127).

## 6 THE ARCHAEOLOGY

- 6.1 Aerial photographs of the area depict a group of faint circular cropmarks south of Job's Lane, in the western part of the quarry extension. These may represent a Bronze Age barrow cemetery (Archaeological Project Services 1994). However, trial trenching and geophysical survey of the area did not identify these remains, though a small number of prehistoric flint tools were recovered during those investigations (Archaeological Project Services 1997). Further flint and medieval pottery were found in the northeastern part of the quarry area during a walk-over survey and boreholes suggest that a deep geological feature, possibly a kettle hole, is also located in this area (Archaeological Project Services 1994).
- 6.2 Iron Age, Roman and medieval remains are located elsewhere in the general vicinity, but have not been identified at the quarry site itself.

## 7 AIMS AND OBJECTIVES

- 7.1 The aims of the watching brief will be:
- 7.1.1 To record, interpret and establish the extent and survival of all archaeological remains exposed during all phases of topsoil and subsoil disturbance in the specified areas.
- 7.2 The objectives of the watching brief will be to:
- 7.2.1 Determine the form and function of the archaeological remains encountered;
- 7.2.2 Determine the spatial arrangement of the archaeological remains encountered;
- 7.2.3 As far as practicable, recover dating evidence from the archaeological remains, and
- 7.2.4 Establish the sequence of the archaeological remains present on the site.

## 8 SITE OPERATIONS

### 8.1 General considerations

- 8.1.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the watching brief.
- 8.1.2 The work will be undertaken according to the relevant codes of practise issued by the Institute of Field Archaeologists (IFA). Archaeological Project Services is an IFA Registered Archaeological Organisation (No: 21).
- 8.1.3 Any and all artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1997, will be removed from site to a secure store and promptly reported to the appropriate coroner's office.

### 8.2 Methodology

- 8.2.1 The watching brief will be undertaken during the ground works phase of development and includes the archaeological monitoring of all phases of top- and sub-soil (overburden) movement in the areas specified.
- 8.2.2 The stripped areas will be observed regularly to identify and record archaeological remains that are exposed and, where appropriate, to record changes in the geological conditions. The remains identified will be recorded in plan at a scale of 1:20 and located on 1:200 or 1:1000 area plans. Written descriptions detailing the nature of the deposits, features and fills encountered will be compiled on Archaeological Project Services pro-forma record sheets which employ the single context method, as developed by the Museum of London.

- 8.2.3 Where archaeological remains are revealed these will be cleaned by hand and all discrete archaeological features will be investigated by excavation of at least 50% of their volumes. Linear features will be excavated by sample segments (minimum 10% of length), the strategy being based on the availability of environmental evidence. This strategy will include determination of terminals, as criteria for the position and number of excavated segments long linear features, and their date.
- 8.2.4 Any finds recovered will be bagged and labelled for later analysis.
- 8.2.5 Throughout the watching brief a photographic record consisting of colour slides and monochrome prints will be compiled. The photographic record will consist of:
  - 8.2.5.1 The site during work to show specific stages, and the layout of the archaeology within the area.
  - 8.2.5.2 groups of features where their relationship is important.
- 8.2.6 Should human remains be located the appropriate Home Office licence will be obtained before their removal. In addition, the Local Environmental Health Department and the police will be informed.

## 9 CONTINGENCY

- 9.1 Should unexpected remains be discovered during the investigation, consultation will take place between the developer's consultant archaeologist and the curatorial authority in order to assess the significance of the remains.
- 9.2 If contingency is required to enable more thorough investigation of remains than normal watching brief standards then a strategy will be devised through liaison between the developer's archaeological consultants and the curatorial authority to target specific areas in order to maximise information retrieval.

## 10 POST-EXCAVATION

- 10.1 Interim reports, with appropriate illustrations, will be produced within 3 months of the conclusion of each phase of stripping. At the termination of the field investigation a final report will be produced that will define the location, extent and significance of archaeological remains encountered on site during all phases of monitored groundworks.
- 10.2 Stage 1
  - 10.2.1 On completion of site operations, the records and schedules produced during the watching brief will be checked and ordered to ensure that they form a uniform sequence forming a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued and labelled, the labelling referring to schedules identifying the subject/s photographed.
  - 10.2.2 All finds recovered during the field work will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.
- 10.3 Stage 2
  - 10.3.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.
  - 10.3.2 Finds will be sent to specialists for identification and dating.

#### 10.4 Stage 3

10.4.1 On completion of stage 2, a report detailing the findings of the watching brief will be prepared.

10.4.2 This will consist of:

10.4.2.1 Cover page.

10.4.2.2 List of contents, figures, plates, *etc.*

10.4.2.3 A non-technical summary of the results of the investigation.

10.4.2.4 Introduction.

10.4.2.5 Planning background.

10.4.2.6 Description of the topography of the site.

10.4.2.7 A description of the archaeological and historical setting of the watching brief site.

10.4.2.8 Description of the methodologies used during the watching brief.

10.4.2.9 A text describing the results of the watching brief.

10.4.2.10 Plans of the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.

10.4.2.11 Sections of the archaeological features.

10.4.2.12 Interpretation of the archaeological features exposed, and their chronology and setting within the surrounding landscape.

10.4.2.13 Specialist reports on the finds from the site.

10.4.2.14 Appropriate photographs of the site and specific archaeological features.

#### 11 **REPORT DEPOSITION**

11.1 Copies of the report will be sent to the client, Lafarge Redland Aggregates; the County Sites and Monuments Record; the County Environmental Officer; the National Monuments Record; and the Heritage Officer for North Kesteven District Council.

#### 12 **ARCHIVE**

12.1 The documentation and records generated during the watching brief will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This will be undertaken following the requirements of the document titled *Conditions for the Acceptance of Project Archives* for long term storage and curation.

#### 13 **PUBLICATION**

13.1 A report of the findings of the watching brief will be published in Heritage Lincolnshire's Annual Report and notes on each phase of the investigation, and a final report, will be submitted to the editor of the journal *Lincolnshire History and Archaeology*. If appropriate, notes on the findings will be submitted to the relevant national journals: *Britannia* for discoveries of Roman

date, and *Medieval Archaeology* and the journal of the *Medieval Settlement Research Group* for findings of medieval or later date.

#### 14 CURATORIAL RESPONSIBILITY

- 14.1 Curatorial responsibility for the archaeological work undertaken on the site lies with the Archaeological Officer, Lincolnshire County Council. They will be given two weeks notice in writing before the commencement of the project.

#### 15 VARIATIONS

- 15.1 Variations to the proposed scheme of works will only be made following written confirmation of acceptance from the Archaeological Officer, Lincolnshire County Council.

#### 16 PROGRAMME OF WORKS AND STAFFING LEVELS

- 16.1 The watching brief will be integrated with the programme of construction and quarrying and is dependent on the developers' work programme. It is therefore not possible to specify the person-hours for the archaeological site work.
- 16.2 Archaeological supervisors with experience of watching briefs will undertake the work.
- 16.3 Post-excavation analysis and report production will be undertaken by the archaeological supervisor, or a post-excavation analyst as appropriate, with assistance from a finds supervisor, illustrator and external specialists.

#### 17 SPECIALISTS TO BE USED DURING THE PROJECT

- 17.1 The following organisations/persons will, in principal and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

<u>Task</u>	<u>Body to be undertaking the work</u>
Conservation	Conservation Laboratory, City and County Museum, Lincoln
Pottery Analysis	Early Prehistoric Pottery - Dr C Allen, independent specialist Later Prehistoric Pottery - Trent & Peak Archaeological Trust Roman - B Precious, independent specialist Saxon - City of Lincoln Archaeology Unit Medieval and later - Hilary Healey, independent archaeologist
Non-pottery Artefacts	J Cowgill, independent specialist
Animal Bones	Environmental Archaeology Consultancy
Environmental Remains	Environmental Archaeology Consultancy
Human Remains Analysis	R Gowland, independent specialist

#### 18 BIBLIOGRAPHY

Archaeological Project Services, 1994 *Desk-top Assessment for the Proposed Western Extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire*

Archaeological Project Services, 1997 *Archaeological Evaluation of the Proposed Western Extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire (WJL97)*, APS Report No: **22/97**

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R, and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales **13**

## Appendix 2

### Context Summary

Cxt	Type	Description	Tk(m)	Interpretation
001	Deposit	Firm, dark brown clayey silt	0.35	Topsoil
002	Deposit	Friable, dark greyish brown sandy silt, mod. sm. gravel	0.40	Topsoil
003	Deposit	Loose, bright yellow medium grained sand and gravel		Natural
004	Deposit	Loose, mid-whitish grey medium grained sand, occ. gravel		Natural
005	Deposit	Friable, dark greyish brown sandy silt, freq. gravel	0.20	Fill of (006)
006	Cut	E-W linear, steep sided flat based cut, 0.90m wide	0.20	Ditch
007	Deposit	Friable mid-greyish brown sandy silt, freq. gravel	0.22	Fill of (008)
008	Cut	E-W linear, same as (016)		Ditch
009	Deposit	Loose, light brownish grey sandy silt, freq. gravel	0.20	Fill of (010)
010	Cut	E-W linear, same as (018)		Ditch
011	Deposit	Friable, dark brown sandy silt, mod. sm. gravel	0.19	Fill of (012)
012	Cut	Irregular steep sided and based cut, 1.15m wide	0.20	Natural Hollow
013	Deposit	Friable, dark brown silt, occ. sm. gravel	0.18	Fill of (014)
014	Cut	Sub-oval, vertical sided flat based cut, 0.50m wide	0.18	Post Hole?
015	Deposit	Friable, very dark brown sandy silt, freq. sm.-med. gravel	0.50	Fill of (016)
016	Cut	E-W linear, irregular sided, slightly concave base, 1.35m wide filled by (015 and 021)	0.50	Ditch
017	Deposit	Friable, very dark brown sandy silt, freq. sm.-med. gravel	0.50	Fill of (018)
018	Cut	E-W linear, irregular sided, slightly concave base, 1.35m wide filled by (017 and 022)	0.50	Ditch
019	Deposit	Loose, black peaty sandy silt, freq. burnt stone	0.15	Fill of (020)
020	Cut	Sub-circular, slightly irregular sided and based cut, 0.85m wide	0.20	Pit
021	Deposit	Compact, mid-grey silty sand, freq. gravel	0.06	Fill of (016)
022	Deposit	Compact, mid-grey silty sand, freq. gravel	0.06	Fill of (018)
023	Deposit	Loose, light grey medium grained sand, occ. gravel	0.08	Fill of (020)
024	Deposit	Friable, dark blackish brown sandy silt, occ. sm. gravel	0.30	Fill of (025)
025	Cut	Sub-circular slightly irregular sided flat based cut, 1.40m wide	0.30	Pit
026	Deposit	Compact, black clayey silt, occ. sm. gravel	0.13	Fill of (027)
027	Cut	Sub-circular, steep sided with slightly concave base cut, 0.45m wide	0.13	Post Hole?

#### Abbreviations

occ.	occasional
freq.	frequent
mod.	moderate
sm.	small
med.	medium
cxt	context number
tk (m)	thickness

## Appendix 3

### The Finds

by Hilary Healey and Gary Taylor

#### Provenance

The material was recovered from the topsoil (001), a ditch fill (017) and a pit fill (019).

It is likely that the earlier pieces, of Romano-British and post-medieval date, are relatively local products and there are known Roman tile making kilns at Heighington, about 15km to the east of Whisby.

#### Range

The range of material is detailed in the following table. Burnt stone formed the largest component of the assemblage and a moderate quantity of ceramic building material, mostly field drain, was also collected. No faunal remains were retrieved.

Table 1: The Finds

Context	Description	No.	Weight (g)	Latest Date
001	Field drain, 20 <sup>th</sup> century	4	48	20 <sup>th</sup> century
	Field drain, post-medieval	1	13	
	Brick, machine-made, 19 <sup>th</sup> - 20 <sup>th</sup> century	1	7	
	Brick/tile, late post-medieval	1	5	
	Tile, 21mm thick, late post-medieval	1	47	
	Tile, 22mm thick, moderate-very abraded, Romano-British	2	196	
017	Pantile or field drain, 13mm thick	1	63	Post-medieval
019	Burnt stones, 3 polished	46	824	

One of the Romano-British tile fragments is tempered with moderate fine gravel (pieces up to 5mm across). In the absence of any other Roman artefacts it is probable that these tiles represent manuring scatter. Nonetheless, they imply the presence of a Romano-British building in the general vicinity of the site.

Three of the burnt stones from (019) display evidence of localized polish on their surfaces. Burnt stones, particularly in mounds, are a common feature of the prehistoric period, and later, and were probably used for cooking and also for primitive sauna or steam chambers and in textile production (Brossler 2001, 133). Although burnt stones also occur on Roman and later sites, the dearth of any dating evidence associated with the present finds perhaps indicates that they derive from prehistoric activity. All the burnt stones were recovered from a single pit and may represent cooking activity, though there is no other evidence to clarify their function.

#### Condition

All of the material is in good condition and presents no long-term storage problems. Archive storage of the material is by material class.

#### Documentation

Archaeological examinations have been undertaken in the vicinity previously, including at the present investigation site, and are the subject of reports. Cropmarks identified a little to the south are considered to represent a probable Bronze Age barrow cemetery (Archaeological Project Services 1994), though trial excavation in that area did not identify any distinct remains of burial mounds or their surrounding ditches (Archaeological Project Services 1997). Records of archaeological remains and finds are maintained in the County Sites and Monuments Record and the files of the North Kesteven Heritage Officer.



### **Potential**

In general, the assemblage is of limited potential. However, the burnt stone suggests probable prehistoric activity in the area, though the absence of any associated artefacts renders the dating and function of this material uncertain. Also noteworthy are the Romano-British tiles which indicate the presence of a building of the period somewhere in the general vicinity, though again the lack of other artefacts of the period suggest that any such building was not in the investigation area, nor close proximity.

### **References**

Archaeological Project Services, 1994 *Desk-top Assessment for the Proposed Western Extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire*

Archaeological Project Services, 1997 *Archaeological Evaluation for the Proposed Western Extension of Whisby Quarry, Eagle and Swinethorpe, Lincolnshire (WJL97)*, APS Report No. **22/97**

Brossler, A., 2001 'Reading Business Park: the results of phases 1 and 2', in J. Bruck (ed), *Bronze Age Landscapes Tradition and Transformation* (Oxbow Books)

## Appendix 4

### The Environmental Assessment

by A. Snelling

#### Introduction

Excavations were carried out by Archaeological Project Services at Whisby Quarry, Thorpe Road, Lincoln. A series of features were excavated, of which, four of unknown date were sampled and were submitted to the Environmental Archaeology Consultancy for processing and analysis (Table 1).

**Table 1:** Whisby Quarry, Thorpe Road. Samples taken for environmental analysis

sample	context no.	sample vol (l)	sample weight (kg)	feature
1	019	5.5	7.75	Pit fill
2	026	8	9.25	Pit fill?
3	024	9.5	8.5	Pit fill?
4	017	10	11	Ditch fill

#### Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet-sieve of 1mm mesh for the residue. Both residue and flot were dried, and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured, and the volume and weight of the residue recorded. A total of 33 litres of soil was processed in this way.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerscale and prill. The residue was then discarded, apart from sample 1, which contained an abundance of fire cracked stone and flint. The flot of each sample was studied using up to x30 magnifications and the presence of environmental finds (i.e. charcoal, carbonised seeds etc) was noted and their abundance and species diversity recorded on the assessment sheet. The flot was then bagged and along with the finds from the sorted residue constitute the material archive of the samples.

The individual components of the samples were then identified and the results are summarised below in Table 2.

#### Results

All four of the samples contained modern roots and seeds, including *Chenopodium* spp (goosefoot) and *Galium* spp (bedstraw) and occasional modern insect fragments. This material represents low levels of recent contamination and is not considered contemporary with the deposits. No magnetized material was recovered from any of the samples and bone and shell were also absent. The absence of bone and shell is probably associated with a preservation factor, indicating acidic or decalcified soils.

The range of finds from the samples is fairly limited and it is clear from Table 2 that either there was little activity associated with these features or that preservation was

particularly bad. Charcoal was recovered from all of the samples but was not abundant in any. Sample 1, the fill of a pit, contained the most charcoal and also a fragment of possible hazelnut shell as well as an abundance of fire cracked stone and flint in the residue. No other material was recovered from the other samples.

**Table 2:** Whisby Quarry, Thorpe Road. Finds from the processed samples

samp. no	context no.	samp vol. (l)	feature	residue volume (l)	flot vol. (ml)	charcoal */<2*	charr'd seed *	comment
1	019	5.5	Pit fill	1.75	<1	4/2	1	Hazelnut? shell fragment
2	026	8	Pit fill?	1.1	<1	2/2		
3	024	9.5	Pit fill?	0.95	<1	2/2		
4	017	10	Ditch fill	0.7	<1	3/2		

\* = abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+

\*/<2\* = abundance/abundance <2mm

### **Discussion**

The material collected from the four samples has produced a small data set, which allows only limited interpretation. It is likely that the pit fill, sample 1 is from an area of *in-situ* burning, given the presence of fire cracked stone and the slightly greater amount of charcoal. It is not clear from the evidence however, for what purpose the fire was used. Similar assemblages are often obtained from prehistoric sites and it may be that this feature is prehistoric in date. The possible hazelnut fragment from this sample would be suitable for AMS dating and could confirm this.

The other two possible pit fills, samples 2 and 3, may be natural features given the complete lack of any finds. Any dating of these features would have to use charcoal and would probably require bulking up (using more than one piece), which Ashmore (1999) has identified as being problematic. The final sample from the ditch fill, sample 4, also contains nothing but charcoal and therefore cannot offer any indication of the conditions at the time of filling. Again if dating evidence is required, then this may be obtained from the charcoal with the same potential problems as above.

It is not recommended that any further work is conducted on these samples, although an AMS date on the probable charred hazelnut shell fragment should establish a date for context 019.

### **Acknowledgments**

We should like to thank Jeremy Dubber, Alison Foster and Trude Maynard for the sample processing.

### **Bibliography**

- Ashmore, P.J. 1999 Radiocarbon dating: avoiding the errors by avoiding mixed samples, *Antiquity* 73 124-130  
 Williams, D.1973 Flotation at Siraf, *Antiquity* 47 198-202

## Appendix 5

### Glossary

<b>Alluvium</b>	Deposits laid down by water. Marine alluvium is deposited by the sea, and fresh water alluvium is laid down by rivers and in lakes.
<b>Anglo-Saxon</b>	Pertaining to the period when Britain was occupied by peoples from northern Germany, Denmark and adjacent areas. The period dates from approximately AD 450-1066.
<b>Border</b>	Villager holding less land than a <i>villein</i>
<b>Bronze Age</b>	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 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>Crop mark</b>	A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.
<b>Cut</b>	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, <i>etc.</i> Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
<b>Domesday Survey</b>	A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.
<b>Fill</b>	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).
<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 and resistivity survey.
<b>Iron Age</b>	A period characterised by the introduction of Iron into the country for tools, between 800 BC and 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>Mesolithic</b>	The 'Middle Stone Age' period, part of the prehistoric era, dating from approximately 11000 - 4500 BC.
<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 4500-2250 BC.

<b>Palaeolithic</b>	The 'Old Stone Age' period, part of the prehistoric era, dating from approximately 500000 - 11000 BC in Britain.
<b>Post hole</b>	The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post. Alternatively, the posthole may have been formed through the process of driving the post into the ground.
<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 1st century AD.
<b>Ridge and Furrow</b>	The remains of arable cultivation consisting of raised rounded strips separated by furrows. It is characteristic of open field agriculture.
<b>Romano-British</b>	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
<b>Saxon</b>	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany
<b>Transformed</b>	Soil deposits that have been changed. The agencies of such changes include natural processes, such as fluctuating water tables, worm or root action, and human activities such as gardening or agriculture. This transformation process serves to homogenise soil, erasing evidence of layering or features.

## Appendix 6

### The Archive

The archive currently consists of:

- 27 Context records
- 4 Drawing sheets
- 11 Daily record sheets
- 2 Context record sheets
- 1 Section record sheet
- 1 Plan record sheet
- 1 Photographic record sheet
- 1 Box of finds

The above is an interim quantification as further investigation is required at the site.

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: 121.97

Archaeological Project Services Site Code: WTR98

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.

Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act 1988* with all rights reserved; excepting that it hereby provides an exclusive 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.