Roman Clay Extraction Pits Land at Bannold Road Waterbeach Cambridgeshire



**Excavation Report** 



December 2016

Client: CgMs

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NGR: TL 5020 6598



# Roman Clay Extraction Pits, Land at Bannold Road, Waterbeach, Cambridgeshire

Archaeological Excavation

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Site Name: Roman Clay Extraction Pits, Land at Bannold Road, Waterbeach, Cambridgeshire

HER Event No: ECB 4343

Date of Works: June 2016

Client Name: CgMs

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Date: December 2016

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Signed:

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# Summary

In June 2016 Oxford Archaeology East undertook a small excavation of 160sq.m at Land off Bannold Road, Waterbeach Cambridgeshire (TL5020 6600). This was for the purposes of investigating the surroundings of Roman pits identified in evaluation trenches in October 2015. The pits had been thought to represent 1st-2nd century small scale clay extraction for pottery production.

The excavation revealed further pits restricted to an area of natural clay geology with no evidence of associated settlement. Limited finds included small quantities of animal bone and abraded pottery sherds. The pits probably do represent clay extraction, part of the Horningsea industry, potentially for use in kilns recently excavated at 12 Pieces Lane or elsewhere nearby.





# 1 Introduction

# 1.1 Location and scope of work

- 1.1.1 An archaeological excavation was conducted at Land off Bannold Road, Waterbeach between 1st and 23rd June 2016.
- 1.1.2 This archaeological excavation was undertaken in accordance with a Brief issued by Kasia Gdaniec (2016) of Cambridgeshire County Council (CCC; Planning Application S/1431/15/OL), supplemented by a WSI prepared by OA East (Drummond-Murray 2016).
- 1.1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *National Planning Policy Framework* (Department for Communities and Local Government March 2012).
- 1.1.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

# 1.2 Geology and topography

- 1.2.1 The site lies in the northern end of the historic town of Waterbeach, to the south of the former airfield and barracks. The village lies on a spine of slightly higher ground at about 6m OD, where the bedrock geology of Gault Formation Mudstone is exposed. On the lower ground to the east and west, superficial deposits of river terrace sand and gravels are present, which (to the east) give way to alluvial deposits and peat (BGS 2015).
- 1.2.2 The evaluation uncovered mixed clay, sand and gravel across the evaluation area (Fairbairn 2015) with gault clay in Trench 9 (the focus of the excavation area). An undated palaeochannel aligned east-west was identified during evaluation in the field immediately east of the site (Heard 2015). Gault clay was exposed across most of the excavation area with a band of overlying sand along its eastern side.
- 1.2.3 The development area was approximately 4 hectares in area, and at the time of excavation was an arable field. The excavation area measured 160m<sup>2</sup>.

# 1.3 Archaeological and historical background

#### Introduction

1.3.1 Local archaeological records are described below and where relevant shown on Figure 1. CHER numbers refer to the Cambridgeshire Historic Environment Record. A recent DBA (Bush 2016) and evaluation at Waterbeach Barracks (Clarke forthcoming) 1km to the north-west have added to the archaeological record for Waterbeach.

#### **Prehistoric**

1.3.2 Neolithic flints and stone axes have been found nearby (e.g. CHER CB15650). Late Bronze Age/Early Iron Age pottery was recovered from a buried soil during evaluation on the High Street, Waterbeach (CHER ECB2210). Middle Iron Age pits were found 400m to the south-west of the site at 12 Pieces Lane (CHER MCB19562).

#### Roman

1.3.3 The site lies north of the Cambridgeshire Car Dyke (CHER 0545; SAM 1034826), part of a fenland drainage system which was built in the Early Roman period. It ran from north-west to south-east, probably serving (at least in part) as a canal connecting the



River Great Ouse to the River Cam approximately 1.5km south of the site. The Roman Road, Akeman Street, which ran northwards from Cambridge into the fens, towards Brancaster, passed 2.4km west of the site. Recent evaluation at Waterbeach Barracks has identified three areas of intensive Roman activity amongst a Late Iron Age to Roman field system 1km to the north-west as well as a pottery kiln and an inhumation burial (Clarke forthcoming).

- 1.3.4 Two Roman Horningsea industry kilns were found at 12 Pieces Lane (CHER MCB19562; Figure 1), 400m south-west of the site, along with other settlement features and large quantities of pottery. The kilns were repeatedly re-used and rebuilt from the early 2nd century AD, probably representing small pottery producers at the time prior to consolidation of the local industry in the mid 2nd century (Newton 2011). Horningsea pottery was distributed up to 50km north of the main production area of Horningsea (Evans 1991).
- 1.3.5 Evaluation at the site in September 2015 (Fairbairn 2015) identified several small pits in the east of the development area containing 1st-2nd century Roman pottery sherds, produced locally in coarseware fabric (Fletcher & Wadeson 2015). The pits were suspected to represent small scale clay extraction and the clay in that trench was noted for appearing of higher quality than that further west (Fairbairn 2015). It was assumed that settlement associated with these pits lay to the east of the site, there being no evidence for it in the trenches to the north, west or south. However, an evaluation in October 2015 (ECB4579), of the field immediately to the east, found no such settlement (Heard 2015).

#### Saxon

1.3.6 Early Saxon settlement was found some 600m west of the site in the form of Sunken Featured Buildings at Denny End (CHER CB14602) and close to the Car Dyke at The Lodge (CHER 05312).

#### Medieval and Post-medieval

- 1.3.7 The site lay under fenland pasture throughout the medieval period, lying between the village core and the fens to the north-east (Wright 1989, 237-243).
- 1.3.8 In 1811 a track running north marked the edge of Waterbeach Joist-Fen, with the majority of the modern field lying on the Fen side of that track. This track was identified during the evaluation (Fairbairn 2015) c.200m northwest of the excavation area.
- 1.3.9 Following enclosure in 1814, the site remained under pasture, after which Bannold Drove (to the east of the site) was probably made (Wright 1989, 237-243).

#### Modern

1.3.10 The October 2015 evaluation in the field immediately east of the excavation area revealed features thought to relate to a Second World War searchlight battery (Heard 2015).

# 1.4 Acknowledgements

1.4.1 The work was commissioned by Chris Harrison of CgMs and managed by James Drummond-Murray. Kasia Gdaniec of Cambridgeshire Historic Environment Team monitored and advised on the works. Machine stripping was completed in difficult conditions by Nigel of Lattenbury Services. Lindsey Kemp, Ro Davis and the author undertook hand excavation. Site survey was undertaken by Gareth Rees and the author.



# 2 AIMS AND METHODOLOGY

# 2.1 Aims

- 2.1.1 The original aims of the project were set out in the Brief (Gdaniec 2016) and Written Scheme of Investigation (Drummond-Murray 2016).
- 2.1.2 The main aims of this excavation were:
  - To mitigate the impact of the development on the surviving archaeological remains. The development would have severely impacted upon these remains and as a result a full excavation was required, targeting the areas of archaeological interest highlighted by the previous phases of evaluation.
  - To preserve the archaeological evidence contained within the excavation area by record and to attempt a reconstruction of the history and use of the site.
- 2.1.3 The aims and objectives of the excavation were developed with reference to National, Regional and Local Research Agendas:
  - Research and Archaeology: A Framework for the Eastern counties: 1. Resource Assessment (Glazebrook 1997, East Anglian Archaeology Occasional Papers 3)
  - Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy (Brown & Glazebrook 2000, East Anglian Archaeology Occasional Papers 8)
  - Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011, East Anglian Archaeology Occasional Papers 24).

# 2.2 Site Specific Research Objectives

- 2.2.1 Site specific aims were:
  - Identify any settlement or other features associated with the pits found during the evaluation stage
  - Determine the extents of the activity represented by the pits
  - Improve understanding of the pits and attempt to confirm whether or not clay extraction was their primary function

# 2.3 Methodology

- 2.3.1 The methodology used followed that outlined in the Brief (Gdaniec 2016) and detailed in the Written Scheme of Investigation (Drummond-Murray 2016).
- 2.3.2 Machine excavation was carried out by a rubber tracked 360-type excavator using a 2m-wide flat bladed ditching bucket under constant supervision of a suitably qualified and experienced archaeologist. A 40×40m area surrounding evaluation Trench 9 was to be stripped, and potentially expanded if features of sufficient interest justified further exploration.
- 2.3.3 Spoil, exposed surfaces and features were scanned with a metal detector. All metaldetected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 2.3.4 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Plans and sections were recorded at appropriate scales and colour photographs were taken of all relevant features and deposits.



- 2.3.5 Site survey was undertaken using a Leica GS08 RTK GPS. A pre-excavation plan was created by GPS after completion of top soil removal.
- 2.3.6 Nine environmental samples were taken, although the evaluation report indicated poor potential for environmental evidence.
- 2.3.7 Site conditions were very wet. Machining was halted on the first day due to excessive rain and run-off from the field surface flooding the initial trench. On the following days saturated ground hampered the removal of the rest of the plough soil. Further rain brought hand excavation to a halt twice as the site flooded. The pre-excavation site plan aided continuing excavation once the site had dried out.

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# 3 Results

#### 3.1 Introduction

- 3.1.1 Figure 2 shows the pits in plan in relation to the geology on site.
- 3.1.2 Broad shallow spreads of siltier material, perhaps boggy ground, were identified with no clear relationship to any of the pits. A shallow linear ditch cut through one of these, but again this had no evident relationship with the pits. Finds within this material comprised occasional animal bone and abraded pottery.
- 3.1.3 Pits like those in Trench 9 were identified across the area. They appeared to represent just one phase, rarely intersecting, suggesting that they were generally cut while previous pits were still visible, in a relatively brief phase of activity. All pits excavated were in character with those in Trench 9: they had varying extents, but were all shallow and produced small quantities of pottery, occasional animal bone and were backfilled with natural clay.
- 3.1.4 A single shallow ditch 9.8m in length cut the top of the shallow hollows.
- 3.1.5 Features were exclusively found on the gault clay which covered most of the excavation area (Plate 1). No archaeology was found on the sand which followed the eastern edge of the site.

# 3.2 Disturbed hollows

- 3.2.1 Across the south-west quarter of site, two broad areas of the natural clay had been disturbed.
- 3.2.2 The smaller disturbed hollow (1236) was amorphous, 8.8m long from north-west to south-east and 5.1m wide. This lay close to the western baulk. A quadrant of it was excavated (Plate 2), demonstrating a fairly uniform depth of no more than 0.08m. Its fill was a mid brown friable clayey silt which was slightly porous. It produced a small number of pottery sherds and several larger pieces of animal bone.
- 3.2.3 A broader, but less distinct area of disturbance lay just south-west of this (**1240**). A 1m-square test pit near its centre produced no finds. The feature was around 0.25m deep.
- 3.2.4 These hollows may have formed as wetter depressions, with finds and silt becoming incorporated through trampling. They contrasted with the relatively clearly defined pits described below. Notably, the pits did not intersect with, but surrounded, these depressions, so they could have been present prior to the pits being cut.

#### 3.3 Pits

#### Introduction

- 3.3.1 Pits are discussed by area. This separation is for convenience rather than to indicate any particular clusters, temporal, spatial or functional associations or relationships, none of which could be distinguished. That said, denser concentrations of pits were found in the north-west and south-west corners and may represent distinct episodes of activity.
- 3.3.2 Unless otherwise specified, the fills of the pits were uniformly grey to bluish grey clay: all were backfilled immediately following excavation. Edges were usually distinguished from the undisturbed natural clay by the presence of possible iron panning of the natural clay following the cut edge of each pit. The similarity between the natural clay



- and feature fills, combined with the poor conditions on site mean it is possible that similar features remained unrecorded in the gaps between excavated pits.
- 3.3.3 The pits are summarised below, with detail provided on notable examples. Full details are provided in Appendix A.

#### North-west corner

- 3.3.4 In the far north-west corner was a generally linear cluster of small pits covering an area of around 7m by 2.5m: (from north-west) 1275 (Section 66), 1277, 1273 (Plate 3), 1263 (Section 56), 1261 (Plate 4), 1259, 1271, 1257 (Section 53) and 1269. These were generally sub-circular and ranged from 0.5m to 1.7m in length with depths of up to 0.33m. Pottery came from Pits 1273, 1275, 1263 and 1258.
- 3.3.5 To the south of this cluster was a dispersed line of small pits 12m in length: (from west) 1248, 1267 (Section 58), 1265, 1287, 1250. These ranged from 0.6m to 1.2m across, being up to 0.15m in depth. Pottery was recovered from Pits 1248 and 1265.

#### South-west corner

- 3.3.6 Two pits lay just west and north-west of the smaller disturbed hollow **1236**: Pits **1230** and **1234** (Plate 5). Pit **1295** lay further north but was unexcavated.
- 3.3.7 Twenty-two pits lay south-west of the two disturbed hollows. Of these, sixteen were excavated: (from north-west) Pits 1214, 1222 (Section 41), 1220, 1212 (Plate 6; Section 39), 1228, 1204 (Plate 7), 1216, 1218, 1206 (Plate 8; Section 34), 1226, 1208, 1246, 1224, 1242 (Section 46), 1202, 1200, the latter two intersecting or possibly representing a single irregular pit. They varied in extents and form, some were sub-rectangular and some closer to oval/circular. Their depths ranged from 0.05m to 0.45m, though typically they were 0.1-0.3m deep.
- 3.3.8 Six pits were unexcavated and only recorded in plan: (from north) Pits 1294, 1293, 1292, 1291, 1289, 1290. These were clearly of similar character, their fills being redeposited clay with their edges being marked by possible iron panning at the interface with the natural clay.

#### **Evaluation Trench 9**

3.3.9 The features within the evaluation trench were described in the evaluation report (Fairbairn 2015). With open excavation it was possible to define their full extents. Pit **904** had a total length of 3.9m, while Pit **906** was 4.7m long. Pits **908** and **910** did not clearly extend beyond the trench. An additional circular pit (**1297**), not seen during evaluation, was recorded. It appeared to have the same character as the others mentioned but was not excavated.

#### West of Evaluation Trench 9

3.3.10 West of Pit **908** were three small sub-circular pits, **1279** (Section 61), **1281** (Plate 9; Section 62) and **1296** (the latter unexcavated). These were all 0.8-1.3m in width. Pits **1279** and **1281** were 0.2m and 0.24m in depth respectively, while Pit **1296** was unexcavated.

#### East of Evaluation Trench 9

3.3.11 East of the evaluation trench, pits were far less common. Three sub-circular pits were spread across the area: Pit **1283** (Section 69) lay close to the northern baulk; Pit **1210** close to the southern baulk; and Pit **1255** in the north-east quarter of the site.



#### Pit 1252

- 3.3.12 Lying just east of the evaluation trench, in the north-east of the site, Pit **1252** appeared at first to be different in character. It was larger, at 6.3m by 4m, and sub-rectangular in plan with its longer axis aligned west-north-west to east-south-east. Its north-east quadrant was excavated (Plate 10; Section 63). Being only 0.35m deep it was of similar depth to all the other features on site.
- 3.3.13 Its lower fill (1253) was a mixed brownish blue clay 0.25m thick, probably backfill. Its upper fill (1254) was a thin, friable clayey silt, similar to the deposits in the disturbed areas represented by **1236** and **1240**. It was this upper fill that suggested a different character from the other pits. However, the lower fill more closely resembled those of the other backfilled pits. Duckweed seeds recovered from the lower fill suggest either that the pit was allowed to fill with water prior to backfilling, or that water pooled over the depressed backfill (Fosberry, Appendix C.2).
- 3.3.14 Both the upper and lower fills produced a few sherds of pottery and pieces of animal bone in quantities similar to the smaller pits. Apart from its greater extent in plan and thin upper fill, it was in all other aspects of a similar nature to the other pits on site.

#### Pit dimensions

3.3.15 The depths of the pits excavated (44 in total, including Pit **1252**) are given in Table 1. Including those unexcavated (53 pits recorded in total), lengths are given in Table 2.

Depth (m)	Frequency
0-0.1	7
0.1-0.2	18
0.2-0.3	12
0.3-0.4	3
0.4-0.5	3
0.5-0.6	1
Total	44

Table 1: Roman pit depths

Length (m)	Frequency
0-0.5	3
0.5-1	21
1-1.5	17
1.5-2	6
2-2.5	2
2.5-3	0
3-3.5	1
3.5-4	1
4-4.5	0
4.5-5	1
5-5.5	0
5.5-6	1
Total	53

Table 2: Roman pit lengths

#### 3.4 Ditch 1232

- 3.4.1 A small, discrete ditch (1232) cut the top of hollows 1236 and 1244. This extended for 9.8m on a north-west to south-east alignment. It was 1.05m wide at its widest and up to 0.13m deep (Plate 11). Its fill (1233) was a dark brownish grey silty clay distinctly visible against the background of the hollow fills.
- 3.4.2 Stratigraphically it was later than the hollows, but had no clear relationship with the pits in the area. It produced similar finds but could be either contemporary with them or significantly later.



# 3.5 Finds Summary

3.5.1 In total, 795g of pottery was recovered, the majority of which comprised abraded 1st-2nd century Roman local wares and a fragment of South Gaulish samian (App B.1).

# 3.6 Environmental Summary

3.6.1 Animal bone totalling 1.7kg in weight was recovered from excavated features (C.1). Apart from indicating domestic consumption, quantities and condition were insufficient to draw further conclusions. Nine environmental samples were taken, producing only a barley seed and duckweed seeds (see Appendix C.2).

### 4 Discussion and Conclusions

# 4.1 Roman (1st-2nd Century)

#### **Hollows**

4.1.1 It is suggested the broader hollows result from erosion within wet ground. These probably either pre-dated or were contemporary with the pits. If earlier, the wet ground would have allowed the intrusion of finds at the time of work on the pits.

#### **Pits**

- 4.1.2 Two dense clusters of pits were recorded, focused on the north-west and south-west corners of the excavation. Numerous other pits were also present across the site. Given the wet conditions at the time of excavation, more pits may have existed in the gaps but could not be seen.
- 4.1.3 Despite varying sizes and shapes, the pits had several factors in common and as such they are all considered to have the same function. These common factors are:
  - Location only on the clean gault clay, being absent on the sand to the east and on the more mixed clays elsewhere
  - Shallow depth no more than 0.55m and typically less than 0.3m
  - Lack of intersection (where they were clustered)
  - Discarded clay backfills
  - Finds occasional small abraded sherds of 1st-2nd century pottery and occasional animal bone
- 4.1.4 The first three points support the suggestion of material extraction. They targeted the same (presumably ideal) material by location and depth. Non-intersection suggests that areas already disturbed by previous pits were undesirable something perhaps less commonly seen on settlement sites or where pits are kept open for other purposes.
- 4.1.5 There are potential problems with this interpretation. One is that there was no evidence of under-cutting which might have been a less labour intensive way of getting access to more lower clay. The second problem is: if clay was being extracted, why were pits being backfilled with clay? It is suggested that perhaps clay at a certain depth was retrieved and the backfill represents discarded or contaminated clay with each pit representing the extraction of a small amount of material in relation to its volume. It is possible that plough truncation removed upper fills, except in the case of Pit 1252, preventing estimates of the quantity of material extracted.
- 4.1.6 The question remains as to why the pits were backfilled at all if the material was being discarded and the site was not settled. The only explanation offered is that a level of



- good house-keeping was required to ensure the area was tidy for later extraction of untouched clay.
- 4.1.7 The paucity of finds clearly shows this was not a settlement site. Furthermore, despite evaluation, there is no evidence for settlement within 50-100m in all directions. This points to a specialist function. The quality of the clay appears to be the only reason for activity at this location. So the interpretation offered following the evaluation, that these represent small scale clay extraction pits for local industry (Fairbairn 2015), remains the most convincing.

#### Pit Dates and Context

- 4.1.8 The clustering of some of the pits (in the north-west and south-west) points to separate more intensive, systematic episodes of activity. These contrast with the disparate smaller pits and the separate large pit (1252), which may represent more opportunistic events. Non-intersection and a lack of differentiation in the pottery prevents relative dating of these events and they must be near-contemporary.
- 4.1.9 The pottery dated to the 1st-2nd centuries AD. Its abraded state suggests middening on the surface with only occasional pieces entering the pits.
- 4.1.10 Given the ready alternative supplies of clay available beside the River Cam at Clayhithe and Horningsea, the clay from the Bannold Road site probably did not travel far before being put to use. Bearing in mind the Early Roman date of the pits, the clay was probably taken for use in some of the kilns identified at 12 Pieces Lane or, possibly, at unknown kilns sites nearby.

# 4.2 Significance

4.2.1 The site forms a small part of the larger Horningsea pottery industry focused to the south-west i.e. south of Horningsea itself. The Horningsea industry was important, with distribution ranging as far north as Wisbech and Downham Market (Evans 1991). The site itself adds another data point to the corpus of material from that industry.



# APPENDIX A. CONTEXT INVENTORY

Context	Cut	Category	Type	Function	I (m)	w (m)	d (m)	Plan	Side	Break of Slope	Base
01	902	fill	pit	Clay extraction?							
902	902	cut	pit	Clay extraction?	0.68		0.2	oval			
903	904	fill	pit	Clay extraction?							
904	904	cut	pit	Clay extraction?	1.44		0.33	Irregular/linear			
905	906	fill	pit	Clay extraction?							
906	906	cut	pit	Clay extraction?	3.9	1.22	0.24	Irregular/linear			
907	908	fill	pit	Clay extraction?							
908	908	cut	pit	Clay extraction?	4.7	1.5	0.55	Sub-oval			
909	910	fill	pit	Clay extraction?							
910	910	cut	pit	Clay extraction?	1.6		0.5	Sub-circular			
1200	1200	Cut	Pit	Clay extraction?	2.1	1.2	0.2	sub-circular	shallow	gradual	concave
1201	1200	Fill	Pit	Backfilled clay							
1202	1202	Cut	Pit	Clay extraction?	1.2	1	0.28	sub-circular	shallow	gradual	concave
1203	1202	Fill	Pit	Backfilled clay						J. C. C. C.	
1204	1204	Cut	Pit	Clay extraction?	1.3	1.1	0.24	sub-circular	irregular	moderate	irregular
1205	1204	Fill	Pit	Backfilled clay	1.0		0.21	oub on outai	mogalai	moderate	irrogulai
1206	1206	Cut	Pit	Clay extraction?	1.7	1	0.3	sub-oval	steen	moderate	concave
1207	1206	Fill	Pit	-	1.7	1	0.5	Sub-oval	steep	moderate	concave
				Backfilled clay	1	0.0	0.40	oub oiroular	modorate	gontlo	oonee::-
1208	1208	Cut	Pit	Clay extraction?	1	8.0	0.12	sub-circular	moderate	gentle	concave
1209	1208	Fill	Pit	Backfilled clay		0.0	0.0		. 1 11 .		
1210	1210	Cut	Pit	Clay extraction?	1.4	8.0	0.2	sub-circular	shallow	gradual	concave
1211	1210	Fill	Pit	Backfilled clay			1				
1212	1212		Pit	Clay extraction?	0.95	0.9	0.18	sub-circular	shallow	gradual	concave
1213	1212	Fill	Pit	Backfilled clay							
1214	1214	Cut	Pit	Clay extraction?	0.66	0.56	0.07	sub-circular	moderate	imperceptible	concave
1215	1214	Fill	Pit	Backfilled clay							
1216	1216	Cut	Pit	Clay extraction?	0.9	0.45	0.3	sub-circular	moderate	moderate	concave
1217	1216	Fill	Pit	Backfilled clay							
1218	1218	Cut	Pit	Clay extraction?	3.1	1.95	0.45	sub-rectangular	moderate	gentle	irregular
1219	1218	Fill	Pit	Backfilled clay							
1220	1220	Cut	Pit	Clay extraction?	1.7	1.2	0.18	sub-rectangular	moderate	concave	irregular
1221	1220	Fill	Pit	Backfilled clay							
1222	1222	Cut	Pit	Clay extraction?	0.77	0.56	0.05	sub-square	gentle	moderate	irregular
1223	1222	Fill	Pit	Backfilled clay				·			
1224	1224	Cut	Pit	Clay extraction?	0.65	0.65	0.2	sub-rectangular	steep	moderate	concave
1225	1224	Fill	Pit	Backfilled clay		4.44					
1226	1226	Cut	Pit	Clay extraction?	1.3	1.05	0.15	sub-rectangular	moderate	moderate	irregular
1227	1226	Fill	Pit	Backfilled clay	1.0	1.00	0.10	3db rectangular	moderate	moderate	irregulai
1228		Cut	Pit	Clay extraction?	1.2	1	0.18	sub-rectangular	moderate	charn	concave
1229	1228		Pit	Backfilled clay	1.4	I	0.10	300-160tallyulal	moderate	sharp	concave
				-	1 1	0.64	0.04	eub equere	vertical/moderate	gradual	conceve
1230	1230		Pit	Clay extraction?	1.1	0.64	0.04	sub-square	vertical/moderate	gradual	concave
1231	1230		Pit	Backfilled clay	0.0	0.0	0.40	Barra Ar			
1232	1232		ditch		9.8	8.0	0.12	linear, terminus	moderate	imperceptible	concave
1233	1232		ditch	0	4	4.6	0.55				
1234	1234		Pit	Clay extraction?	1.94	1.8	0.22	sub-circular	steep	imperceptible	irregular
1235		Fill	Pit	Backfilled clay							
1236		Cut	Spread	Disturbed hollow	8.7	5.05	0.08	amorphous	shallow	imperceptible	irregular
1237	1236		Spread	Disturbed silt							
1238	1238	Cut	ditch		9.8	1	0.1	linear, terminus	shallow	imperceptible	concave
1239	1238	Fill	ditch								
1240	1240	Cut	ditch		9.8	1.05	0.13	linear	shallow	imperceptible	concave
1241	1240	Fill	ditch								
1242	1242		Pit	Clay extraction?	2	1.8	0.28	sub-circular	steep	moderate	near flat
1243	1242		Pit	Backfilled clay		1	1				
1244		Cut	Spread	Disturbed hollow	13	10	0.2	amorphous	-	-	irregular
1245	1244	Fill	Spread	Silty clay fill	+			p.1.000			Ogulul
			-		1 24	1 1	0.2	sub-square	uradual		irregular
1246	1246	Cui	Pit	Clay extraction?	1.24	1.1	0.2	sub-square	gradual		ııregul



Context	Cut	Category	Type	Function	l (m)	w (m)	d (m)	Plan	Side	Break of Slope	Base
1247	1246	Fill	Pit	Backfilled clay							
1248	1248	Cut	Pit	Clay extraction?	1.07	0.6	0.14	oval	moderate	sharp	flat
1249	1248	Fill	Pit	Backfilled clay							
1250	1250	Cut	Pit	Clay extraction?	1.3	1.1	0.16	sub-oval	gradual	imperceptible	irregular
1251	1250	Fill	Pit	Backfilled clay							
1252	1252	Cut	Pit	Clay extraction?	5.6	4.2	0.3	sub-rectangular	shallow	gradual	irregular
1253	1252	Fill	Pit	Backfilled clay							
1254	1252	Fill	Pit	Upper silty fill							
1255	1255	Cut	Pit	Clay extraction?	1.58	1.25	0.08	sub-circular	gentle	gradual	irregular
1256	1255	Fill	Pit	Backfilled clay							
1257	1257	Cut	Pit	Clay extraction?	1.5	1.3	0.5	amorphous	steep	sharp	irregular
1258	1257	Fill	Pit	Backfilled clay							
1259	1259	Cut	Pit	Clay extraction?	1.05	0.6	0.28	sub-oval	steep	moderate	concave
1260	1259	Fill	Pit	Backfilled clay							
1261	1261	Cut	Pit	Clay extraction?	0.3	0.3	0.1	sub-oval	moderate	moderate	concave
1262	1261	Fill	Pit	Backfilled clay							
1263	1263	Cut	Pit	Clay extraction?	0.45	0.4	0.12	sub-circular	moderate	imperceptible	concave
1264	1263	Fill	Pit	Backfilled clay							
1265	1265	Cut	Pit	Clay extraction?	0.7	0.65	0.23	sub-square	moderate	sharp	flat
1266	1265	Fill	Pit	Backfilled clay							
1267	1267	Cut	Pit	Clay extraction?	0.7	0.6	0.15	sub-circular	steep	moderate	flat
1268	1267	Fill	Pit	Backfilled clay							
1269	1269	Cut	Pit	Clay extraction?	0.9	0.7	0.25	circular	moderate	imperceptible	concave
1270	1269	Fill	Pit	Backfilled clay							
1271	1271	Cut	Pit	Clay extraction?	0.5	0.6	0.18	sub-oval	vertical	sharp	flat
1272	1271	Fill	Pit	Backfilled clay							
1273	1273	cut	Pit	Clay extraction?	0.8	0.8	0.1	sub-oval	shallow	gradual	concave
1274	1273	Fill	Pit	Backfilled clay							
1275	1275	Cut	Pit	Clay extraction?	0.95	0.85	0.4	circular	gradual	steep	irregular
1276	1275	Fill	Pit	Backfilled clay							
1277	1277	Cut	Pit	Clay extraction?	0.8	0.68	0.1	circular	gradual	steep	irregular
1278	1277	Fill	Pit	Backfilled clay					3		3
1279	1279	Cut	Pit	Clay extraction?		1	0.25	sub-oval	moderate	gradual	flattish
1280	1279	Fill	Pit	Backfilled clay						<b>J</b> • • • •	
1281	1281	Cut	Pit	Clay extraction?	1.21	0.9	0.19	sub-circular	steep/stepped	sharp	irregular
1282	1281	Fill	Pit	Backfilled clay		14.4					
1283	1283	Cut	Pit	Clay extraction?	0.77	0.73	0.35	sub-circular	shallow	gradual	concave
1284	1283	Fill	Pit	Backfilled clay		1 4	10.00			3.2.2.2.	
1285	1285	Cut	Pit	Clay extraction?	0.35	0.25	0.12	sub-circular	moderate	gentle	concave
1286	1285		Pit	Backfilled clay	0.00	0.20	0.12	oub on outer	moderate	gonao	COLICATO
1287	1287		Pit	Clay extraction?	0.67	0.67	0.14	sub-circular	unexc.		
1288	1287	Fill	Pit	Backfilled clay	0.07	0.07	0.14	Sub circular	unicac.		
1289	1289	cut	pit	Clay extraction?	0.98	0.68		sub-square	unexc.		
1290	1290	cut	pit	Clay extraction?	1.4	1.3	-	sub-square	unexc.		
1291	1291	cut	pit	Clay extraction?	2.3	1.45	-	sub-rectangular	unexc.		
1291	1292		pit	Clay extraction?	0.8	0.8	-	sub-circular	unexc.		
1292	1292	cut	pit	Clay extraction?	1.3	0.8		sub-rectangular	unexc.		
1293	1293	cut	pit	Clay extraction?	0.7	0.6		Sub-reciallyuidi			
1294	1294	cut	pit	Clay extraction?	1.05	1.05	-	sub-circular	unexc.		
1295	1295	cut		Clay extraction?	0.95	0.95	-	sub-circular			
1230	1296	cut	pit pit	Clay extraction?	1.1	0.95		sub-circular sub-oval	unexc.		

Table 3: Context inventory



# APPENDIX B. FINDS REPORTS

# **B.1 Roman Pottery**

By Alice Lyons

# Summary

B.1.1 This is primarily a small assemblage of severely abraded utilitarian Romano-British Horningsea-type coarseware pottery. It comprises a very conservative group of fabric and forms typical of the rural Cambridgeshire fen-edge in the early to mid-Roman period.

#### Introduction

B.1.2 A total of 117 sherds, weighing 795g (0.48 Estimated Vessel Equivalent or EVE), of early to mid-Romano-British pottery was found during the evaluation and excavation stages of this project, which represent a minimum of 64 fragmentary vessels.

	Sherd Count	Weight (g)	EVE	Weight (%)
Evaluation	19	182	16	22.89
Excavation	98	613	32	77.11
Total	117	795	48	100.00

Table 4: The Evaluation and Excavation Roman pottery quantified assemblages

- B.1.3 The assemblage consists of locally made sandy grey and oxidised coarse ware jars of local utilitarian Horningsea-type, with finer wares represented by tiny fragments of Nene Valley colour coat and possibly Cherry Hinton sandy red ware beakers and a scrap of South Gaulish samian.
- B.1.4 The pottery assemblage was mostly recovered from within pits (80.5%), although small amounts of ceramic material was recovered from other feature types (Table 5). The pottery was not deliberately placed, or deposited as whole vessels, but rather found its way into these features as dispersed midden material. The pottery, even though protected by pit features, has not survived in good condition and is severely abraded with an average sherd weight of under 7g.

Feature Type	Sherd count	Weight (g)	Weight (%)
Pit	99	640	80.50
Spread	12	99	12.45
Subsoil	1	34	4.28
Ditch	5	22	2.77
Total	117	795	100.00

Table 5: The Roman Pottery by feature

# Methodology

- B.1.5 The Roman pottery was analysed following the guidelines of the Study Group for Roman Pottery (Barclay et al 2016, 14-18). The fabrics and forms used within this report reference those published by Evans et al (forthcoming), supported with references to the national fabric series (Tomber and Dore 1998), also Tyers (2006).
- B.1.6 The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types present. Vessel forms (jar, bowl) were recorded and vessel types cross-referenced and compared to other published examples. The



sherds were counted and weighed to the nearest whole gram and recorded by context. Decoration, residues and abrasion were also noted. OA East curates the pottery and archive.

# Acknowledgements

B.1.7 Thanks to Carole Fletcher and Stephen Wadeson for writing the initial pottery evaluation report (OA East Report 1860).

# The Pottery

- B.1.8 A total of seven Roman pottery fabrics were identified (Table 6).
- B.1.9 The majority of this small and abraded assemblage are fragments of locally made Horningsea-type sandy reduced, also oxidised, jar/bowl vessels that could not be assigned to a specific form. Vessel forms that could be recognised comprise a narrow mouthed jar (Newton and Peachey 2012, fig 6, no 9), a medium mouthed jar with an inverted rim (ibid, fig 7, no 42), also a segmental bowl (ibid, fig 7, no 47). All these fabrics and forms were also recorded at the near-by 12 Pieces Lane.

Fabric name and abbreviations	Published fabric descriptions	Vessel form	Sherd count	Weight (g)	Weight (%)
Horningsea reduced ware: HOR RE1 (SGW; SGW (FLINT); SOW (Q))	Evans 1991, 35; Evans <i>et al</i> forthcoming; Tomber and Dore 1998, 116	Jar, bowl, storage jar	86	574	72.20
Horningsea oxidised ware: HOR OX1 (SOW (FLINT); SOW (Q))	Evans 1991, 35; Evans et al forthcoming	Jar, bowl, dish, storage jar, crucible	24	148	18.62
Nene Valley colour coat: NVCC	Tomber and Dore 1998, 118; Tyers 1996, 173-175; Perrin 1999, 87-106	Beaker	1	34	4.28
Verulamium oxidised ware: VEROW	Tyers 1996, 132-134	Mortaria	1	34	4.28
Fine sandy red ware: SREDW	Evans 1990, 24	Jar/beaker	3	5	0.62
Nene Valley oxidised ware: NVOW	Tomber and Dore 1998, 119; Perrin 1999, 108-112	Beaker	1	<1	<0.01
South Gaulish samian: SAM SG	Tomber and Dore 1996, 154; Tyers 1996	Bowl	1	<1	<0.01
Total			117	795	100.00

Table 6: The Roman pottery fabric and forms, listed in descending order of weight (%)

B.1.10 Fine wares are very scarce and consist of a single piece from an undiagnostic Nene Valley colour coated beaker, another tiny abraded fine sandy red ware beaker or jar fragment – possibly originating from Cherry Hinton and a scrap from a South Gaulish samian bowl. In addition, a small piece from a Verulamium white ware bead and flange mortarium (or mixing bowl was found). No amphora was recovered.

### **Discussion**

B.1.11 The site is located in an area of well-recorded intense Roman activity and settlement where the production of pottery has been known since the late 19th century when 'ovens' and Roman pottery were discovered during coprolite excavation to the southwest of Eye Hall (Heritage Gateway). Further kilns were discovered throughout the 20th century (McKenny 1902; Walker 1912; Pullinger and White 1991; Evans 1991) and into the 21st centuries (Newton and Peachey 2012). Fortunately, this evidence has recently been synthesised and submitted for publication (Evans *et al* forthcoming). Of particular significance to the interpretation of this pottery is the proximity of two early 2nd century Horningsea pottery kilns and associated settlement excavated (only 400m to the southwest) at 12 Pieces Lane (Newton and Peachey 2012).



- B.1.12 The assemblage recorded here, although small and severely abraded, can be seen to contain a limited range of Horningsea-type utilitarian fabrics and jar/bowl forms that are consistent with the material recorded by Newton and Peachey (2012) at 12 Pieces Lane and may be related to that settlement and pottery production that took place there. While the scraps of regional and imported fines ware and the Verulamium (St. Albums) mortarium present within the assemblage hint that the settlement which used this pottery did have the access (perhaps along the Car Dyke) and the resources to also obtain non-local fine and specialist wares.
- B.1.13 Although the pottery assemblage was retrieved largely from pits, some of which may have been dug for clay extraction, no direct evidence for pottery manufacture (such as wasters) was found within the pottery assemblage.
- B.1.14 This group of pottery, therefore, although small, adds to the growing corpus of data from the area of Waterbeach which is helping to give a picture of Roman pottery use, manufacture and disposal around the Horningsea pottery industry on the Cambridgeshire fen edge.
- B.1.15 The assemblage has no potential for additional analysis.

# **Pottery Catalogue**

#### Key

B = base, C=century, D = decorated body sherd, Dsc = description, E=early, Eval = evaluation, Ex = excavation, H = Handle, L=late M=mid, R = rim, U=undecorated body sherd.

For full fabric names see Table 6.

EVAL/ EX	Context	Cut	Feature Type	HM/ WM	Fabric Family	Dsc	Form	Quantity	Weight (g)	DATE		
EVAL	901	902	Pit	WM	SGW(FLINT)	R	BOWL	1	6	MC1-E/MC2		
	903	904	Pit	WM	SOW(Q)	R	JAR	1	5	MC1-E/MC2		
	905	906	Pit	НМ	SGW(FLINT)	U	JAR/BOWL	2	5	M/LC1		
	909	910	Pit	WM	SGW(FLINT)	U	JAR	5	39	MC1-E/MC2		
				WM	SGW(FLINT)	U	JAR	9	93	MC1-E/MC2		
	1103	=-	Layer	WM	VEROW	R	MORT	1	34	MC1-E/MC2		
EX	1201	1200	Pit	WM	SGW(FLINT)	UB	JAR	2	16	MC1-E/MC2		
	1205	1204	Pit	WM	SGW(FLINT)	U	JAR/BOWL	1	6	MC1-C2		
	1213	1212	Pit	WM	SOW(Q)	U	JAR	1	6	MC1-C2		
	1217 1	7 1216	217 1216	Pit	WM	SGW(FLINT)	U	JAR	1	26	MC1-C2	
				WM	SOW(FLINT)	D	JAR	1	10	MC1-MC2		
	1219	1218	Pit	WM	SGW(FLINT)	U	JAR	3	29	MC1-E/MC2		
				WM	SOW(Q)	U	JAR	2	3	MC1-E/MC2		
				WM	SOW(Q)	U	JAR/BOWL	2	5	MC1-MC2		
	1221	1220	1220	1220	Pit	WM	SGW	U	JAR	1	1	MC1-C2
				НМ	SGW(FLINT)	U	BOWL	1	5	LC1BC-ADE/MC1		
	1229	1228	Pit	WM	SGW	R	JAR	1	7	LC1-C2		
	1233	1232	ditch	WM	SGW(Q)	D	JAR/SJAR	1	12	MC1-C2		
	1235	1234	Pit	WM	SGW(FLINT)	U	JAR	2	27	MC1-E/MC2		
				WM	SGW(Q)	U	JAR	1	3	MC1-E/MC2		
				WM	SOW(Q)	U	JAR	1	1	MC1-E/MC2		
	1237	1236	Spread	НМ	SGW(FLINT)	U	BOWL	2	11	C1BC-ADE/MC1		
				WM	NVCC	UB	BEAK	1	34	M/LC2		
				WM	SGW	U	JAR/BOWL	1	1	MC1-C2		
				WM	SGW	UDB	JAR/BOWL	2	7	M/LC1-E/MC2		



ΞX				WM	SGW(Q)	U	JAR	4	34	MC1-C2			
				WM	SOW(Q)	U	JAR	1	1	MC1-C2			
	1239	1238	ditch	WM	SGW	U	JAR/BOWL	2	1	MC1-E/MC2			
	1241	1240	ditch	WM	SGW(Q)	U	JAR/BOWL	2	9	MC1-C2			
	1243	1242	Pit	WM	SGW	U	JAR	1	5	MC1-C2			
				НМ	SGW	U	JAR/BOWL	1	18	MC1-E/MC2			
				WM	SGW	U	JAR/BOWL	1	1	MC1-E/MC2			
	1245	1244	Spread	НМ	SGW(FLINT)	U	BOWL	1	11	E/MC1			
	1247	1246	1246	1246	247 1246	Pit	WM	SGW	U	JAR	1	6	MC1-E/MC2
				WM	SOW(Q)	U	JAR/SJAR	1	3	MC1-E/MC2			
	1249	1248	Pit	WM	SGW	U	JAR/BOWL	1	3	MC1-E/MC2			
				WM	SGW	U	JAR	2	1	MC1-E/MC2			
	1251	1250	Pit	WM	SGW	U	JAR/BOWL	2	4	MC1-C2			
	1253	1252	Pit	WM	SGW(Q)	UDB	JAR/BOWL	14	92	M/LC1-MC2			
				WM	SREDW	U	JAR/BEAK	3	5	MC1-C2			
	1254				4		WM	SGW(FLINT)	U	JAR	1	8	MC1-E/MC2
				WM	SOW(FLINT)	U	JAR	1	7	MC1-E/MC2			
				WM	SOW(Q)	R	DBOLW	1	23	MC1-E/MC2			
	1256	1255	Pit	WM	NVOW	U	BEAK	1	0	MC2+			
				WM	SOW(FLINT)	U	JAR/BOWL	2	35	MC1-E/MC2			
				WM	SOW(Q)	U	CRUCIBLE	1	4	MC1-C2			
	1258	1257	Pit	WM	SGW	RU	JAR	2	19	M/LC1-MC2			
				WM	SGW	R	JAR/BOWL	1	2	M/LC1-C2			
				WM	SGW(Q)	U	JAR	2	25	MC1-MC2			
				WM	SOW(Q)	D	SJAR	1	10	MC1-C3			
	1264	1263	Pit	WM	SOW(Q)	U	JAR	2	3	MC1-E/MC2			
	1266	1265	Pit	WM	SOW(Q)	U	JAR/BOWL	3	16	MC1-MC2			
	1274	1273	Pit	НМ	SGW(FLINT)	U	BOWL	1	0	PRE			
				WM	SGW	U	JAR	1	1	MC1-E/MC2			
				WM	SOW(Q)	D	BOWL	1	8	MC1-E/MC2			
	1276	1275	Pit	WM	SGW	U	JAR	2	5	MC1-E/MC2			
	1280	1279	Pit	НМ	SGW(FLINT)	U	BOWL	1	1	PRE			
				WM	SAM SG	U	BOWL	1	0	M/LC1			
				WM	SGW(Q)	UDB	JAR/BOWL	6	28	MC1-E/MC2			
	1282	1281	Pit	WM	SGW(FLINT)	U	JAR/BEAK	1	6	MC1-E/MC2			
				WM	SOW(Q)	U	DISH	1		MC1-MC2			
				WM	SOW(Q)	U	JAR/BEAK	1	0	MC1-E/MC2			



# APPENDIX C. ENVIRONMENTAL REPORTS

# C.1 Animal Bone

By Zoe Ui Choileain

#### Introduction

C.1.1 Excavations recovered 1.659Kg of animal bone from the Roman site at Bannold's Road.

### Methodology

C.1.2 All identifiable elements were recorded using a version of the criteria described in Davis (1992). Identification of the assemblage was undertaken with the aid of Schmid (1972) and France (2009) plus use of the OA East reference collection. Preservation condition was evaluated using the 0-5 scale devised by Brickley and McKinley (2004).

#### Results

C.1.3 Results according to collection method (i.e. hand-collection or flotation) are shown in Table 7. Erosion grades (simplified version of Brickley & McKinley 2004, 14-15): 0 (surface morphology clearly visible, fresh appearance), 1 (light and patchy surface erosion), 2 (more extensive surface erosion than grade 1), 3 (most of bone surface affected by some degree of erosion, 4 (all of bone surface affected by erosive action), 5 (heavy erosion across whole surface, completely masking normal surface morphology).

Context	Element	Number of frags	Taxon	<b>Collection method</b>	Erosion	Biometry	Age
1201	Rib	1	Large mammal	hand	2	No	No
T V L L L L L L L L L L L L L L L L L L	Tarsal	1	Large mammal	hand	3	No	No
	Vertebra	1	Medium mammal	hand	2	No	No
	Loose maxillary row	1	Sheep/Goat	hand	2	No	Yes
1225	Humerus	1	Cattle	hand	3	Yes	Yes
1235	Indet	1	Large mammal	hand	3	No	No
1237	Tibia	1	Cattle	hand	3	No	Yes
1241	Tibia	1	Sheep	hand	2	No	Yes
1243	Incisor	1	Cattle	hand	2	No	No
1253	Radius	1	Cattle	hand	3	No	Yes
	Tibia	1	Equid	hand	3	No	Yes
	Astragalus	1	Sheep/Goat	hand	3	No	No
1254	Femur	1	Cattle	hand	3	No	No
	Metatarsus	1	Cattle	hand	2	No	No
	Tibia	1	Sheep/Goat	hand	3	No	Yes
1256	Humerus	1	Cattle	hand	2	No	Yes

Table 7: Animal Bone Summary

- C.1.4 Overall the surface condition of the bone was a Grade 2-3 (McKinley 2004) meaning that most of the surface was affected by some degree of erosion. Fragmentation was medium; many bones were near complete with only one to two breakages.
- C.1.5 The assemblage consisted primarily of cattle and sheep/goat with a single fragment of equid bone (1253). Animals which could be aged tended to be younger. This corresponds with a collection used for domestic consumption. This assemblage is too small to yield any further information. No further work is required.

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# C.2 Environmental samples

By Rachel Fosberry

#### Introduction

C.2.1 Nine bulk samples were taken during the excavation of the site at Bannold Road, Waterbeach, Cambridgeshire. Samples taken during the evaluation of this site had indicated that there was low potential for the recovery of preserved plant remains. The purpose of this assessment is to determine whether plant remains are present, their mode of preservation and whether they are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal.

### Methodology

- C.2.2 A single bucket (approximately 10 litres) of each of the samples was processed by tank flotation using modified Siraff-type equipment. The floating component (flot) of the samples was collected in a 0.25mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 1.
- C.2.3 Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands and the authors' own reference collection. Nomenclature is according to Stace (1997). Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

# Quantification

C.2.4 For the purpose of this initial assessment, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories # = 1-10, ## = 11-50, ### = 51+ specimens

#### Results

- C.2.5 Preservation of plant remains is very poor. A charred grain of barley (Hordeum vulgare) was recovered from fill 1253 of pit 1252 but a single grain cannot be considered significant and could even be a later intrusion.
- C.2.6 Duckweed seeds (Lemna sp.) are also present in this feature suggesting that it filled with water once the clay had been extracted. No other waterlogged remains have been recovered which may indicate that it was immediately back-filled. Similarly duckweed was noted in fill 1243 of pit 1242.



Context	Cut	Feature Type	% context sampled	Volume processed (L)	Flot Volume (ml)	Charred barley	Duckweed seeds	Charcoal	Pottery
1211	1210	Pit	30	10	<1	0	0	0	0
1233	1232	Ditch	<10	8	<1	0	0	0	0
1234	1235	Ditch	<1		<1	0	0	0	0
1237	1236	Spread	<1	9	<1	0	0	0	0
1243	1242	Pit	<10	10	<1	0	#	0	#
1245	1244	Pit	<10	9	<1	0	0	0	0
1247	1246	Pit	<10	9	<1	0	0	0	0
1253	1252	Pit	<10	8	<1	#	0	0	0
1254			<10	10	2	0	#	0	0
1276	1275	Pit	~20	9	<1	0	0	0	0

Table 8: Environmental samples

# Discussion

C.2.7 The bulk samples taken at Bannold Road, Waterbeach confirm the interpretation that this site was not inhabited and that the pits were used for clay extraction and then backfilled.



# APPENDIX D. BIBLIOGRAPHY

Barclay, A., Knight, D., Booth, P., Evans, J., Brown, D.H., Wood, I. 2016 *A Standard for Pottery Studies in Archaeology*, Prehistoric Ceramics Research Group, Study Group for Roman Pottery (Historic England)

Bush, L. 2016 Proposed redevelopment of Waterbeach MOD site and neighbouring land, Cambridgeshire: Desk-Based Assessment, Oxford Archaeology East Report 1811

Davis S.J. 1995 The Archaeology of Animals Routledge

British Geological Survey (BGS) 2015 *Geology of Britain Viewer*, http://mapapps.bgs.ac.uk/geologyofbritain/home.html [accessed 22 June 2016]

Cappers, R.T.J, Bekker R.M and Jans, J.E.A. 2006 Digital Seed Atlas of the Netherlands *Groningen Archaeological Studies* 4, Barkhuis Publishing, Eelde, The Netherlands. www.seedatlas.nl

Clarke, G. forthcoming *Waterbeach Barracks and Airfield, Waterbeach, Cambridgeshire: Archaeological Evaluation*, Oxford Archaeology East Report 1996

Drummond-Murray, J. 2016 Written Scheme of Investigation for Archaeological Excavation: Bannold Road, Waterbeach, Oxford Archaeology East WSI Project Number 18631

Evans, J. 1990 'The Cherry Hinton Finewares', Journal of Roman Pottery Studies 3, 19 - 29

Evans, J. 1991 'Some notes on the Horningsea Roman pottery', *Journal of Roman Pottery Studies* 4, 33-43

Evans, J, Macaulay, S., and Mills, P. forthcoming The Horningsea Roman Pottery Industry in Context, *East Anglian Archaeology* 

Fairbairn, J. 2015 Land off Bannold Road, Waterbeach, Cambridgeshire: Archaeological Evaluation, Oxford Archaeology East Report 1860

Fletcher, C. and Wadeson, S. 2015 *Pottery* in Fairbairn, J. 2015, *Land off Bannold Road, Waterbeach, Cambridgeshire: Archaeological Evaluation, 19-21* 

France, D.L 2009 Human and Non-human Bone Identification. A colour Atlas Taylor and Frances

Gdaniec, K. 2016 Brief For Archaeological Small Works, Land north of Bannold Road, Waterbeach. CHET

Heard, K. 2015 Land at Bannold Road and Bannold Drove, Waterbeach, Cambridgeshire: Archaeological Evaluation Report, ASE Report 2015398

Jacomet, S. 2006 *Identification of cereal remains from archaeological sites*. Second Edition. IPNA, Universität Basel / Published by the IPAS, Basel University.

McKenny, H.T. 1902 On the potters field at Horningsea with a comparative notice of the kilns and furnaces found in the neighbourhood, *PCAS X*, 174-94

Newton, A.A.S., Peachey, A. 2011 Romano-British Horningsea Ware kilns at 12 Pieces Lane, Waterbeach, Cambridgeshire, *PCAS* CI, 143-160

Perrin, J.R. 1999 Roman Pottery from Excavations at and near to the Roman Small Town of Durobrivae, Water Newton, Cambridgeshire 1956-58, *Journal of Roman Pottery Studies* 8

Pullinger, J., & White, P.J. 1991 *Romano-British sites at Hinxton Fields, Teversham, 1978-1986*, privately printed

Schmid, E 1972 Atlas of Animal Bones Elsevier Publishing Company



Stace, C. 1997 New Flora of the British Isles. Second edition. Cambridge University Press Tomber, R. and Dore, J. 1998 The National Roman Fabric Reference Collection. A Handbook MOLAS

Tyers, P. 1996 Roman Pottery in Britain, London, Batsford

Walker, F.G. 1912 Roman pottery kilns at Horningsea, Cambridgeshire, PCAS XVII, 14-69

Wright A.P.M. and Lewis C.P. 1989 A History of the County of Cambridge and the Isle of Ely: Volume 9, Chesterton, Northstowe, and Papworth Hundreds (London). British History Online http://www.british-history.ac.uk/vch/cambs/vol9/pp237-243 [accessed 22 June 2016]

# Historic Maps Consulted

1811: Ordnance Survey Drawing 251, Ely, incorrectly numbered 'Ely 23', British Library http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/e/002osd000000023u00211000.html [accessed 8th July 2016]

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# APPENDIX E. OASIS REPORT FORM

Project Details								
OASIS Number								
Project Name			<u></u>					
Project Dates (field	dwork) Start			Finish				
Previous Work (by	OA East)		Future		Work			
Project Reference	Codes							
Site Code	Codes	Planning App. No.						
HER No.	Related HER/OASIS							
Type of Project/Te ⊃rompt	chniques Use	d						
Please select all	techniques	used:						
Field Observation (p	periodic visits)	Part Excavation			Salvage Record			
Full Excavation (100	0%)	☐ Part Survey			Systematic Field Walking			
☐ Full Survey		Recorded Observation			Systematic Metal Detector Survey			
☐ Geophysical Survey	,	Remote Operated Vehicle Survey			☐ Test Pit Survey			
Open-Area Excavat	ion	Salvage Excavation			☐ Watching Brief			
Monument Types. List feature types using Thesaurus together	the NMR Mont	ument Type	e Thesauru	-		-	Object type	
Monument Period				Object		Period		
Project Locatio	on							
County	punty			Site Address (including postcode if possible)				
District								
Parish								
HER								
Study Area			Nat	ional Grid Ref	erence			



Organisation  Project Brief Originator  Project Design Originator  Project Manager  Supervisor							
Project Archive Physical Archive Archive Content			Digital A	rchive		Paper A	rchive
Animal Bones Ceramics Environmental Glass Human Bones Industrial Leather Metal Stratigraphic Survey Textiles Wood Worked Bone Worked Stone/Lithic None Other	Physical Contents	Digital Contents	Paper Contents		Digital Me  Database GIS Geophysic Images Illustration Moving Im Spreadshe Survey Text Virtual Re	cs is nage eets	Paper Media  Aerial Photos Context Sheet Correspondence Diary Drawing Manuscript Map Matrices Microfilm Misc. Research/Notes Photos Plans Report Sections Survey

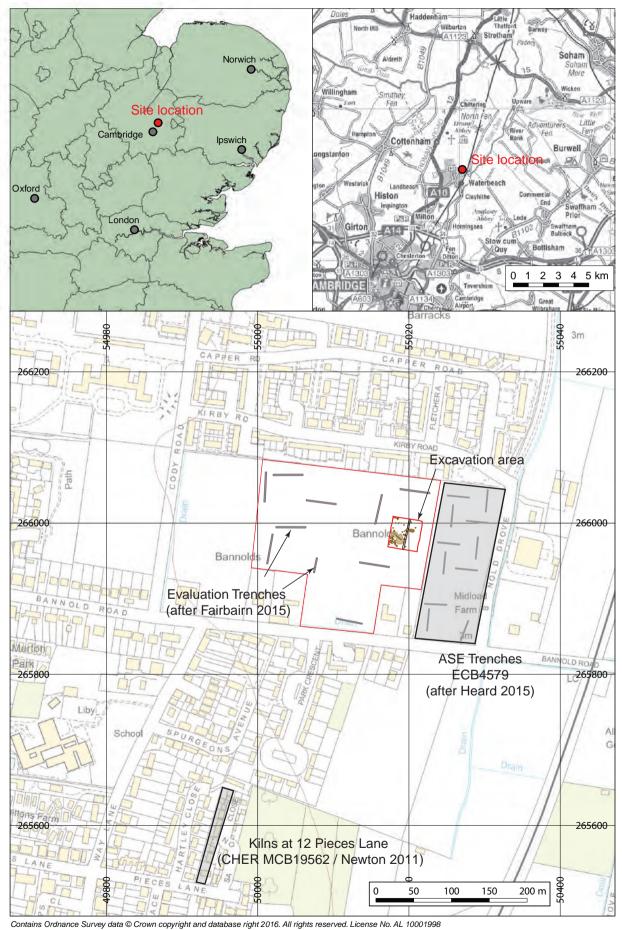


Figure 1: Site location showing proposed development area and excavation area (red) and evaluation trenches (black)



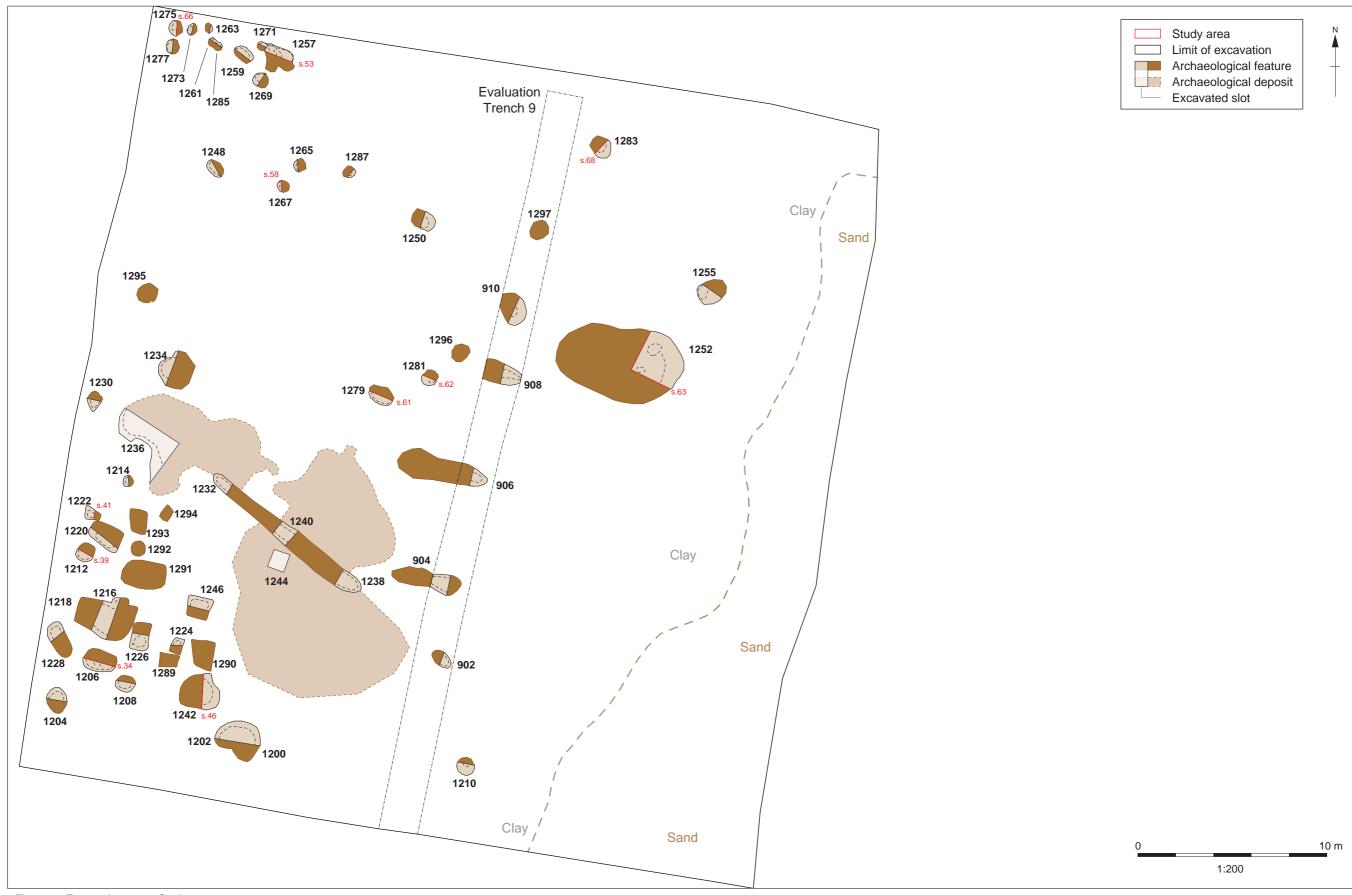


Figure 2: Excavation area. Scale 1:200.

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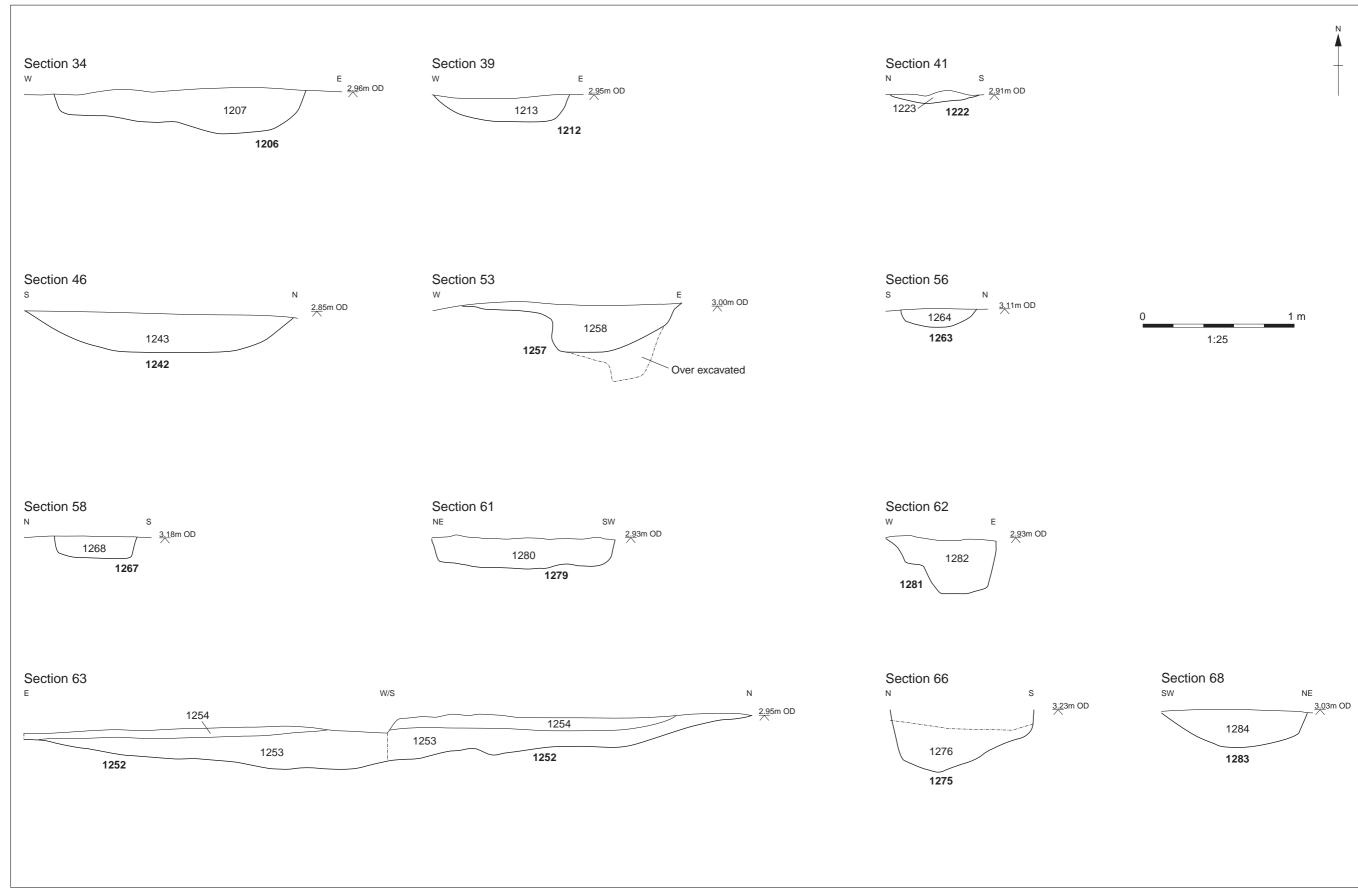


Figure 3: Section drawings. Scale 1:25.

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Plate 1: Site showing pits in the southwest corner and contrasting clay (foreground) and sand (background) geology. View east.

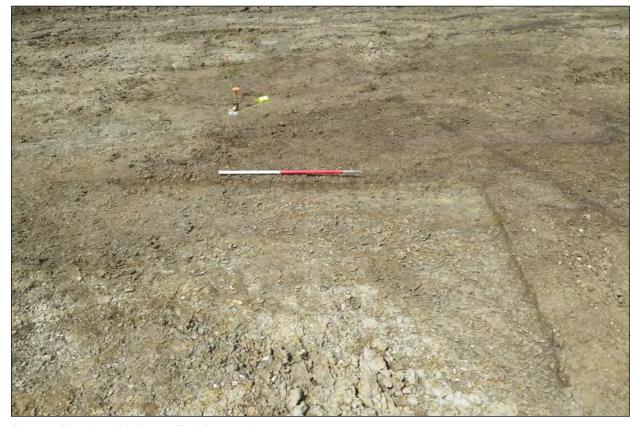


Plate 2: Disturbed Hollow 1252. View northeast.





Plate 3: Pits 1273 (left), 1275 (foreground left) and 1277 (right). View southeast.



Plate 4:Pits 1285 (left) and 1261 (right). View south.





Plate 5: Pit 1234. View southeast.



Plate 6: Pit 1212. View northeast.

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Plate 7: Pit 1204. View south.



Plate 8: Pit(s) 1200 (left) and 1202 (right). View south.

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Plate 9: Pit 1281. View northeast.



Plate 10: Pit 1252. View northwest.





Plate 11: Ditch 1232, western terminus. View southeast.

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