BRADWELL QUARRY FORMER RIVENHALL AIRFIELD RIVENHALL ESSEX

ARCHAEOLOGICAL OBSERVATION AND EXCAVATION INTERIM REPORT - PHASES 3.1 (EAST), 3.2, 3.3 AND 4.1



JANUARY 2008

BRADWELL QUARRY

FORMER RIVENHALL AIRFIELD

RIVENHALL

ESSEX

ARCHAEOLOGICAL OBSERVATION AND EXCAVATION INTERIM REPORT - PHASES 3.1 (EAST), 3.2, 3.3 AND 4.1

Prepared By: Trevor Ennis	Signature:
Position: Project Officer	Date:
Approved By: Patrick Allen	Signature:
Position: Project Manager	Date:

Document Ref.:	1773Rep
Report Issue Date:	January 2008
Circulation:	Blackwater Aggregates Ltd
	Guildhouse Consultancy
	ECC Historic Environment Management
	Essex Historic Environment Record

As part of our desire to provide a quality service, we would welcome any comments you may have on the content or the presentation of this report.

Please contact the Archaeological Fieldwork Manager, at the **Field Archaeology Unit**,

Fairfield Court, Fairfield Road, Braintree, Essex CM7 3YQ. fieldarch@essexcc.gov.uk

Tel: 01376 331470 Fax: 01376 331428

© Field Archaeology Unit, Essex County Council, c/o County Hall, Chelmsford, Essex CM1 1LF

CONTENTS

		Page No.
SUI	MMARY	1
1.0	INTRODUCTION	2
2.0	BACKGROUND 2.1 Topography and Geology 2.2 Archaeological and Historical Background 2.3 Previous fieldwork in the quarry	2
3.0	AIMS AND OBJECTIVES 3.1 General aims 3.2 Research objectives	4
4.0	METHOD	4
5.0	FIELDWORK RESULTS 5.1 Phase 3.1 (east) and 3.2 5.2 Phase 3.3 and 4.1	4
6.0	FINDS AND ENVIRONMENTAL MATERIAL 6.1 Introduction 6.2 Prehistoric pottery 6.3 Late Iron Age and Roman ceramics 6.4 Medieval pottery 6.5 Shell 6.6 Other finds 6.7 environmental material 6.8 Comments on the assemblage	7
7.0	CONCLUSIONS 7.1 Prehistoric 7.2 Late Iron Age/Roman 7.3 Medieval 7.4 Post-medieval	11
8.0	ASSESSMENT OF RESULTS	12
ACI	KNOWLEDGEMENTS	13
BIB	SLIOGRAPHY	13

APPENDICES

APPENDIX 1 Context Data

APPENDIX 2 Finds Data

APPENDIX 3 Medieval and Later Pottery

APPENDIX 4 Contents of Archive

APPENDIX 5 EHER Summary

FIGURES

Fig. 1 Bradwell Quarry: location of phases 3.1 to 4.1 Fig. 2 Phase 3.3, 4.1; features identified

Fig. 3 Plan of 519

Fig. 4 Section 1

Fig. 5 Plan of feature group

Fig. 6 Sections 2-4

BRADWELL QUARRY

FORMER RIVENHALL AIRFIELD

RIVENHALL

ESSEX

ARCHAEOLOGICAL OBSERVATION AND EXCAVATION INTERIM REPORT - PHASES 3.1 (EAST), 3.2, 3.3 AND 4.1

Client: Blackwater Aggregates Ltd

NGR: TL 82233, 21129

Site Code: RHRA 01

Oasis No.: essexcou1- 36908

Dates of Fieldwork: 22nd June to 24th November 2006 and 28th June to

28th September 2007

SUMMARY

The monitoring of topsoil stripping of phases 3.1 (east), 3.2, 3.3 and 4.1 at Bradwell Quarry (formerly Rivenhall Airfield) has identified a small number of archaeological features ranging in date from the prehistoric to post-medieval periods.

A prehistoric pit contained sherds of Middle Bronze Age pottery from at least six vessels. The isolated location of the pit and the fact that it contained only a few sherds from each vessel with a bias in favour of decorated upper-body sherds, suggests that this may be a deliberate deposit of a possible ritual or ceremonial nature.

One tentatively dated Roman pit was excavated and elsewhere residual Roman tile and Late Iron Age pottery was recovered indicating a Romano/British presence in the landscape early in the first millennium AD.

Medieval pits and a gully dated to the late 12th to early 13th century. A sample of burnt crop processing waste recovered from a pit indicated that wheat was being processed but that previous crops had included barley and oats. Post-medieval field boundary ditches were identified, some latterly infilled during construction of the World War II airfield.

1.0 INTRODUCTION

This report describes the results of archaeological monitoring and excavation undertaken during topsoil stripping of phases 3.1 (east), 3.2, 3.3 and 4.1 at Bradwell Quarry, formerly Rivenhall Airfield. The monitoring of phases 3.1 (east) and 3.2 was carried out in 2006 and phases 3.3 and 4.1 in 2007. In both seasons the work included additional observation of the topsoil strip beneath part of the north bund. The fieldwork was carried out by the Essex County Council Field Archaeology Unit (ECC FAU) on behalf of Blackwater Aggregates Ltd, who were advised by their archaeological consultant, the Guildhouse Consultancy.

The archaeological monitoring and excavation was carried out in accordance with the Archaeological Programme specified by the ECC Historic Environment Management team (ECC HEM 2000), the Proposal for Archaeological Observation prepared by the Guildhouse Consultancy (2000), and the Written Scheme of Investigation (WSI) produced by ECC FAU (2000) and recently revised (2007).

The site archive will be deposited in Braintree Museum. A digital version of this report will be submitted, along with a project summary, to the Online Access to the Index of Archaeological Investigations (OASIS) (http://ads.ahds.ac.uk/project/oasis).

2.0 BACKGROUND (Fig. 1)

2.1 Topography and Geology

Bradwell Quarry occupies the northern half of a former (WWII) Airfield, and lies 7km (4 miles) east of Braintree. It comprises *c*. 62ha of former arable land, and is situated on a low plateau at *c*. 50m OD to the south of the River Blackwater. The quarry is traversed by concrete runways. Phases 3.1 to 4.1 are situated in the centre of the quarry between the former main runway and the northern boundary.

The site's geology consists of Kesgrave Sands and Gravels, overlain by Boulder Clay, which was deposited at the end of the Anglian glaciation.

2.2 Archaeological and Historical Background

The 1997 Cultural Heritage (Archaeology) Statement (Oxford Archaeological Associates 1997) identified no known archaeological sites within the quarry area, with the exception to the airfield itself (Essex Historic Environment Record (EHER) 14183). The presence of possible sites of interest is implied, however, by cropmarks of former field boundaries and/or tracks destroyed by construction of the airfield (EHER 14181). A fieldwalking survey carried

out in 1991 (Medlycott 1991) produced no significant concentrations of material within the quarry area and noted evidence of disturbance from the World War II airfield. A geophysical survey carried out in late 1991 and early 1992 (Johnson 1992) also produced negative results, although earlier stages of fieldwork in the quarry have identified evidence of Middle Iron Age, Early Saxon and medieval activity (see 2.3 below). The airfield was built in 1943, and after its abandonment in 1946 reverted to arable cultivation.

2.3 Previous fieldwork in the quarry (Fig. 1)

Phases 1.1 to 1.3 and 3.1 (west)

No archaeological remains were identified in phase 1.1. Middle Iron Age pits, ditches and gullies were present in phase 1.2 and a probable Middle Iron Age roundhouse and boundary ditch in phase 1.3. In phase 3.1 (west) was a medieval pit (Peachey 2003).

Phase 1.4

Multi-period remains were present in phase 1.4. The earliest were a few Middle Iron Age pits and an Early Saxon ditch containing a disturbed cremation vessel. A large rectangular ditched enclosure dated to the 12th to mid-13th century. This contained pits, a well and internal sub-divisions and may have been used for domestic occupation. A second smaller ditched enclosure was added to the east in the 13th to 15th century. Further 13th- to 15th-century ditches drained a depression to the south. Large post-medieval field boundary ditches were also present. Some of these respected the late medieval enclosure and imply continuity between the medieval and post-medieval periods (Allen and Roy 2006).

Phases 2.1 to 2.3 (including south bund)

Three Middle Bronze Age pits, a possible Roman ditched trackway and further post-medieval ditches were investigated in phase 2.1. The pits contained a relatively large assemblage of Middle Bronze Age pottery, including bucket and globular urns which are part of the 'Ardleigh Group' ceramic tradition, as well as other finds. Virtually no features were identified in phase 2.2, while most of phase 2.3 was occupied by disturbed modern material filling a large natural hollow (Germany 2006).

3.0 AIMS AND OBJECTIVES

3.1 General aims

The aim of the monitoring was to locate, identify, and rapidly record and excavate any surviving archaeological remains exposed during the topsoil strip.

3.2 Research objectives

The research objectives for the project were undertaken with reference to those laid out in Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy (Brown and Glazebrook 2000). However, the absence of extensive archaeological remains has meant that is not possible to formulate detailed archaeological objectives at this time, although this may be possible in the future when the phased quarry strip has been completed.

4.0 METHOD

The topsoil was removed by a 360° tracked mechanical excavator fitted with a flat-bladed bucket. Initially the stripping was continuously monitored but once machining levels had been established, and given the relative scarcity of archaeological features, reverted to intermittent observation, with the agreement of the ECC HEM monitoring officer. The topsoil was generally between 0.3m and 0.6m thick.

The ECC FAU observed the stripping and inspected the surface of the underlying Boulder Clay for archaeological features and finds, and any features identified were rapidly recorded and excavated. Contained features (pits and post-holes) were generally half-sectioned, with the exception of pit 512 which was fully excavated.

All work was carried out in accordance with IFA (Institute of Field Archaeologists) by-laws and guidelines and complied with Standards for Field Archaeology in the East of England (Gurney 2003). Standard ECC FAU excavation, artefact collection and recording methodologies were employed throughout.

5.0 FIELDWORK RESULTS (Figs 2-6)

The results of the monitoring are set out below in sections 5.1 to 5.3. Section 5.1 covers the 2006 season (phases 3.1 east and 3.2) and Section 5.2 the 2007 season (phases 3.3 and 4.1). Individual context numbers are cited in brackets and detailed context information is included in Appendix 1.

Removal of topsoil from beneath two stretches of the north bund was monitored as part of the fieldwork in 2006 and 2007. An additional short stretch of eastern bund was also monitored in 2007 (Fig 1), but no archaeological features or deposits pre-dating WWII were observed in this area.

5.1 Phase 3.1 (east) and 3.2

No pre-modern archaeological features, deposits or finds were revealed. The only visible features were service trenches belonging to the former WWII airfield and the outline of a modern rectangular building. The building was sited in the middle of the north part of area 3.1 (east) and had been demolished to below ground level.

5.2 Phase 3.3 and 4.1 (Figs 2-6)

The earliest feature was a sub-circular pit (512), c.0.9m in diameter, with steep, slightly undercutting sides, and a flat bottom (Figs 5 and 6, Section 3). It was filled with dark grey clay silt (511) and contained 45 sherds of Bronze Age pottery derived from six or more vessels. The pit was located roughly in the middle of phase 3.3 and, although close to a number of later features, was isolated from other prehistoric remains.

A small, shallow pit (506) containing burnt flint and charcoal flecks was investigated in the south of the phase 3.3 area (Fig. 2). No finds were recovered. A second larger pit (503) containing two fills (501 and 502) was located some 60m to the north. This pit was poorly defined and had been disturbed by mole drains. The upper fill (501) contained a few lumps of heat-reddened clay and one sherd of Roman pottery.

A small group of medieval features was located roughly in the middle of the phase 3.3 area (Fig. 5). A curving gully was excavated in three segments (514/516/518). The gully was up to 1m wide by 0.22m deep and generally had a concave profile (Fig. 6, Section 4). It appeared to have a rounded east end and to the west it petered out, perhaps due to truncation. The mixed grey brown fill (513/515/517) included flecks of oyster shell and baked clay and contained 89 sherds of medieval pottery dating from the late 12th to early 13th century.

To the north of the gully was a small pear-shaped pit (523) containing three distinct fills (Fig. 6, Section 2). In the bottom of the pit was a deposit of charcoally clay (522), in the middle was chalky clay (521) and in the top of the pit was grey brown clay silt (520). Flecks of heat-reddened clay were recorded in fill 522 and small fragments in fill 521. A small amount of

heat-reddened clay was noticed around the western (unexcavated) rim of the feature but from the excavated half of the pit there was no evidence of in-situ burning. One sherd of 12th to early 13th century pottery was recovered from fill 520.

To the south-east of the gully was a large, sub-circular pit (527) over 2m in diameter. The pit was probably heavily truncated as it was little more than a poorly-defined depression, only 0.12m deep. The fill (526) produced several more sherds of 12th to early 13th century pottery. To the immediate south of pit 527 was a roughly north-west/south-east aligned ditch or elongated pit (530). This was 2.4m wide by 0.5m deep and had gently sloping (35-45°) sides and a flattish bottom. It was filled with dark brown silty clay (529) that contained a single sherd of medieval pottery. The ditch and part of the adjacent pit were sealed beneath a layer of brown to grey brown clay silt (528). This was poorly defined on the surface but appeared to extend southwards towards a post-medieval field boundary ditch. The ditch had been deliberately infilled with brick rubble during construction of the airfield in WWII and it is possible that layer 528 accumulated as a result of ground levelling at this time.

In the north of the phase 3.3 area was a large medieval pit (519) that also contained later 12th to 13th century pottery and a residual fragment of Roman roof tile. The pit was 3m long by 1.8m wide and 0.9m deep and contained three fills (508-510) (Figs 3 and 4). In the base of the pit was a thick deposit of dark grey to black clay silt (510) that contained abundant charcoal, common lumps of heat-reddened clay and occasional large burnt flints. This fill had been clearly tipped into the pit from the south. A soil sample taken for environmental analysis revealed the presence of charred cereal processing waste. The middle fill of the pit was a deposit of mixed yellow brown chalky clay (509) that included occasional small lumps of heat-reddened clay and a few flecks of charcoal. The top fill comprised of mid grey brown clay (508) with only occasional flecks of chalk and charcoal.

More recent features were present in phase 4.1. In the centre of the area was a large, north-east/south-west aligned, ditch (525). This was 3m long by 0.9m deep and visible for some 80m. It formed a T-junction with the brick-filled field boundary ditch but had probably silted up prior to the construction of the airfield as it was filled by greyish brown clay silt (524). Within the ditch (approximately 0.5m down) was a ceramic field drain with no visible cut. One piece of post-medieval roof tile and an iron strip were recovered from the fill. In the north of phase 4.1 was a shallow pit (504). No finds were recovered and the friable, charcoal-flecked, pit fill (505) was felt to be of recent origin. To the north-east of this pit, at the edge of the stripped area, was a further field boundary ditch with a modern backfill.

Additional modern (WWII) features were identified in both phases. Disturbed ground was noted on either side of the east-west trackway that sub-divides the current area, implying that this former airfield taxi-way had originally been wider.

6.0 FINDS AND ENVIRONMENTAL MATERIAL by Joyce Compton

6.1 Introduction

Finds were recovered from a total of eleven contexts over two areas of investigation (phases 3.3 and 4.1). All of the material has been counted and weighed, in grams, by context; full details can be found in Appendix 2. The finds from the phase 4.1 area comprise two relatively modern items only - a fragment of iron strip and a small piece of roof tile. Those from the phase 3.3 area are described by category below. The largest assemblage component is pottery, amounting to 129 sherds, weighing 1613g, 72% of which by weight is medieval. Prehistoric pottery was found in a single feature (pit 512). These two assemblages form the subject of separate reports, by Helen Walker and Nick Lavender, respectively.

6.2 Prehistoric pottery by Nick Lavender

A total of 45 sherds (weight 465g) of prehistoric pottery was recovered from fill 511 of pit 512. This has been recorded according to a system devised for prehistoric pottery in Essex (Brown 1988; details in archive). The pottery was recorded by fabric, class (after Barrett 1980), form, decoration, surface treatment and condition. The assemblage was quantified by sherd count and weight. Full details can be found in the archive.

The pottery represents six or more vessels and comprises mainly small sherds, though there is one larger piece which extends from the rim to the cordon. The pottery shows little sign of abrasion and one sherd has been burnt. The assemblage belongs to the Ardleigh style of Deverel-Rimbury Middle Bronze Age pottery and includes sherds from three bucket urns, a globular urn and what may be a fourth bucket urn or an open bowl. The largest bucket urn sherd carries a raised cordon 60mm below the rim; the cordon, the rims of this vessel, one other bucket urn and the globular urn all have fingertip decoration. One sherd also has rather messy finger impressions inside the rim which probably relate to manufacture rather than being decorative. All of these traits are closely paralleled by a number of vessels from sites in north-east Essex such as Ardleigh (Brown 1999, figs 55.2, 5, 56.18, 57.23 and many others), Brightlingsea (Brown forthcoming, figs 23.11, 12 and 13) and White Colne (Brown 1999, fig.70.122, 125).

A slightly larger, though still small, quantity of Deverel-Rimbury material was recovered from the phase 2.1 area of the watching brief (pits 304 and 306; Lavender 2006, 7-8), again consisting mainly of rim and upper body sherds from bucket and globular urns. As with the present assemblage, these did not appear to be derived from cremation burials. Whilst the phase 2.1 material was derived from several contexts, pit 512 appears to have been completely isolated, and the identification of several medieval features in the vicinity suggests that other features have not been missed under the adverse conditions of a watching brief.

The selection of less than a handful of sherds from each of several vessels, in particular the selection of decorated upper-vessel sherds, in an isolated pit, suggests that this is a very deliberate deposit of a religious or ceremonial nature rather than the simple disposal of broken pottery. Any relationship with the similar material from the features in the phase 2.1 area, which lie approximately 500m to the south-west, is at present unclear.

6.3 Late Iron Age and Roman ceramics

Three sherds of Late Iron Age and Roman pottery and a single piece of Roman tile were recovered, all of which are residual. The pottery comprises body sherds in coarse fabrics, which are not closely datable within the Roman period. A large sherd from a storage jar came from the fill of medieval pit 519; the remaining two sherds are very small. The tile fragment also came from the fill of pit 519 and, apart from the remains of a signature-arc, is featureless and undiagnostic.

6.4 Medieval pottery by Helen Walker

A small amount of medieval pottery, 107 sherds (weight 1160g), was excavated from seven contexts. The pottery comprises a mixture of early medieval ware and medieval coarse ware, with a few sherds of sand-with-sparse-shell-tempered ware. The majority of pottery is from a gully (segments 514, 516, 518), with finds also in pits 519, 523, and 527, and a single sherd from ditch 530.

Gully segment 514 produced a number of cooking pot rims comprising a 12th century type beaded rim and examples of B2 and B4 rims datable to *c.*1200. There is also a simple everted rim from this context showing the beginnings of a pouring lip that may be from a bowl. A sherd from gully segment 516 shows a post-firing hole; this was often done for drainage purposes. The most significant find is a thickened everted cooking pot rim from pit 519, whose fabric, form and general appearance are consistent with pottery produced at the Frogs Hall kiln site at Takeley (Ennis forthcoming). One of the B2 rims from the gully may

also be a Frogs Hall product. All the pottery excavated could belong to the later 12th to earlier 13th centuries.

Very little Frogs Hall pottery has been identified at consumer sites, although there are possible finds at Boreham, at Great Holts Farm (Walker 2003a, fig.98.1) and Boreham Airfield (Walker 2003b, 39). Takeley is not particularly close to Rivenhall, though a possible route would have been along Stane Street, a Roman road still in use in medieval times.

6.5 Shell

Five contexts, all of medieval date, produced small amounts of shell (a total of 19 pieces, weighing 192g). All of the shell is oyster and comprises small examples.

6.6 Other finds

These are few. Small fragments of animal bone, in poor condition, were found in two contexts, both of medieval date. Baked clay fragments, total weight 753g, came from three contexts. Almost all of the assemblage came from the fill of medieval pit 519. Some fragments have flat surfaces, and it is highly likely that the baked clay represents the remains of daub. A small quantity of burnt flints also came from the fill of pit 519; these are probably incidental to the assemblage. Two flint flakes and two pieces of natural stone were recovered from the fill of prehistoric pit 512.

6.7 Environmental material by Val Fryer

A sample for the retrieval of the plant macrofossil assemblage was taken from the charcoal-rich fill of medieval pit 519. The sample was bulk floated and the flot collected in a 500 micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in the archive. Nomenclature follows Stace (1997). All plant remains were charred.

Results

Cereal grains and seeds of common weeds were moderately abundant. Preservation was good, although a high density of the grains were puffed and distorted, probably as a result of combustion at very high temperatures. Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, with wheat occurring most frequently. Cereal chaff was exceedingly rare, although a small number of bread wheat (*T. aestivum/compactum*) type rachis nodes were noted. Weed seeds were moderately common, with segetal species being predominant. Taxa noted included corn cockle (*Agrostemma githago*), stinking mayweed (*Anthemis cotula*), indeterminate small legumes (Fabaceae), goosegrass (*Galium*

aparine), grasses (Poaceae), dock (*Rumex* sp.) and vetch/vetchling (*Vicia/Lathyrus* sp.). A single sedge (*Carex* sp.) fruit was also recorded along with a fragment of hazel (*Corylus avellana*) nutshell and a bramble (*Rubus* sect. *Glandulosus*) 'pip'. Charcoal fragments were abundant along with a small number of pieces of charred root/stem. Small fragments of black porous and tarry material were probable residues of the combustion of organic remains (including cereal grains) at very high temperatures.

Conclusions

The fill of pit 519 would appear to contain a small deposit of burnt cereal processing waste. Wheat is the principal crop represented, with the oats and barley almost certainly occurring as contaminants or relicts of previous cropping regimes. The abundance of stinking mayweed seeds probably indicates that the cereals were being grown locally, possibly on nutrient-depleted clay soils which were being improved by the rotational cultivation of nitrogen-fixing plants such as the pulses and vetches. The predominance of larger weed seeds of a similar size to the grains, for example the corn cockle, brome (Bromus sp.), black bindweed (Fallopia convolvulus) and goosegrass, may indicate that the assemblage is derived from waste from an advanced stage of processing. Such material would have persisted after winnowing, and would have required manual removal immediately prior to the utilisation/consumption of the grain.

6.8 Comments on the assemblage

The finds are similar in nature to those recovered in previous seasons of work. No further work is required on any of the finds at this stage. Recommendations towards publication of the prehistoric and medieval material have been made, however. The plant macrofossil assemblage contains a sufficient density of material for quantification (*i.e.* 100+ specimens), but analysis of a single assemblage in isolation would provide little data of value to the interpretation of the site or its component features. Further work is not required, although a summary of the report should be included in any publication.

All of the finds should be retained, although the recent finds from the phase 4.1 area can be discarded at the archiving stage. The finds from these phases occupy one box.

7.0 CONCLUSIONS

The monitoring revealed archaeological remains dating to the prehistoric, Late Iron Age/Roman, medieval and post-medieval periods.

7.1 Prehistoric

One prehistoric pit containing sherds of Middle Bonze Age pottery from at least six vessels was excavated. The isolated location of the pit and the fact that it contained only a few sherds from each vessel with a bias in favour of decorated upper-body sherds, suggests that this may be a deliberate deposit of a possible ritualistic nature rather than the simple disposal of broken pottery. Three pits of Middle Bronze Age date had previously been excavated some 400-500m to the south-west in phase 2.1. Whilst it is possible that pottery contained within these pits was part of a domestic assemblage from a nearby settlement site (Lavender 2008), it is perhaps more likely that they too were deposits of a ritual nature.

7.2 Late Iron Age/Roman

One tentatively dated Roman pit was excavated in the south of phase 3.3 and elsewhere one sherd of residual Roman tile and one sherd of residual Late Iron Age pottery was recovered. Although these finds are few, they do indicate a Romano-British presence in the landscape early in the first millennium AD. A small amount of Late Iron Age/Roman pottery had previously been recovered in phase 2.1 (Germany 2006).

7.3 Medieval

Pits and a gully dating to the medieval period were recorded. These date to the late 12th to early 13th century and as such are broadly contemporary with the rectangular ditched enclosure excavated over 500m to the south-west in phase 1.4 (Allen and Roy 2006). Although no house structures were identified within this enclosure, settlement evidence such as internal sub-divisions, pits and a well suggest that this may have been the site of a small farmstead. It is therefore likely that the features identified in phase 3.3 may be the remains of agricultural activities undertaken by the occupants of the enclosure.

Environmental analysis of the sample from the lower fill in large pit 519 indicated that it was burnt cereal-processing waste. Wheat was the crop being processed but the residue of previous crops included barley and oats. There was no evidence that the waste had been burnt in the pit but this presumably had taken place nearby and probably to the south. The waste had been deliberately dumped into the bottom of the pit and then covered with chalky clay. The grey brown clay in the top of the pit may have accumulated naturally as the lower fills subsided.

Interestingly the sequence of charcoally fill, covered by chalky clay and a natural accumulation was repeated in shallow pit 523, suggesting that perhaps this was a common means of sealing in organic rubbish. It is possible that the small cluster of features in this area may be part of an agricultural working area close to the edge of a field. Gully 514/516/518 might represent the scant below-ground remains of a timber fence or windbreak.

7.3 Post-medieval

As only one small sherd of medieval pottery was recovered from ditch 530 it is likely that this may be a residual find in a feature of post-medieval date. There was no visible evidence for ditch 530 continuing, to east or west, from beneath the localised obscuring layer and it might be a bend (which was later straightened out) in a forerunner of the post-medieval brick-filled ditch located 5m or so to the south. Ditch 525 formed a T-junction with the brick-filled ditch and had clearly been infilled earlier. This is likely to have occurred prior to 1876 as ditch 525 is not shown as a boundary on the 1st edition Ordnance Survey. The brick-filled ditch itself did show as a major field boundary on the 1st edition Ordnance Survey and as such may have its origins earlier in the post-medieval or late medieval periods. The brick-filling occurred when the site was levelled during the construction of the WWII airfield.

8.0 ASSESSMENT OF RESULTS

The quarry strip was undertaken to a satisfactory standard. No pre-modern archaeological features, deposits or finds were revealed in phases 3.1 (east) and 3.2 and only a small scattered number of archaeological features of prehistoric to post-medieval date were revealed in phases 3.3 and 4.1. Very few archaeological features had previously been identified in phases 1.1 and 3.1 (west) suggesting that land in the northern half of the quarry was sparsely occupied/utilised.

The Bronze Age pit is of significance, particularly if it does provide evidence of ceremonial or ritual activity. This will need to be included in any future publication and research for parallels is warranted.

The medieval crop-processing remains may be associated with the possible late 12th to early 13th century enclosed farmstead identified in phase 1.4. In particular, the environmental sample from pit 519 has provided evidence of the range of cereal crops that the occupants may have farmed and eaten.

ACKNOWLEDGEMENTS

The archaeological work was commissioned and funded by Blackwater Aggregates Ltd, who was advised by the Guildhouse Consultancy. The assistance of Patrick Wigg and Lee Turner (Blackwater Aggregates Ltd), Clive Fletcher (GKL Southern Ltd), and the archaeological consultant, Adrian Havercroft (The Guildhouse Consultancy) is gratefully acknowledged.

The archaeological monitoring was undertaken by Trevor Ennis and Mark Germany of the ECC Field Archaeology Unit with GPS Survey assistance from Andy Lewsey. The project was managed by Patrick Allen of ECC FAU and monitored by Vanessa Clarke and Pat Connell of ECC HEM.

BIBLIOGRAPHY

Allen, P.T. and Roy, M.	2006	Bradwell Quarry, formerly Rivenhall Airfield, Rivenhall, Essex. Continuous archaeological observation and excavation, phase 1.4. Interim report. Essex CC FAU report 1368
Barrett, J.	1980	'The pottery of the later Bronze Age in lowland England' <i>Proc. Prehist. Soc.</i> 46 , 297-330
Brown, N.	1988	'A Late Bronze Age enclosure at Lofts Farm, Essex' <i>Proc. Prehist. Soc.</i> 54 , 249-302
Brown, N.	1999	The Archaeology of Ardleigh, Essex. Excavations 1955-1980. E. Anglian Archaeol. 90
Brown, N.	Forthcoming	'Pottery from the Middle Bronze Age cemetery' in Clarke, C. P. and Lavender, N. J. Brightlingsea, Essex. An Early Neolithic ring ditch and Middle Bronze Age cremation cemetery at Moverons Farm, Brightlingsea, Essex: excavations 1989-90 and 1994-95 and Fieldwalking Survey of the Brightlingsea Peninsula 1990-91. E. Anglian Archaeol.
Brown, N. and Glazebrook, J. (eds)	2000	Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy, E. Anglian Archaeol. Occ. Pap. 8
ECC FAU	2000 (revised June 2007)	Written scheme of investigation for archaeological monitoring. Bradwell Quarry, Former Rivenhall Airfield. Essex CC FAU
ECC HEM	2000	Archaeological programme of work on a gravel extraction site at Rivenhall Airfield. Essex CC Historic Environment Branch, County Hall, Chelmsford

Ennis, T.	Forthcoming	'Roman and medieval land-use in the upper Roding valley: excavations at Frogs Hall Borrow Pit, Takeley, Essex 2002', Essex Archaeol. Hist.
Germany, M.	2006	Bradwell Quarry, Former Rivenhall Airfield, Rivenhall, Essex: Archaeological Observation and Excavation, Interim Report – Phases 2.1 - 2.3, Essex CC FAU rep. 1422
Germany, M.	2007	Neolithic and Bronze Age monuments and Middle Iron Age settlement at Lodge Farm, St Osyth, Essex: Excavations 2000 to 2003. E. Anglian Archaeol. 117
Guildhouse Consultancy	2000	Rivenhall Airfield, Rivenhall, Essex. Proposal for Archaeological Observation: Methodology and Framework. The Guildhouse Consultancy
Gurney, D.	2003	Standards for Field Archaeology in the East of England, E. Anglian Archaeol. Occ. Pap. 14
Johnson, A.E.	1992	Woodhouse Farm, Rivenhall Airfield, Rivenhall, Essex. Magnetic Susceptibility, Magnetometer and Auger Survey. Oxford Archaeotechnics
Lavender, N. J.	2006	'Prehistoric pottery', in Germany 2006, 7-8
Lavender, N. J.	2008	Bradwell Quarry Airfield, Former Rivenhall Airfield: Prehistoric Pottery Assessment
Medlycott, M.	1991	An archaeological fieldwalking evaluation at Rivenhall Airfield, Rivenhall, Essex. Essex CC report
Oxford Archaeological Associates	1997	Rivenhall Airfield, Essex – Cultural Heritage (Archaeology) Statement. OAA report
Peachey, M.	2003	Rivenhall Airfield, Rivenhall, Essex. Continuous archaeological observation. Interim report. Access road and phases 1.1 – 1.3 and 3.1 (west). Essex CC FAU report 807
Stace, C.	1997	New Flora of the British Isles. Second edition. Cambridge University Press
Walker, H.,	2003a	'Medieval and post-medieval pottery', in Germany, M., 'Excavations at Great Holts Farm, Boreham, Essex 1992-94 E. Anglian Archaeol. 105 , 158
Walker, H.	2003b	'Medieval pottery', in Clarke, R., A medieval moated site and windmill: excavations at Boreham Airfield, Essex 1996 Anglian Archaeol. Occ. Pap. 11, 35-54

APPENDIX 1: CONTEXT DATA

All dimensions given in metres

Context	Area	Type	Description	Period
501	3.3	Fill of 503	Mid-dark greyish brown silty clay, 0.32m thick	Roman?
502	3.3	Fill of 503	Mid greyish brown silty clay, 0.26m thick	Roman?
503	3.3	Pit	Oval, 1.9m x c.1.6m x 0.32m	Roman?
504	4.1	Pit	Irregular oval, 1.75m x 0.62m x 0.12m	Modern?
505	4.1	Fill of 504	Blackish grey silty clay	Modern?
506	3.3	Pit	Oval, 0.51m x 0.4m x 0.06m	-
507	3.3	Fill of 506	Dark brown silty clay	-
508	3.3	Fill of 519	Mid grey brown clay, 0.2m thick	Medieval
509	3.3	Fill of 519	Mixed yellow brown chalky clay, 0.47m thick	Medieval
510	3.3	Fill of 519	Dark grey to black charcoally clay silt, 0.8m thick	Medieval
511	3.3	Fill of 512	Dark grey clay silt	Prehistoric
512	3.3	Pit	Sub-circular, 0.9m x 0.86m x 0.49m	Prehistoric
513	3.3	Fill of 514	Mixed grey to grey brown clay silt	Medieval
514	3.3	Gully*	Segment, 0.6m+ x 1m wide x 0.22m deep	Medieval
515	3.3	Fill of 516	Mixed grey to grey brown silty clay	Medieval
516	3.3	Gully*	Segment, 0.5m+ x 0.65m wide x 0.22m deep	Medieval
517	3.3	Fill of 518	Mixed grey brown silty clay	Medieval
518	3.3	Gully*	Segment, 0.4m+ x 0.75m wide x 0.2m deep	Medieval
519	3.3	Pit	Irregular oval (pistachio nut), 3m x 1.8m x 0.9m	Medieval
520	3.3	Fill of 523	Mid grey brown clay silt, 0.04m deep	Medieval?
521	3.3	Fill of 523	Mixed yellow brown chalky clay, 0.10m deep	Medieval?
522	3.3	Fill of 523	Black to black brown charcoally clay, 0.05m deep	Medieval?
523	3.3	Pit	Pear-shaped, 1m x 0.96m x 0.16m	Medieval?
524	4.1	Fill of 525	Greyish brown clay silt	Post-med
525	4.1	Ditch	Linear, 80m x 3m x 0.9m	Post-med
526	3.3	Fill of 527	Mid-dark grey brown silty clay	Medieval?
527	3.3	Pit	Sub-circular, c.2.2m x c.2m x 0.12m	Medieval?
528	3.3	Layer	Brown to grey brown clay silt, 0.25m thick	Modern?
529	3.3	Fill of 530	Dark grey brown silty clay	Med/post-med
530	3.3	Ditch	2m+ x 2.4m wide x 0.5m deep	Med/post-med
531	3.3	Finds	Surface find of unstratified pottery	Medieval

^{*} Note – segments 514, 516, 518 are all part of same gully

APPENDIX 2: FINDS DATA

All weights in grams

Context	Feature	Count	Weight	Description	Date
501	503	1	4	Pottery; body sherd	Roman
508	519	1	142	Pottery; body sherd, storage jar	Roman
510	519	11	262	Burnt flints from sample 14	-
		117	742	Baked clay fragments from sample 14, two with flat surfaces	-
		-	4	Charcoal from sample 14, inc burnt grain	-
		1	430	Tile fragment with part of signature-arc	Roman
		6	141	Pottery; rim and body sherds, inc 1/1g from sample 14	Medieval
511	512	4	30	Animal bone; cattle molar; fragments	-
		2	1570	Natural stone fragments (Discarded)	-
		2	22	Flint flakes	-
		4	42	Burnt flints	- Duahistania
		46	470	Pottery; rim and body sherds, two decorated, at least four vessels represented	Prehistoric
513	514	3	36	Shell; oyster, three valves	-
		1	10	Baked clay	-
		69	840	Pottery; rim, base and body sherds	Medieval
515	516	10	92	Shell; oyster, seven valves and fragments	-
		8	60	Pottery; body sherds	Medieval
517	518	1	1	Animal bone fragment, in poor condition	-
		2	44	Shell; oyster, one valve and fragment	-
		12	84	Pottery; body sherds	Medieval
		1	6	Pottery; body sherd, grog-tempered	LIA
520	523	1	2	Animal bone fragment, in poor condition	-
		1 1	2	Shell; oyster fragment (Discarded)	- Modicus!
		1	6	Pottery; body sherd	Medieval
524	525	1	10	Iron strip, rectangular section	- Dt
		1	56	Roof tile fragment	Post med.
526	527	3	18	Shell; oyster, three valves	-
		1	1	Baked clay	- Madiaval
		11	26	Pottery; body sherds and crumbs	Medieval
529	530	1	4	Pottery; body sherd	Medieval
531	Finds	1	14	Pottery; body sherd	Medieval

APPENDIX 3: MEDIEVAL AND LATER POTTERY

All weights in grams

Context	Feature	Count	Weight	Description	Date
510	519	3	107	Early medieval thickened everted cooking pot rim, fabric, form and general appearance are consistent with pottery produced at the Frogs Hall kiln site at Takeley, unabraded	later 12th C
		2	33	Medieval coarse ware	later 12th to 13th centuries
513	514	69	840	Early medieval ware including the following cooking pot rim types: 1 beaded, 2 B2A and 1 B4, with the edition of a simple everted rim with ?the beginnings of a pouring lip perhaps from a bowl, sagging base sherds also present, abraded sherds. One of the B2A rims may be a Frogs Hall product	c.1200
515	516	8	60	Early medieval ware body sherds including one with remains of post-firing hole	12th to earlier 13th C
517	518	9	68	Sand-with-sparse-shell-tempered ware sherds from same vessel, some joining	12th to earlier 13th C
		3	16	Medieval coarse ware, sherds from same vessel showing horizontal striations	later 12th to 13th centuries
520	523	1	6	Early medieval ware	12th to earlier 13th C
526	527	10	22	Early medieval ware including crumbs	12th to earlier 13th C
		1	4	Medieval coarse ware	later 12th to early 13th centuries
529	530	1	4	Early medieval ware	12th to earlier 13th C
		107	1160		

APPENDIX 4: CONTENTS OF ARCHIVE

SITE NAME: Bradwell Quarry, Rivenhall Airfield

SITE CODE: RHRA 01

Index to Archive for Phases 3.1 (east), 3.2, 3.3 and 4.1:

- 1. Introduction
- 1.1 ECC HEM Brief
- 1.2 ECC FAU WSI
- 1.3 Guildhouse Consultancy Proposal for Archaeological Observation

2. Research Archive

- 2.1 Client Report
- 2.2 Finds Reports

3. Site Archive

- 3.1 Context Record Register
- 3.2 Context Records (501 to 531)
- 3.3 Plan Register
- 3.4 Section Register
- 3.5 A4 plan/section sheets
- 3.6 Trench location plan
- 3.7 Photographic Registers
- 3.8 Site Photographic Record (1 set of Black & White prints, 1 Set of digital images on disk)
- 3.9 Miscellaneous notes/plans

Not in File

Finds

The finds from these phases occupy one box.

APPENDIX 5: EHER SUMMARY SHEET

EHER SUMMARY SHEET

Site name/Address: Bradwell Quarry, former Rivenhall Airfield					
Parishes: Rivenhall	District: Braintree				
NGR : TL 82233, 21129	Site Code: RHRA 01				
Type of Work: Archaeological Monitoring & Excavation	Site Director/Group: T. Ennis, ECC Field Archaeology Unit				
Date of Work: 22nd June to 24th November	Size of Area Investigated:				
2006 and 28th June to 28th September 2007	Phases 3.1 (east) & 3.2: 47161 sq m 2006 Bund: 3722 sq m				
	Phases 3.3 & 4.1: 59728 sq m				
	2007 Bunds: 5082 sq m				
Location of Finds/Curating Museum:	Funding source: Blackwater Aggregates				
Braintree	Ltd				
Further Seasons Anticipated?: Yes	Related HER Nos.: 14181, 14183				
Final Depart FALL					

Final Report: EAH

Periods Represented: Bronze Age, LIA/Roman, medieval, post-medieval

SUMMARY OF FIELDWORK RESULTS:

The monitoring of topsoil stripping of phases 3.1 (east), 3.2, 3.3 and 4.1 at Bradwell Quarry (formerly Rivenhall Airfield) has identified a small number of archaeological features ranging in date from the prehistoric to post-medieval periods.

A prehistoric pit contained sherds of Middle Bronze Age pottery from at least six vessels. The isolated location of the pit and the fact that it contained only a few sherds from each vessel with a bias in favour of decorated upper-body sherds, suggests that this may be a deliberate deposit of a possible ritual or ceremonial nature.

One tentatively dated Roman pit was excavated and elsewhere residual Roman tile and Late Iron Age pottery was recovered indicating a Romano/British presence in the landscape early in the first millennium AD.

Medieval pits and a gully dated to the late 12th to early 13th century. A sample of burnt crop processing waste recovered indicated that wheat was being processed but that previous crops had included barley and oats. Post-medieval field boundary ditches were identified, some latterly infilled during construction of the WWII airfield.

Previous Summaries/Reports:

Allen, P.T. and Roy, M. 2006 Bradwell Quarry, formerly Rivenhall Airfield, Rivenhall, Essex. Continuous archaeological observation and excavation, phase 1.4. Interim report. Essex CC FAU report 1368

Germany, M. 2006 Bradwell Quarry, Former Rivenhall Airfield, Rivenhall, Essex: Archaeological Observation and Excavation, Interim Report – Phases 2.1 - 2.3, Essex CC FAU rep. **1422**

Peachey, M. 2003 Rivenhall Airfield, Rivenhall, Essex. Continuous archaeological observation. Interim report. Access road and phases 1.1 – 1.3 and 3.1 (west). Essex CC FAU report **807**

Author of Summary: T. Ennis Date of Summary: January 2008

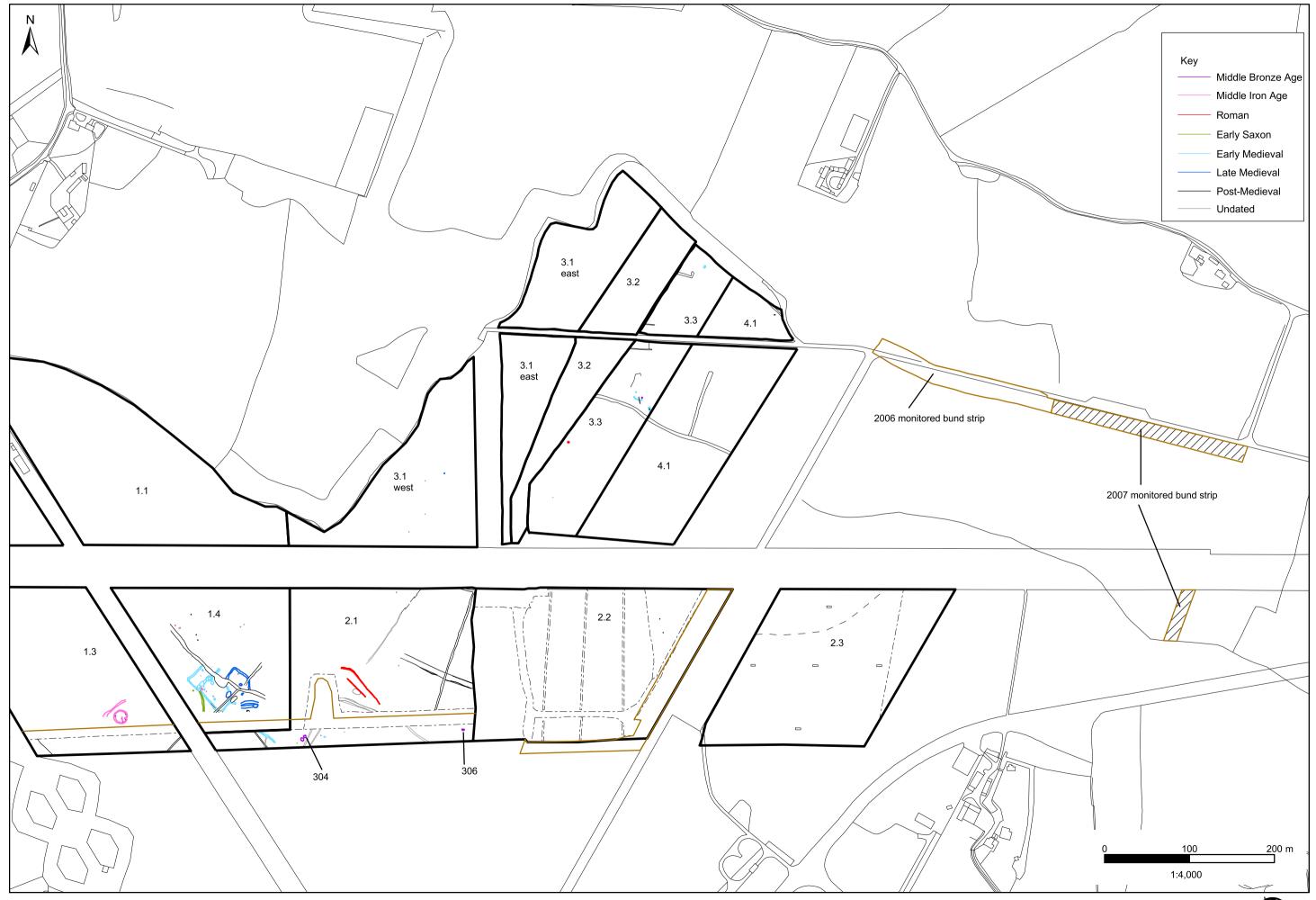


Fig.1. Bradwell Quarry: location of Phase 3.1 to 4.1



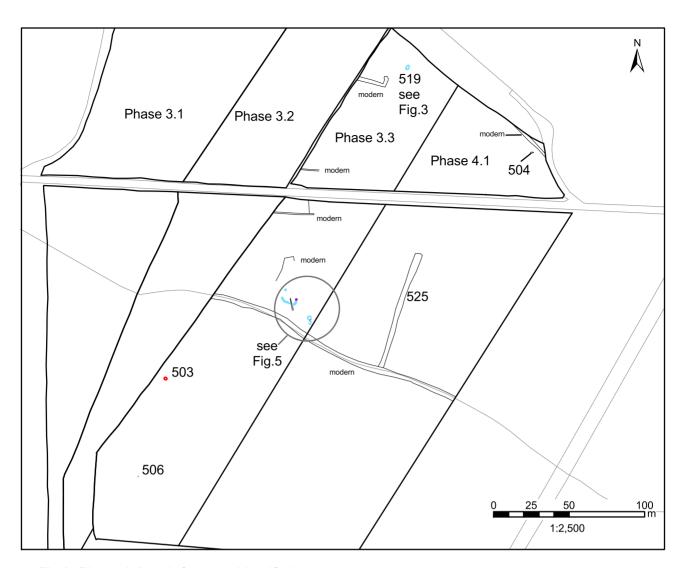
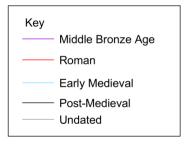


Fig.2. Phase 3.3, 4.1; features identified





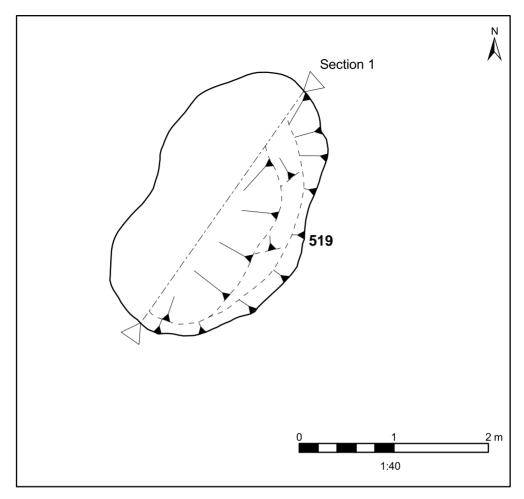


Fig.3. Plan of 519

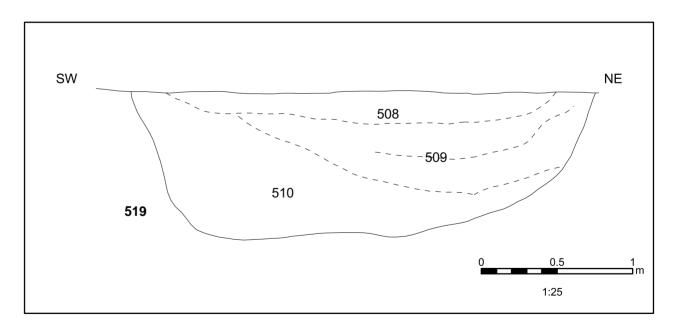


Fig.4. Section 1

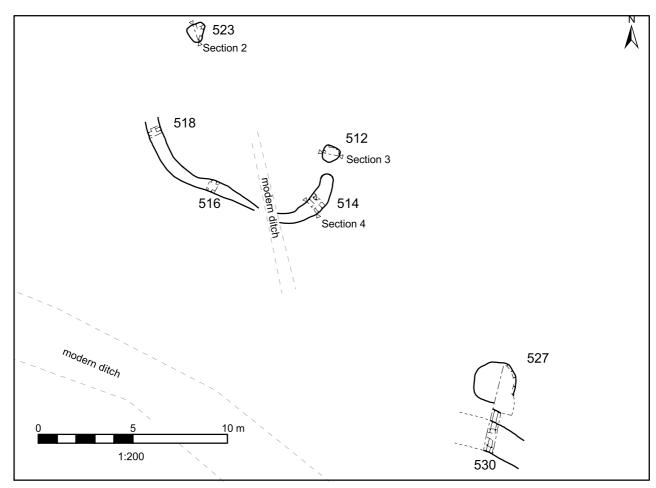


Fig.5. Plan of feature group

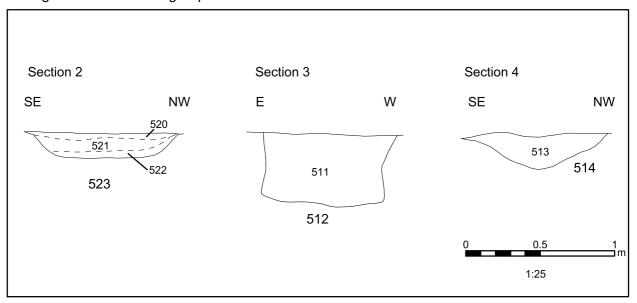


Fig.6. Sections 2-4