

Phases 3a and 3b, Channels Golf Club, Belstead Lane Little Waltham Essex



Excavation Report



June 2016

Client: Croudace Homes

OA East Report No: 1922

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NGR: TL 7229 1090

Phases 3a and 3b, Channels Golf Club, Belstead Lane, Little Waltham, Essex

Archaeological Excavation

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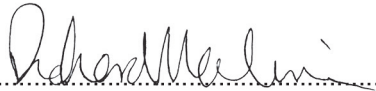
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Summary

Between 20th January 2016 and 26th February 2016 Oxford Archaeology East carried out an evaluation and excavation at land adjacent to Channels Golf Club, Belstead Lane, Little Waltham, Essex (TL 7229 1090). Eight evaluation trenches were excavated and on the basis of the results from these three areas were opened.

Evidence of prehistoric activity was recorded in the form of two Late Bronze Age pits and several Iron Age ditches in the northern part of the site. It is likely that the latter of these are the remains of field boundaries.

The results from the southern part of the site demonstrated that activity continued into the Early Roman period with a trackway and ditch being uncovered. Early Roman pits were also found in this part of the site.

During the medieval period an enclosure system was established in the northern part of the site fronting onto the lane to the east.

1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 An archaeological evaluation and excavation was conducted at land adjacent to Channels Golf Club, Belstead Lane, Little Waltham, Essex (TL 7229 1090).
- 1.1.2 This archaeological evaluation and excavation was undertaken in accordance with a Brief issued by Alison Bennett of Essex County Council (Planning Application CHL 10/01976/FUL), supplemented by a Specification prepared by OA East (Mortimer 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). The results will enable decisions to be made by Essex County Council, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.
- 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 superficial geology consisted of Lowestoft Formation sands, gravels and clays which overlay London Clay Formation deposits (BGS Discovering Geology/ geology Of Britain/viewer.html accessed June 2016).
- 1.2.2 The site is situated on a fairly flat plateau approximately 800m to the east of the River Chelmer.

1.3 Archaeological and historical background

Neolithic

- 1.3.1 Evidence for possible settlement dating to this period was recorded at Court Road, 1.5km to the west of the development area. This evidence comprised several pits which had Neolithic pottery within their fills (SMR 6142).

Bronze Age

- 1.3.2 Settlement during this period is thought to have been concentrated along the Chelmer valley. The remains of Bronze Age roundhouses have been found at Little Waltham (Drury 1978). Enclosure ditches found at Little Waltham hint at the wider development of field systems taking place at this time. It has been suggested (Drury and Rodwell, 1980) that the layout of these field systems continued in use to the present day.

Iron Age

- 1.3.3 Evidence for nucleated settlement dating to this period has been discovered on Sites 5 and 8 at Beaulieu, to the immediate south of the development area. This took the form of enclosures with associated pits and ditches (Stocks-Morgan 2016).
- 1.3.4 Settlement continued at Little Waltham during this time, with the remains of a roundhouse and a post-built structure being uncovered (Drury 1978).

Romano-British

- 1.3.5 A small Roman town built up around a mansio at Moulsham Street, Chelmsford, approximately 6km to the south of the site. The hinterland of this town would have supplied produce to it market.
- 1.3.6 A reorganisation of the agricultural landscape took place during this period with enclosures being established at Little Waltham (Drury 1978). Evidence of this has been found immediately to the south of the site in the form of Late Iron Age / Early Roman ditches which were uncovered during an evaluation of 5 to 7 Channels Golf Club (Archaeology South East 2014).
- 1.3.7 Extensive evidence for activity at this time has been found at the Beaulieu development to the south-east of Channels Golf Course. This took the form of enclosed settlement, ditches and quarry pits (Stocks-Morgan 2016).

Anglo-Saxon

- 1.3.8 It is likely that the village of Little Waltham was established at this time, probably in the area around the church. Saxo-Norman pottery has been recovered from a quarry pit to the south-west of the church (Drury 1978).
- 1.3.9 A late Anglo-Saxon hall is recorded in the Domesday Survey of 1086 at Belestedam (Belstead Hall) (Reaney 1933), to the south of the site.

Medieval

- 1.3.10 Much of this section is taken from Stocks-Morgan (2016).
- 1.3.11 Evidence for a moated manor is recorded at Belstead. This manor was occupied throughout the medieval period. By 1325 it was called Belestede, in 1354 it was recorded as Belestede Hall and by 1504 it was known as Belested Hall. The name is thought to derive from 'the site of the bell house' (Reaney 1933).
- 1.3.12 To the south-east lay the manor of New Hall on the site of the current New Hall School. It is first mentioned by name (as 'Nova Aula') in documents dating to AD1301 when the site formed part of the lands owned by the Canons of Waltham Abbey and was used as the summer residence of the Abbott. It was later transferred to the Regular Canons under Henry II (Burgess and Rance 1988). The first deer park surrounding New Hall was created during the medieval period with the manor at its centre (Tuckwell, 2006).
- 1.3.13 The current church at Little Waltham dates to the Norman period (Pevsner 1965).

Post-medieval

- 1.3.14 In 1516 Henry VIII purchased New Hall and converted it into one of his palaces. Extensive evidence for post-medieval activity in the grounds of this Tudor palace has been uncovered by Stocks-Morgan (2016) during excavations prior to the Beaulieu development. This comprised brick structures which may relate to the use of the area as a deer park.

1.4 Acknowledgements

- 1.4.1 The site was supervised by Toby Knight and managed by Richard Mortimer. Excavation was carried out by Paddy Lambert, Adam Tuffey, Lukas Barnes, Jack Easen and Denis Sami. Monitoring was carried out by Alison Bennett. The site was surveyed by Daria Tsybaeva.

2 AIMS AND METHODOLOGY

2.1 Aims

- 2.1.1 The original aims of the project were set out in the Brief and Specification.
- 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 Regional and Local Research Agendas (Medlycott 2011)

2.2 Regional Research Aims

- 2.2.1 The nature of the evidence from the site limited the number of regional research objectives (Medlycott 2011) that can be applied to the Channels Golf Club site. These comprise-

A study of the Iron Age and Roman agricultural landscape through examination of features such as trackways, enclosures, drove routes and fields

The characterisation and chronology of medieval field systems and understanding how the size and shape of fields can be related to agricultural regimes.

2.3 Site Specific Research Objectives

- 2.3.1 The following site specific research objectives were identified on the basis of the results of the evaluation and excavation.
 - To record the level of Bronze Age activity.
 - To investigate to what extent the Iron Age and Roman evidence relates to the results from nearby excavations, particularly those on the Beaulieu development (Stocks-Morgan 2016).
 - To establish how the medieval evidence relates to historic cartographic sources and the current local agricultural landscape.

2.4 Methodology

- 2.4.1 The methodology used followed that outlined in the Brief (Bennett 2015) and detailed in the Written Scheme of Investigation (Mortimer 2016).
- 2.4.2 Machine excavation was carried out by a 360 degree type excavator using a 2m wide flat bladed ditching bucket. under constant supervision of a suitably qualified and experienced archaeologist.
- 2.4.3 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 2.4.4 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.

-
- 2.4.5 Environmental samples were taken from ditches and pits where appropriate.
- 2.4.6 Site conditions varied with there being both wet and dry periods.

3 RESULTS

3.1 Introduction

3.1.1 The results are presented by period using the phasing outlined in Table 1.

Phase	Period	Date Range
1	Late Bronze Age	1200 to 800 BC
2	Iron Age	800 BC to 43 AD
3	Early Roman	AD 43 to 150
4	Medieval	AD 1066 to 1500
N/A	Undated	N/A

Table 1: Phases by period

3.2 Late Bronze Age (Phase 1)

(Figs 2 and 3)

3.2.1 The earliest evidence of activity on site was a pit (**214**) (Fig 5 and Plate 1) which was uncovered in the northern part of Area 3a. This oval pit was 0.67m long, 0.60m wide, 0.37m deep and filled with a series of grey and brown clayey silts (215 to 220). Of these, fills 216 to 219 contained a total of 0.795kg of pottery which dated to the Late Bronze Age. Immediately to the south of this feature, a further pit (**221**) (Fig 5 and Plate 1) was excavated. The more southerly pit was 0.80m long, 0.68m wide and 0.21m deep with fills (222 and 223) which consisted of brown and grey clayey silts. The uppermost of these fills (223) contained 0.315kg of Late Bronze Age pottery.

3.3 Iron Age (Phase 2)

(Figs 2 and 3)

- 3.3.1 An east to west aligned ditch (**3=167**) (Plate 2), which was located in the northern part of Area 3a, dated to this period. This steep sided ditch, which was 1.60m wide and 0.30m deep, was filled with greyish brown silty clay (4) from which a large rim sherd of earlier Iron Age pottery was recovered. As ditches **169=171=173=224=252** (Fig 5) and **261** appear to be a continuation of ditch (**3=167**) it is likely that they are remains of the same field boundary.
- 3.3.2 Immediately to the north of this feature a parallel ditch (**8=12=157=159=161=265**) (Fig 5), which was found to contain a sherd of Iron Age pottery, was uncovered. This more northerly ditch, which had a rounded v-shape profile, was 0.67m wide, 0.28m deep and had a fill which consisted of brown silty clay. Shallow sided ditch **263** appears to be an eastward continuation of ditch (**8=12=157=159=161=265**) and it is likely that together they represent a slight repositioning of boundary ditch (**3=167**).
- 3.3.3 The southern part of Area 3a was found to contain an east to west aligned ditch (**212=226=228=230**) (Fig 5 and Plate 3) which, given its orientation and dimensions, is likely to have formed part of the Iron Age field system outlined above. This ditch, which had a u-shaped profile, was 0.85m wide, 0.20m deep and filled with brownish grey silty clay.

3.4 Early Roman (Phase 3)

(Figs 2 and 4)

- 3.4.1 The most prominent feature dating to this phase was a north-east to south-west aligned trackway (**19=103=129=133=166=183=203**) (Fig 5 and Plate 4) which was uncovered in the central part of Area 3b. This trackway had a maximum surviving width of 2.70m and consisted of a gravel surface (128 and 132) from which nine sherds (0.111kg) of Early Roman pottery were recovered. It could be seen that the trackway had been built over the top of an earlier shallow sided ditch or 'hollow way' **156=165** (Fig 5 and Plate 5), which was 2.70m wide, 0.90m deep and filled with grey silty clays. The upper (200) and lower (202) fills of this ditch were found to contain one and two sherds respectively of Early Roman pottery.
- 3.4.2 The alignment of the trackway is similar to that of the Waltham to Braintree road which is thought by Drury (1978, p135) to have its origins in the Roman period. It may therefore be suggested that the trackway found on this site formed part of a wider communications landscape at this time.
- 3.4.3 The trackway was subsequently negated by a north to south aligned steep sided ditch (**118=120**) (Fig 5) which cut across it. It was 0.68m to 0.85m wide and 0.11m to 0.20m deep. This ditch was filled with greyish brown clayey silt from which contained two sherds (0.005kg) of Early Roman pottery.
- 3.4.4 Approximately 9m to the east of the trackway was an east-east-north to west-west-south steep sided ditch (**122=136=24**) (Fig 5 and Plate 6). The ditch was 2.40m wide, 0.70m deep, had a U-shaped profile and was filled with greyish brown silty clays. The upper fills of this ditch (124, 125 and 137) contained 25 sherds (0.360kg) of Early Roman pottery along with a fragment of fired clay with wattle impressions. The ditch had been re-cut by ditch (**26=140**) which was filled with greyish brown silty clays. The lower fill of this re-cut (139) and the upper fill (138) contained 35 sherds (0.443kg) and two sherds (0.250kg) respectively of pottery dating to the Early Roman period. The re-cut was 2.38m wide, 0.66m deep and had a U-shaped profile.
- 3.4.5 Two roughly north-west to south-east aligned steep sided ditches (**22 & 117**) were perpendicular to ditch **122** in the eastern part of Area 3b. They were similar in size and form at 0.80m wide, 0.35m deep, had V-shaped profiles and were filled with grey silty clay from which 45 sherds (0.289kg) of Early Roman pottery were recovered (ditch **117**).
- 3.4.6 A circular pit (**106**) was uncovered in the area between the trackway and ditch described above. This steep sided pit was 0.94m in diameter, 0.38m deep and was filled with a blueish grey clayey silt (107) from which 44 sherds (0.758kg) of Early Roman pottery was recovered. An oval pit (**111**) was also found in between the trackway and the ditch. Steep sided pit **111** was 2.00m long, 0.70m wide, 0.20m deep and filled with light grey silty clay (110) which contained sherds 10 sherds (0.341kg) of Early Roman pottery.
- 3.4.7 Immediately to the west of ditch (**118=120**) a steep sided pit or posthole (**141**), which had a diameter of 0.47m and a depth of 0.17m, was excavated. The fill of this feature consisted of greyish brown clayey silt (142) which was found to contain 6 sherds (0.016kg) of Early Roman pottery.
- 3.4.8 The northern section of Area 3b contained a steep sided sub-circular pit (**149**), the fills of which contained a fragment of a kiln bar, burnt grain and 328 sherds (4.070kg) of

Early Roman pottery. This pit was 1.53m long, 1.36m wide, 0.40m deep and filled with brown and grey clayey silts (150 to 152). The rest of this area had been quarried away in recent times.

3.5 Medieval (Phase 4)

(Figs 2 and 3)

- 3.5.1 Evidence for Medieval activity was uncovered across Area 3a in the form an east to west aligned sub-rectangular toft-like enclosure system (Fig 5). Parts of at least five small fields or enclosures were recorded.
- 3.5.2 The main southern enclosure (**175=177, 179=232, 186=234=237**) measured 13.60m north to south and its shallow sided ditches were 0.70m to 1.20m wide and 0.20m to 0.35m deep. Its fills consisted of brownish grey silty clays from which a single large sherd of medieval pottery was recovered. The south-eastern part of this enclosure was sub-divided by an internal perpendicular ditch (**188=193**). This ditch was 1.22m wide, 0.25m to 0.49m deep and filled with greyish brown silty clay (194) overlain by greyish yellow silty clay (195). The first of these fills contained two sherds (0.063kg) of medieval pottery. The orientation of this enclosure appears to match those of the field boundaries depicted on the 1888 OS map.
- 3.5.3 Further elements of the enclosure system extended off its north-western corner. Shallow sided ditches (**204=206=208=210=251, 242=245=248**) (Fig 5) formed the southern and western sides of a sub-square enclosure 27m north-south and 20m west-east. These were 0.45m to 0.60m wide, 0.15m to 0.30m deep and filled with brownish grey silty clay.
- 3.5.4 Ditch **163** marked the enclosure's northern boundary with part of a third enclosure to the north, it's western side just seen (ditch **267**) as the ditch turned to the north. The fill of the ditch, which was up to 0.60m wide and 0.17m deep, consisted of an orangey brown silty clay. North to south aligned steep sided ditch **191** marked the square enclosure's eastern side as partial separation from another enclosure to the east..

3.6 Undated

(Figs 2, 3 and 4)

- 3.6.1 Two portions of a possible curvilinear drip gully (**28** and **30**) were located in the eastern part of Evaluation Trench 5, which equated to the south-eastern part of Area 3a. These shallow sided features, which were 0.30 to 0.40m wide and 0.11m to 0.16m deep, were filled with greyish brown silty clay. The fills contained no finds. No trace of these features could be found within the excavation area and it is likely they were natural seams/undulations or shallow tree holes.
- 3.6.2 Three undated pits (**143, 145** and **147**) were found in Area 3b although, given the amorphous shapes of these features, it may well be the case that they were tree throws. A fourth pit (**198**) was found to cut the western side of the Roman trackway which was uncovered in this area, and so must post date it. Pit **198** was 1.1m wide, 0.50m deep and filled with a mid grey silty clays.
- 3.6.3 Two short linear features (**258** and **260**) were excavated in the northern part of Area 3a and were thought to be further evidence of rooting. This area had been under orchards within the relatively recent past.

3.7 Finds Summary

Prehistoric pottery

- 3.7.1 A total of 131 sherds of prehistoric pottery weighing 902g were collected from fourteen excavated contexts. The pottery is fragmentary and no complete vessels were recovered. The sherds are mostly small and poorly preserved.

Roman Pottery

- 3.7.2 A total of 563 sherds, weighing 7269g, of primarily early Romano-British pottery were found during this project, which represent a minimum of 67 fragmentary vessels. The assemblage consists largely of locally made handmade storage jars and wheel made cordoned jars of utilitarian type.

Medieval Pottery

- 3.7.3 A total of three sherds weighing 0.093kg were recovered from the excavations. These sherds are of a coarseware fabric and date to the 12th to 14th century.

Burnt Flint and Stone

- 3.7.4 This assemblage comprised 0.333g of burnt flint and 0.345g of burnt stone.

Ceramic Building Material

- 3.7.5 Three fragments of ceramic building material were recovered during the excavation.

Fired Clay

- 3.7.6 The excavations yielded 75 fragments of fired clay (602g); 13 (263g) structural and 62 (339g) amorphous pieces.

Slag

- 3.7.7 One piece of fuel ash slag weighing 0.022kg was recovered during this project, from Early Roman ditch **26**.

3.8 Environmental Summary

Environmental Samples

- 3.8.1 Thirteen bulk samples were taken during excavations. These came from deposits that include ditch and pit fills.
- 3.8.2 Preservation of plant remains is by carbonisation and is generally poor. Charred cereal grain was recovered from three samples and is most abundant in Pit **149**.

Faunal Remains

- 3.8.3 The quantity of animal remains is extremely small. They comprised only eleven fragments of cattle upper molar(s) and an unidentifiable fragment of a flat bone.

4 DISCUSSION AND CONCLUSIONS

4.1 Discussion

- 4.1.1 There was only very limited evidence of activity during the Late Bronze Age. The pits are domestic rather than funerary in nature and are broadly contemporary with, and similar to, examples excavated across the Beaulieu landscape to the south. The pottery assemblage from these two pits, at over 1100g, was considerable, despite their obvious truncation.
- 4.1.2 The Iron Age ditches demonstrate that the site was fully integrated within the local agricultural landscape during this period. The area would have been attractive to agriculture as it is a flat plateau near to a river valley. The potential repositioning of one of these ditches just 2m to one side, could suggest that the layout of the field system was in use over a relatively long period of time. Alternatively the 2m gap between these ditches might simply represent a banked and therefore slightly more permanent boundary. As ditches such as these were also found on sites to the south-east (Stocks-Morgan 2016) and south (Archaeology South East 2015) of the site it appears that the field system extended across the much of the local landscape.
- 4.1.3 During the Early Roman period the site formed part of the wider communications network of the area, as demonstrated by the presence of trackway in its southern part which was on a similar alignment to that of the Roman Waltham to Braintree road. (Drury 1978, p135). This trackway, and nearby ditch, may have had their origins in the Iron Age and continued in use after the conquest. There is no reason to think that the Iron Age field-system outlined above wouldn't still have been in use during the Early Roman period, a period of some stability and continuity. The relatively high quantity of Early Roman pottery recovered from the site hints that contemporary settlement may have been nearby, perhaps off to the south of the site.
- 4.1.4 The medieval period saw the development of a series of toft-like enclosures in the northern part of the site, fronting onto the lane to the east. This hints at nearby settlement as small enclosures such as these can often be associated with dwellings. However, the lack of finds within the ditches, or of pits or other features within the enclosures, may suggest they represent small pastures or paddocks. The orientation of this system continues in use through to the present day.

4.2 Conclusions

- 4.2.1 The results from the site demonstrate a general continuity in agricultural use from the Iron Age onwards. The orientation of the field system changed only slightly over time although the positioning of its ditches was significantly altered. The presence of nearby Early Roman settlement is suggested by the quantities of contemporary pottery recovered, and of Medieval settlement by the toft-like layout of the medieval enclosures.

4.3 Significance

- 4.3.1 The evidence of the Iron Age, Roman and medieval agricultural landscape adds to the data from other sites of these periods in the area. There is direct evidence for settlement close by in the Roman and Medieval periods, but not within the site area itself, except perhaps in the Late Bronze Age.

APPENDIX A. TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Context	Cut No	Category	Feature Type	Phase
1	N/A	layer	topsoil	N/A
2	N/A	layer	subsoil	N/A
3	3	cut	ditch	2
4	3	fill	ditch	2
5	18	fill	pit	Undated
6	6	cut	post hole	Undated
7	6	fill	post hole	Undated
8	8	cut	ditch	2
9	8	fill	ditch	2
10	10	cut	ditch	Undated
11	10	fill	ditch	Undated
12	12	cut	ditch	2
13	12	fill	ditch	2
18	18	cut	pit	Undated
19	19	cut	trackway	3
20	19	layer	cobbled surface	3
21	19	fill	trackway	3
22	22	cut	ditch	Undated
23	22	fill	ditch	Undated
24	24	cut	ditch	3
25	24	fill	ditch	3
26	26	cut	ditch	3
27	26	fill	ditch	3
28	28	cut	gully	Undated
29	28	fill	gully	Undated
30	30	cut	gully	Undated
31	30	fill	gully	Undated
32	32	cut	ditch	2
33	32	fill	ditch	2
100	N/A	layer	topsoil	N/A
101	N/A	layer	subsoil	N/A
102	N/A	layer	natural	N/A
103	103	cut	ditch	3
104	103	fill	ditch	3
105	103	fill	ditch	3
106	106	cut	pit	3
107	106	fill	pit	3
108	106	fill	pit	3
109	103	fill	ditch	3
110	111	fill	pit	3
111	111	cut	pit	3
112	113	fill	pit	3

Context	Cut No	Category	Feature Type	Phase
113	113	cut	pit	3
114	115	fill	pit	3
115	115	cut	pit	3
116	117	fill	ditch	3
117	117	cut	ditch	3
118	118	cut	ditch	3
119	118	fill	ditch	3
120	120	cut	ditch	3
121	120	fill	ditch	3
122	122	cut	ditch	3
123	122	fill	ditch	3
124	122	fill	ditch	3
125	122	fill	ditch	3
126	126	cut	pit	3
127	126	fill	pit	3
128	129	fill	trackway	3
129	129	cut	trackway	3
132	132	fill	trackway	3
133	133	cut	trackway	3
136	136	cut	ditch	3
137	136	fill	ditch	3
138	140	fill	ditch	3
139	140	fill	ditch	3
140	140	cut	ditch	3
141	141	cut	post hole	3
142	141	fill	post hole	3
143	143	cut	post hole	Undated
144	143	fill	post hole	Undated
145	145	cut	pit	Undated
146	145	fill	pit	Undated
147	147	cut	pit	Undated
148	147	fill	pit	Undated
149	149	cut	pit	3
150	149	fill	pit	3
151	149	fill	pit	3
152	149	fill	pit	3
156	156	cut	ditch	3
157	157	cut	ditch	2
158	157	fill	ditch	2
159	159	cut	ditch	2
160	159	fill	ditch	2
161	161	cut	ditch	2
162	161	fill	ditch	2
163	163	cut	ditch	4
164	163	fill	ditch	4

Context	Cut No	Category	Feature Type	Phase
165	165	cut	ditch	3
166	166	cut	trackway	3
167	167	cut	ditch Terminus	2
168	167	fill	ditch terminus	2
169	169	cut	ditch terminus	2
170	169	fill	ditch terminus	2
171	171	cut	ditch	2
172	171	fill	ditch	2
173	173	cut	ditch	2
174	173	fill	ditch	2
175	175	cut	ditch	4
176	175	fill	ditch	4
177	177	cut	ditch	4
178	177	fill	ditch	4
179	179	cut	ditch	4
180	179	fill	ditch	4
181	166	fill	trackway	3
182	183	fill	trackway	3
183	183	cut	trackway	3
184	165	fill	ditch	3
185	165	fill	ditch	3
186	186	cut	ditch	4
187	186	fill	ditch	4
188	188	cut	ditch	4
189	188	fill	ditch	4
190	188	fill	ditch	4
191	191	cut	ditch terminus	4
192	191	fill	ditch	4
193	193	cut	ditch	4
194	193		ditch	4
195	193	fill	ditch	4
196	198	fill	pit	Undated
197	198	fill	pit	Undated
198	198	cut	pit	Undated
199	203	fill	trackway	3
200	156	fill	ditch	3
201	156	fill	ditch	3
202	156	fill	ditch	3
203	203	cut	Trackway	3
204	204	cut	ditch	4
205	204	fill	ditch	4
206	206	cut	ditch	4
207	206	fill	ditch	4
208	208	cut	ditch	4
209	208	fill	ditch	4

Context	Cut No	Category	Feature Type	Phase
210	210	cut	ditch	4
211	210	fill	ditch	4
212	212	cut	ditch	2
213	212	fill	ditch	2
214	214	cut	pit	1
215	214	fill	pit	1
216	214	fill	pit	1
217	214	fill	pit	1
218	214	fill	pit	1
219	214	fill	pit	1
220	214	fill	pit	1
221	221	cut	pit	1
222	221	fill	pit	1
223	221	fill	pit	1
224	224	cut	ditch	2
225	224	fill	ditch	2
226	226	cut	ditch	2
227	226	fill	ditch	2
228	228	cut	ditch	2
229	228	fill	ditch	2
230	230	cut	ditch	2
231	230	fill	ditch	2
232	232	cut	ditch	4
233	232	fill	ditch	4
234	234	cut	ditch	4
235	234	fill	ditch	4
236	234	fill	ditch	4
237	237	cut	ditch	4
238	237	fill	ditch	4
239	237	fill	ditch	4
240	242	fill	ditch	4
241	242	fill	ditch	4
242	242	cut	ditch	4
243	245	fill	ditch	4
244	245	fill	ditch	4
245	245	cut	ditch	4
246	248	fill	ditch	4
247	248	fill	ditch	4
248	248	cut	ditch	4
249	251	fill	ditch	4
250	251	fill	ditch	4
251	251	cut	ditch	4
252	252	cut	ditch terminus	2
253	252	fill	ditch terminus	2
254	254	cut	ditch	2

Context	Cut No	Category	Feature Type	Phase
255	254	fill	ditch	2
256	258	fill	ditch	Undated
257	258	fill	ditch	Undated
258	258	cut	ditch	Undated
259	260	fill	ditch	Undated
260	260	cut	ditch	Undated
261	261	cut	gully	2
262	261	fill	ditch	2
263	263	cut	ditch terminus	2
264	263	fill	ditch terminus	2
265	265	cut	ditch terminus	2
266	265	fill	ditch terminus	2
267	267	cut	gully	4
268	267	fill	gully	4

APPENDIX B. FINDS REPORTS

B.1 Prehistoric Pottery

By Sarah Percival

Introduction and methodology

- B.1.1 A total of 131 sherds weighing 902g were collected from fourteen excavated contexts (Table 2). The pottery is fragmentary and no complete vessels were recovered. The sherds are mostly small and poorly preserved and the average sherd weight is 7g.
- B.1.2 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. The pottery and archive are curated by OAE.

Later Bronze Age

- B.1.3 The assemblage comprises 113 Later Bronze Age sherds including rims from three vessels, five sherds of Earlier Iron Age pottery and eight Later Iron Age sherds. Five sherds weighing 18g are prehistoric but otherwise not closely datable.
- B.1.4 The Later Bronze Age assemblage is characterised by coarse, flint-tempered sherds including rims from three vessels.
- B.1.5 Four fabrics were identified, all containing varying quantities and sizes of crushed flint inclusions (Table 3). The extensive use of flint as temper is typical of Post Deverel-Rimbury assemblages from Essex (Brown and Medleycot 2013, 96).
- B.1.6 Three rims are present within the assemblage, all from pit 214. Two are from small cups, one from a small round bodied vessel with flared rim and the second a closed convex vessel with direct, rounded rim both in finer flint fabric F2. The third rim is flattened and is probably from a jar. No other diagnostic sherds are present.
- B.1.7 The majority of the Later Bronze Age pottery came from pits 214 and 221 in trench 3A which contained 64 and 40 sherds respectively. The assemblages from these pits is composed of numerous small fragments representing several vessels and including burnt sherds. The pot is likely to represent domestic debris, perhaps midden material which also includes fragments of burnt bone.
- B.1.8 The remainder of the Later Bronze Age pottery was found in small quantities within ditch fills and pits 111 and 198 (Table 3).

Earliest Iron Age

- B.1.9 The small Earliest Iron Age assemblage comprises five flint-tempered sherds from ditch 3. A single rim from a coarse jar has fingertip decoration along the flattened rim top. All the sherds are made of fabric containing common angular crushed flint up to 4mm long within a sandy clay matrix.

Later Iron Age

B.1.10 Eight sherds of sandy later Iron Age pottery were recovered from ditch fills and from trackway **19** (Table 2). The sherds include a simple, undecorated base from fill 27 of ditch 26.

B.1.11 Three fabrics were identified (Table 4). These sandy, quartz-rich fabrics are very similar to those found within the extensive Iron Age assemblage from excavations on the line of Little Waltham bypass (Drury 1978).

Discussion

B.1.12 The small assemblage suggests activity in the area during the Later Bronze Age/Earliest Iron Age, c.1100-800/750BC, characterised by limited pit digging and filling, with a small quantity of decorated perhaps Earliest Iron Age pottery redeposited in ditch fill. The largely flint-tempered post-Deverel-Rimbury pottery compares well to the broadly contemporary assemblage found locally at Springfield Lyons (Brown and Medleycot 2013). Jars with flattened rims, some with fingertip decoration and small, fine cups, similar to those found here, also feature within the Springfield Lyons assemblage (Brown and Medleycot 2013, fig.3.6).

B.1.13 The sandy Iron Age sherds are comparable to those found along the route of the Little Waltham Bypass which were dated from the mid 3rd to the late 2nd/1st centuries BC (Drury 1978).

Trench /Area	Feature	Feature Type	Context	Spot Date	Quantity	Weight (g)
1	3	Ditch	4	Earlier Iron Age	5	53
	8	Ditch	9	Iron Age	2	11
8	19	Trackway	21	Iron Age	1	9
	24	Ditch	25	Later Bronze Age	1	5
	26	Ditch	27	Iron Age	2	19
3A	214	Pit/cremation	217	Later Bronze Age	25	109
			218	Later Bronze Age	10	103
			219	Later Bronze Age	10	91
			216	Later Bronze Age	19	48
	221	Pit/cremation	223	Later Bronze Age	40	337
	224	Ditch	225	Not closely datable	1	1
3B	111	Pit	110	Later Bronze Age	1	3
	118	Ditch	119	Iron Age	1	7
	122	Ditch	125	Later Bronze Age	1	4
	140	Ditch	138	Iron Age	1	5
			139	Iron Age	1	26
	156	Ditch	200	Later Bronze Age	5	30
				Not closely datable	4	17
	196	Pit	198	Later Bronze Age	1	24
Total					131	902

Table 2: Quantity and weight of prehistoric pottery by trench and feature.

Spot Date	Fabric	Fabric Description	Quantity	Weight (g)
Later Bronze Age	F1	Common angular crushed flint >4mm in sandy clay matrix	80	521
	F2	Moderate small to medium flint >3mm in sandy clay matrix	5	13
	FQG	Moderate coarse flint >5mm in sandy clay matrix with sparse large sub-angular grog.	27	196
	QF	Moderate quartz sand with occasional angular flint 1-3mm	1	24
Total			113	754

Table 3: Quantity and weight of Later Bronze Age pottery by fabric

Spot Date	Fabric	Fabric Description	Quantity	Weight (g)
Iron Age	Q1	Common quartz sand, rare quartz occasional organic voids	2	19
	QspF	Common quartz sand rare flint	4	47
	S1	Common quartz sand, occasional shell	2	11
Total			8	77

Table 4: Quantity and weight of Later Iron Age pottery by fabric

B.2 Roman Pottery

By Alice Lyons

Introduction

- B.2.1 A total of 563 sherds, weighing 7269g (1.39 Estimated Vessel Equivalent or EVE), of primarily early Romano-British pottery were found during this project, which represent a minimum of 67 fragmentary vessels. The assemblage consists largely of locally made handmade storage jars and wheel made cordoned jars of utilitarian type.
- B.2.2 The majority of this material (98%) was recovered from Period 3 pits and a field system with an associated trackway, also a post hole (Table 5). It should be noted, however, that over half the assemblage (55.99%: 328 sherds, weighing 4070g) was recovered from a single pit (**149**). The pottery was not deliberately placed, or deposited as whole vessels, but rather found its way into these features as dispersed midden material. As a result of this processes the assemblage is in a severely abraded condition and has an average sherd weight of only 12.9g.

Feature Type	Cut	Sherd count	Weight (g)	Weight (%)
Pit		382	5169	71.11
	106	44	758	

	111	10	341	
	149	328	4070	
Ditch		159	1895	26.07
	26	42	454	
	117	45	289	
	118	2	5	
	122	18	233	
	136	7	127	
	140	37	693	
	156	3	38	
	188	1	1	
	234	3	54	
	237	1	1	
Trackway	132	9	111	1.53
Surface finds	Surface finds	7	78	1.07
Post hole	141	6	16	0.22
Grand Total		563	7269	100.00

Table 5: The Roman Pottery by feature

Methodology

- B.2.3 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 Going (1987), Thompson (1982) and Biddulph *et al* (2015), supported with references to the national fabric series (Tomber and Dore 1998), also Tyers (2006).
- B.2.4 The total assemblage was studied and a full catalogue was prepared (in archive). 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. 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.

The Assemblage

- B.2.5 Within this assemblage seven fabric groups, mostly locally produced coarse wares, have been identified (Table 6).

Fabric Name	Fabric Code (Biddulph 2015)	Form	Sherd Count	Weight (g)	Weight (%)
Storage jar fabric	STOR	Storage jar	125	4365	60.05
Red-surfaced grog-tempered ware	GROGRS	Jar, bowl	156	997	13.72
Sandy grey wares	GRS	Beaker, jar, bowl	153	934	12.85
Fine reduced grog-tempered ware	GROG	Jar, bowl	67	627	8.63
White wares, unsourced	UWW	Beaker, flagon, jar, bowl	56	273	3.76
East Anglian mortaria	EAM	Mortaria	3	57	0.77

Reduced flint tempered ware	PRE	Jar/bowl	3	16	0.22
Total			563	7269	100.00

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

- B.2.6 Storage jar fabric (STOR):** The most common fabric by weight within the assemblage are fragments from large handmade grog tempered storage jars. This is a distinctive fabric, tempered with grog and organic material (burnt out to leave voids) which is found in a variety of colours from buff, pink, pale brown to grey. The differences in colour the result of inconsistent firing, either oxidised or reduced, presumably due to the difficulties of firing such large vessels. Most were similar in design, with rolled rims and finger-nail incised shoulders, also wipe marks on the vessel body (Thompson 1982, C6; Biddulph et al 2015, EF184). This distinctive vessel type is not thought to continue in use beyond the early 2nd century AD.
- B.2.7 Fine reduced grog-tempered ware (GROG):** Found in significantly smaller quantities than GROGRS (see below) and probably chronologically earlier are the fine reduced grog-tempered wares. This fabric is frequently finished with a black slip that was often burnished (polished). Many of the jars are decorated with simple cordons (Thompson 1982, B3 & D2). It is worthy of note that vessel made in this fabric can be either hand or wheel made forms, indicating the presence of both methods of pottery production within the ceramic repertoire in the mid/late 1st century AD.
- B.2.8 Red-surfaced grog-tempered ware (GROGRS):** The most numerous non Storage jar coarseware are the grog tempered grey wares with red surfaces present in a limited range of wheel made cordoned jars (Thompson 1982, B3; Biddulph et al 2015, EF165-169).
- B.2.9 Sandy grey wares (GRS):** Toward the end of the 1st century (80AD) the long-lived grog-tempered fabrics described above, closely related to their Iron Age forebears, began to be superseded by plain Sandy grey wares (GRS). Initially they were produced in similar forms to their grog tempered predecessors (Thompson 1982, B3; Biddulph et al 2015, EF165-169), but developed into a more common globular form (Going 1987, G24).
- B.2.10 White wares, unsourced (UWW):** oxidised wares are scarce within this assemblage, as only a few scraps of fine oxidised (red ware) undiagnostic beaker were found, which could not be assigned to source. This fabric was used to make a limited range of other vessels including flagons, jars and bowls.
- B.2.11 East Anglian mortaria (EAM):** Possibly latest ware in the ceramic sequence, dated between the late 1st and mid-century, are the mortaria fragments found. Three pieces, lined with flint trituration grits, from the base of one yellow grey vessel were found. It was not possible to assign this vessel to a source beyond East Anglian.

Summary

- B.2.12** This is a small assemblage of early Romano-British utilitarian produced coarseware pottery. Indeed, other than a few tiny undiagnostic beaker pieces no table wares were found. Gaulish samian table ware (Tyers 1996; 105-116; Tomber and Dore 1996, 25-41) was entirely absent from the assemblage as were specialist wares such as amphora

(Tyers 1996, 85-105; Tomber and Dore 1998, 82-113). Some diversity was present within the assemblage, however, as a few flagon pieces were identified and a single base from a mortarium of East Anglian type was retrieved (EAM).

- B.2.13 This primarily utilitarian assemblage is very similar in character to previously excavated assemblages within the vicinity such as the material recently assessed by OA East at Beaulieu (Lyons 2016) and the regional type site at Heybridge (Biddulph 2015). It consists almost entirely of jar and storage sherds most of which were almost certainly locally or regionally made and deposited between c. AD 80-125. It is unfortunate that high levels of post-depositional disturbance (perhaps due to middening) have limited the survival of associated use residues which may have informed on the actual function of these vessels. The assemblage therefore, although small, adds to the growing corpus of data from this area pertinent to this period.

B.3 Medieval Pottery

By Helen Stocks-Morgan

- B.3.1 A total of three sherds weighing 0.093kg were recovered from the excavations. These sherds are of a coarseware fabric and date to the 12th to 14th century (see Table 7 for catalogue). These sherds were recovered from enclosure ditch **175** and associated ditch **193**. The sherds were in an unabraded condition which suggests that deposition relatively quick and close to their area of use.

Context	Fabric	Form	Sherd Count	Weight (kg)	Context Date Range
176	Medieval coarseware	jug	1	0.03	12th to 14th century
194	Medieval coarseware		2	0.063	12th to 14th century

Table 7: Medieval pottery catalogue

B.4 Burnt Flint and Stone

By Stephen Morgan

- B.4.1 The assemblage predominantly consists of flint or chert with a piece of quartzite also present. Some of the flint has been heavily burnt, causing it to become greyish white and fire crazed. A few of the fragments of burnt stone appear to have derived from rounded pebbles.
- B.4.2 This assemblage appears to have derived from incidental incorporation into general hearth use.

B.5 Ceramic Building Material

By Stephen Morgan

- B.5.1 Three fragments of ceramic building material were recovered during the excavation. These are too small to be identifiable or datable.

B.6 Fired Clay

By Ted Levermore

Introduction

- B.6.1 The excavations yielded 75 fragments of fired clay (602g); 13 (263g) structural and 62 (339g) amorphous pieces. The fired clay fragments retrieved from samples were deemed too small to be identified; apart from those from Sample 2 (Table 8). This assemblage is derived from Early Roman contexts. The structural peices consist largely of fragments with flattened surfaces. A fragment of a kiln bar was identified, from pit **149**, after three peices were refitted. This report provides a quantified characterisation of the material.

Context	Cut	Feature	Phase	No. Fragments	Weight (kg)	Notes
25	24	Ditch	3	1	0.001	Evaluation find
108	106	Pit	3	31	0.191	Includes Sample <2>
110	111	Pit	3	8	0.048	A piece with a chaff impression
123	122	Ditch	3	4	0.098	Wattle impression (d.6mm) and possible surface; organic impressions
124	122	Ditch	3	4	0.008	-
125	122	Ditch	3	1	0.028	Charred organic matter inclusions
138	140	Ditch	3	8	0.053	
150	149	Pit	3	16	0.160	Flattened surfaces and rounded corner. Three pieces refit to form fragment of possible kiln bar. Refit forms a square rod impression (d. 1.2cm)
187	186	Ditch	3	2	0.015	-
Total	-	-	-	75	0.602	-

Table 8: Quantified fired clay by context.

Methodology

- B.6.2 After a full inspection of the assemblage, fabric groups were devised on the basis of dominant inclusion types, their density and modal size. Fragments from all contexts were counted, weighed (to the nearest whole gram) and assigned to a fabric group. Fragment type was recorded, together with features such as wattle impressions and flattened surfaces. Where diagnostic objects were identified the dimensions were measured and recorded. A programme of refitting was also conducted for diagnostic objects, and joins were noted within and between contexts. The quantified data is presented on an Excel data sheet held with the site archive.

Fabrics

- B.6.3 Most of the fired clay fragments contain voids from dissolved chalk, fragments of flint and quartz. Although the exact source of the clays and tempering ingredients has not been proven for this assemblage, these are likely to have been naturally occurring in the clay, which probably derive from the Lowestoft Formation sands, gravels and clays the site is situated on. The micaceous silt clay probably derives from alluvial deposits deposited by the River Chelmer. The poor sorting of the inclusions suggests minimal paste preparation, although organic matter (chaff?) may have been added to some of the clay recipes.

F1. Common poorly sorted fine sub-rounded voids with rare fine flint and calcareous inclusions in a micaceous smooth silt clay

F1b. F1 but powdery

F2. Common fine to coarse sub-rounded voids and rare fine to medium flint inclusions in a quartz rich (fine to medium) silty clay

F3. Rare flint inclusions and rare medium sub-rounded voids in a smooth sandy clay – with organic impressions present

F4. Rare medium to coarse calcareous inclusions in a dense quartz sand clay

F5. Common fine to very coarse poorly sorted sub-rounded voids, rare fine to very coarse flint and pebble inclusions in a smooth silty clay

Assemblage Characteristics

- B.6.4 A total of 62 (339g) fragments of amorphous fired clay were recovered, representing 53% of the assemblages by weight. The fragments are found in fabrics F1, F1b, F2, F3, F4 and F5 (Table 9), principally the latter. These have no discernible features, but probably derive from ovens or hearths.

	Amorphous			Structural		
Fabric type	No. Fragments	Weight (g)	% by weight (g)	No. Fragments	Weight (g)	% by weight (g)
F1	3	6	1.8	-	-	0.0
F1b	9	47	13.9	-	-	0.0
F2	44	263	77.6	6	118	44.9
F3	1	3	0.9	1	28	10.6
F4	1	1	0.3	-	-	0.0
F5	4	19	5.6	6	117	44.5
Total	62	339	100	13	263	100

Table 9: Quantification of fired clay fragments by fabric and type.

- B.6.5 Thirteen fragments (263g, Table 2) were classified as 'structural', and comprise pieces with flattened surfaces (11 fragments, 203g), a moulded corner (1 fragment, 11g) and a fragment with a wattle impressions (1 fragment, 49g). These fragments are found in fabrics F2, F3 and F5, and were recovered from a range of pits and ditches. The piece with wattle impressions derived from ditch **122**. All pieces are likely to be fragments of ovens or hearths.

- B.6.6 A total of 6 fragments of kiln furniture have been identified (117g). The material derives from at least one fragmented and incomplete kiln bar. Three fragments refit and form two flat surfaces and their adjoining corner. A sub-angular perforation or wattle impression was formed when the fragments were refitted. It is described in below:

Kiln Bar 1

Incomplete. Fragments of two surfaces and adjoining corner survive. Refit forms corner of kiln bar and a sub-angular rod impression (1.5cm diameter). Width range 25-40mm. Fabric F5, six fragments (three refitting), 117g. Context 150, Pit **149**.

Discussion

- B.6.7 The overall range of fired clay presents very little information from which to draw conclusions. The fragments probably derive from ovens or kilns. The fragment of kiln furniture suggests any one of a range of activities. However, due to the lack of evidence to support any definite explanation it can only be said that an oven or hearth was used in or around this site.

B.7 Slag

By Stephen Morgan

- B.7.1 One piece of fuel ash slag weighing 0.022kg was recovered during this project, from Early Roman ditch **26**. Fuel ash slag is a lightweight, and usually light coloured, vesicular slag-like material formed by the reaction of wood ash with minerals such as sand (Morgan 2006).

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Environmental samples

By Rachel Fosberry

Introduction

- C.1.1 Thirteen bulk samples were taken during the excavations from deposits that include ditch and pit fills.
- C.1.2 The purpose of this report 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.1.3 One bucket (approximately 10 litres) of each of the samples was processed by tank flotation using modified Siraff-type equipment for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm 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 10. 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).
- C.1.4 Based on the productivity of an initial appraisal of the flots, the remaining volume of Samples 7 and 8 were processed.

Quantification

- C.1.5 For the purpose of this initial assessment, items such as seeds, cereal grains and legumes have been scanned and recorded qualitatively according to the following categories

= 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens

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

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

Results

- C.1.6 Preservation of plant remains is by carbonisation. Most of the flots did not contain any preserved remains although charcoal was retrieved from most of the sample residues. It is likely that this is a result of the charred material being encased in heavy clay and being retained in the residues rather than floating.

- C.1.7 Two late Bronze Age pits were sampled; fill 223 of pit **221** (Sample 13) contains sparse charcoal only. Of the four fills (216-219) sampled from pit **214**, only the lowest fill 219 contains a moderate amount of charcoal.
- C.1.8 Charred cereal grain was recovered from three Early Roman deposits. Sample 8 was taken from the lower fill (150) of pit **149** and contains 287 charred wheat grains that have the morphological appearance of spelt (*Triticum spelta*) wheat. A single glume base of a hulled wheat variety was recovered but the level of degradation precludes identification between spelt and emmer (*T.dicoccum*) wheat. Sample 7 was taken from the upper fill (152) of this pit and contains 15 grains of spelt wheat (possibly due to mixing of the two deposits by bioturbation) and three spelt glume bases. Single oat (*Avena* sp.) grains are present in Sample 8 and also in Sample 3, fill 137 of ditch **136** but it is not possible to determine whether these are cultivated oats or the wild variety that is commonly found growing amongst cereal crops. A single seed of brome (*Bromus* sp.) was recovered from Sample 8 and is a common weed of spelt. This sample also contains two seeds of sheep's sorrel (*Rumex acetosella*) which is a plant that prefers to grow on sandy soils. In contrast, Sample 7 contains a single seed of stinking mayweed (*Anthemis cotula*) which is more likely to grow on clay soils.

Sample No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Context No.		107	108	137	138	139	128	152	150	216	217	218	219	223
Feature No		106	106	136	140	140	129	149	149	214	214	214	214	221
Feature type		Pit	Pit	Ditch	Ditch	Ditch	Track way	Pit	Pit	Pit	Pit	Pit	Pit	Pit
Phase		3	3	3	3	3	3	3	3	1	1	1	1	1
Volume processed (L)		8	10	8	8	8	8	16	18	8	8	7	7	8
<i>Avena</i> sp. Caryopsis	Oat			1					1					
<i>Triticum</i> cf. <i>spelta</i> . caryopsis	Spelt wheat							15	287					
<i>Triticum spelta</i> /dicoccum glume base	Spelt or emmer chaff								1					
<i>Triticum spelta</i> glume base	Spelt chaff							3						
<i>Anthemis cotula</i> L. seed	Stinking mayweed							1						
<i>Bromus</i> sp. seed	Brome								1					
Medium Poaceae seed	Grass								1					
<i>Rumex acetosella</i> L. achene	Sheep's sorrel								2					
Charcoal <2mm		0	0	+	0	0	0	0	+++	+	0	0	+++	+
Charcoal > 2mm		0	0	0	0	0	0	0	++	0	0	0	+	+
Volume of flot (mls)		1	1	1	1	1	1	1	3	2	5	2	15	10

Table 10: Environmental samples

Discussion

- C.1.9 The environmental samples taken at Chelmsford Channels are generally poor in terms of plant remains which is possibly due to the heavy clay soil which does not favour preservation. There is no evidence of preserved plant remains in the Late Bronze Age samples other than charcoal (as evidence of the burning of wood). The most notable feature is early Roman pit **149** which contains a moderate assemblage of spelt wheat grains. Spelt wheat is the most common wheat variety to be grown in this region during the Roman period and is tolerant of clay soils. There is no evidence of germination or

'spoiling' of the grains and the scarcity of chaff (stem fragments) and weed seeds suggests that this deposit is the result of the burning of prime, fully processed grain. This could easily have occurred accidentally during cooking or it may have been the deliberate burning of chosen grain for a ritual offering.

- C.1.10 The plant remains have been fully quantified and no further work on this assemblage is required.

C.2 Faunal Remains

By Angelos Hadjikoumis

- C.2.1 The quantity of animal remains is extremely small. Only eleven fragments of cattle upper molar(s) and an unidentifiable fragment of a flat bone were recorded.

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APPENDIX E. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	<input type="text"/>		
Project Name	<input type="text"/>		
Project Dates (fieldwork)	Start <input type="text"/>	Finish <input type="text"/>	
Previous Work (by OA East)	<input type="text"/>	Future Work	<input type="text"/>

Project Reference Codes

Site Code	<input type="text"/>	Planning App. No.	<input type="text"/>
HER No.	<input type="text"/>	Related HER/OASIS No.	<input type="text"/>

Type of Project/Techniques Used

Prompt

Please select all techniques used:

<input type="checkbox"/> Field Observation (periodic visits)	<input type="checkbox"/> Part Excavation	<input type="checkbox"/> Salvage Record
<input type="checkbox"/> Full Excavation (100%)	<input type="checkbox"/> Part Survey	<input type="checkbox"/> Systematic Field Walking
<input type="checkbox"/> Full Survey	<input type="checkbox"/> Recorded Observation	<input type="checkbox"/> Systematic Metal Detector Survey
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Remote Operated Vehicle Survey	<input type="checkbox"/> Test Pit Survey
<input type="checkbox"/> Open-Area Excavation	<input type="checkbox"/> Salvage Excavation	<input type="checkbox"/> Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Project Location

County	<input type="text"/>	Site Address (including postcode if possible)
District	<input type="text"/>	<input type="text"/>
Parish	<input type="text"/>	
HER	<input type="text"/>	
Study Area	<input type="text"/>	National Grid Reference <input type="text"/>

Project Originators

Organisation	
Project Brief Originator	
Project Design Originator	
Project Manager	
Supervisor	

Project Archives

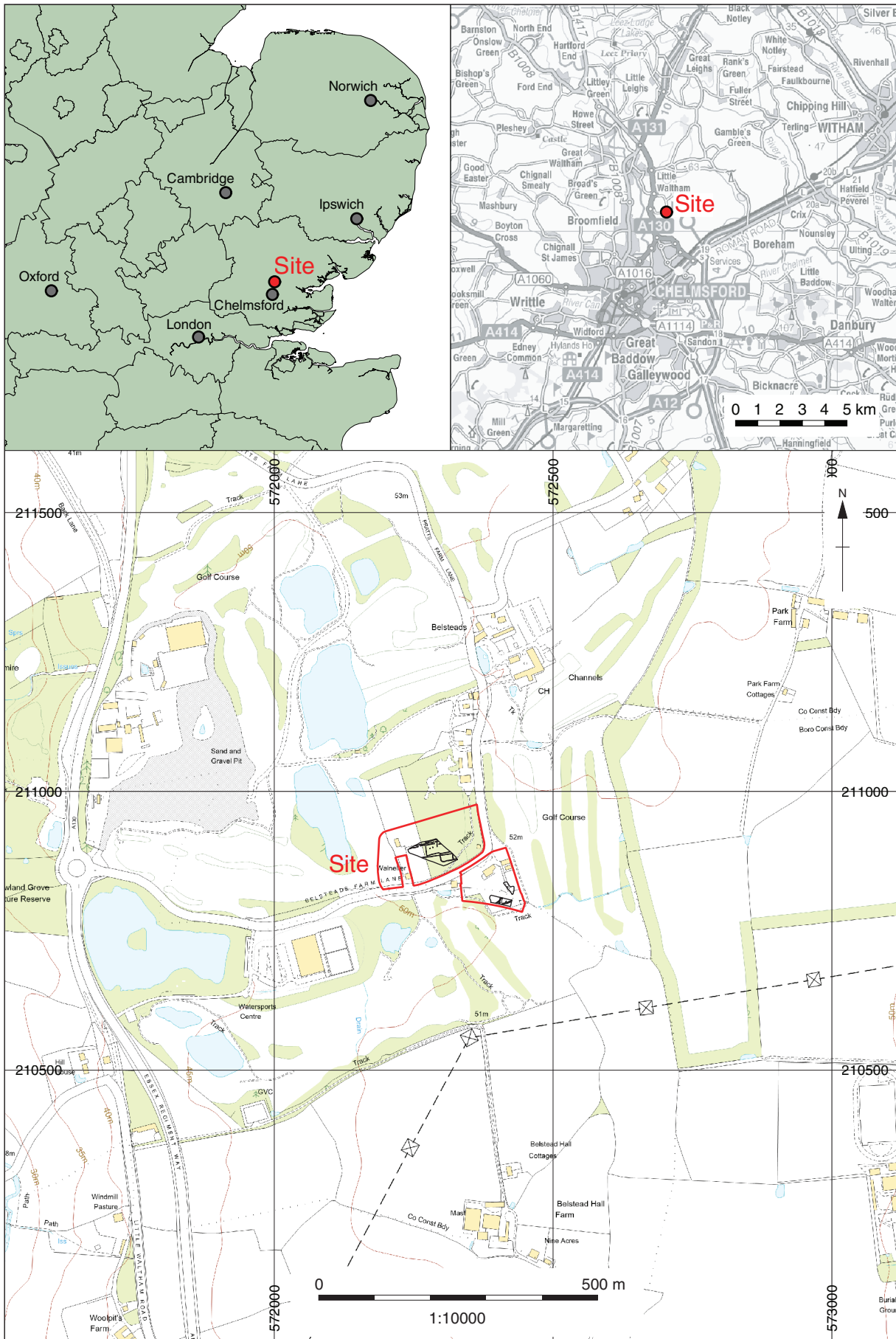
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Archive Contents/Media

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Digital Media	Paper Media
<input type="checkbox"/> Database	<input type="checkbox"/> Aerial Photos
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	<input type="checkbox"/> Research/Notes
	<input type="checkbox"/> Photos
	<input type="checkbox"/> Plans
	<input type="checkbox"/> Report
	<input type="checkbox"/> Sections
	<input type="checkbox"/> Survey

Notes:



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Figure 1: Site location area of excavation (black) in development area (red)

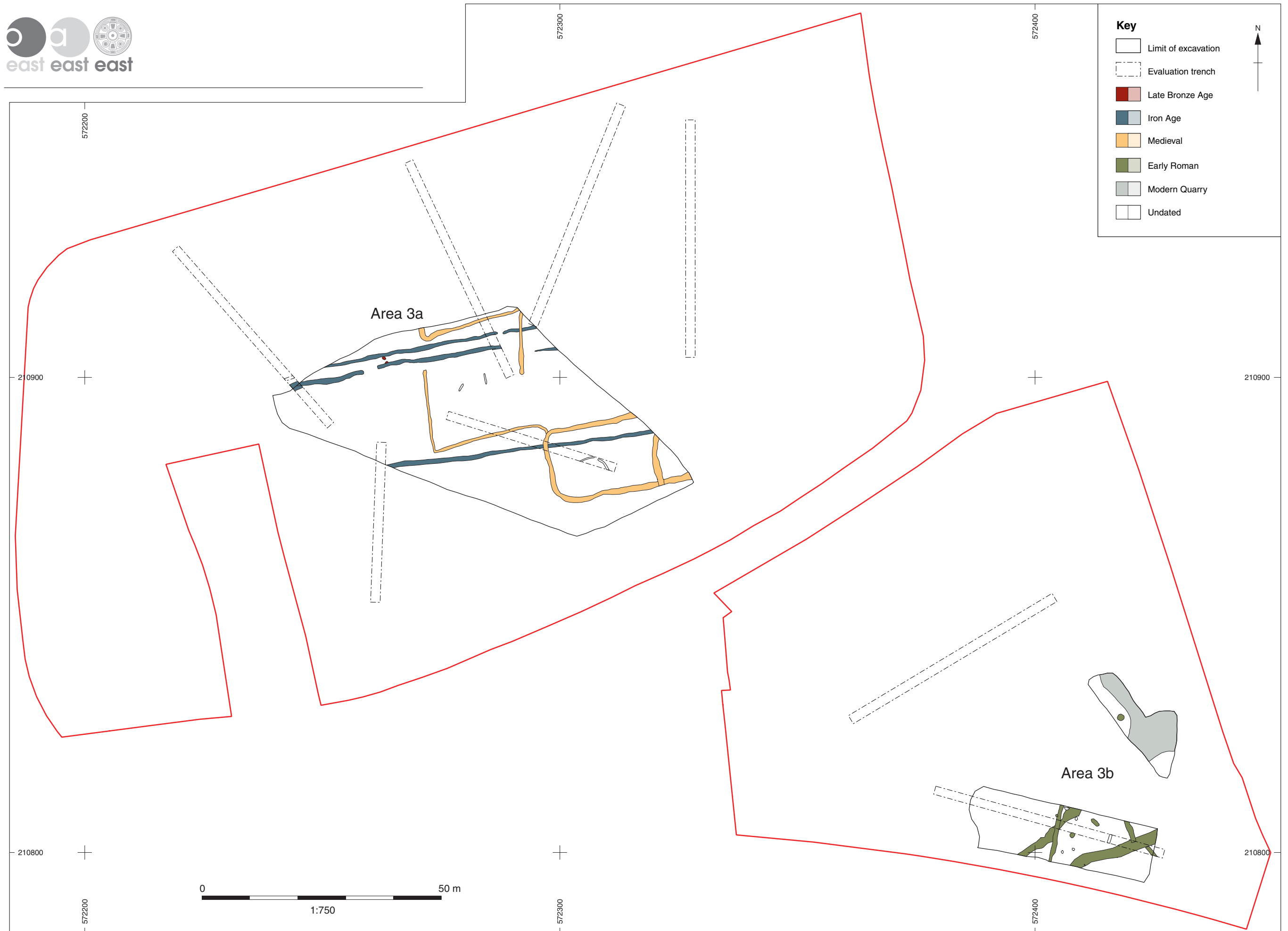


Figure 2: Phase plan

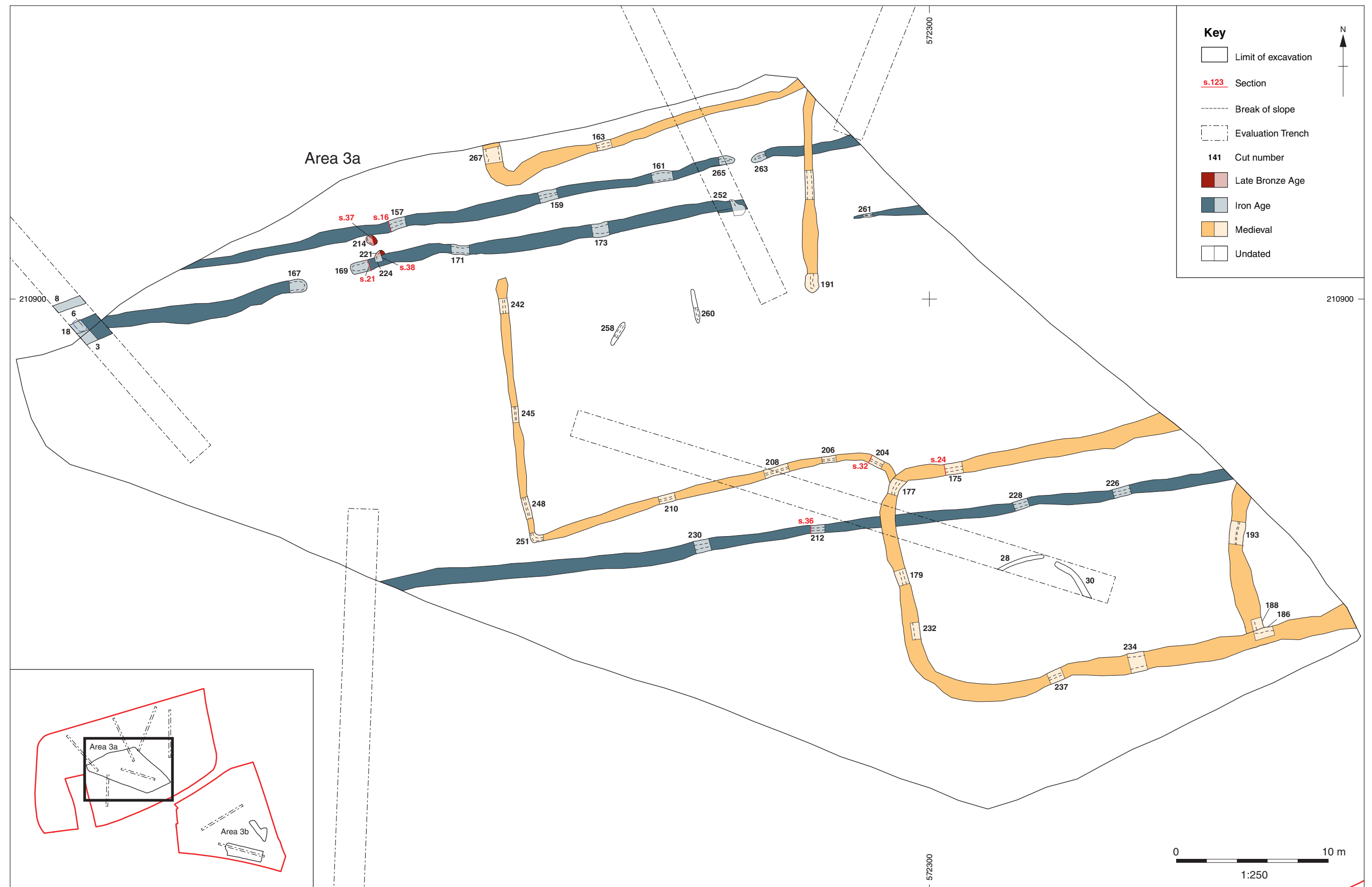


Figure 3: Phase plan of Area 3a



Figure 4: Phase plan of Area 3b

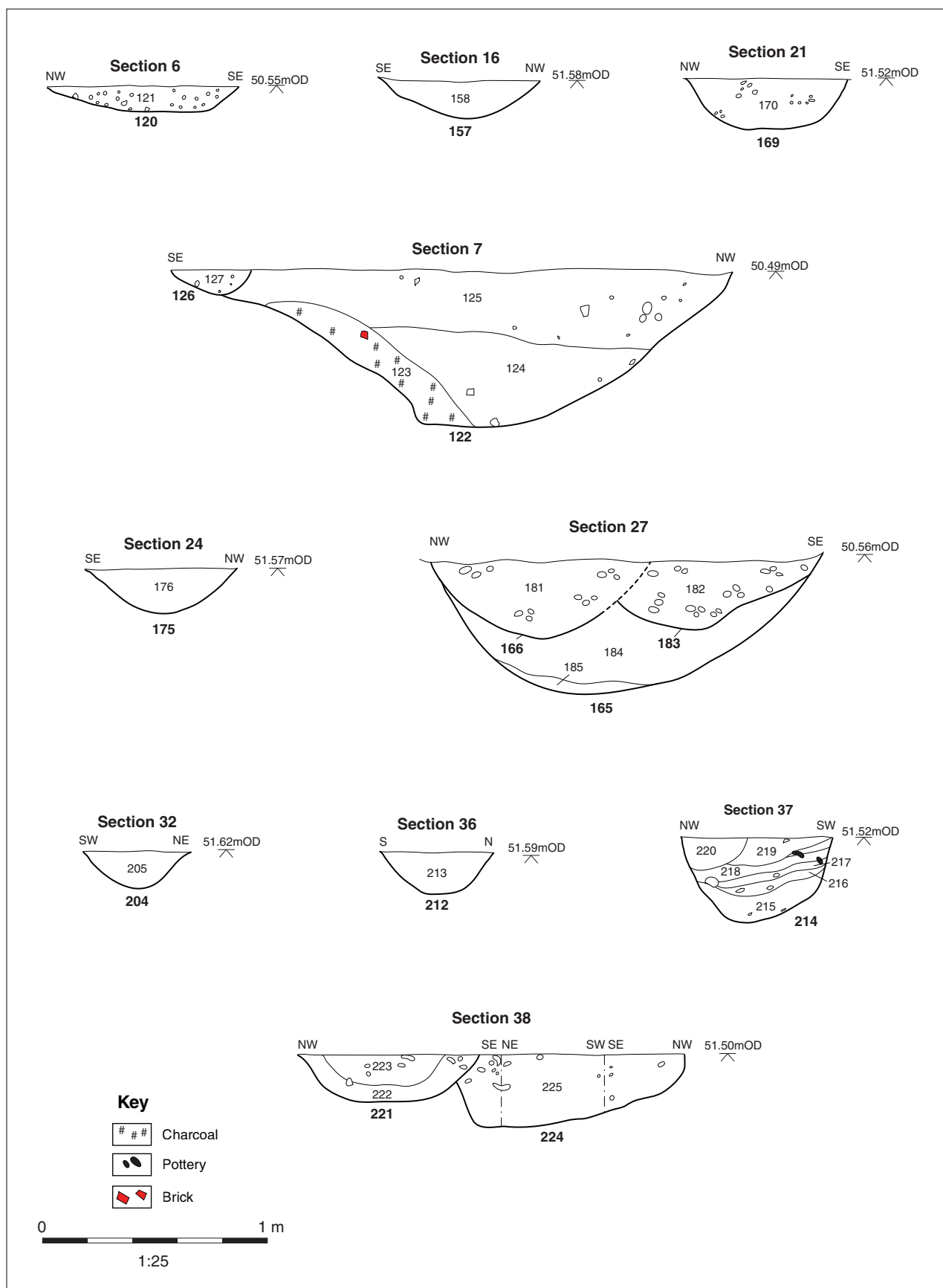


Figure 5: Selected sections



Plate 1: Pits **214** and **221**, looking north-east

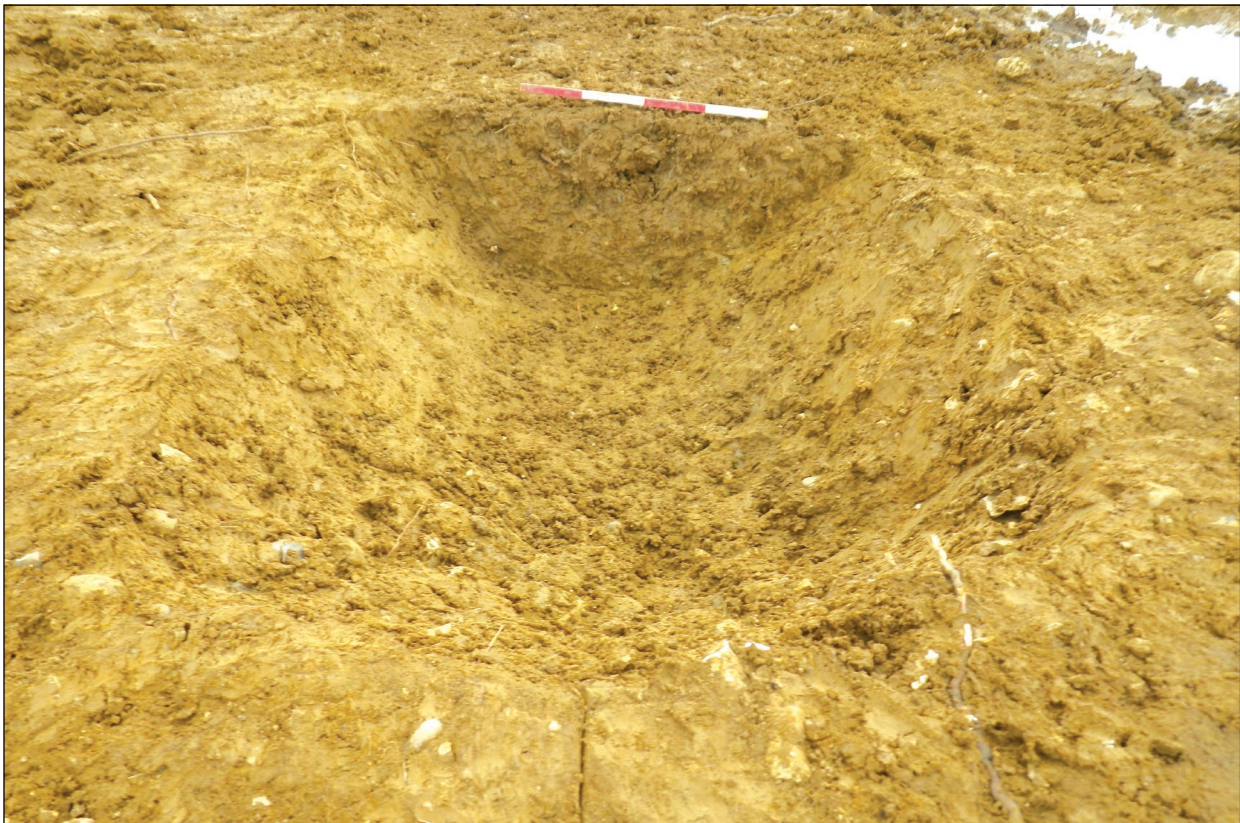


Plate 2: Ditch **167**, looking west



Plate 3: Ditch **212**, looking east



Plate 4: Trackway **131**, looking north-east



Plate 5: Ditch **156**, looking north-east

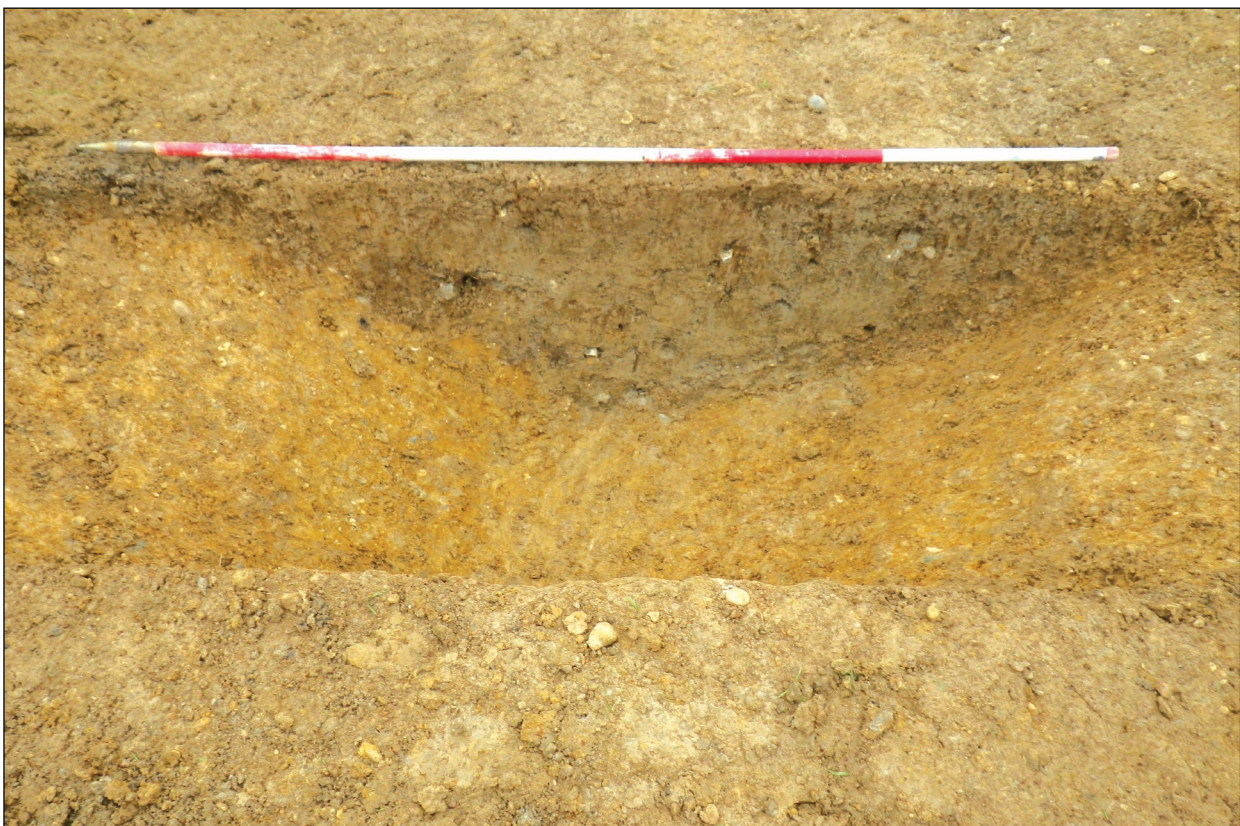


Plate 6: Ditch **122**, looking south-west

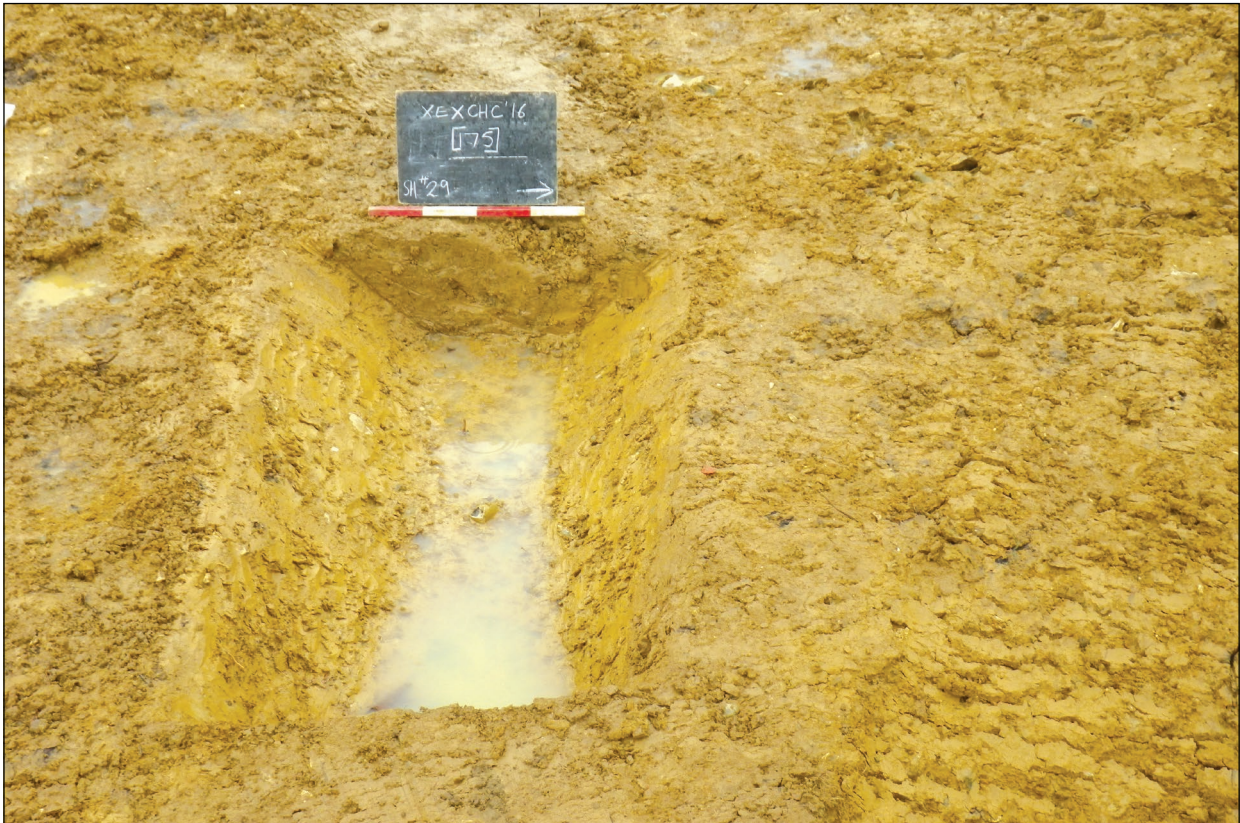


Plate 7: Ditch 175, looking west



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