

Worlington Quarry, 2013 Phase, Worlington WGN 047

Archaeological Monitoring Report

SCCAS Report No. 2013/053

Client: Frimstone Ltd.

Author: Rob Brooks

May/2013

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HER Information

Site Code: WGN 047
Site Name: Worlington Quarry, 2013 Phase
Report Number 2013/053
Planning Application No: F/2004/0227/CCA
Date of Fieldwork: 28th March - 16th April 2013
Grid Reference: TL 6965 7098
Oasis Reference: suffolkc1-148404
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Project Officer: Rob Brooks
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Digital report submitted to Archaeological Data Service:

<http://ads.ahds.ac.uk/catalogue/library/greylit>

Disclaimer

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. Ultimately the need for further work will be determined by the Local Planning Authority and its Archaeological Advisors when a planning application is registered. Suffolk County Council's archaeological contracting services cannot accept responsibility for inconvenience caused to the clients should the Planning Authority take a different view to that expressed in the report.

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Date: 07/05/2013

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Position: Senior Project Officer

Date: 07/05/2013

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Contents

Summary

Drawing Conventions

1. Introduction	1
2. Geology and topography	1
3. Archaeology and historical background	2
4. Methodology	4
5. Results	5
5.1 Introduction	5
5.2 Features	5
Rounded cuts	5
Irregular and sub-rectangular cuts	8
6. Environmental evidence	11
6.1 Introduction and methodology	11
6.2 Quantification	11
6.3 Results	12
6.4 Conclusions and recommendations for further work	12
7. Discussion and recommendations	13
8. Archive deposition	14
9. Acknowledgements	14
10. Bibliography	15

List of Figures

Figure 1. Location of site (red) showing HER entries (green) and earlier phases of work	3
Figure 2. Feature plan with site outline (red)	6
Figure 3. Sections	10

List of Tables

Table 1. Environmental results	12
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List of Plates

Plate 1. Hearth 0026	8
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List of Appendices











Appendix 1.	Brief and specification
Appendix 2.	Context list
Appendix 3.	OASIS form

Summary

A programme of monitoring was carried out in March and April 2013, at Worlington Quarry in Suffolk. This followed on from several other phases of monitoring at the quarry that had revealed a low level of isolated features consisting of pits, a hearth and a ditch, all thought to be prehistoric. The current stage revealed the presence of eleven pits, one possible posthole/pit, and a hearth. These produced no finds and environmental samples from the hearth and two pits contained limited plant macrofossil evidence.

Drawing Conventions

Plans

- Limit of Excavation 
- Features 
- Break of Slope 
- Features - Conjectured 
- Natural Features 
- Sondages/Machine Strip 
- Intrusion/Truncation 
- Illustrated Section  S.14
- Cut Number 
- Archaeological Features 

Sections

- Limit of Excavation 
- Cut 
- Modern Cut 
- Cut - Conjectured 
- Deposit Horizon 
- Deposit Horizon - Conjectured 
- Intrusion/Truncation 
- Top of Natural 
- Top Surface 
- Break in Section 
- Cut Number 
- Deposit Number 0007
- Ordnance Datum $\frac{18.45\text{m OD}}{\times}$

1. Introduction

A monitoring was carried out at Worlington Quarry, Worlington (Fig. 1) during topsoil stripping in advance of an ongoing programme of sand and gravel extraction (Planning Application F/2004/0227/CCA) by the client Frimstone Ltd. The work was carried out from 28th March to 16th April 2012 and was undertaken in accordance with a Brief and Specification produced by Edward Martin (Suffolk County Council Archaeology Service, Conservation Team, Appendix 1).

Worlington Quarry is located in West Suffolk, just north of Red Lodge and south of Worlington village, fewer than three miles south-west from Mildenhall. Further phases of monitoring have occurred in the quarry in 2009, 2010, in April-May and September-October, 2011 and in 2012 (Fig. 1).

2. Geology and topography

The site's geology is made up of superficial river terrace deposits overlying Holywell nodular chalk formation and new pit chalk formation bedrock (BGS, 2013). On site this comprised mid yellow-orange sand and gravel deposits, beneath which is chalk bedrock, although this was not uncovered during this phase of topsoil stripping.

The site was close to the 15m contour and was fairly level, with a slope down from the west to the east corner. The highest point at the west corner was measured at 16.1m above the Ordnance Datum, with the lowest point in the east corner recorded at 15.1m.

3. Archaeology and historical background

The development area has been previously identified as having the potential for widespread Bronze Age occupation. A Bronze Age barrow (WGN 003) lies to the east of site WGN 034 and a further four barrows (BTM 012, BTM 013, BTM 027 and BTM 028) are recorded within the Historic Environment Record (HER) 1.2 km to the east on Chalk Hill. Saxon burials (WGN 013) and a possible Roman villa (BTM 026) have also been recorded on this raised area. The evaluation of Phases 1 and 2 of the quarry (WGN 028), carried out in 2004, identified a scatter of pits dating to the Bronze and Iron Age (Fig. 1 and Everett, 2004). Site WGN 032, lying immediately to the north-west of site WGN 034, was evaluated in early 2008 and encountered no archaeological remains.

The Phase 3 extraction area had been evaluated in 2008 (WGN 034, Fig. 1) and three stages of monitoring followed this in 2009, 2010 and 2011. The evaluation revealed sparse archaeological remains of probable prehistoric date and a small quantity of later Bronze Age flints. The findings indicated an absence of settlement-related activity and suggested that use of the land was low-level and infrequent (Muldowney and Muldowney, 2008). The 2009 monitoring revealed a single, shallow and undated pit, whilst the 2010 monitoring uncovered a small Late Neolithic/Early Bronze Age flint-working hollow with sherds of three separate Beaker vessels and a large quantity of worked and burnt flints (Muldowney, 2009 and 2010). The first phase of monitoring in 2011 revealed evidence of two pits and one hearth, believed to be of later prehistoric date, which between them contained two struck flints, several heated flints and charcoal. Four large modern pits were also recorded and partially excavated and are believed to relate to farming or quarrying activities (Brooks, 2011). Further monitoring in 2011 recorded two small possible pits that were similar to those from the earlier monitoring, and an undated ditch, as well as further spreads of natural geological spreads and some modern quarrying or farming disturbances (Brooks, 2012a). In 2012 monitoring took place immediately to the south-east of the current site. This revealed two possible pits or tree root throws, which were undated (Brooks, 2012b).

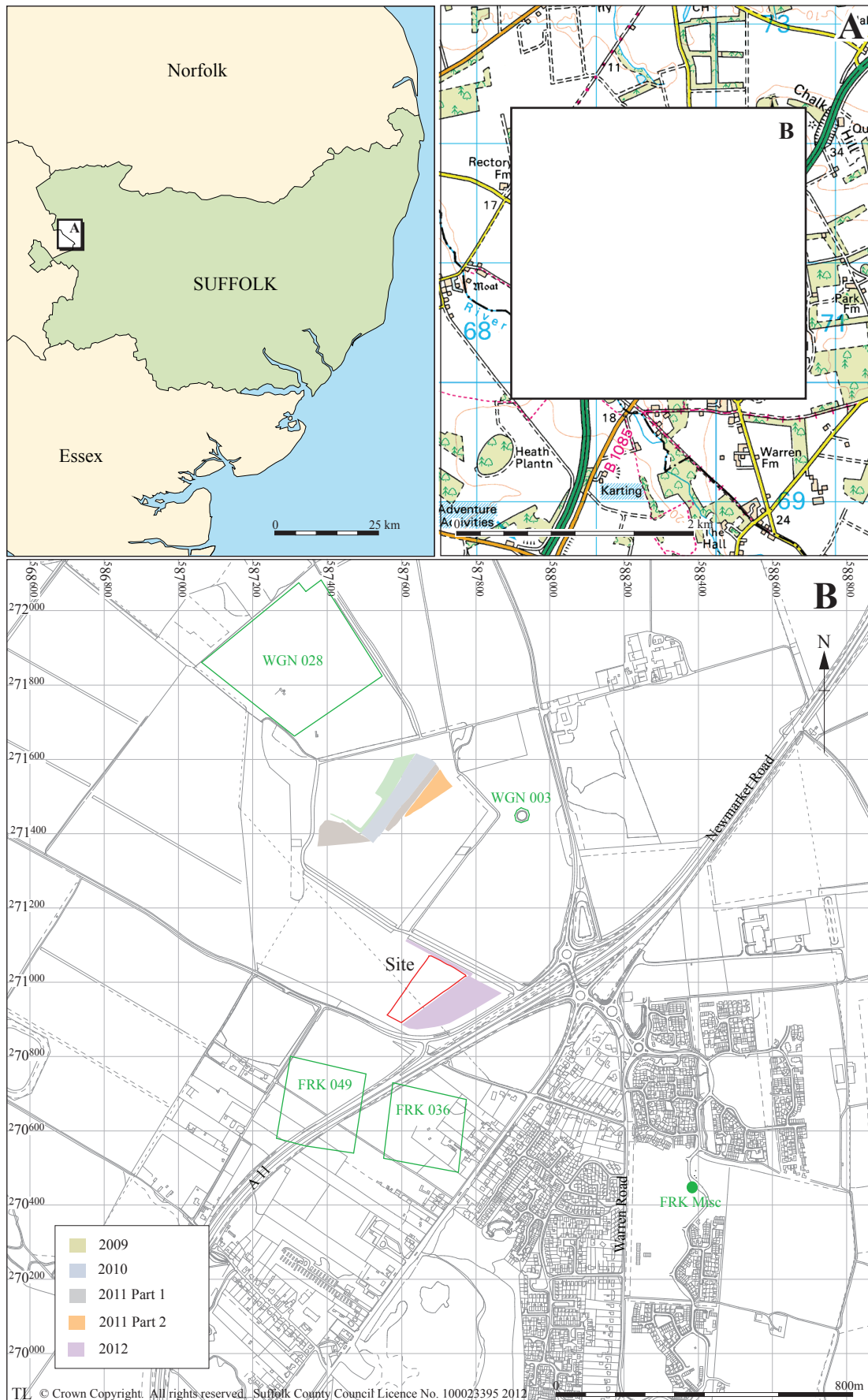


Figure 1. Location of site (red) showing HER entries (green) and earlier phases of work

4. Methodology

A roughly rectangular area was stripped of topsoil to the underlying geology using a machine equipped with a toothless bucket (Fig. 1). Any features were excavated by hand and recorded in a single continuous numbering system, with records beginning from 0020 to avoid any overlap with previous phases of work (Appendix 2). The pits were 50% excavated, whilst the hearth was 100% excavated. They were drawn in section at a scale of 1:20 and in plan at 1:20 or 1:50. Environmental bulk samples were taken from three features in order to assess the function of the features and whether they contained material suitable for radiocarbon dating. The samples were numbered from 5-7. Several tree root throws were partially excavated, until it was established that they were natural features at which point they were issued a single context number. Digital photographs were taken of the features and the site at 4288 x 2848 pixel resolution.

The boundaries of the site and the location of features were plotted using a Leica GPS1200 Rover system. This was set to be accurate to under 0.05m. Processing of these results was carried out off-site using a combination of LisCAD, MapInfo and AutoCAD 2009.

Site data has been input onto the MS Access database and recorded using the County Historic Environment Record code WGN 047. An OASIS form has been completed for the project (reference no. suffolkc1-148404, Appendix 3) and a digital copy of the report submitted for inclusion on the Archaeology Data Service database (<http://ads.ahds.ac.uk/catalogue/library/greylit>). The site archive is kept in the main store of Suffolk County Council Archaeological Service at Bury St Edmunds under HER code WGN 047.

5. Results

5.1 Introduction

Initially c.0.45m of dark brownish-grey silty-sand topsoil was stripped off the site. This uncovered the mottled pale yellow and mid-dark orange sand deposits, mixed with high quantities of small rounded to angular stones that made up the superficial geology of the site. Twelve pits were cut into this, along with a hearth, a possible posthole and three irregular, crescent-shaped tree root hollows, recorded as 0045-0047 (Figs. 2 and 3). All of the pits and the posthole had very similar fills, whilst the hearth contained *in-situ* burnt material. None of the features produced any finds. Modern patches of topsoil, as well as natural spreads of slightly darker sandy geology were also present across the site. No subsoil B-horizons were visible in the stratigraphy, which is probably a result of the site's former use as a ploughed field.

5.2 Features

Rounded cuts

Pit 0020

Pit 0020 was oval in plan, with slightly variable concave sides and a slightly concave base. It measured 1.53m x 1.35m x 0.34m deep and contained a single fill of dark brown silty-sand, mottled with orange sand, with occasional stones, recorded as 0021.

Pits 0027 and 0029

Pit 0027, which was cut by pit 0029, appeared to be round in plan, with moderately steep concave sides and a concave base. It measured 0.5m x >0.4m x 0.12m deep and contained fill 0028, which was recorded as dark brown silty-sand, mottled with orange sand with frequent small stones throughout. To the north of cut 0027, pit 0029 was similar but slightly larger, measuring 0.7m x 0.66m x 0.22m deep, but also had moderately steep concave sides and a concave base. Fill 0030 was identical to 0028, except that it contained fewer stones. It is possible that these cuts made up one pit cut with a slightly irregular shape in plan and section.

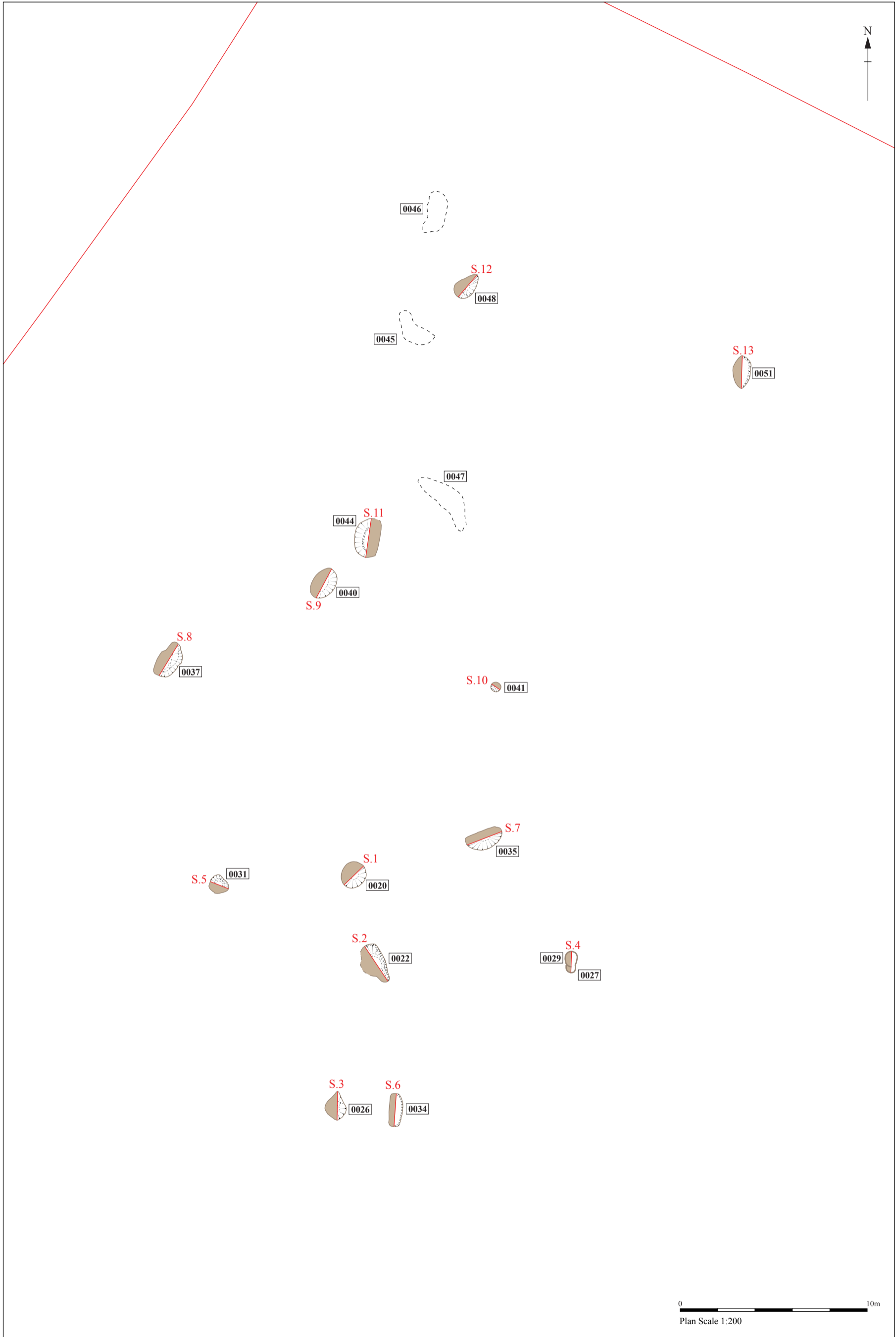


Figure 2. Feature plan with site outline (red)

Pit 0031

Pit 0031 was roughly circular in plan, with stepped sides that curved to a concave base. It measured 1.05m x c.1m x 0.28m deep and contained a fill of mid-dark brownish-grey silty-sand, with common small stones, recorded as fill 0032. It was partially root disturbed.

Pit 0040

In plan pit 0040 was oval, aligned roughly north-east to south-west, with steep concave sides and a flattish-slightly concave base. It measured 1.9m x 1.2m x 0.46m deep and was filled with mid greyish-brown sandy-silt, containing occasional to moderate amounts of small and medium stones, and occasional flecks of charcoal.

Pit/posthole 0041

This cut was round in plan, with gently sloping concave sides and a slightly concave base. It was quite shallow, measuring 0.52m x 0.52m x 0.11m deep and was filled with mid brown and orange mottled silty-sand 0042, with occasional stones and some bioturbation throughout.

Pit 0048

Pit 0048 had a slightly irregular oval cut in plan, aligned south-west to north-east. In section the cut was more irregular, being shallower towards the south-west and north-east edges, stepping down in the centre of the cut and measuring 1.56m x 1m x 0.42m deep. The cut contained two fills, the uppermost of which was recorded as 0049 and consisted of mid brown silty-sand, mottled with orange silty-sand and occasional stones. It was also root disturbed. The basal fill, 0052, was mid brown silty-sand, mottled with orange silty-sand. It was very similar to upper fill 0049, but contained frequent stone inclusions throughout. The pit was close to two tree root hollows, but was felt to be more regular in cut than these.

Pit 0051

Pit 0051 was roughly oval in plan, aligned north to south, with moderately sloping concave sides and a flat-slightly concave base. Its single fill consisted of mid to dark

greyish-brown sandy-silt, containing occasional stones, recorded as 0051. The cut measured 1.75m x 0.95m x 0.36m deep.

Irregular and sub-rectangular cuts

Hearth 0026

The hearth was roughly oval in plan, aligned north-south, with shallow-sloping convex and slightly irregular sides and a concave base, measuring 1.7m x 1.1m x 0.2m deep. The fill, 0025, was dark grey to black silty-sand, containing moderate amounts of small to medium sized rounded to sub-angular flints (some heat-altered), lenses of ash and charcoal, and lenses of pink/red fire-heated sand. During excavation of the western half of the feature, 0.05m thick lenses of yellow unheated sand were seen between the lenses of ash/charcoal/heated sand. These were interpreted as indicating several phases of burning, with slight slumping of material or accumulation of wind-blown sand occurring in between. Sample 5 was taken from the hearth, producing highly comminuted charcoal fragments.



Plate 1. Hearth 0026, 1m scale, facing west

Pit 0022

Pit 0022 was an irregular sub-rectangular shape in plan that was difficult to make out due to slightly diffuse edges in the gravel. In profile its sides were irregular, being stepped in places and often quite steep, with a slightly concave base. The cut measured 2.2m x 1.45m x 0.6m deep and contained a dark brownish-grey silty-sand basal fill

0023, with stones and occasional charcoal flecks from which sample 6 was taken. This contained no plant macrofossils, but did produce comminuted charcoal fragments. Above this, fill 0024 was a slightly paler mid brown silty-sand with occasional charcoal flecks and common small stones.

Pit 0034

This pit was sub-rectangular in plan, aligned north-west to south-east measuring 1.7m x 0.75m x 0.34m deep, with steep, near-vertical sides, a concave break of slope and a flattish base. It was filled with 0033, mid to light greyish-brown sandy-silt, containing occasional stones, concentrated mainly towards the base of the fill, as well as occasional flecks of charcoal.

Pit 0035

In plan pit 0035 was sub-rectangular/slightly oval, aligned south-west to north-east, with moderately steep concave sides and a slightly concave base, measuring 2m x 1m x 0.4m deep. The fill was mid brown silty-sand, partially mottled with orange silty-sand and containing occasional stones. There was also some bioturbation of the fill.

Pit 0037

Pit 0037 was roughly oval/sub-rectangular in plan, aligned north-east to south-west. It had 45°-55° sloping sides, which were slightly concave, with a concave base and it measured 1.98m x 1.55m x 0.44m deep. The single fill, recorded as 0038, was mid-dark brownish-grey silty-sand, mottled with orange sand patches and dark grey root disturbances. It contained common small to medium stones.

Pit 0044

Pit 0044 was a roughly oval/sub-rectangular cut in plan, aligned north to south, with steep convex sides and an uneven, slightly concave base, measuring in total 2.12m x 0.54m x 0.68m deep. Its single fill, 0043, was mid-light greyish-brown sandy-silt, mottled with patches of light yellowish-orange silty-sand, containing occasional of small and medium sized stones, concentrated towards the sides of the pit cut, and occasional very small fragments of charcoal. Sample 7 from this fill produced macrofossils of non-cultivated plants, comprising Goosefoot and Clover.

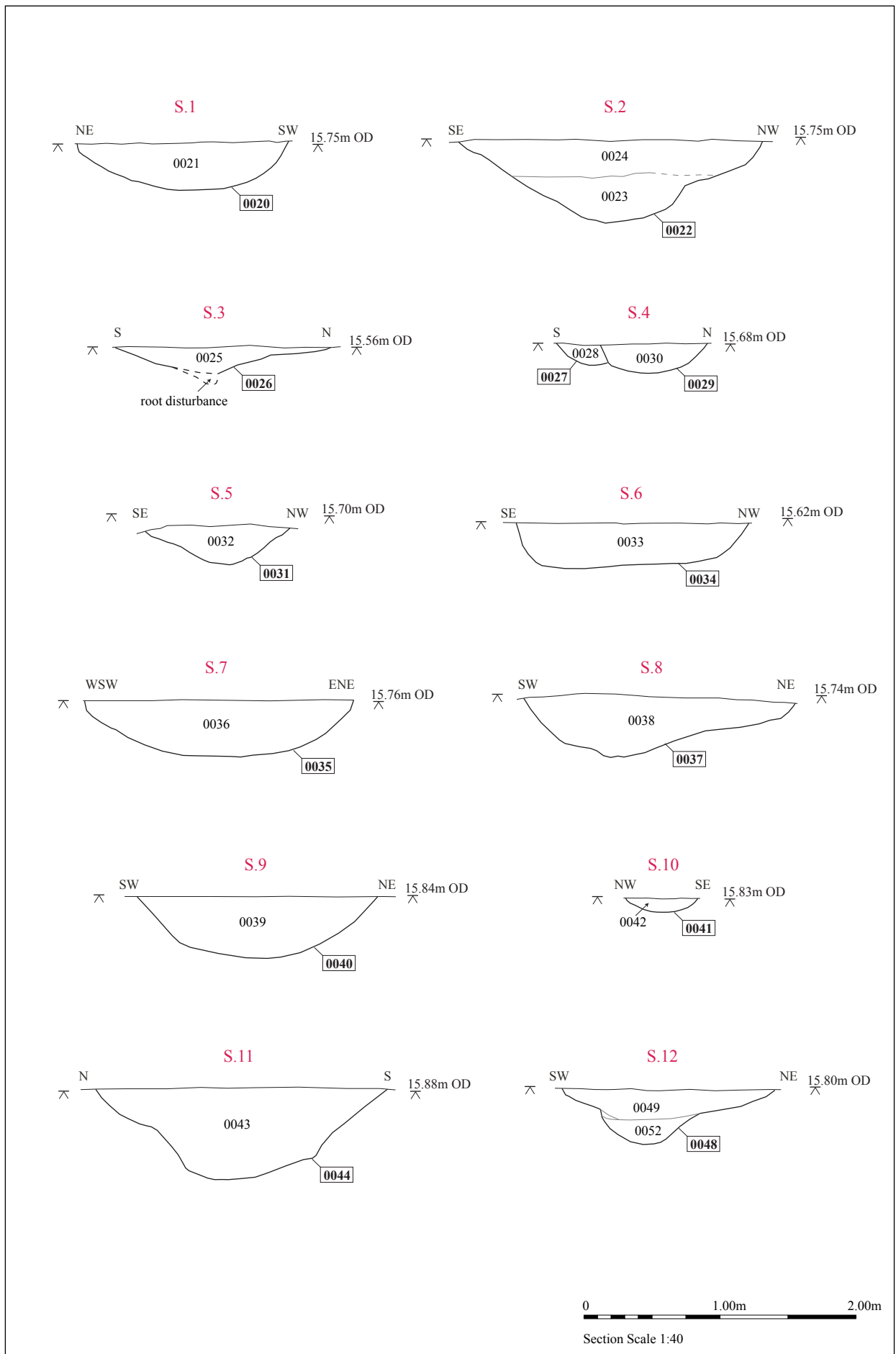


Figure 3. Sections

6. Environmental evidence

Anna West

6.1 Introduction and methodology

Three environmental bulk samples were taken from archaeological features consisting of pits and a hearth. The samples were all processed in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of the archaeological investigations.

The samples were processed using manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. The dried flots were scanned using a binocular microscope at x16 magnification and the presence of any plant remains or artefacts are noted on Table 1.

The non-floating residues were collected in a 1mm mesh and sorted when dry. All artefacts/ecofacts were retained.

6.2 Quantification

For the purpose of this assessment, items such as seeds, cereal grains and small animal bones have been scanned and recorded qualitatively according to the following categories:

= 1-10, ## = 11-50, ### = 51+ specimens

Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance:

+ = rare, ++ = moderate, +++ = abundant

Sample No	Context No	Cut No	Flot vol (ml)	% Flot scanned	Flot Contents
5	0025	0026	300	100	Charcoal fragments +++, Snails +, Fibrous rootlets ++
6	0023	0022	100	100	Charcoal fragments +++, Fibrous rootlets +++
7	0043	0044	40	100	Un-charred seeds #, Fibrous roots/stems +++

Table 1. Environmental results

6.3 Results

In general the preservation of plant material within these samples was poor. Modern fibrous roots were present within all of the flots and made up the majority of the material in each.

No plant macrofossils were observed within the flot remains, except for within Sample 7, fill 0043 of Pit 0044, which contained three un-charred Clover (*Trifolium* sp.) seeds and a single Goosefoot (*Chenopodium* sp.) specimen.

The only charred plant remains present were fragments of wood charcoal within Samples 5 and 6, although these were all highly comminuted. Within Sample 6 some of the fragments are identifiable as being from ring porous hardwoods so it may be possible in future to obtain radiocarbon dates from this material.

6.4 Conclusions and recommendations for further work

In general the samples were very poor in terms of identifiable material and it is not recommended that any further work is carried out on these current samples as they would add little information of value to the results of the fieldwork.

Although the current assemblage is very limited, it is suggested that if further interventions are planned on this site that 40 litre bulk samples should be taken from any sealed and dated archaeological contexts in order to provide data regarding the utilization of plant resources and the surrounding environment.

7. Discussion and recommendations

This phase of works appears to have uncovered similar remains to those recorded in the first phase of monitoring in 2011, as well as in the evaluation works that were first carried out across the quarry (which uncovered Neolithic or Early Bronze Age features). These latest pits therefore may also potentially be prehistoric, containing burnt material which could be associated with occupation, or potentially industry as indicated by another phase of monitoring (Brooks, 2012a). Whilst the activity in this period was probably not intensive, it hints at human settlement in the wider area, perhaps with a focus towards the sites to the east and the barrows. The features found within this stage of monitoring tend to indicate a more concentrated phase of activity than seen in the previous phases though. Their function is unclear, but they do suggest occupation within the vicinity, perhaps with pits being dug for the deposition of some charcoal, as well as other organic refuse that has subsequently not survived in the acidic soil conditions.

The nature of the archaeology encountered on this site is still somewhat unclear at the moment, with evidence indicating localised hearths and possible occupation (as well as use of flint tools in earlier phases of work). Any further mineral extraction phases in the quarry and work within the wider area may provide more evidence on the nature and extent of the prehistoric activity. No dating evidence was retrieved from the pits or hearth, though the environmental samples did produce an assemblage of charcoal that may be suitable for radiocarbon dating.

8. Archive deposition

Paper archive: SCCAS Bury St Edmunds

Digital archive: SCCAS R:\Environmental Protection\Conservation\Archaeology\
Archive\Worlington\WGN 047 Quarry monitoring 2013

Digital photographic archive: SCCAS R:\Environmental Protection\Conservation\
Archaeology\Catalogues\Photos\HTA-HTZ\HTA 95-99 and HTB 1-16

Environmental archive: SCCAS Bury St Edmunds

9. Acknowledgements

The fieldwork was carried out by Rob Brooks, Preston Boyles, Phil Camps, Simon Picard and Simon Cass and directed by Rob Brooks.

Project management was undertaken by David Gill who also provided advice during the production of the report.

Post-excavation management was provided by Richenda Goffin, with the specialist environmental report produced by Anna West.

The report illustrations were created by Gemma Adams and the report was edited by Richenda Goffin.

10. Bibliography

BGS, 2013, Information obtained from <http://www.bgs.ac.uk/products/digitalmaps/> and reproduced with the permission of the British Geological Survey ©NERC. All rights Reserved.

Brooks, R., 2011, Worlington Quarry, 2011 Phase, Worlington WGN 038, SCCAS Report No. 2011/068, Bury St Edmunds: SCCAS

Brooks, R., 2012a, Worlington Quarry, 2011 Phase - Part 2, Worlington, WGN 038, SCCAS Report No. 2012/011, Bury St Edmunds: SCCAS

Brooks, R., 2012b, *Worlington Quarry, 2012 Phase, Worlington, WGN 047, Archaeological Monitoring Report*, SCCAS Report No. 2012/048, Bury St Edmunds: SCCAS

Everett, L., 2004, *Phases 1 & 2, Bay Farm, Worlington. WGN 028*, SCCAS Report No. 2004/147, Ipswich: SCCAS

Muldowney, E. and Muldowney, M., 2008, Worlington Quarry: Completion of Phase 3, Part of Phase 5 and the entirety of Phase 7, Bay Farm, Worlington. WGN 034 & WGN 035. SCCAS Report No. 2008/222, Bury St Edmunds: SCCAS

Muldowney, E., 2009, *Worlington Quarry, Worlington WGN 038*, 2009 Phase, SCCAS Report No. 2009/231, Bury St Edmunds: SCCAS

Muldowney, M., 2010, *Worlington Quarry, Worlington WGN 038*, 2010 Phase, SCCAS Report No. 2010/162, Bury St Edmunds: SCCAS

Appendix 1. Brief and specification

SUFFOLK COUNTY COUNCIL ARCHAEOLOGICAL SERVICE CONSERVATION TEAM

Brief and Specification for Archaeological Monitoring (continuous observation of soil-stripping operations)

MINERAL EXTRACTION SITE, BAY FARM, WORLINGTON Phases 3, 5 and 7

Although this document sets out the work that will need to be done by an archaeological contractor, the developer should be aware that some of its provisions may impinge upon the general working practices of the development and may have financial implications. The commissioning body may also have Health & Safety responsibilities, see para 1.7

1. Background

- 1.1 Planning permission has been given for mineral extraction to take place on the above site (F/2004/0227/CCA).
- 1.2 The area lies adjacent to a known archaeological site: a Neolithic and Bronze Age burial mound called Swale's Tumulus (Suffolk Historic Environment Record no. WGN 003).
- 1.3 A desk-top assessment of the area was carried out by the Archaeological Service of Suffolk County Council in 2003 (report no. 2003/3) followed by a field evaluation in 2004 (report no. 2004/147). This demonstrated that there was a scattered presence of features of Bronze Age and Iron Age date. Subsequent evaluations (reports 2008/93 and 2008/222) have shown a low level of prehistoric activity. The scattered nature of the prehistoric features means that activity areas could be missed by the evaluation trenches and there is therefore a need to monitor the topsoil-stripping operations.
- 1.4 As the next stage in complying with the planning condition the developer has requested a brief and specification for the archaeological monitoring of the soil-stripping operations.
- 1.5 There is a presumption that the archaeological work specified for the whole area will be undertaken by the same body, whether the fieldwork takes place in phases or not. There is similarly a presumption that further analysis and post-excavation work to final report stage will be carried through by the excavating body. Any variation from this principle would require justification.

- 1.6 All arrangements for field excavation of the site, the timing of the work, and access to the site, are to be negotiated with the commissioning body.
- 1.7 Before any archaeological site work can commence it is the responsibility of the developer to provide the archaeological contractor with either the contaminated land report for the site or a written statement that there is no contamination.

2. **Brief for the Archaeological Project**

- 2.1 In the area defined on the attached map, archaeological monitoring, as specified in Section 3, is to be carried out prior to any extraction of minerals or other development works. With prior agreement, this work may be carried out phased sections.
- 2.2 The objective of the monitoring will be :
 - a) to enable the identification and evaluation of potentially significant archaeological features or deposits (see Section 3);
 - b) to identify, excavate and record features and deposits of lesser archaeological significance (see Section 4).
- 2.3 The academic objective will centre upon the high potential for this site to produce evidence for prehistoric settlement evidence.
- 2.4 This project will be carried through in a manner broadly consistent with English Heritage's *Management of Archaeological Projects*, 1991 (MAP2). Excavation is to be followed by the preparation of a full archive, and an assessment of potential for analysis. Analysis and final report preparation will follow assessment and will be the subject of a further brief and updated project design.
- 2.5 In accordance with the standards and guidance produced by the Institute of Field Archaeologists this brief should not be considered sufficient to enable the total execution of the project. A Project Design or Written Scheme of Investigation (PD/WSI) based upon this brief and the accompanying outline specification of minimum requirements, is an essential requirement. This must be submitted by the developers, or their agent, to the Conservation Team of the Archaeological Service of Suffolk County Council (Shire Hall, Bury St Edmunds IP33 2AR; telephone/fax: 01284 352443) for approval. The work must not commence until this office has approved both the archaeological contractor as suitable to undertake the work, and the PD/WSI as satisfactory. The PD/WSI will *provide the basis for measurable standards* and will be used to establish whether the requirements of the planning condition will be adequately met; an important aspect of the PD/WSI will be an assessment of the project in relation to the Regional Research Framework (*East Anglian Archaeology* Occasional Papers 3, 1997, 'Research and Archaeology: A Framework for the Eastern Counties, 1. resource assessment', and 8, 2000,

'Research and Archaeology: A Framework for the Eastern Counties, 2. research agenda and strategy').

- 2.6 The developer or his archaeologist will give the Conservation Team of Suffolk County Council's Archaeological Service five working days notice of the commencement of ground works on the site, in order that the work of the archaeological contractor may be monitored. The method and form of development will also be monitored to ensure that it conforms to previously agreed locations and techniques upon which this brief is based.

3. **Brief for Archaeological Monitoring of Topsoil-Stripping**

- 3.1 To carry out the monitoring work the developer will appoint an archaeologist (the archaeological contractor) who must be approved by the Conservation Team of Suffolk County Council's Archaeological Service (SCCAS) - see 2.5 above.
- 3.2 The developer will give the appointed archaeological contractor three weeks notice (or any other mutually agreed period of notice) of the commencement of site works.
- 3.3 The topsoil-stripping operations (by the developer or the archaeological contractor) will be carried out using a back-acting machine with a toothless bucket. The depth and method of stripping will need to be agreed in advance with the Conservation Team of SCCAS. Machinery will not cross the stripped area until any possible archaeology has been assessed and fully recorded. Any variation from this will need to be agreed with the Conservation Team.
- 3.4 As areas are stripped, they will be assessed for further archaeological work. The options will include:
1. A need for further stripping of subsoil layers such hill-wash or other masking deposits.
 2. Evaluation of potentially significant archaeological features or deposits. The scope of this work is to be agreed between the Conservation Team of SCCAS and the developer (or his consultant).
N.B. Further archaeological work arising from this evaluation may require a new Brief and Specification from the Conservation Team of SCCAS.
 3. Small-scale archaeological excavation to clear features and deposits of lesser significance (e.g. isolated features or small clusters of features).
The minimum standards for this work are set out below in Section 4.
 4. Consideration by the developer of a redesign of the development to avoid major archaeological features.

The decision regarding further work will need to be approved by the Conservation Team of SCCAS.

4. **Specification for Small-scale Archaeological Excavation** (See Section 3.4.3)

The excavation methodology is to be agreed in detail before the project commences, certain minimum criteria will be required

- 4.1 Fully excavate all features that are, or could be interpreted as, structural. Post-holes, and pits that may be interpreted as post-holes, must be examined in section and then fully excavated. Fabricated surfaces within the excavation area (e.g. yards & floors) must be fully exposed and cleaned. Any variation from this practice will need to be agreed with the Conservation Team of SCCAS.
- 4.2 All other features must be sufficiently examined to establish, where possible, their date and function. For guidance:
 - a) A minimum of 50% of the fills of the general features is to be excavated. Note that it is likely that prehistoric features e.g. especially pits, are likely to require full excavation.
 - b) Between 10% and 20% of the fills of substantial linear features (ditches etc) are to be excavated, the samples must be representative of the available length of the feature and must take into account any variations in the shape or fill of the feature and any concentrations of artefacts.Any variations from these practices will need to be agreed with the Conservation Team of SCCAS.
- 4.3 Collect and prepare environmental samples (by sieving or flotation as appropriate). The Project Design must provide details of the sampling strategies for retrieving artefacts, biological remains (for palaeoenvironmental and palaeoeconomic investigations), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. Advice on the appropriateness of the proposed strategies will be sought from the English Heritage Regional Adviser for Archaeological Science (East of England). A guide to sampling archaeological deposits (Murphy and Wiltshire 1994) is available from the Conservation Team of SCCAS.
- 4.4 A finds recovery policy is to be agreed before the project commences and should form part of the Project Design. The use of a metal detector will form an essential part of the finds recovery strategy. The sieving of occupation levels and building fills will be expected.
- 4.5 All finds will be collected and processed. No discard policy will be considered until the whole body of finds has been evaluated.
- 4.6 All artefacts to be cleaned and processed concurrently with the excavation, so that the results can inform decision-making on the excavation.
- 4.7 Metal artefacts must be stored and managed in accordance with *UK Institute of Conservators Guidelines* and evaluated for significant dating and cultural implications before despatch to a conservation laboratory within 4 weeks of excavation.

- 4.8 Human remains are to be treated at all stages with care and respect, and are to be dealt with in accordance with the law. They must be recorded *in situ* and subsequently lifted, packed and marked to standards compatible with those described in the Institute of Field Archaeologists' Technical Paper 13 *Excavation and post-excavation treatment of Cremated and Inhumed Human Remains*, by McKinley & Roberts. Proposals for the final disposition of remains following study and analysis will be required in the Project Design.
- 4.9 Plans of the archaeological features on the site should normally be drawn at 1:20 or 1:50, depending on the complexity of the data to be recorded. Sections should be drawn at 1:10 or 1:20 again depending on the complexity to be recorded. Any variations from this must be agreed with the Conservation Team of SCCAS.
- 4.10 A photographic record of the work is to be made, consisting of both monochrome photographs and colour transparencies.
- 4.11 Excavation record keeping is to be consistent with the requirements of Suffolk County Council's Sites and Monuments Record (SMR) and be compatible with its archive. Methods must be agreed with the Conservation Team of SCCAS.

5. **General Management**

- 5.1 A timetable for all stages of the project must be agreed before the first stage of work commences.
- 5.2 Monitoring of the archaeological work will be undertaken by the Conservation Team of SCCAS.
Where projects require an unusual amount of monitoring, the Conservation Team reserve the right to make an 'at-cost' charge for monitoring (currently at a daily rate of £150). A decision on the monitoring required will be made by the Conservation Team on submission of the accepted Project Design and will be reviewed during the course of the project. Any decision to charge for monitoring will be notified to the developer or his agent(s).
- 5.3 The composition of the project staff must be detailed and agreed (this is to include any subcontractors). For the site director and other staff likely to have a major responsibility for the post-excavation processing of this site there must be a statement of their responsibilities for post-excavation work on other archaeological sites.
- 5.4 A general Health and Safety Policy must be provided, with a detailed risk assessment and management strategy for this particular site.
- 5.5 The Project Design must include proposed security measures to protect the site and both excavated and unexcavated finds from vandalism and theft.

- 5.6 Provision for the reinstatement of the ground and the filling of dangerous holes must be detailed in the Project Design.
- 5.7 No initial survey to detect public utility or other services has taken place. The responsibility for this rests with the archaeological contractor.
- 5.8 The Institute of Field Archaeologists' *Standard and Guidance for Archaeological Watching Briefs* and for *Excavations* should be used for additional guidance in the execution of the project and in the drawing up of the report.

6. Archive Requirements

- 6.1 Within four weeks of the end of field-work a timetable for post-excavation work must be produced. Following this a written statement of progress on post-excavation work whether archive, assessment, analysis or final report writing will be required at three monthly intervals.
- 6.2 An archive of all records and finds is to be prepared consistent with the principles of English Heritage's *Management of Archaeological Projects*, 1991 (*MAP2*), particularly Appendix 3. However, the detail of the archive is to be fuller than that implied in *MAP2* Appendix 3.2.1. The archive is to be sufficiently detailed to allow comprehension and further interpretation of the site should the project not proceed to detailed analysis and final report preparation. It must be adequate to perform the function of a final archive for lodgement in the County SMR or museum.
- 6.3 A clear statement of the form, intended content, and standards of the archive is to be submitted for approval as an essential requirement of the Project Design (see 2.5).
- 6.4 The site archive quoted at *MAP2* Appendix 3, must satisfy the standard set by the *Guideline for the preparation of site archives and assessments of all finds other than fired clay vessels* of the Roman Finds Group and the Finds Research Group AD700-1700 (1993).
- 6.5 Pottery should be recorded and archived to a standard comparable with 6.3 above, i.e. *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication*, Prehistoric Ceramics Research Group Occasional Paper 1 (1991, rev 1997), the *Guidelines for the archiving of Roman Pottery*, Study Group for Roman Pottery (ed. M G Darling 1994) and the *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*, Medieval Pottery Research Group Occasional Paper 2 (2001).
- 6.6 All coins must be identified and listed as a minimum archive requirement.
- 6.7 The data recording methods and conventions used must be consistent with, and approved by, the County SMR. All record drawings of excavated

evidence are to be presented in drawn up form, with overall site plans. All records must be on an archivally stable and suitable base.

- 6.8 A complete copy of the site record archive must be deposited with the County SMR within twelve months of the completion of fieldwork. It will then become publicly accessible.
- 6.9 Finds must be appropriately conserved and stored in accordance with the UK Institute of Conservators Guidelines.
- 6.10 The finds, as an indissoluble part of the full site archive, should be deposited with the County SMR or a museum in Suffolk which satisfies the requirements of the Museum and Galleries Commission. If this is not achievable for all or parts of the finds archive, then provision must be made for additional recording (e.g. photography, illustration and analysis) as appropriate. If the County SMR is the repository for finds there will be a charge made for storage, and it is presumed that this will also be true for storage of the archive in a museum.
A statement regarding the final destination of the finds must be included in the Project Design.
- 6.11 Where positive conclusions are drawn from a project, a summary report in the established format, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute for Archaeology* must be prepared and included in the project report, or submitted to the Conservation Team by the end of the calendar year in which the evaluation work takes place, whichever is the sooner.

7. Report Requirements

- 7.1 A report on the fieldwork and archive must be provided consistent with the principle of *MAP2*, particularly Appendix 4. The report must be integrated with the archive.
- 7.2 The objective account of the archaeological evidence must be clearly distinguished from its archaeological interpretation.
- 7.3 An important element of the report will be a description of the methodology.
- 7.4 Reports on specific areas of specialist study must include sufficient detail to permit assessment of potential for analysis, including tabulation of data by context, and must include non-technical summaries.
- 7.5 The report will give an opinion as to the potential and necessity for further analysis of the excavation data beyond the archive stage, and the suggested requirement for publication; it will refer to the Regional Research Framework (see above, 2.6). Further analysis will not be embarked upon until the primary fieldwork results are assessed and the need for further work is established.

Analysis and publication can be neither developed in detail nor costed in detail until this brief and specification is satisfied.

- 7.6 The assessment report must be presented within six months of the completion of fieldwork unless other arrangements are negotiated with the project sponsor and the Conservation Team of SCCAS.
- 7.7 At the start of work (immediately before fieldwork commences) an OASIS online record <http://ads.ahds.ac.uk/project/oasis/> must be initiated and key fields completed on Details, Location and Creators forms.
- 7.8 All parts of the OASIS online form must be completed for submission to the SMR. This should include an uploaded pdf version of the entire report (a paper copy should also be included with the archive).

Specification by: Edward Martin

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Archaeological Service Conservation Team
Environment and Transport Department
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Suffolk IP33 2AR

Tel: 01284 352442

Date: 24th April 2009

Reference: SpecMonWorlington4.doc

This brief and specification remains valid for 12 months from the above date. If work is not carried out in full within that time this document will lapse; the authority should be notified and a revised brief and specification may be issued.

If the work defined by this brief forms a part of a programme of archaeological work required by a Planning Condition, the results must be considered by the Conservation Team of the Archaeological Service of Suffolk County Council, who have the responsibility for advising the appropriate Planning Authority.

Appendix 2. Context list

Context No	Feature No	Grid Sq.	Feature Type	Description	Length	Width	Depth	Small Finds	Group No	Phase	Spotdate
0020	0020		Pit Cut	Oval/almost circular cut in plan, aligned SW-NE, with concave sides and base. Pit cut.	1.53	1.35	0.34				
0021	0020		Pit Fill	Dark brown silty-sand, mottled with orange sand, all of a fairly loose compaction. Contained occasional small broken and rounded stones (5-15mm). Pit fill. Similar to others on site.			0.34				
0022	0022		Pit Cut	Irregular shape in plan, which is somewhat difficult to make out due to slightly diffuse edges in the gravel,. Irregular sides in profile - stepped in places and often quite steep, with curving break of slope to the slightly concave base. Pit cut. Similar size and shape to others on site.	2.2	1.45	0.6				
0023	0022		Pit Fill	Dark brownish-grey silty-sand of a friable to firm compaction, with small to medium angular to rounded stones and occasional charcoal flecks. Clear horizon clarity with natural. Basal pit fill.			0.36				
0024	0022		Pit Fill	Mid brown silty-sand of a friable to firm compaction, with occasional charcoal flecks and common small stones (rounded to angular). Diffuse horizon clarity with 0023. Upper pit fill.			0.26				
0025	0026		Hearth Fill	Dark greyish-black, friable silty-sand, containing moderate amounts of small medium sized rounded, sub-rounded and sub-angular flints, lenses of ash and charcoal, and lenses of pink/red fire-heated sand. There are also heat-affected flints in the material. During excavation of the western half of the feature, thick (0.05m) lenses of yellow, unheated sand were seen between the lenses of ash/charcoal/heated sand. Ash, charcoal and heated sand suggest an in-situ hearth? The lenses of unheated, loose sand between some of the lenses of heated sand, ash and charcoal might show breaks in the use of the hearth, and also that the hearth was re-used several times, with enough time elapsing for the wind-blown (unheated) sand lenses to accumulate in the hearth.							
0026	0026		Hearth Cut	Generally oval in plan, aligned roughly N-S, with shallow, convex sides down to a shallow, concave base. Contained fill 0025. Hearth? In-situ heated sand, ash/charcoal and burnt flint were present in the fill. Lenses of unheated sand in fill might indicate repeated use of the hearth.	1.7	1.1	0.2				
0027	0027		Pit Cut	Probably a round cut in plan, with concave sides and base in profile. Cut by pit 0029. Small pit cut, similar to, but cut by 0029.	0.5	0.5	0.12				
0028	0027		Pit Fill	Dark brown, mottled with orange, silty-sand. Common small sub-angular to angular stones throughout (5-15mm). The fill was of a loose compaction. Pit fill.			0.12				

Context No	Feature No	Grid Sq.	Feature Type	Description	Length	Width	Depth	Small Finds	Group No	Phase	Spotdate
0029	0029		Pit Cut	Round cut in plan, with concave sides and base. Cuts pit 0027. Pit cut that cuts pit 0027.	0.7	0.66	0.22				
0030	0029		Pit Fill	Dark brown silty-sand, slightly mottled with orange silty-sand. Contains very little stone. Of a loose compaction. Pit fill.			0.22				
0031	0031		Pit Cut	Roughly circular pit in plan, with stepped sides, curving to a concave base. Pit cut.	1.05	c.1	0.28				
0032	0031		Pit Fill	Mid-dark brownish-grey, firm silty-sand, with common small sub-angular to angular stones in places. Clear horizon clarity with natural. Single fill of cut. Some root disturbances. Pit fill.			0.28				
0033	0034		Pit Fill	Mid to light greyish-brown, friable sandy-silt, containing occasional small and medium sized rounded to sub-angular stones (flint and quartz), concentrated mainly towards the base of the fill. Occasional small flecks of charcoal. Fill of pit 0034. Silt-sand fill of pit, with stony interface with natural.							
0034	0034		Pit Cut	Sub-rectangular cut in plan, aligned NE-SE, with steep, near-vertical sides, and a concave break of slope down to a flattish base. Filled by 0033. Close to hearth 0026, just to the west of this pit. Pit?	1.7	0.75	0.34				
0035	0035		Pit Cut	Sub-rectangular/oval cut in plan, aligned SW-NE, with concave sides and base. Pit cut.	2	1	0.4				
0036	0035		Pit Fill	Mid brown silty-sand, mottled with orange silty-sand. Occasional stone inclusions. Lots of worm disturbance and of a loose compaction. Pit fill.			0.4				
0037	0037		Pit Cut	Roughly oval cut in plan, aligned NE-SW. 45°-55° sloping sides, which are slightly concave, with a curving break of slope to the concave base. Pit cut. Very similar to others in terms of shape and fill.	1.98	1.15	0.44				
0038	0037		Pit Fill	Mid-dark brownish-grey silty-sand, mottled with orange sand patches and dark grey root disturbances. Contained common small to medium rounded to angular stones and had a clear horizon clarity with the natural. Pit fill that is similar to others on site.			0.44				
0039	0040		Pit Fill	Mid greyish-brown, friable sandy-silt, containing occasional to moderate amounts of small and medium sized rounded to sub-angular stones, and occasional small flecks of charcoal. Fill of pit 0040.							
0040	0040		Pit Cut	Oval cut in plan, aligned roughly NE-SW, with steep concave sides, running down to a flattish/concave base. Pit - very similar to others on the site around it.	1.9	1.2	0.46				

Context No	Feature No	Grid Sq.	Feature Type	Description	Length	Width	Depth	Small Finds	Group No	Phase	Spotdate
0041	0041		Pit Cut	Round cut in plan, with concave sides and base in profile. Quite shallow. Pit cut.	0.52	0.52	0.11				
0042	0041		Pit Fill	Mid brown and orange mottled silty-sand of a fairly loose compaction, with occasional stone inclusions and some bioturbation throughout. Pit fill.			0.11				
0043	0044		Pit Fill	Mid to light greyish-brown friable sandy-silt, mottled with patches of light yellowish-orange silty-sand, containing occasional amounts of small and medium sized sub-rounded and sub-angular stones, concentrated towards the sides of the pit cut, and occasional very small fragments of charcoal. Single fill of pit 0044. Sand/silt fill, with stony patches near the edges perhaps representing slumping?							
0044	0044		Pit Cut	Roughly oval cut in plan, aligned N-S, with steep convex sides, down to an uneven, slightly concave base. Filled by 0043. Pit? Similar in size, shape, orientation and fill to others on the site.	2.12	0.54	0.68				
0045	0045		Tree root thro	Crescent shaped tree root throw. Partially excavated, then abandoned. Fill similar, but more mottled than other features on the site. Recorded by GPS. Tree root throw. Crescent shape in plan and irregular base indicate that it is natural. However, the similarity in fill to other features on site may indicate that they were contemporary.	2.3	0.9					
0046	0046		Tree root thro	Crescent shaped tree root throw. Partially excavated, then abandoned. Fill similar, but more mottled than other features on the site. Recorded by GPS. Tree root throw. Crescent shape in plan and irregular base indicate that it is natural. However, the similarity in fill to other features on site may indicate that they were contemporary.	2.3	1.1					
0047	0047		Tree root thro	Crescent shaped tree root throw. Partially excavated, then abandoned. Fill similar, but more mottled than other features on the site. Recorded by GPS. Tree root throw. Crescent shape in plan and irregular base indicate that it is natural. However, the similarity in fill to other features on site may indicate that they were contemporary.	3.7	1.25					
0048	0048		Pit Cut	Irregular oval cut in plan (tear-drop shape). Shallow towards SW and NE edges, then deeper, with steeper sides near the centre of the cut. Possible pit cut. Positioned close to some tree root throws, but this seems more regular.	1.56	1	0.42				
0049	0048		Pit Fill	Upper fill of pit. Mid brown silty-sand, mottled with orange silty-sand. Occasional stones inclusions. Lots of root disturbance and bioturbation. Pit fill, disturbed by modern rooting.							

Context No	Feature No	Grid Sq.	Feature Type	Description	Length	Width	Depth	Small Finds	Group No	Phase	Spotdate
0050	0051		Pit Fill	Mid to dark greyish-brown, friable sandy-silt, containing occasional small and medium sized rounded to sub-angular stones. Single fill of pit 0051. Sand/silt fill of pit 0051.							
0051	0051		Pit Cut	Roughly oval cut in plan, aligned N-S, with moderately sloping concave sides, down to a flattish/concave base. Single fill - 0050. Pit?	1.75	0.95	0.36				
0052	0048		Pit Fill	Basal fill of mid brown silty-sand, mottled with orange silty-sand. Very similar to upper fill 0049, but contained frequent angular and rounded stone inclusions throughout (5-25mm). Fill is of a fairly loose compaction. Pit fill, largely naturally-derived?							

Appendix 3. OASIS form

OASIS ID: suffolkc1-148404

Project details

Project name	WGN 047 Worlington Quarry Monitoring 2013
Short description of the project	A programme of monitoring was carried out in March and April 2013, at Worlington Quarry in Suffolk. This followed on from several other phases of monitoring at the quarry that had revealed a low level of isolated features consisting of pits, a hearth and a ditch, all thought to be prehistoric. The current stage revealed the presence of eleven pits, one possible posthole/pit, and a hearth. These produced no finds and environmental samples from the hearth and two pits contained limited plant macrofossil evidence.
Project dates	Start: 28-03-2013 End: 16-04-2013
Previous/future work	Yes / Yes
Any associated project reference codes	WGN 047 - HER event no.
Any associated project reference codes	WGN 047 - Sitecode
Any associated project reference codes	F/2004/0227/CCA - Planning Application No.
Any associated project reference codes	2013/053 - Contracting Unit No.
Type of project	Recording project
Monument type	PITS Uncertain
Monument type	POSTHOLE Uncertain
Monument type	HEARTH Uncertain
Significant Finds	NONE None
Investigation type	""Watching Brief""
Prompt	Direction from Local Planning Authority - PPS

Project location

Country	England
Site location	SUFFOLK FOREST HEATH WORLINGTON WGN 047 Worlington quarry monitoring, 2013 phase
Postcode	IP28

Study area 16440.00 Square metres
Site coordinates TL 6965 7098 52 0 52 18 36 N 000 29 20 E Point
Height OD / Depth Min: 15.00m Max: 16.00m

Project creators

Name of Organisation Suffolk County Council Archaeological Service
Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator Edward Martin
Project director/manager David Gill
Project supervisor Rob Brooks
Type of sponsor/funding body Quarry
Name of sponsor/funding body Frimstone Ltd

Project archives

Physical Archive recipient Suffolk County Council Archaeological Service
Physical Archive ID WGN 047
Physical Contents "Environmental"
Digital Archive recipient Suffolk County Council Archaeological Service
Digital Archive ID WGN 047
Digital Contents "Environmental","Survey","other"
Digital Media available "GIS","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient Suffolk County Council Archaeological Service
Paper Archive ID WGN 047
Paper Contents "Environmental","other"
Paper Media available "Plan","Report","Section","Survey "

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
Title Worlington Quarry, 2013 Phase, Worlington, WGN 047, Archaeological Monitoring Report
Author(s)/Editor(s) Brooks, R.
Other bibliographic SCCAS Report No. 2013/053

details

Date 2013
Issuer or publisher SCCAS
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