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**ARCHAEOLOGICAL WATCHING BRIEF  
AT BRANDON LIGNACITE QUARRY (PHASE 1-2)  
WEETING WITH BROOMHILL  
NORFOLK  
(BLQ08)**

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**Work Undertaken For  
Lignacite Ltd**

March 2010

Report Compiled by  
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APS Report No. **24/10**

**ARCHAEOLOGICAL  
PROJECT  
SERVICES**



## Table of Contents

### List of Figures

### List of Plates

1.	SUMMARY .....	1
2.	INTRODUCTION.....	1
2.1	DEFINITION OF A WATCHING BRIEF.....	1
2.2	PLANNING BACKGROUND.....	1
2.3	TOPOGRAPHY AND GEOLOGY.....	1
2.4	ARCHAEOLOGICAL SETTING .....	1
3.	AIMS .....	2
4.	METHODS .....	2
5.	RESULTS .....	2
6.	DISCUSSION .....	3
7.	CONCLUSION .....	4
8.	ACKNOWLEDGEMENTS .....	4
9.	PERSONNEL .....	4
10.	BIBLIOGRAPHY .....	4
11.	ABBREVIATIONS .....	4

### Appendices

1. Specification for archaeological watching brief
2. Context descriptions
3. Lithic Assessment *by Barry Bishop*
4. Glossary
5. The Archive

## **List of Figures**

- Figure 1      General location plan
- Figure 2      Site location map
- Figure 3      Quarry phasing showing locations of areas monitored
- Figure 4      Location of archaeological features and recorded sections
- Figure 5      Southern quarry section and recorded features
- Figure 6      Plan of features [009] and [023]
- Figure 7      Section 3
- Figure 8      Sections 4-8
- Figure 9      Section 9

## **List of Plates**

- Plate 1      Quarry area from southwest before lowering of water levels
- Plate 2      Peat stripping in progress
- Plate 3      Gravel extraction in progress showing waterlogged conditions
- Plate 4      Section 3 showing layer of burnt stone (005) above buried soil (006)

## 1. SUMMARY

*Watching brief was undertaken during overburden stripping and gravel extraction in Phases 1 and 2 of works at the Brandon Lignacite Quarry, Weeting with Broomhill, Norfolk.*

*Monitoring did not identify widespread remains beneath the extensive and deep peat cover, although early stages of work were hampered by high groundwater levels and conditions for identification were not ideal.*

*Significant remains of Neolithic date were noted, however, on the southern margins of the quarry area including evidence for both flint tool production and tool use and the site of a possible burnt mound.*

## 2. INTRODUCTION

### 2.1 Definition of a Watching Brief

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

### 2.2 Planning Background

Archaeological Project Services was commissioned by Lignacite Ltd to undertake an archaeological watching brief during quarrying on land at Brandon, Weeting, Norfolk.

Planning permission (P/C/2005/3001) to quarry mineral to the east of the Lignacite works at Brandon was granted subject to a condition requiring the implementation of a programme of archaeological work. The

first stage of this work was trial trenching to investigate specific topographic zones of the site. On the basis of these investigations, an archaeological watching brief was requested on the quarrying.

After initial difficulties dealing with very high ground water levels the first two phases were undertaken in 2008 and 2009 and are the subject of this report. The watching brief was carried out between the 10<sup>th</sup> April and 13<sup>th</sup> June 2008 and between 8<sup>th</sup> June and 14<sup>th</sup> July 2009 in accordance with a specification prepared by Archaeological Project Services (Appendix 1).

### 2.3 Topography and Geology

The Lignacite Works is located on the outskirts of the town of Brandon, Suffolk about 0.8km northeast of the town centre, north of the river Little Ouse. The county boundary with Suffolk largely follows the river, except for a northward loop encompassing part of the works. The quarry site lies on the Norfolk side of the county boundary in the parish of Weeting with Broomhill, in the administrative district of Breckland, at National Grid Reference TL 7880 8710 (Fig. 2).

The quarry area lies to the east of the main works and covers an area 12.5ha in extent. The site lies in the floodplain of the Little Ouse and largely comprises reed beds. Previous work has identified extensive deep peat cover over former channels and gravel islands within the flood plain of the river.

### 2.4 Archaeological Setting

The site lies in an area with remains from many periods. A Bronze Age socketed spearhead with basal loops was dredged from the river to the west of the site. Roman finds are also known from the area to the north of the site.

Less than a kilometre to the west, at Staunch Meadow, a predominantly Middle Saxon site with at least 25 structures was excavated in the 1980s on an island in the river valley. The site was served by a church and cemetery. The island was connected to the main river bank by a causeway (Carr *et al.* 1988). Beneath adjacent peat dated to the Iron Age (P. Murphy *pers. comm.*) were found traces of buried soils and IA plough marks.

Northeast of the proposed quarry site is believed to lie the deserted medieval settlement of Otteringhamythe while the site of the priory of SS Mary and Thomas Becket, latterly known as Bromehill Priory, was established in the vicinity at c. 1220.

Prior evaluation has been undertaken on the northern edge of the site, where the land is relatively high and accessible (Peachey 2004) and on the easternmost of the gravel 'islands' (Malone 2005). No significant archaeological remains were discovered in this area.

Archaeological investigations in 2005 northwest of the current site revealed circular features. These were possibly of prehistoric date as suggested by the presence of fire cracked flint (Hall 2006).

### 3. AIMS

The requirements of the watching brief, as detailed in the specification (Appendix 1), were to locate and record archaeological deposits and, if present, to determine their date, function and origin.

### 4. METHODS

The site was stripped of deep peat overburden using large tracked mechanical excavators with toothed buckets. Groundworks were monitored and archaeological features and deposits were

identified and recorded. The waterlogged nature of the site hindered observation as the exposed surface was often quite wet and in places quickly obscured by rising groundwater.

Each feature or deposit was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their descriptions appears as Appendix 2. A photographic record was compiled and sections and plans were drawn at a scale of 1:10 or 1:20 respectively. Recording was undertaken according to standard Archaeological Project Services practice.

Following excavation the records were checked and a stratigraphic matrix produced. Phasing was assigned based on the nature of the deposits and recognisable relationships between them.

## 5. RESULTS

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

The earliest deposits revealed during the watching brief were sandy riverine gravels (002, 008, 015, 020, 021 & 022). These were predominantly pale yellowish brown in colour and extended across the entire site.

Two features were recorded cut into the natural sand and gravel towards the southwest corner of the site at the southern edge of the quarry excavations (Fig. 4). [023] was a short length of a north-south oriented linear cut, 0.70m wide and 0.14m deep, with sloping sides and a flattish base. Approximately 2.5m east of [023] was a curvilinear cut [009], 0.64m wide and 0.15m deep, with sloping sides and a flattish base (Figs 6 and 8, Sections 4, 8).

Both of these cut features were filled with

brown silty sand deposits (024, 010). Six pieces of worked flint of Mesolithic/early Neolithic date were recovered from (024); a further five pieces of similar date from (010) (Appendix 3).

These fills were indistinguishable from the overlying layer of brown silty sand (007, 014, 019), up to 0.20m in thickness, which extended for at least 19m east-west along the southern edge of the site (Figs 5 and 8 Sections 5-7). A further 30 pieces of worked flint of early Neolithic to Neolithic date were recovered from this deposit (Appendix 3).

Above (007 *et al.*) was a 0.20m thick layer of dark brown to black sand with frequent small fire-cracked flint and silty ash (006, 013, 018 & 025), extending c. 11m east-west. Fourteen pieces of worked flint of Neolithic date were recovered along with a core of late Neolithic date (Appendix 3). Overlying this was a thin layer, 50-90mm, of greyish white sand (005, 012, 017 & 026) which also contained a large quantity of small angular fire-cracked flint.

Within one section a lower peat deposit (004), 0.28m in thickness, was present above (005) and sealed by a 20-30mm thick layer of further burnt flint and stone (003) itself sealed by later peat development (Fig. 7).

Two further features were recorded cut into the gravel in the western section, some 100m to the north. Ditch [027] was c. 1m wide and 1m deep; just a metre to the north was a second larger ditch [029], c. 2m wide, but approximately the same depth (the bases of the features were obscured by standing water) (Fig. 9). Both were filled with very dark brown/black sandy peat (028), (030). No dating evidence was recovered, but their dark peaty fills are in contrast to the light sandy fills of the earlier prehistoric features.

Sealing the entire site was up to 2m of peat (001, 004, 011 & 016).

## 6. DISCUSSION

The earliest deposits were layers of water deposited sand and gravel that were entirely natural in origin.

Cutting into these natural deposits was a pair of linear features [009] and [023]. Cut [009] was probably the terminus of a curved ditch. It is possible that cut [023] may be a connected feature, although the relationship was buried beneath the section and could not be ascertained. The function of the features remains uncertain given the small area surviving. The fills of the features could not be distinguished from the overlying buried soil horizon (007), so that it is unclear if they were sealed by, or cut through, this. In the latter case, these features could relate to the activity/occupation represented by the layer of burnt stone (006), although it can be noted that the flintwork from the two features is potentially earlier in date than that recovered from the layers above. The former dry land surface lay at an elevation of 2.10m O.D.

The dark spread of large quantities of angular burnt flint invites interpretation as a burnt mound (although the term is rather more descriptive than interpretative) (Hodder and Barfield 1991). No evidence of a trough was revealed but the cut features, if contemporary, perhaps served some associated function.

Both tool production and tool use is indicated by the lithic assemblage from the site suggesting a broader range of activity in the vicinity. Despite the proximity to Grime's Graves, none of the worked material is of mined flint, all having apparently been sourced from the river gravels (Appendix 3).

The full extent of the activity here is uncertain. These deposits lay at the southern boundary of the quarry area and certainly continue south. A pre-existing pond immediately to the north (Figs 3, 4)

had truncated deposits on this side, features were only seen in plan in a narrow strip along the southern boundary of the quarry and in the southern section.

## 7. CONCLUSION

Phase 1 and 2 works at the Brandon Lignacite Quarry have not identified widespread remains, although early stages of work were hampered by high groundwater levels and conditions for identification were not ideal. Significant remains of Neolithic date were noted, however, on the southern margins of the quarry area including evidence for both flint tool production and tool use and the site of a possible burnt mound.

## 8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Lignacite Ltd for commissioning the fieldwork and post-excavation analysis. The work was coordinated by Steve Malone who edited this report along with Tom Lane. Dave Start kindly allowed access to the library maintained by Heritage Lincolnshire.

## 9. PERSONNEL

Project Coordinator: Steve Malone  
 Site Supervisors: Ross Kendall, Chris Moulis, Mary Nugent, Jim Robertson  
 Photographic reproduction: Sue Unsworth  
 Illustration: James Snee, Steve Malone  
 Post-excavation analysis: James Snee

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## 11. ABBREVIATIONS

APS Archaeological Project Services  
 BGS British Geological Survey  
 IFA Institute of Field Archaeologists  
 OD Ordnance Datum (height above sea level)

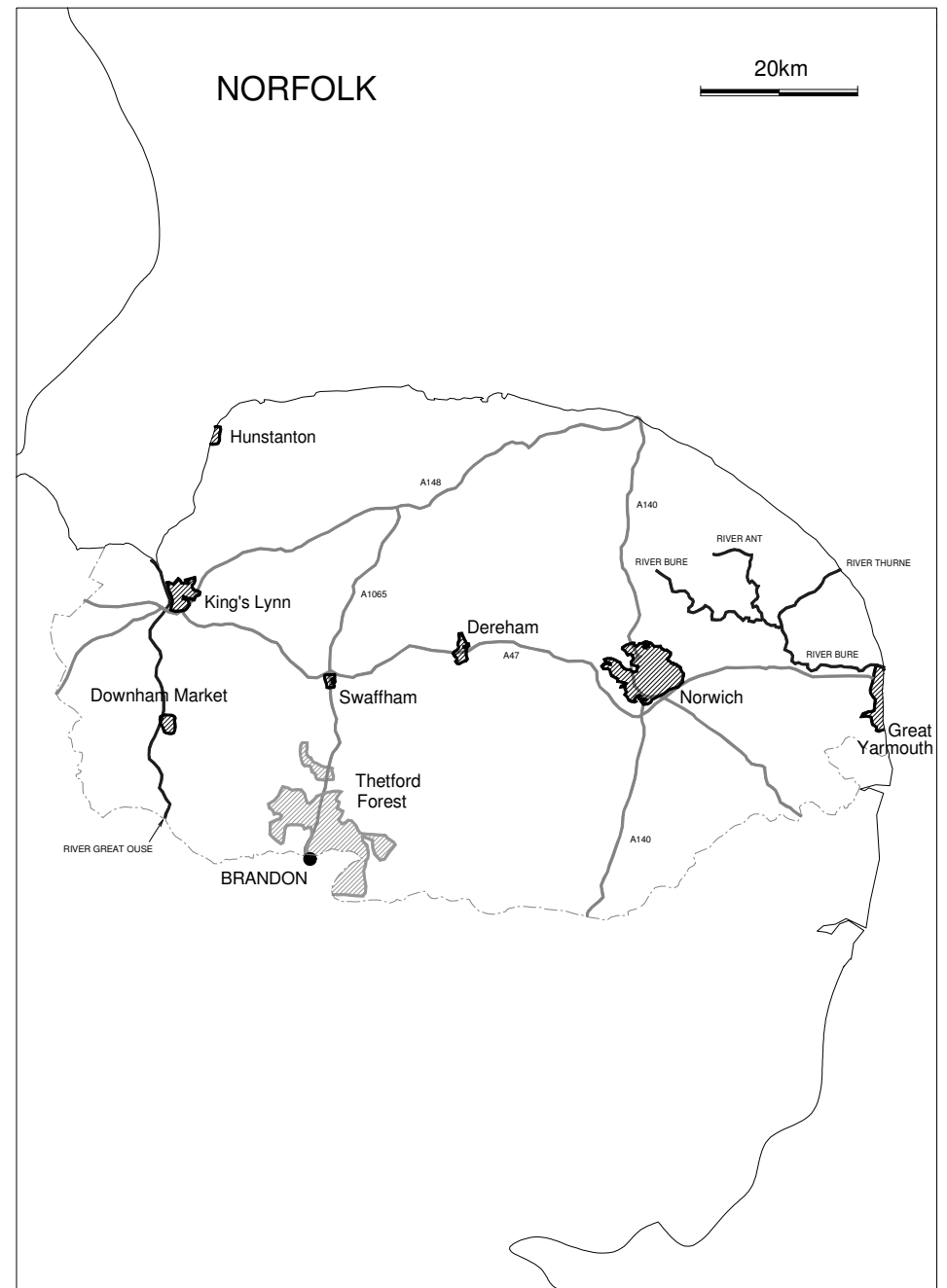
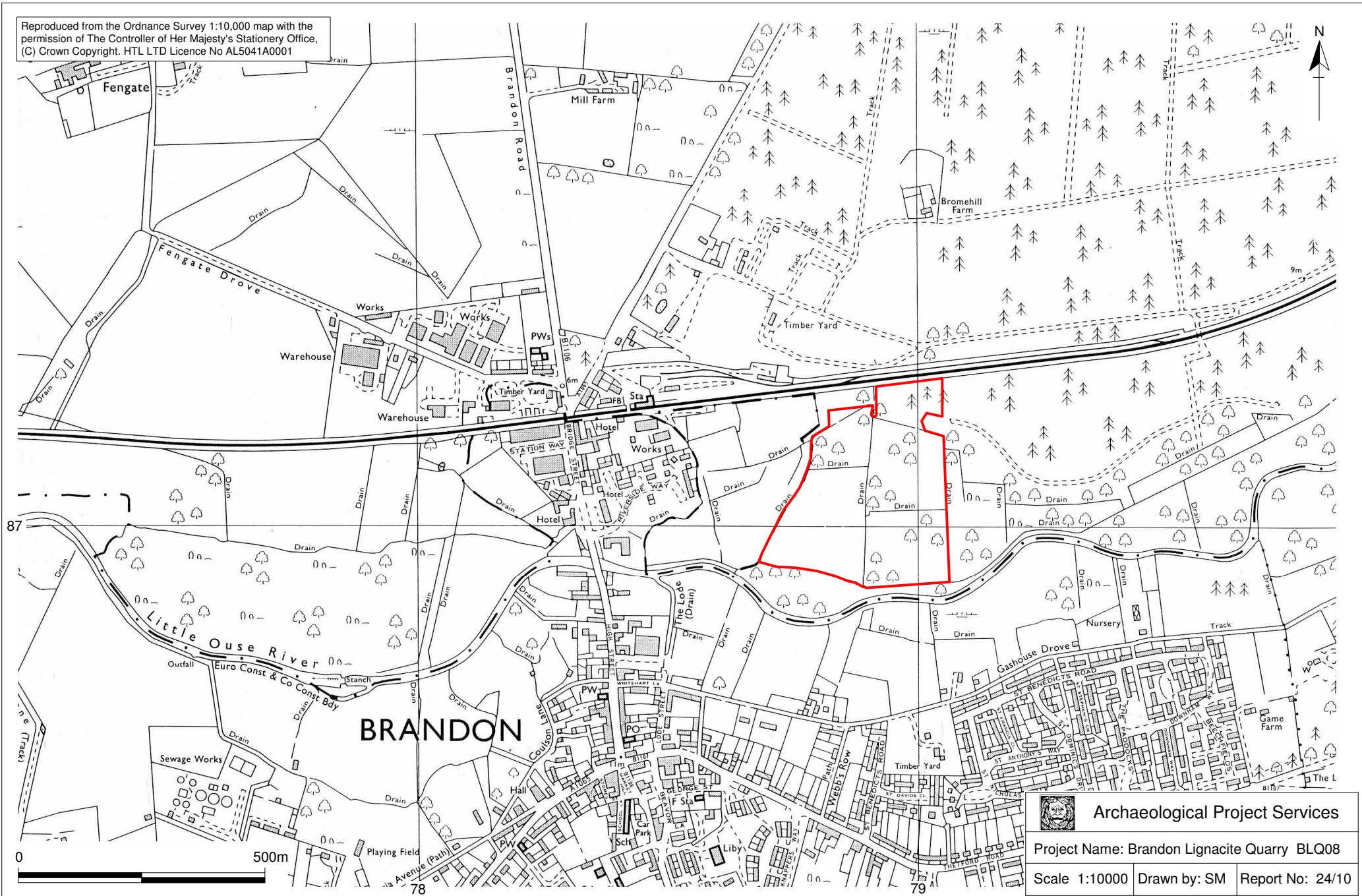


Figure 1 General Location Plan



Reproduced from the Ordnance Survey 1:10,000 map with the permission of The Controller of Her Majesty's Stationary Office, (C) Crown Copyright. HTL LTD Licence No AL5041A0001




 <b>Archaeological Project Services</b>		
Project Name: Brandon Lignacite Quarry BLQ08		
Scale 1:10000	Drawn by: SM	Report No: 24/10

Figure 2 Site location



Figure 3 Quarry phasing showing locations of areas monitored

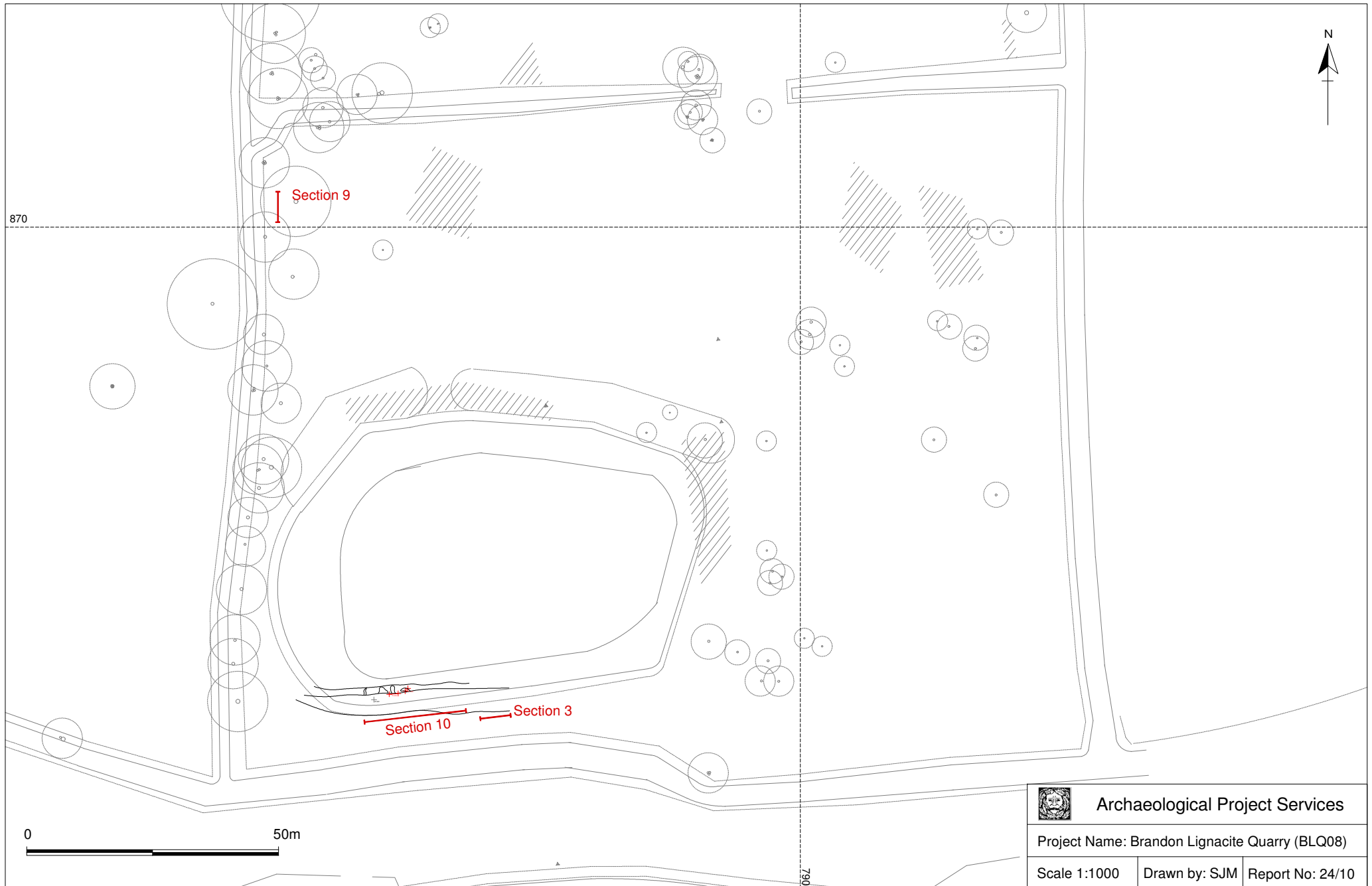


Figure 4 Location of archaeological features and recorded sections

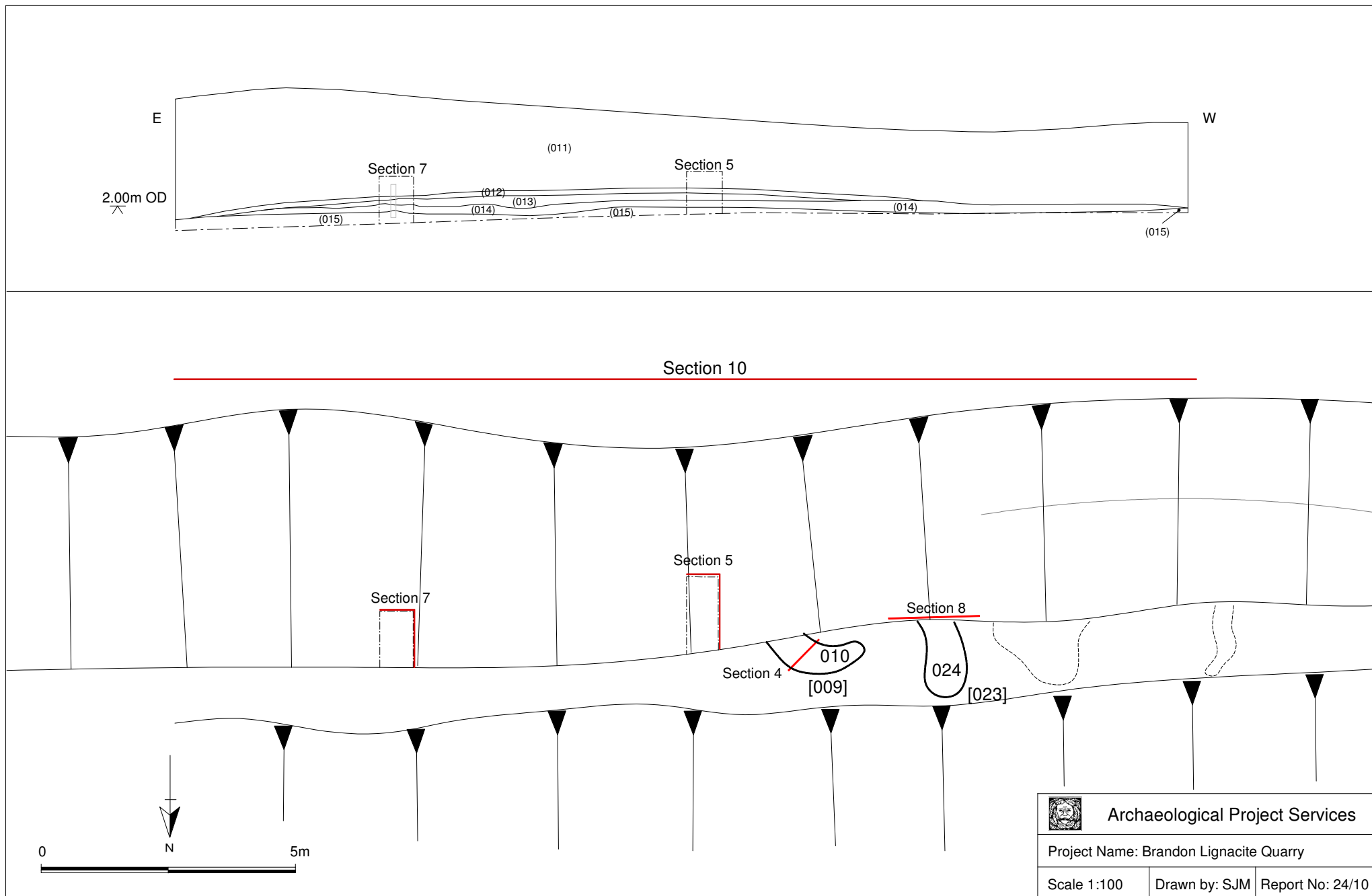


Figure 5 Southern quarry section and recorded features

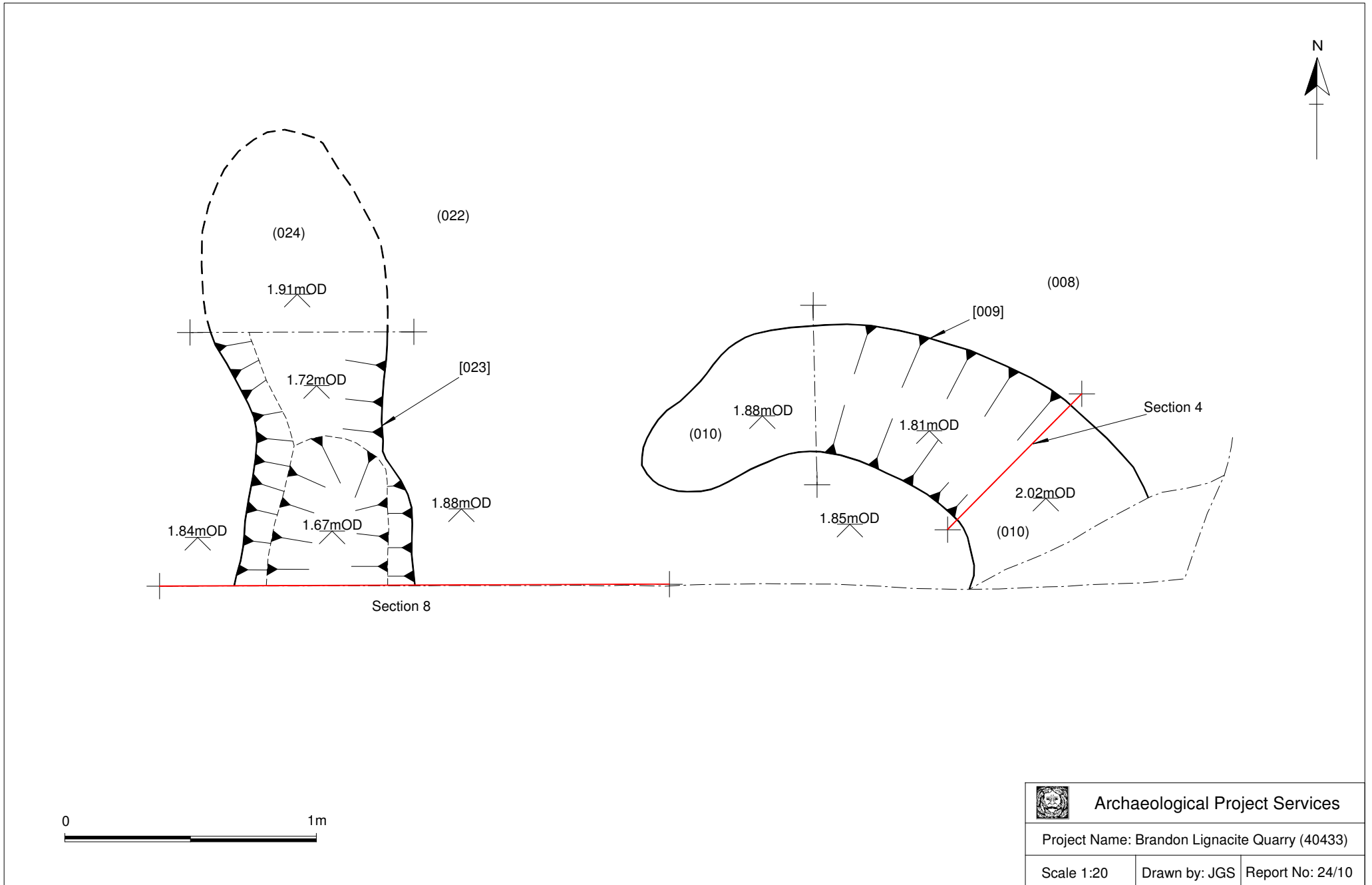



Figure 6 Plan of features [009] and [023]

 <b>Archaeological Project Services</b>		
Project Name: Brandon Lignacite Quarry (40433)		
Scale 1:20	Drawn by: JGS	Report No: 24/10

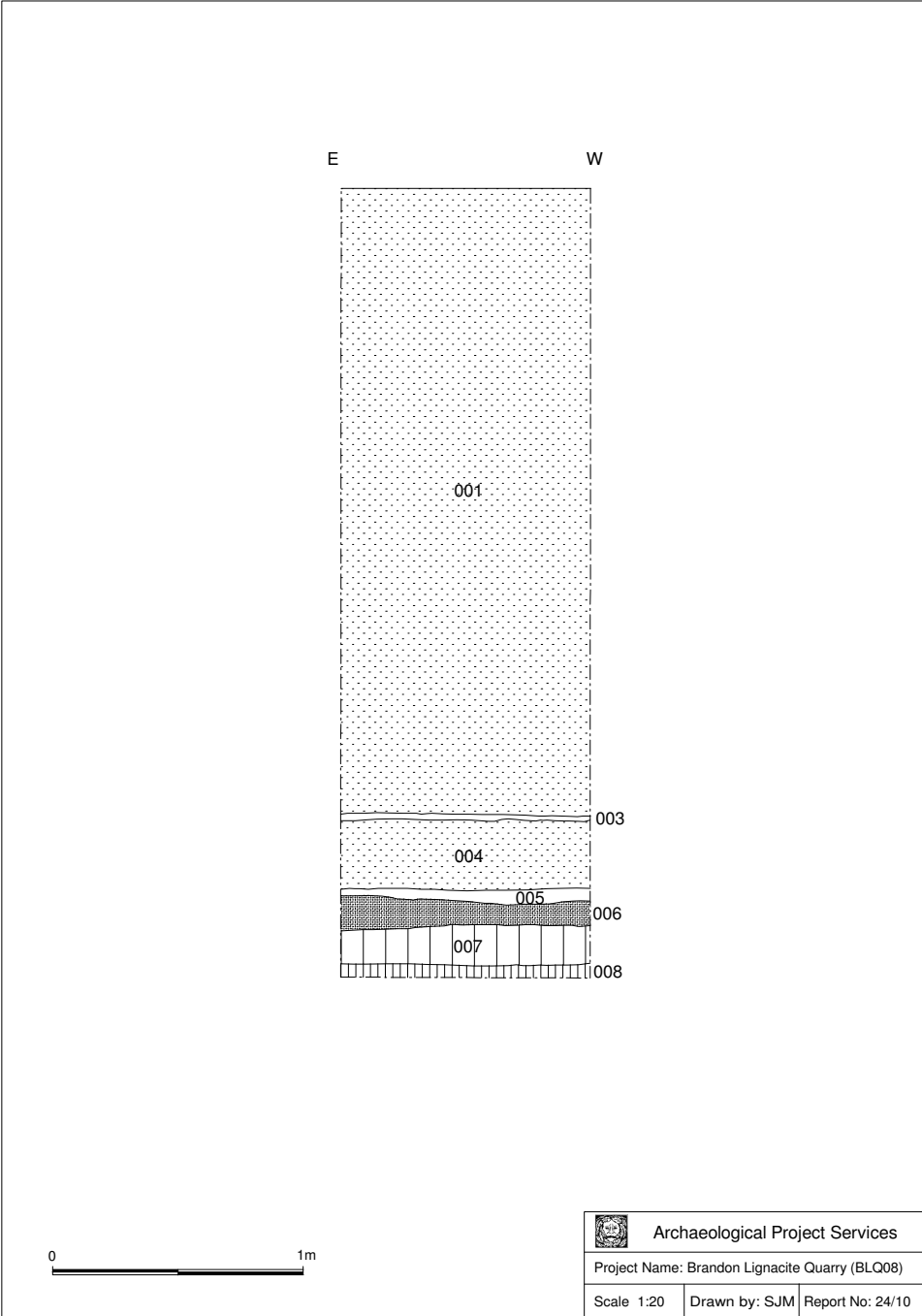
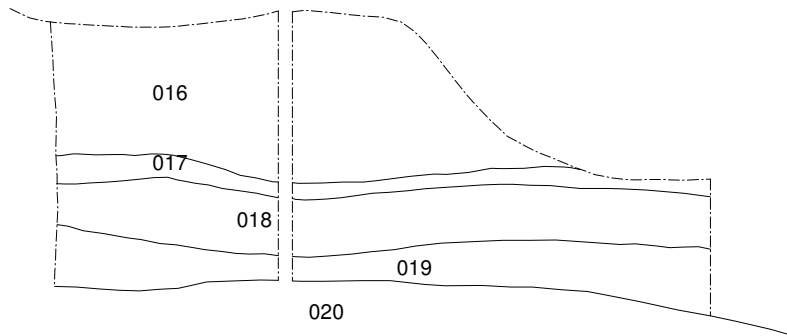


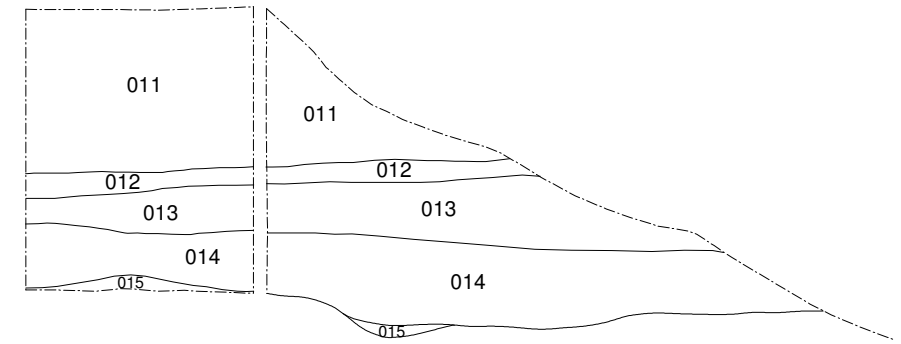
Figure 7 Section 3

E ————— W|S ————— N



Section 5

E ————— W|S ————— N

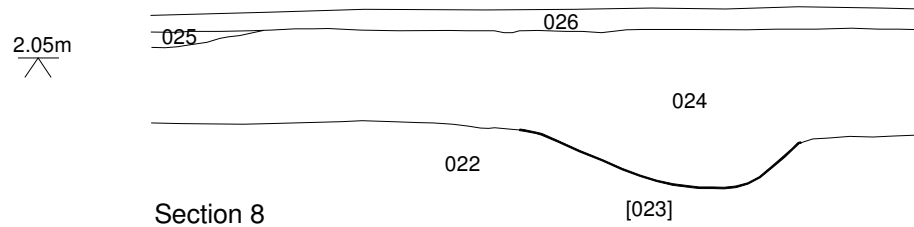


Section 7

Section 6

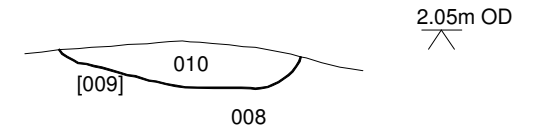
2.20m OD  
^

E ————— W



Section 8

NE ————— SW



Section 4

2.05m OD  
^




	Archaeological Project Services	
Project Name: Brandon Lignacite Quarry (BLQ08)		
Scale 1:20	Drawn by: SJM	Report No: 24/10

Figure 8 Sections 4 - 8

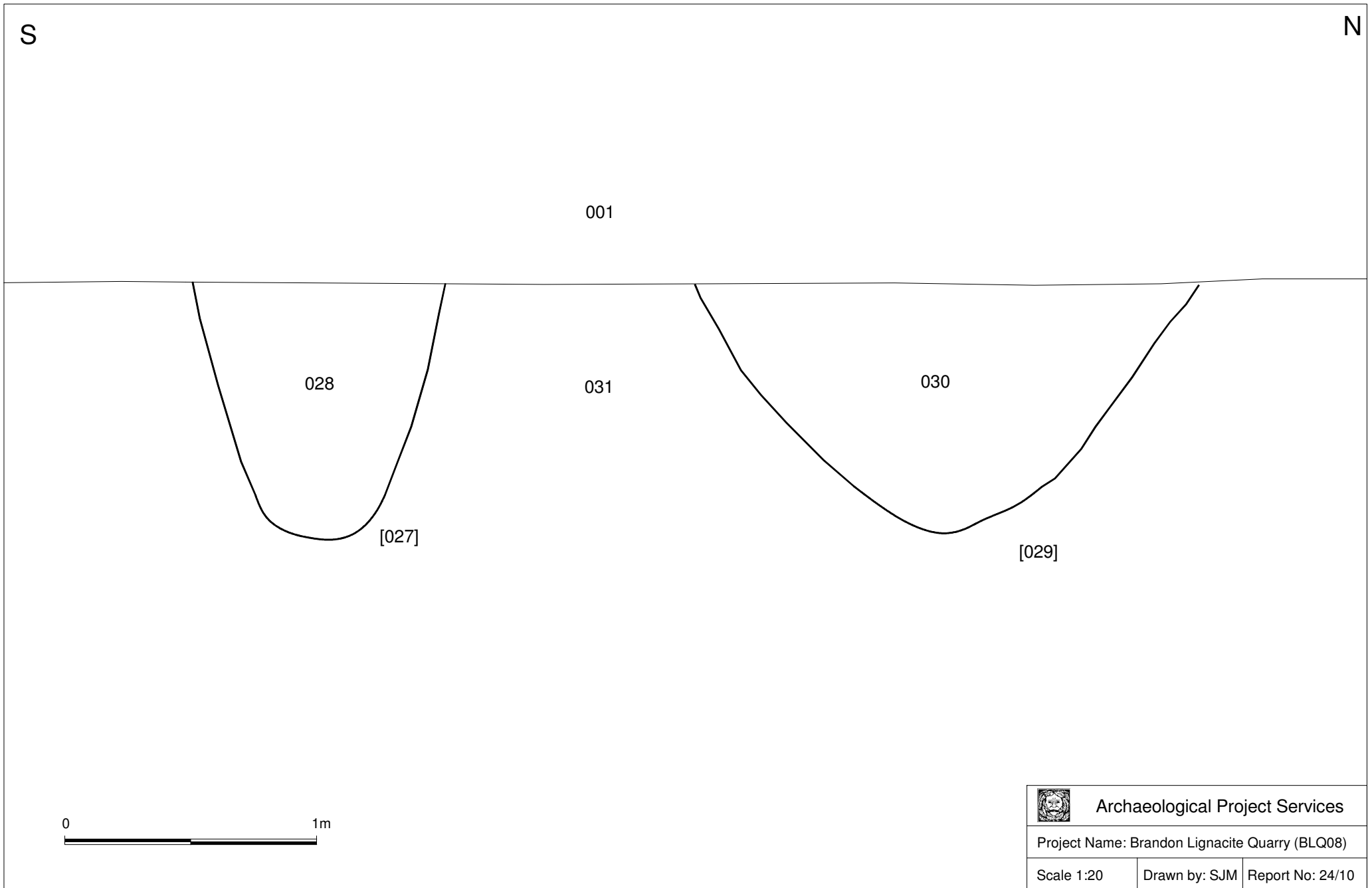


Figure 9 Section 9





Plate 1 Quarry area from southwest before lowering of water levels



Plate 2 Peat stripping in progress



Figure 3 Gravel extraction in progress showing waterlogged conditions



Figure 4 Section 3 showing layer of burnt stone (005) above buried soil (006)

## Appendix 1

### SPECIFICATION FOR ARCHAEOLOGICAL MONITORING AT BRANDON LIGNACITE QUARRY (PHASE 1) WEETING

#### 1 SUMMARY

- 1.1 *This document comprises a specification for archaeological monitoring during the first phase of quarrying works at Brandon Lignacite Works, Weeting, Norfolk.*
- 1.2 *The site lies within an area of archaeological interest and potential. Nearby are the remains of Bromehill Priory and Otteringhamythe DMV, while to the west, on an island in the river valley, the site of a Middle Saxon settlement and cemetery, possibly a monastic site, has been excavated.*
- 1.3 *Evaluation on the northern edge of the site and on a former island in the flood plain revealed no archaeological remains of significance. Archaeological investigation to the east identified a possible prehistoric ring gully on the north side of an ancient river channel. There is nonetheless potential for the peat cover within the valley to preserve other evidence of past human activity and the ancient environment.*
- 1.4 *Archaeological monitoring will be undertaken during removal of peat prior to quarrying operations.*
- 1.5 *On completion of the fieldwork a report will be prepared detailing the results of the investigation. The report will consist of a text describing and interpreting the archaeological deposits located during the trenching. The text will be supported by illustrations and photographs.*

#### 2 INTRODUCTION

- 2.1 This document comprises a specification for archaeological monitoring during quarrying operations at Brandon Lignacite Works, Weeting with Bittering, Norfolk.
- 2.2 The document contains the following parts:
- 2.2.1 Overview
  - 2.2.2 The archaeological and natural setting
  - 2.2.3 Stages of work and methodologies to be used
  - 2.2.4 List of specialists
  - 2.2.5 Programme of works and staffing structure of the project

#### 3 SITE LOCATION

- 3.1 The Lignacite Works is located on the outskirts of the town of Brandon about 0.8km northeast of the town centre, north of the river Little Ouse. The county boundary with Suffolk largely follows the river, except for a northward loop encompassing part of the works. The quarry site lies on the Norfolk side of the county boundary in the parish of Weeting, in the administrative district of Breckland, at National Grid Reference TL 7880 8710. It comprises a roughly square plot of land of 12.5ha within the floodplain of the Little Ouse.

## 4 PLANNING BACKGROUND

- 4.1 Planning permission (P/C/2005/3001) to quarry mineral to the east of the Lignacite works at Brandon has been granted subject to a condition requiring the implementation of a programme of archaeological work. As a first stage of this work a programme of additional trial trenching has been initiated to investigate specific topographic zones of the site. On the basis of this, archaeological monitoring of the first phase of quarrying has been requested and is the subject of this specification.

## 5 SOILS AND TOPOGRAPHY

- 5.1 The site lies on the north side of the present course of the river Little Ouse. The proposed quarry areas lie at approximately 4m O.D. in the flood plain of the river. Local soils are the Newmarket 4 Association slightly stony brown sands (Hodge *et al.* 1984, 277). In the southern part of the application area the natural sands are covered by 2-4m peat. Two sand/gravel islands with peat cover of 1m or less lie within the floodplain.

## 6 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 6.1 The site lies in an area with remains from many periods. A Bronze Age socketed spearhead with basal loops was dredged from the river to the west of the site. Roman finds are also known from the area to the north of the site.
- 6.2 Less than a kilometre to the west, at Staunch Meadow, a predominantly Middle Saxon site with at least 25 structures was excavated in the 1980s on an island in the river valley. The site was served by a church and cemetery. The island was connected to the main river bank by a causeway. Beneath adjacent peat dated to the Iron Age (P. Murphy *pers comm.*) was found traces of buried soils and IA plough marks.
- 6.3 Northeast of the proposed quarry site is believed to lie the deserted medieval settlement of *Otteringhythe* while the site of the priory of SS Mary and Thomas Becket, latterly known as Bromehill Priory, was established in the vicinity at c. 1220.
- 6.4 Prior evaluation has been undertaken on the northern edge of the site, where the land is relatively high and accessible (Petchey 2004) and on the easternmost of the gravel 'islands' (Malone 2005). No significant archaeological remains were discovered in this area.
- 6.5 Archaeological investigations in 2005 north west of the current site revealed circular features, possibly of prehistoric date. This was suggested by the presence of fire cracked flint.
- 6.6 Investigations will be carried out in accordance with and reference to the regional research agendas (Glazebrook 1997; Brown and Glazebrook 2000).

## 7 AIMS AND OBJECTIVES

- 7.1 The aim of the work will be to recover as much information as possible on the origins, date, development, phasing, spatial organisation, character, function, status, significance and nature of social, economic and industrial activities on the site.
- 7.2 The objectives of the work will be to:
- 7.2.1 Determine the date of the archaeological remains present on the site.
  - 7.2.2 Determine the extent and spatial arrangement of archaeological remains present within the site.

- 7.2.3 Establish the character of archaeological remains present within the site.
- 7.2.4 Determine the extent to which the surrounding archaeological remains extend into the site.
- 7.2.5 Identify the way in which the archaeological remains identified fit into the pattern of occupation and land-use in the surrounding landscape.

## 8 SITE OPERATIONS

### 8.1 General Considerations

- 8.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the evaluation. A Risk Assessment will be prepared prior to the investigation, and updated throughout its duration.
- 8.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists (IFA). Archaeological Project Services is an IFA registered archaeological organisation (No. 21) managed by a Member of the Institute (MIFA).
- 8.2.3 All work will be carried out in accordance with the appropriate sections from 'Standards for Field Archaeology in the East of England', as adopted by the Association of Local Government Archaeological Officers for the East of England Region and published as East Anglian Archaeology Occasional Paper 14.
- 8.2.4 Any artefacts found during the investigation and thought to be 'treasure' as defined by the Treasure Act 1996, will be removed from site to a secure store and the discovery promptly reported to the appropriate coroner's office.
- 8.2.5 Prior to commencement of site operations, Archaeological Project Services will liaise with the Norfolk SMR to ensure that the Site Code and Context Numbering system is compatible with the Norfolk SMR.

### 8.3 Methodology

- 8.3.1 Topsoil stripping and peat removal will be undertaken by mechanical excavator under archaeological supervision in order to identify any cultural remains sealed by the peat deposits. Peat will be removed from a strip 10-15m wide down to the level of the underlying deposits. An archaeologist will then inspect this surface. If archaeological remains are identified then time will be allowed for archaeological investigation.
- 8.3.2 Any discrete features identified during earth-moving operations will be hand-excavated and recorded. Archaeological features revealed in plan will be cleaned and planned before selective excavation.
- 8.3.3 Where possible within health and safety restrictions, all features that are, or could be interpreted as, structural will be fully excavated. Post-holes and pits that might be interpreted as post-holes, will be examined in section and then fully excavated. Fabricated surfaces will be fully exposed and cleaned.
- 8.3.4 All other features will be examined sufficiently to establish, where possible, their date and function:

- 8.3.5 Where possible a minimum of 50% of the fills of other features is to be excavated. Prehistoric features, especially pits, may require full excavation.
- 8.3.6 Where possible between 10% and 20% of the fills of substantial linear features will be excavated; the sample to be representative of the available length of the feature and taking into account variations in the shape or fill of the feature and any concentrations of artefacts.
- 8.3.7 A metal detector will be used during normal hand excavation in order to maximise artefact retrieval. Where possible the spoil heap will also be scanned with a metal detector.
- 8.3.8 Archaeological features will be recorded on Archaeological Project Services pro-forma context record sheets. The system used is the single context method by which individual archaeological units of stratigraphy are assigned a unique record number and are individually described and drawn. All context and site numbering used will be compatible with the Norfolk Sites and Monuments Record.
- 8.3.9 Plans of features will be drawn at a scale of 1:20 and sections at a scale of 1:10. Should individual features merit it, they will be drawn at a larger scale.
- 8.3.10 Throughout the duration of the trial trenching a photographic record consisting of black and white prints (reproduced as contact sheets) and colour prints will be compiled. The photographic record will consist of:
- the site before the commencement of field operations.
  - the site during work to show specific stages of work, and the layout of the archaeology within individual trenches.
  - individual features and, where appropriate, their sections.
  - groups of features where their relationship is important.
  - the site on completion of field work
- 8.3.11 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. The archaeological curator, local environmental health department and, if appropriate, the coroner and the police will be informed. If removal proves necessary, appropriate Home Office licences will be obtained and before excavation of human remains commences.
- 8.3.12 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit from which they were recovered, ready for later washing and analysis. All finds work will be carried out to accepted professional standards and the Institute of Field Archaeologists *Guidelines for Finds Work* (1992).
- 8.3.13 Conservation of artefacts will be carried out by Lincoln City and County Museum. The resources available for conservation is dependent on the quantity and type of artefacts recovered from the site.

- 8.3.14 The precise location of the stripped areas within the site and the location of site recording grid will be established by an EDM survey or tape survey to established features recorded on Ordnance Survey maps, as appropriate.
- 8.3.15 Samples will be taken from all waterlogged feature fills. Otherwise, samples will be taken from primary and secondary fills of ditches and pits, the level of sampling being appropriate to the content of the individual feature. Samples will be retained from approximately 50% of half-sectioned postholes where they form part of a recognizable structure. All sampling will follow the procedures in *A Guide to Sampling Archaeological Deposits for Environmental Analysis* (Murphy and Wiltshire 1994).
- 8.3.16 Advice from an environmental specialist will be taken on the suitability of exposed deposits for environmental analysis. Column samples will be retained from appropriate deposits for scientific dating and environmental analysis.

## 9 POST-EXCAVATION AND REPORT

### 9.1 Stage 1

- 9.1.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a uniform sequence constituting 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: the colour slides will be labelled and mounted on appropriate hangers and the black and white contact prints will be labelled, in both cases the labelling will refer to schedules identifying the subject/s photographed.
- 9.1.2 All finds recovered during the trial trenching will be washed, marked, bagged and labelled according to the individual 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.

### 9.2 Stage 2

- 9.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.
- 9.2.2 Finds will be sent to specialists for identification and dating.

### 9.3 Stage 3

- 9.3.1 On completion of stage 2, a report detailing the findings of the evaluation will be prepared. This will consist of:
- A non-technical summary of the findings of the evaluation.
  - A description of the archaeological setting of the site - to include results of background research into the history and former land-use of the site.
  - Description of the topography and geology of the evaluation area

- Description of the methodologies used during the evaluation and discussion of their effectiveness in the light of the findings of the investigation.
- Text describing the findings of the evaluation.
- Plans of the trenches showing the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.
- Sections of the trenches and archaeological features.
- Interpretation of the archaeological features exposed and their context within the surrounding landscape.
- Specialist reports on the finds from the site.
- Appropriate photographs of the site and specific archaeological features.
- A consideration of the significance of the archaeological remains encountered, in local, regional and national terms.

## 10 **ARCHIVE**

- 10.1 The documentation, finds, photographs and other records and materials generated during the evaluation will be sorted and ordered in accordance with the procedures in the Society of Museum Archaeologists' document *Transfer of Archaeological Archives to Museums* (1994), and any additional local requirements, for long-term storage and curation. This work will be undertaken by the Finds Supervisor, an Archaeological Assistant and the Conservator (if relevant). The archive will be deposited with the receiving museum as soon as possible after completion of the project, and within 12 months of that completion date.
- 10.2 Microfilming of the archive will be carried out commercially. The silver master will be transferred to the RCHME and a diazo copy will be deposited with the Norfolk Sites and Monuments Record.
- 10.3 Prior to the project commencing, Norfolk Museums Service will be contacted to obtain their agreement to receipt of the project archive and to establish their requirements with regards to labelling, ordering, storage, conservation and organisation of the archive.
- 10.4 Upon completion and submission of the evaluation report, the landowner will be contacted to arrange legal transfer of title to the archaeological objects retained during the investigation from themselves to the receiving museum. The transfer of title will be effected by a standard letter supplied to the landowner for signature.

## 11 **REPORT DEPOSITION**

- 11.1 Copies of the evaluation report will be sent to: the client and the Principal Landscape Archaeologist, Norfolk Landscape Archaeology (4 copies); two copies for Norfolk County Sites and Monuments Record; the third for the Planning Authority; and the fourth for the English Heritage Regional Advisor for Archaeological Science. A digital copy will also be supplied as a PDF.



12 **PUBLICATION**

- 12.1 A report of the findings of the investigation will be submitted for inclusion in the journal *Norfolk Archaeology*. Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Proceedings of the Prehistoric Society* for prehistoric remains; *Britannia* for discoveries of Roman date; and *Post-medieval Archaeology*, *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains.
- 12.2 Details of the investigation will also be input to the Online Access to the Index of Archaeological Investigations (OASIS).

13 **CURATORIAL MONITORING**

- 13.1 Curatorial responsibility for the project lies with Norfolk Landscape Archaeology. As much notice as possible, ideally fourteen days, will be given in writing to the curator prior to the commencement of the project to enable them to make appropriate monitoring arrangements.

14 **VARIATIONS TO THE PROPOSED SCHEME OF WORKS**

- 14.1 Variations to the scheme of works will only be made following written confirmation of acceptability from the archaeological curator.
- 14.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

15 **STAFF TO BE USED DURING THE PROJECT**

- 15.1 The work will be directed by Mark Williams, Project Manager, Archaeological Project Services. The on-site works will be supervised by an Archaeological Project Officer with experience and knowledge of archaeological evaluations of this type. Archaeological excavation will be carried out by Archaeological Technicians, experienced in projects of this type.
- 15.2 The following organisations/persons will, in principle 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	Prehistoric: Dr D Knight, Trent and Peak Archaeological Trust  Roman: B Precious, independent specialist  Anglo-Saxon-medieval: P Blinkhorn, D Hall or H Healey independent specialists, or local specialist if required by archaeological curator.  Other Artefacts J Cowgill, independent specialist

Human Remains Analysis	R Gowland, independent specialist
Animal Remains Analysis	Jen Kitch, APS
Environmental Analysis	Environmental Archaeology Consultancy
Soil Assessment	Dr Charly French, independent specialist
Pollen Assessment	Pat Wiltshire, independent specialist
Wood Assessment	Maisie Taylor, Soke Archaeological Services Ltd
Radiocarbon dating	Beta Analytic Inc., Florida, USA
Dendrochronology dating	University of Sheffield Dendrochronology Laboratory

## 16 PROGRAMME OF WORKS

- 16.1 The site works have yet to be timetabled but will take place during a 3 week period in the summer of 2007. Post-excavation work is likewise yet to be timetabled and will depend on the quantity and complexity of archaeological remains encountered.

## 17 INSURANCES

- 17.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability insurance to £10,000,000. Additionally, the company maintains Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation can be supplied on request.

## 18 COPYRIGHT

- 18.1 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.
- 18.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.
- 18.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the *Copyright, Designs and Patents Act 1988* for the client to pass any report, partial report, or copy of same, to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said Planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the *Copyright, Designs and Patents Act 1988* and may result in legal action.
- 18.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

**BIBLIOGRAPHY**

Brown, N and Glazebrook, J (eds), 2000 *Research and Archaeology: A Framework for the Eastern Counties*, 2. *Research agenda and strategy*, East Anglian Archaeology Occasional Papers **8**

Glazebrook, J (ed), 1997 *Research and Archaeology: A Framework for the Eastern Counties*, 1. *resource assessment*, East Anglian Archaeology Occasional Papers **3**

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Malone, S. 2005, *Archaeological Investigations on land at Brandon Lignacite Works, Weeting With Bittering, Norfolk*, unpublished APS report 172/05

Peachey, M. 2004, *Archaeological Investigations on land at Lignacite Works, Brandon, Norfolk*, unpublished APS report 183/04.

Specification: Version 1. 19 March 2007

## Appendix 2

### Context Summary

Cxt No.	Section No.	Same As	Description	Interpretation
001	1	011, 016	Soft, dark brown peat, with occasional flints, 0.88m thick.	Peat deposit.
002	1		Loose, light grey sand and gravel with frequent flints, at east 0.4m thick.	Natural.
003	3		Loose, light to dark grey burnt flint and stone mixed into peat, approximately 0.03m thick.	Dumped deposit
004	3		Loose, very dark greyish brown silty peat with moderate burnt stone, approximately 0.26m thick.	Peat layer.
005	3		Loose, very light yellowish brown sand, up to 0.50m thick.	Natural alluvium.
006	3	013, 018, 025	Firm, black burnt stones and ash flecked with grey, up to 0.15m thick.	Possible fire site.
007	3	014, 019	Loose, mid brown silty sand up to 0.15m thick.	Subsoil.
008	3	015, 020, 022	Loose, light yellowish brown sand, at least 0.05m thick.	Natural.
009	4		Curvy linear cut, 0.64m wide and 0.15m deep, with concave sides and a flat base, curves from east-west to northwest-southeast.	Possible ditch terminus.
010	4		Soft, mid greyish brown silty sand.	Fill of [009].
011	6 & 7	001, 016	Soft, very dark brown silty peat, at least 2.0m thick.	Peat deposit.
012	6 & 7	017, 026	Loose, light greyish white sand with frequent burnt flints, 0.05m thick.	Dumped deposit.
013	6 & 7	006, 018, 025	Quite compact, black silty ash and fire cracked flint, 0.20m thick.	Dumped deposit.
014	6 & 7	007, 019	Soft, dark brown sand with occasional flints, up to 0.20m thick.	Buried soil.
015	6 & 7	008, 020, 022	Soft, patchy light to mid yellowish brown sand.	Natural.
016	5	001, 011	Soft/loose, dark brown silty peat with frequent root, reed and wood fragments, 0.46m thick.	Peat deposit.
017	5	012, 026	Friable, light greyish white sand and stones and burnt flint, 0.09m thick.	Dumped deposit
018	5	006, 013, 025	Soft/friable, dark greyish black sandy silt with frequent burnt flints, up to 0.18m thick.	Dumped deposit
019	5	007, 014, 024	Soft/loose, dark greyish brown silty sand with occasional flints, 0.18m thick.	buried soil
020	5	008, 015, 022	Soft/loose, mid yellow sand with occasional large flints.	Natural.
021	8		Loose, dark blackish grey sand with frequent gravel.	Natural.
022	8	008, 015, 020	Loose, mid yellow sand with occasional	Natural.

			flints.	
023	8		Linear cut, 0.70m wide and 0.14m deep, with concave sides and a flat base, oriented north-south.	Possible ditch/channel.
024	8		Loose, dark greyish brown silty sand with occasional flints.	Fill of [024].
025	8	006, 013, 018	Loose, dark greyish black silty sand with frequent burnt flints.	Dumped deposit
026	8	012, 017	Loose/soft, light whitish grey sand and burnt stones, 0.07m thick.	Dumped deposit

## Appendix 3

### Lithic Assessment by Barry Bishop

#### Introduction

Archaeological investigations at the above site recovered 57 struck pieces of flint and 133g of burnt flint fragments. This report quantifies and describes the material, assesses its significance and recommends any further work needed for it to achieve its full research potential. The material was recovered from a number of layers associated with prehistoric activity, the fills of two cut features and from sub-soil horizons.

#### Quantification

Context	Decortication Flake	Trimming Flake	Flake	Flake Fragment	Blade-like Flake	Unsystematic Blade	Systematic Blade	Core	Retouched	Burnt Flint (No)	Burnt Flint (wt:g)
Total	9	4	15	8	1	7	6	2	5	7	133
%	15.8	7.0	26.3	14.0	1.8	12.3	10.5	3.5	8.8		

Table 1: Quantification of Lithic Material

In total 57 struck flints were recovered from eight different contexts (see Table 1 and Catalogue). The largest part of the assemblage, 39 pieces, was recovered from five layers associated with burnt material. Six pieces were recovered from ditch or channel [23] and a further five from ditch terminus [10]. The remainder of the material, 7 pieces, were recovered from sub-soil horizons. Seven pieces of burnt flint weighing 133g was also recovered, most of which, 131g, came from layer [03].

#### The Burnt Flint

The burnt flint from layer [03] had been extensively and uniformly burnt to a grey-white colour and exhibited fire-crazing and fragmentation. Although only small quantities were recovered, the severity and uniformity of the burning would be most characteristic of it having been deliberately heated, as can be contrasted to the rather variable burning that occurs when flint is incidentally heated, such as when a hearth is constructed on the ground surface. It would be consistent with interpretations that see the deposits as being associated with a 'burnt mound' or similar type of site, but would need further investigative work at the site to confirm this.

## The Struck Flint

### *Raw Materials*

The raw materials used consisted of fine-grained translucent black to dark brown flint. Cortex, where present, varied from rough, thick and abraded, to heavily weathered or virtually absent, and there were also frequent ancient thermal scars visible. It comprised large nodular shaped cobbles that produced flakes attaining up to nearly 100mm in maximum dimension. The flint was of good knapping quality, being typical of the renowned flint from the Brandon area, although this was somewhat limited by the presence of thermal faults. Its abraded cortex and the presence of thermal scars indicate that it had been obtained from derived, probably alluvial, deposits although it had not travelled far from its source. It would almost certainly have been obtained locally and similar materials would have been present in the gravel terraces of the River Little Ouse close to the site. Interestingly, given the proximity of Grime's Graves, no evidence of mined flint was identified.

### *Condition*

The condition of the material varied. Most pieces were in a good or only slightly abraded condition, consistent with light trampling. Others were more extensively chipped and abraded, typical of heavier trampling and they may also have experienced a greater degree of post-depositional movement, such as by alluvial reworking, although this would have been limited and there was no reasons to suppose that the material was not recovered from close to where it was originally discarded. Several flakes displayed evidence of possible utilization but their general condition precluded positive identification of such.

Two pieces, from contexts [14] and [18], had been burnt, although considering the extent of burning activities in the vicinity this may not be considered a high proportion.

Recortication was limited to four pieces.

### *Description*

The assemblage contained pieces representing all stages in the reduction sequence, from decortication flakes and discarded cores to retouched pieces. Two cores were present, an opposed platformed blade core from context [14] and a discoidal flake core from context [18] (see Table 2).

Context	Feature	Type	Sub-Type	Weight (g)	Description	Date
018	L18 Burnt Layer	C	Discoidal	66	Extensively and bifacially reduced discoidal core of Levallois type	LN
014	Buried soil	B Opposed	Blade	53	Extensively reduced opposed platformed blade core, some edge trimming but thermal scar SP	EN

*Table 2: Description of Cores*

The proportion and range of retouched implements was high (see Table 3) as were the numbers of blades and potentially useable flakes, many of which showed possible evidence of utilization. These all

suggest that, as well as flint reduction, tool use was also an important aspect of the activities conducted at the site.

Context	Feature	Type	Sub-type	Dimensions (mm)	Description	Date
018	L18 Burnt layer	Utilized	Cutting	55X33X13	Narrow cortical flake with edge damage along left margin. Cortically backed knife	N
024	D23 fill	Scraper	Long-end	48X31X8	Blade-like flake with steep scalar convex retouch on distal. Resharpener	M/EN
010	D09 fill terminus	Burin		48X29X11	Narrow flake with both proximal and distal end retouched. A broad burin removal has been made from the proximal end and at least two narrow flakes removed from distal end	M/EN
010	D09 fill terminus	Scraper	Long-end	>37X25X8	Narrow broken flake with steep scalar retouch on distal, slightly nosed	M/EN
019	L19 layer	Denticulate	Flake	69X50X10	Large partially cortical flake with crude denticulate retouch along left concave margin and natural cortical backing	N

Table 3: Description of Retouched Implements

Technological considerations suggest the presence of at least two industries, although the technological differences between these is often hard to quantify. The small number of recorticated pieces included two small but long systematically produced blades that would be typical of Mesolithic examples. The remainder of the material, all of which was unrecorticated, included pieces that could be broadly attributed to the Neolithic period. Several of these pieces were characteristic of Early Neolithic industries, these including the burin, the long-end scrapers, the blade core and the blades, of which both unsystematic and large systematically produced examples were identified. The discoidal core, however, was comparable to 'Levallois' types associated with Later Neolithic industries, although comparable pieces are occasionally found within Early Neolithic industries. Flakes tended to be narrow with uni- or multi-directional flake scars, some of which were parallel and suggestive of blade production techniques. Striking platform edges were routinely trimmed although no evidence for actual core rejuvenation was identified.

## Discussion

The assemblage contains small quantities of Mesolithic material but with the bulk of it being easily comparable to other Early Neolithic sites in the region (eg Clark *et al.* 1960; Beadsmoore 2006). There is also the possibility that a part of the assemblage may date to later periods during the Neolithic. The assemblage suggests a long period of activity in the vicinity of the site, which would perhaps not be surprising given its prime location adjacent to the river and the general density of prehistoric settlement previously recorded in the area.

Overall, the struck flint assemblage is small but contains pieces that demonstrate both core reduction and tool use had occurred. The range of tools would be broadly consistent with a 'domestic' type assemblage, suggesting a diverse range of activities were conducted although further investigations at



the site would be needed to confirm this and more precisely assess the nature and chronology of activity at the site.

### **Recommendations**

Due to its size, this report is all that is required of the material for the purposes of the archive and no further analytical work is proposed.

Should further fieldwork be considered, attention should focus on obtaining as large and closely contextually defined lithic assemblage as possible, in order to attempt to understand the nature, extent and chronology of any prehistoric lithic-based activities. Should sufficient quantities of lithic artefacts be procured from any future work, full metrical, typological and technological analysis may be warranted and, through consideration of other recovered artefact groups and environmental based evidence, this information should be incorporated into establishing as detailed and complete an understanding as possible of the prehistoric exploitation of the area.

### **Bibliography**

- Beadsmoore, E. 2006 Earlier Neolithic Flint. In: D. Garrow, S. Lucy and D. Gibson, *Excavations at Kilverstone, Norfolk; an episodic landscape history*, 53-70. East Anglian Archaeology 113.
- Clark, J.G.D., Higgs, E.S. and Longworth, I.H. 1960 Excavations at the Neolithic Site at Hurst Fen, Mildenhall, Suffolk (1954, 1957 and 1958). *Proceedings of the Prehistoric Society* 26, 202 - 245.

Archaeological Investigations at Brandon Lignacite Quarry, Brandon, Suffolk

Site Code: BLQ 08 (40433)

Catalogue: Quantification of Lithic Material by Context

Barry Bishop October 2008

Context	Feature	Decortication Flake	Trimming Flake	Flake	Flake Fragment	Blade-like Flake	Unsystematic Blade	Systematic Blade	Core	Retouched	Comments	General Condition	Suggested Date
006	L6 burnt layer	2		4			2					Abraded	UD
007	SS	1		3	1	1		1			SB is recorticated	Abraded	Mix N
010	D09 fill terminus		1	1			1			2		Slightly Abraded	M/EN
013	L13 Dumped occ deposit			1	1		1				F is recorticated. All chipped and abraded	Abraded	N
014	Buried soil	1		4	4		1	2	1		One FF large and burnt	Slightly Abraded	EN
018	L18 Burnt Layer	1			1				1	1	DF is battered (used?) and had incipient Hertzian cones on ventral. Retouched is utilized flake (cutting). FF is burnt	Good	LN
019	L19 occupation surface	1	3	2			2	2		1	One F very large	Slightly Abraded	N
024	D23 Fill	3			1			1		1	Retouched is long-end scraper. One F and the B are recorticated. Two of the 1Fs from same nodule?	Slightly Abraded	Mix M/EN

## Appendix 4

### 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>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>Cropmark</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>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>Glaciofluvial Drift</b>	Materials (eg, clays, silts, gravels, <i>etc.</i> ) deposited by the combined action of rivers and glaciers, or from streams from glacial ice.
<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 an accumulation of soil or other material that is not contained within a cut
<b>Medieval</b>	The Middle Ages, dating from approximately AD 1066-1500.
<b>Natural</b>	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
<b>Neolithic</b>	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4500 - 2250 BC.
<b>Post-medieval</b>	The period following the Middle Ages, dating from approximately AD 1500-1800.
<b>Prehistoric</b>	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
<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>Sondage</b>	Small investigative excavation, from French meaning 'sounding'.

## Appendix 5

### The Archive

The archive consists of:

31	Context records
2	Context register sheets
7	Sheets containing scale drawings (plans and sections)
2	Photographic record sheet
1	Plan record sheet
1	Section record sheet
1	Box of finds

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:

Norfolk Museums Service  
Union House  
Gressenhall  
Dereham  
Norfolk  
NR20 4DR

The archive will be deposited in accordance with the document titled *County Standards for Field Archaeology in Norfolk*, produced by Norfolk Landscape Archaeology.

Archaeological Project Services Site Code: 40433

OASIS reference number archaeo11-75371

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

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