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LAND OFF LIME AVENUE, OULTON, SUFFOLK (PHASE 1)

AN ARCHAEOLOGICAL EXCAVATION: RESEARCH ARCHIVE REPORT

SHER OUL 037

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NGR: TM 518 941	Report No: 5069
District: Waveney	Site Code: OUL 037
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OASIS SUMMARY SHEET

Project details			
Project name	*Land off Lime Avenue, Oulton, Suffolk*		
Between February and April 2015 Archaeological Solutions Ltd (AS) conducted an archaeological excavation on land off Lime Avenue, Oulton, Suffolk. The excavation was commissioned by Persimmons Homes Ltd and was undertaken in advance of the proposed residential development of the site. The excavation was preceded by a geophysical survey and trial trench evaluation, also conducted by AS. *As was suggested by the forerunning evaluation, the excavation revealed abundant evidence of activity dating to the late Bronze Age/ early Iron Age and early to middle Anglo-Saxon period. Evidence of Romano-British, middle to late Anglo-Saxon and Saxo-Norman/ medieval occupation/ activity was also encountered. Other periods were more sparsely represented.* *Of particular significance were a late Bronze Age/ early Iron Age enclosure system, a Romano-British enclosure, hearths and a post-built structure, five Anglo-Saxon sunken-featured buildings and five burn flint pits, also of Anglo-Saxon date. A middle to late Anglo-Saxon enclosure, a post and beam slot structure and a Saxo-Norman/ medieval metal working area were also recorded. Notable small finds comprise eight late Anglo-Saxon/ Viking Age scale weights with embedded silver coins.*			
Project dates (fieldwork)	*February to April 2015*		
Previous work (Y/N?)	*Y*	Future work	*Y*
P. number	*5758*	Site code	*OUL 037*
Type of project	*Archaeological Excavation*		
Site status	*None*		
Current land use	*Agriculture*		
Planned development	*Housing*		
Main features (+dates)	*Late Bronze Age/ early Iron age:* *Romano-British:* *Early to middle Anglo-Saxon:* *Middle to late Anglo-Saxon:* *Saxo-Norman to medieval:*	*Enclosure system; pit cluster; clay-lined pits* *Enclosure, posthole structure; quarry pit; hearths; pit clusters* *Ditches; SFBs; burnt flint pits* *Enclosure; posthole and beam slot structure* *Metalworking area*	
Significant finds (+dates)	*Prehistoric:* *Romano-British:* *Anglo-Saxon/* *Anglo-Saxon/ Viking Age:* *Saxo-Norman/ medieval*	*Pottery; struck flint* *Pottery* *Blade; pottery* *Lead coin weights* *Pottery; slag*	
Project location			
County/ District/ Parish	*Suffolk*	*Waveney*	*Oulton*
HER/ SMR for area	*Suffolk Historic Environment Record*		
Post code (if known)	*-*		
Area of site	*c. 35h*		
NGR	*TM 518 941*		
Height AOD (min/max)	*c. 10m/ 20m*		
Project creators			
Brief issued by	*Suffolk County Council Archaeological Service Conservation Team*		
Project supervisor/s (PO)	*Julie Walker and Antony R.R. Mustchin*		
Funded by	*Persimmon Homes Ltd*		
Full title	*Land Off Lime Avenue, Oulton, SUFFOLK (Phase 1). An Archaeological Excavation: Research Archive Report*		
Authors	*Mustchin, A.R.R. and Walker, J.*		
Report no.	*5069*		
Date (of report)	*17 March 2016*		

LAND OFF LIME AVENUE, OULTON, SUFFOLK (PHASE 1)

AN ARCHAEOLOGICAL EXCAVATION: RESEARCH ARCHIVE REPORT

1 INTRODUCTION

1.1 This report comprises the research archive for the first phase of excavation on land off Lime Avenue, Oulton, Suffolk (centred on NGR TM 518 941; Figs. 1-2) carried out between February and April 2015. The excavation was preceded by a geophysical survey (Egan 2014) and archaeological trial trench evaluation (Orzechowski 2015). This report follows the Archaeological Assessment and Updated Project Design (Walker *et al.* 2015).

2 SITE NARRATIVE

Overview

2.1 Between February and April 2015 Archaeological Solutions Ltd (AS) conducted an archaeological excavation on land off Lime Avenue, Oulton, Suffolk (centred on NGR TM 518 941; Figs. 1-2). The excavation was commissioned by Persimmons Homes Ltd and was required in compliance with a planning condition attached to planning permission for a new residential development. The excavation was preceded by a geophysical survey and trial trench evaluation (also conducted by AS; Egan 2014; Orzechowski 2015).

2.2 The project was conducted in accordance with a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT; dated 22/01/2015), and a written scheme of investigation (specification) compiled by AS (dated 23/02/2015) and approved by SCC AS-CT. It conformed to the Institute for Archaeologists' (2013) *Standard and Guidance for Archaeological Excavation* and relevant sections of Gurney's (2003) S*tandards for Field Archaeology in the East of England*.

2.3 The principal aim of the excavation – as set out in section 5 of the specification – was to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site. Specific research priorities were to:

- place the activity [within the site] in context with known activity of these dates in the surrounding area;
- characterise the activity present within the site;
- identify topographical/ geological/ geographical influences on the layout and development of the activity present within the…site and in the surrounding area; and
- [to attempt] environmental reconstruction.

2.4 Following the initial assessment of the excavated evidence, including interim specialist statements, these research priorities remained broadly valid. However, based on the preliminary assessment of the environmental assemblage, there is little potential for palaeoenvironmental reconstruction. Phase-specific avenues of investigation were also proposed (see Walker *et al.* 2015, section 13).

Background

Site Description

2.5 Oulton is located on the outskirts of Lowestoft, close to Suffolk's east coast (Fig. 1). The development site comprises an irregular plot of greenfield/ agricultural land immediately north of Lime Avenue on the western edge of Oulton (Fig. 2). Modern housing lies to the south of Lime Avenue, while the eastern edge of the site is delimited by a trackway (Long Fields Path) and additional fields. Further agricultural land lies to the north and west.

Topography, Geology and Soils

2.6 The site occupies a gentle, south-facing slope between *c.* 10m and 20m AOD. The south to north course of the River Waveney passes *c.* 1.9km to the west. The area's underlying geology comprises sands of the Crag Group (British Geological Survey 1978), largely overlain (within the site) by sands of the Happisburgh Glacigenic Formation (*ibid.*). An area of Head – clay, silt, sand and gravel – is present in the eastern area of the site (*ibid.*). The site's soils are those of the Wick 3 Association, described as 'deep well drained coarse loamy often stoneless soils…with…some similar sandy soils' (Soil Survey of England and Wales 1983, 9). These soils are at risk of water erosion and are suitable for the cultivation of cereals and some horticultural crops (*ibid.*).

2.7 The excavation encountered a ubiquitous topsoil (L2000) of friable, mid grey brown sandy silt with frequent small stones. In the south-eastern area of the site L2000 overlay a post-medieval or later colluvium (L2009), made up of friable, mid grey brown sandy silt with moderate small stones and charcoal flecks. An unnumbered alluvium, believed to represent a palaeochannel, was sealed by L2000 in the far north of the site.

2.8 The natural geology varied across the site. The most abundant material (L2001) – present across most of the site – comprised a friable, mid yellow orange sand with occasional small stones. L2001 was interspersed with areas of friable, yellow orange sandy gravel with occasional small chalk pebbles (L2002). A small area of chalky clay natural (L2010) was present in the central, northern area of the site, while the easternmost area of the site was underlain by firm, light grey brown sandy silt and clay (L2330).

Archaeological and Historical Background

2.9 Little systematic archaeological investigation has previously taken place in the immediate area of the site. Sites and find spots recorded by the Suffolk Historic Environment Record (SHER) number only 16 within a 1km radius (Fig. 2).

Prehistoric

2.10 Prehistoric stone tools found within a 1km radius include a Palaeolithic worked implement (SHER OUL Misc) and a late Neolithic artefact scatter found on Pound Lane to the north-east of the site (SHER LWT 015). A Bronze Age hornblende granulite battle axe was also found to the south, at Lothingland (SHER SUF Misc). Cropmarks of one or more ring ditches have been identified in the parish, between 500m and 1km south/ south-west of the site (SHER OUL 005). An earlier archaeological evaluation on land off Mobbs Way – immediately adjacent to the site's south-eastern boundary – yielded a small assemblage of prehistoric material including a single sherd of Bronze Age to early Iron Age pottery and two pieces of struck flint (SHER OUL 011; Craven 2010).

Romano-British

2.11 The only Roman finds within 1km of the site comprise two bronze coins found by metal detecting (SHER OUL 001).

Medieval to post-medieval

2.12 The evaluation at Mobbs Way identified a medieval or post-medieval ditch, while the contemporary finds assemblage from this site suggests an arable use (SHER OUL 011; Craven 2010). St Michael's Church (SHER OUL 004), located 1km to the south-west of the site is thought to date back to Norman times, although it is not recorded in the Domesday Book. The church was rebuilt between the 14th and 15th centuries, and underwent 19th century restorations (*ibid.*). The cropmark of a sub-oval enclosure or moat is located over 500m west/ north-west of the site (SHER FTN 013). Medieval and post medieval finds from the area include a 14th century jetton and medieval finger ring found at Oulton Broad village (SHER LWT Misc) and post-medieval tile and other finds from the area of the abovementioned enclosure or moat (SHER FTN 011). A market is recorded at Oulton in 1307 AD (SHER OUL Misc).

Project Background

Geophysical survey

2.13 A geophysical survey conducted by AS recorded linear anomalies of possible archaeological origin (Egan 2014). In summary:

West Field

'The survey of the western field identified four possible archaeological anomalies; however these could equally be related to modern agricultural activity'.

Middle Field

'The principal recorded anomaly forms a curve or an enclosure which may be of archaeological origin. The enclosure contains four anomalies possibly indicative of infilled, discrete pits. In the same southern area of the field five anomalies may be

pits of archaeological origin. A linear feature is located in the north-east area of site and is oriented east to west. It may represent a former field boundary and may be of archaeological origin'.

East Field

'A linear ditch runs north-east to south-west across the north-eastern section of the site and may be of archaeological origin. It is close to a second ditch which may also be of archaeological origin'.

Conclusions

'The conducive geology and presence of possible archaeological anomalies suggests that the survey has been successful. The remaining anomalies are of modern origin, relating to agricultural activity and ferrous objects'.

Trial trench evaluation

2.14 An archaeological trial trench evaluation was undertaken by AS (Orzechowski 2015). In summary:

'The earliest features were prehistoric. Five sherds of early Bronze Age pottery were present in Pit F1088 (Trench 105). Three sherds of late Bronze Age/ early Iron Age pottery occurred within Posthole F1033 (Trench 85)'.

'Sparse struck flint numbering one to three pieces was found in several features (Trenches 52, 67, 82, 114, 117 and 163). Sometimes the struck flint was residual within Saxon features, for example, Pits F1110 and F1114 (Trench 83)'.

'Five features contained early to middle Saxon (mid 5th to 9th century) pottery: Ditch F1003 (Trench 62), Pit F1069 (Trench 64), Pits F1110 and F1114 (Trench 83), and Pit F1126 (Trench 109); while five features contained Saxo-Norman (10th to 12th century) pottery: Ditch F1041 (Trench 59), Ditch F1043 (Trench 116), Pit F1057 (Trench 84), ?Hearth F1081 (Trench 108), and Ditch F1084 (Trench 105). A possible sunken-featured building (SFB) was recorded in Trench 108. Many of the Saxon features were discrete features (pits), including possible Hearth F1081 (Trench 108). Trenches 64, 83, 84, 108 and 109, which contained the discrete Saxon features were located in close proximity. Pit F1114 and the surface of the ?SFB produced the largest number of pottery sherds (34 and 12 sherds, respectively). CBM, animal bone and a ?rubbing stone were also found within Pit F1114'.

'[Ditch] F1053 (Trench 163) contained a sherd of medieval (12th to 13th century) pottery'.

'Undated Ditches F1035 and F1075, respectively located in Trenches 85 and 87, appeared to align with a north to south field boundary depicted on the 1st edition OS map of 1885...Although lacking finds it is possible that both features were 19th century in origin, or possibly earlier. The same boundary was not identified in Trench 86, although subsequent ploughing or some other agency may have resulted

in the loss of evidence here. Two Ditches in Trench 84 (F1049 and F1051) appeared to run perpendicular to this field boundary...'

Results

Phasing

2.15 Based on the analysis of the recovered artefactual assemblage (pottery, struck flint and CBM) and associated stratigraphic evidence, an assessment and refinement of the dating of on-site activity was conducted as part of the project's post-excavation phase. Seven chronological phases of activity were identified (Table 1; Fig. 4). The majority of features dated to the late Bronze Age/ early Iron Age or early to middle Anglo-Saxon period. *Evidence of Romano-British, middle to late Anglo-Saxon and Saxo-Norman/ medieval activity was also encountered. Other periods were only sparsely represented.*

Phase	Sub-phase	Period	Date
1		Earlier Prehistoric	Pre-400 BC
2		Late Bronze Age/ early Iron Age	*c.* 1300 to 400 BC
3		Middle to late Iron Age	*c.* 400 BC to AD 43
4		Romano-British	AD 43 to 410
5	5.1	Early to middle Anglo-Saxon	5th to 9th century AD
	5.2	Middle to late Anglo-Saxon	9th to mid 12th century AD
6		Saxo-Norman/ medieval	11th to 14th century AD
7		Post-medieval to early modern/ modern	*c.* AD 1500 to 1900+

Table 1: Chronological Phasing

Phase 1: Earlier Prehistoric (pre-400BC)

Summary

2.16 Five earlier prehistoric features were identified. These comprised two large boundary ditches (F2117=2757 and F2476=2514) running c. north-west to south-east across the site, and two pits (F2468 and F2542) and a c. north to south aligned ditch (F2470) in the north of the site (Figs. 5, 17 and 19); Pit F2468 cut the fill of Ditch F2470. Neither of the larger ditches contained artefacts and their dating was tentatively based on the stratigraphic relationship between F2117 (=2757) and Phase 2 Ditch F2027 (see below). Of the northernmost features, Pit F2468 yielded mainly prehistoric pot sherds, while Ditch 2470 – the stratigraphically earlier of this intercutting pair – yielded three sherds (12g) of ?prehistoric pottery. The fill of Pit F2542 (L2543) was truncated by Phase 2 Ditch F2027 (Grid Square E5).

The Phase 1 ditches

2.17 Parallel Ditches F2117 (=2757) and F2476 (=2514; Table 2) followed a north-west to south-east alignment across the site (Figs. 5, 16-17, 23 and 25). F2117 (=2757) ran between Grid Squares E5 and K1, while F2476 (=2515) ran between Grid Squares D3 and F2; these features were spaced some 45.6m apart. The alignment, profiles and fills the ditches suggest that they were contemporary, while Ditch F2117 (=2757) was stratigraphically earlier than Phase 2 Ditch F2027 (=1128; Enclosure 1; see below). Due to poor preservation and truncation by later features,

the termini of these ditches were not recorded. The middle section of F2476 (=2515; Grid Square E3) petered out and could not be recorded in plan or section (Fig. 23).

2.18 Ditch F2470 ran *c.* north to south between Grid Square F6 and the northern excavation edge (Figs. 5, 17 and 19). The fill of this feature was truncated at its southern terminus by Phase 1 Pit F2468 (Table 2). However, the alignment of F2470 was at odds to the other Phase 1 ditches and its relationship to the latter remains uncertain.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2117 =2757	2118=2758	Linear/ moderately sloping sides, flattish base (c.165.00 x 1.15 x 0.31m)	Friable, mid yellowish grey brown silty sand with occasional small and medium sub-rounded stones	Ditch; cut L2002; cut by F2027, F2068, F2098, F2139, F2504, F2508, F2510 and F2646	-
2470	2471	Linear/ moderately sloping sides, flattish base (c. 17.00 x 1.07 x 0.17m)	Friable, mid yellowish brown silty sand with moderate stones	Ditch; cut L2001; cut by F2468	Pottery (12g); CBM (3)
2476 =2514	2477=2515	Linear/ moderately sloping sides, flattish base (c. 20.00 x 0.96 x 0.27m)	Friable, mid orange brown silty sand	Ditch; cut L2001 and L2477; cut by F2478 and F2480	-

Table 2: The Phase 1 ditches

The Phase 1 pits

2.19 Pit F2468 (Table 3) truncated the fill of Gully F2470 at its southern terminus (Grid Square F6; Fig. 17). The positioning of this pit in relation to the earlier feature appeared to be a deliberate placement. The fill of Pit F2468 (L2469) was cut by Phase 3 Pit F2466; it yielded four sherds of prehistoric pottery and a single intrusive early Anglo-Saxon sherd (totalling 19g overall). Despite being devoid of artefacts, the fill of elongated Pit F2542 (L2543) was similar to the Pit F2468 and Ditch F2470 (Tables 2-3). L2543 was also truncated by Phase 2 Ditch F2027 (Grid Square E5) and it is thought that this feature was contemporary with the neighbouring Phase 1 features.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2468	2469	Irregular/ moderately sloping sides, irregular base (1.87 x 1.85 x 0.28m)	Friable, mid yellowish brown silty sand with frequent stones	Pit; cut L2001 and L2471; cut by F2466	Pottery (19g)
2542	2543	Linear/ gently sloping sides, concave base (c. 3.70+ x 0.87 x 0.16m)	Friable, mid grey brown silty sand with frequent stones	Ditch; cut L2002; cut by F2156	-

Table 3: The Phase 1 pits

Phase 2: Late Bronze Age/ Early Iron Age (c. 1300 to 400 BC)

Summary

2.20 The earliest, closely dateable phase of activity belongs to the late Bronze Age/ early Iron Age transition. The majority of the Phase 2 features were pits. A single pit cluster (Pit Cluster 1) and a larger, more dispersed feature cluster were identified. Part of a large, rectilinear enclosure (Enclosure 1) was also exposed within the central/ south-eastern area of the site. Seven gullies were observed; two of which

were intercutting and mirrored the alignment of an adjacent ditch. The remaining Phase 2 gullies were associated with the dispersed feature cluster.

2.21 Dating of the Phase 2 features was primarily based on pottery from their fills (see *The Prehistoric and Roman Pottery*). The Bronze Age to early Iron Age assemblage is consistent with regional pottery traditions of this period and occurs in two coarse calcined flint-tempered fabrics (*ibid.*); of particular note is a decorated body sherd from Pit F2349.

Enclosure 1

2.22 Phase 2 Ditches F2027 (=1128), F2062, F2066 and F2072 defined the northern and western edges of a rectilinear enclosure boundary (Enclosure 1; Table 4; Fig. 6). Intercutting Gullies F2452 and F2457 ran parallel to the eastern edge of Ditch F2066 (Grid Square E2) and, despite lacking artefactual evidence are thought to have been contemporary to it (see below). Ditch F2111 (Grid Square D4) also appeared to be directly related to Enclosure 1; although the stratigraphic relationship between this feature and Ditch F2066 was obscured by Tree Bole F2086 (Grid Square D4), F2111 appeared to comprise an east to west continuation of the former. It is possible that Ditches F2066 and F2111 delineated the north-eastern corner of an additional Phase 2 enclosure, further evidence of which had been lost.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2027 =1128	2028 =1129	Linear/ moderately sloping sides, concave base (c. 170.00 x 1.50 x 0.53m)	Friable, mid grey brown sandy silt with frequent small and medium sub-rounded stones	Ditch; cut F2072 F2117; cut by F2025, F2087 and F2137	Pottery (20g)
2062	2063	Linear/ gently sloping sides, concave base (c.22.00 x 1.24 x 0.20m)	Friable, dark orange brown silty sand with occasional rounded stones	Ditch; cut L2002; cut by F2025 and F2162	-
2066	2067	Linear/ steep sides, concave base (c. 46.00 x 0.60 x 0.22m)	Friable, mid grey brown silty sand with occasional small and medium rounded stones	Ditch; cut L2002; cut by tree bole (unnumbered)	-
2072	2073	Linear/ moderately sloping sides, concave base (c. 10.00 x 0.50 x 0.22m)	Friable, mid grey brown silty sand with moderate small and medium sub-rounded and rounded stones	Gully; cut L2001; cut by F2027	Pottery (13g)
2111	2112	Linear/ moderately sloping sides, flattish base (c. 11.40 x 0.40 x 0.14m)	Friable, mid orange grey brown silty sand with moderate small rounded stones	Ditch; cut L2001 and L2002; cut by F2115, F2135, and tree bole (unnumbered)	-
2452	2453	Linear/ steep sides, concave base (5.50+ x 0.28 x 0.17)	Friable, mid grey brown silty sand with occasional stones	Gully; cut L2001 and L2458; sealed by L2009	-
2457	2458	Linear/ steep sides, irregular base (5.50+ x 0.14-0.22 x 0.12m)	Friable, mid grey brown silty sand with occasional stones	Gully; cut L2001 and L2455; sealed by L2009	-

Table 4: Enclosure 1 and associated boundaries

2.23 The exposed part of Enclosure 1 spanned the central and south-eastern area of the site and measured approximately 12,877m^2 (1.29ha; internally); it would have originally been larger, however. The north-western corner of the Enclosure 1 boundary was cut by Phase 2 Pit F2025 (GS E5; see below). Ditch F2027 (=1128) ran east to west for approximately 27m and was recut along its entire length by F2072. The stratigraphically later ditch followed the same alignment for over 162m and disappeared beneath the eastern excavation edge. Both F2027 (=1128) and F2072 yielded datable finds. North to south aligned Ditch F2062 was *c.* 28m in length and was assigned to Phase 2 based on its obvious spatial relationship with

F2027 (=1128) and F2072 (Fig. 6). The profiles and fills of the principal enclosure ditches were also similar.

2.24 The 'staggered' western edge of Enclosure 1, formed by Ditches F2062 and F2066 may have represented a short section of trackway running north to south at the boundary of Grid Squares D4 and E4 (Figs. 6 and 16-17). The alignment of this ?trackway was mirrored to the south by Ditch F2066 and intercutting Gullies F2452 and F2457 (Fig. 16). It is possible, therefore, that a narrow trackway ran between Enclosure 1 and the putative enclosure to the west (see above), possibly with a wide access point to Enclosure 1 present between the termini of Ditch F2062 and the gullies to the south (Grid Squares E2-E3; Fig. 16).

2.25 Regional examples of similar enclosures and trackways include those excavated at South Hornchurch, Essex (Guttmann and Last 2000). The latter were part of a more complex archaeological sequence, however, which also included extensive structural and economic evidence (*ibid*.). Late Bronze Age crop use was interpreted at the Hornchurch site, while ditched trackways associated with the main phases of occupation were thought to be 'droveways for moving stock through the landscape' (*ibid.* 349). A possible late Bronze Age or early Iron Age droveway is also known at Wherstead in the Orwell Valley (SHER WHR 021; after Yates 2007), while a middle Iron Age droveway – close to an area of possible settlement activity – has also been recently excavated at Watton Green, Norfolk (Mustchin and Cussans in preparation).

Clustered features

Pit Cluster 1

2.26 Pit Cluster 1 (GS F3; Table 5; Figs. 6 and 16) was located in the southern area of the excavation, within the confines of Enclosure 1. This cluster comprised five pits of variable size and depth (F2202, F2567, F2569, F2575 and F2577). All displayed similar profiles and fills, however. The fills of F2567 (L2568) and F2569 (L2570) also contained charcoal inclusions (Plate 1). Only one pit in this cluster (F2569) yielded dateable finds (18 sherds of early Iron Age pottery). The sherds from F2569 are part of a decorated bowl in the post-Deverel-Rimbury tradition, similar to an example from Framlingham (see *The Prehistoric and Roman Pottery*). The remaining features were dated based on their general similarities and proximity to F2569.

2.27 Feature clustering, particularly during the Iron Age, is common to a large number of regional sites (e.g. Newton and Mustchin 2015; O'Brien forthcoming). A possible late Bronze Age to middle Iron Age field system and a large number of contemporary feature groups (or 'activity areas') were excavated on the route of the A505 Baldock Bypass in Hertfordshire (Clarke and Phillips 2009, 35ff). The grouped features in Area 4 of this site included paired postholes, interpreted as 'simple two-post structures', possible trackway boundaries and a possible unurned cremation burial (*ibid*.). Features consistent with the subterranean storage of grain – a characteristic Iron Age practice across lowland Britain (Cunliffe 2010, 411ff, fig. 16.2) – were also present, while many features had been ultimately used for the disposal of refuse, regardless of primary function (Clarke and Phillips 2009, 45-6, fig. 4.10). Early

Iron Age pit groups within possible stock enclosures were also excavated at Little Melton in South Norfolk (Norfolk Historic Environment Record 50209; www.heritage.norfolk.gov.uk/).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2202	2203	Oval/ steep sides, concave base (0.48 x 0.26 x 0.15m)	Firm, dark brown grey silty clay with occasional small sub-rounded stone	Pit; cut L2001; sealed by L2000	-
2567	2568	Oval/ steep sides, concave base (0.48 x 0.27 x 0.12m)	Friable, dark grey black sandy silt with occasional stones	Posthole; cut L2002; sealed by L2000	-
2569	2570	Oval/ steep sides, concave base (0.90 x 0.90 x 0.55m)	Friable, dark brown/ black sandy silt with frequent stones and occasional charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (296g)
	2571		Friable, light grey brown sandy silt with frequent stones		-
2575	2576	Circular/ steep sides, concave base (0.20 x 0.16 x 0.06m)	Friable, dark brown/ black silty sand with occasional stones	Stakehole; cut L2002 sealed by L2000	-
2577	2578	Oval/ gently sloping sides, concave base (0.36 x 0.24 x 0.05m)	Friable, mid orange brown sandy silt with frequent stones	Posthole; cut L2002; sealed by L2000	-

Table 5: Pit cluster 1

The dispersed feature cluster

2.28 A large, dispersed cluster of 28 features – mostly pits – was present in the north-western area of the excavation (Grid Squares B6-D6; Table 6; Figs. 6 and 12). Three gullies belonging to this group (F2293, F2297 and F2353) were irregular/ linear in plan with similar fills, and were intercut with similarly dated pits (F2241, F2295, F2312 and F2357). Three sets of intercutting pits were also present (F2328, F2338 and F2341; F2370 and F2372; F2398 and F2400). Most of the pits were relatively small; the largest example (Pit F2351) measured 2.2m x 1.4m in plan.

2.29 Two clay-lined pits (F2241 and F2317) were located *c.* 9.5m apart in the central area of the cluster (Grid Squares B5 and C6). The primary fills of both features contained charcoal, but there was no evidence of *in situ* burning (Plate 2). This redeposited burnt material may have derived from domestic activity in the near vicinity. Pit F2241 also yielded six sherds of pottery, while F2317 was dated based on its similarity to F2241 and obvious spatial relationship with other Phase 2 features. The remaining pits in this cluster were unremarkable. Several yielded datable pottery (F2056, F2312, F2349, F2362 and F2367) – most probably indicative of small-scale refuse disposal – and the majority contained generally similar fills.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2003	2004	Sub-oval/ near vertical sides, irregular base (0.57 x 0.40 x 0.09m)	Friable, mid grey brown sandy silt with moderate to frequent irregular stones	Pit; cut L2002; sealed by L2000	-
2005	2006	Sub-circular/ steep sides, concave base (0.56 x 0.52 x 0.23m)	Friable, dark grey brown sandy silt with frequent small charcoal flecks and occasional small stones	Pit; cut L2002; sealed by L2000	Animal bone (23g)
2007	2008	Sub-oval/ near vertical sides, irregular base (0.98 x 0.88 x 0.34m)	Friable, dark grey brown silty sand and charcoal flecks with moderate small and medium stones	Pit; cut L2002; sealed by L2000	-
2056	2057	Circular/ steep sides, flattish base (1.10 x 1.10 x 0.17m)	Friable, mid grey brown silty sand with occasional small rounded stones and charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (3:40g); CBM (1g)
2241	2244	Oval/ moderately sloping sides, flattish base (0.82 x 0.64 x 0.18m)	Friable, dark grey brown silty sand with occasional small sub-angular stones	Pit; cut L2296; cut by F2297	Pottery (131g); fired clay (313g);

					burnt flint (167g)
	2243		Friable, mid yellowish brown sandy silt with moderate large grey clay lumps and occasional small and medium sub-angular and sub-rounded stones		Baked clay (42g); burnt flint (294g)
	2242		Firm, greenish yellow clay with occasional medium rounded stones and chalk		-
2293	2294	Linear/ irregular sides, irregular base (c. 4.10 x 0.41 x 0.09m)	Friable, light grey brown silty sand with occasional small flints	Gully; cut L2001; cut by F2281 and F2306; sealed by L2000	-
2295	2296	Irregular/ moderately sloping sides, irregular base (1.05 x 1.04 x 0.18m)	Friable, mid orange brown silty sand with occasional small sub-angular and sub-rounded stones	Pit; cut L2001; cut by F2241	-
2297	2298	Curvilinear/ moderately sloping sides, concave base (c. 3.50 x 0.52 x 0.28m)	Friable, mid yellowish brown silty sand with occasional small rounded and sub-rounded stones	Gully; cut L2001, F2241 and F2295; cut by F2310, and F2312	-
2299	2300	Circular/ steep sides, concave base (0.34 x 0.29 x 0.24m)	Friable, mid brown grey silty sand with occasional small sub-rounded stones	Posthole; cut L2001; sealed by L2000	CBM (1g)
2312	2313	Sub-oval/ moderately sloping sides, concave base (1.02 x 0.56 x 0.20m)	Friable, mid orange brown silty sand with occasional small and medium sub-angular and sub-rounded stones	Pit ; cut L2298; cut by F2310; sealed by L2000	Pottery (8g)
2317	2318	Sub-rounded/ moderately sloping sides, concave base (0.62 x 0.59 x 0.11m)	Firm, dark grey brown clay silt with moderate small angular burnt flint	Pit; cut L2001; sealed by L2000	-
	2325		Firm, mid greenish brown silty clay with occasional small angular stones		-
2326	2327	Sub-rounded/ steep sides, flattish base (0.47 x 0.42 x 0.17m)	Friable, mid grey brown silty sand with occasional stones	Posthole; cut L2001; sealed by L2000	-
2328	2329	Sub-oval/ steep sides, concave base (0.84 x 0.60 x 0.27m)	Friable, mid grey brown silty sand with occasional stones	Pit; cut L2342, cut by F2338	CBM (5g)
2338	2339	Oval/ moderately sloping sides, concave base (0.78 x 0.47 x 0.17m)	Friable, dark brown/ black silty sand with frequent charcoal and CBM flecks	Pit; cut L2329 and L2342; sealed by L2000	-
	2340		Friable, dark grey brown silty sand with moderate flecks of charcoal flecks and occasional stones		Pottery (2g)
2341	2342	Oval/ steep sides, irregular base (1.36 x 0.64 x 0.42m)	Friable, mid grey brown silty sand with occasional charcoal flecks and stones	Pit; cut L2001; cut by F2328, F2338	Pottery (5g)
2343	2344	Circular/ steep sides, concave base (0.44 x 0.42 x 0.19m)	Friable, mid grey silty sand with moderate charcoal flecks and occasional stones	Posthole; cut L2001; sealed by L2000	-
2349	2350	Sub-oval/ irregular sides, flattish base (1.50 x 1.06 x 0.21m)	Friable, dark grey brown silty sand occasional charcoal and CBM flecks	Pit; cut L2001; sealed by L2000	Pottery (14g); CBM (7g)
2351	2352	Sub-rectangular/ irregular sides, flattish base (2.14 x 1.32 x 0.35m)	Friable, mid grey brown silty sand with occasional charcoal flecks and stones	Pit; cut L2001; sealed by L2000	CBM (8g)
	2361		Friable, light grey brown silty sand with occasional stones		-
2353	2354	Linear/ moderately sloping sides, concave base (c. 5.00 x 0.25 x 0.14m)	Friable, dark yellowish black silty sand with occasional stones	Gully; cut L2001 and L2358; sealed by L2000	Pottery (4g)
2355	2356	Oval, moderately sloping sides, concave base (0.40 x 0.37 x 0.09m)	Friable, dark brown/ black silty sand with occasional charcoal flecks and stones	Pit; cut L2001 and L2358; sealed by L2001	-
2357	2358	Oval/ gently sloping sides, concave base (0.41 x 0.31 x 0.19m)	Friable dark orange brown silty sand with occasional stones	Pit; cut L2001; cut by F2353 and F2355; sealed by L2001	Pottery (4g); CBM (80g)
2362	2364	Oval/ steep sides,	Friable, dark grey/ black silty sand	Pit; cut L2001; sealed	Pottery (

		concave base (0.78 x 0.43 x 0.19m)	with occasional stones	by L2000	5g); slag (8g)
	2363		Friable, mid grey brown silty sand with frequent stones		-
2367	2368	Oval/ irregular sides, concave base (0.63 x 0.48 x 0.08m)	Friable, dark black brown silty sand with moderate charcoal flecks and occasional stones	Pit; cut L2369; sealed by L2000	-
	2369		Friable, mid orange brown silty sand with moderate stones and occasional charcoal flecks		-
2370	2371	Sub-oval/ gently sloping sides, flattish base (1.60 x 0.94 x 0.09m)	Friable, mid yellowish brown silty sand with moderate stones and occasional chalk	Pit; cut L2001; cut by F2372	Pottery (2g)
2372	2373	Oval/ moderately sloping sides, concave base (0.50 x 0.38 x 0.13m)	Friable, mid brown grey with occasional stones	Pit; cut L2371; sealed by L2000	-
2376	2377	Sub-rectangular/ moderately sloping sides, concave (0.98 x 0.74 x 0.15m)	Friable, dark orange brown silty sand with occasional stones	Pit; cut L2001; sealed by L2000	-
2398	2399	Irregular/ moderately sloping sides, concave base (1.40 x 1.05 x 0.20m)	Friable, mid yellowish brown silty sand with moderate stones	Pit; cut L2001; cut by F2400; sealed by L2000	CBM (63g); animal bone (52g)
2400	2401	Oval/ moderately sloping sides, concave base (0.65 x 0.30 x 0.23m)	Friable, dark brown clack silty sand with occasional charcoal flecks and stones	Pit; cut L2399; sealed by L2000	-

Table 6: Dispersed Phase 2 feature cluster

Dispersed Phase 2 pits

2.30 Four dispersed Phase 2 pits were identified (Table 7). Of particular significance was a large, sub-oval pit (F2025) at the north-western corner of Enclosure 1 (Grid Square E5; Fig. 6). This pit truncated the fills of enclosure Ditches F2027 (=1128) and F2062 and yielded a single sherd (4g) of late Bronze Age to early Iron Age coarse ware pottery; the long axis of F2025 followed the north to south alignment of Ditch F2062. The apparently deliberate placement of Pit F2025 and its stratigraphic relationships might suggest that it held some particular significance, possibly relating to the abandonment or closure of Enclosure 1. Special deposits, often linked with features or locations of particular, perceived importance are a common Iron Age phenomenon (Cunliffe 2010, 570ff). Although the single sherd of pottery from Pit F2025 is hardly reminiscent of the complex, structured deposition displayed by features at other sites – often including pottery groups, artefact sets, articulated animal remains and/ or human remains (*ibid.* 570) – the possibility that this feature originally contained archaeologically 'invisible' organic deposits such as fleece, cheese or plant matter cannot be discounted. Regional examples of special deposits within Iron Age pits include an amuletic stone pendant from the fill of a storage pit at Ingham Quarry, Suffolk (Newton and Mustchin 2015) and complex group of material including a worked bone bobbin, human foetus and a horse burial within the fills of a 'ritual pit' at Duxford in Cambridgeshire (Lyons 2011, 115).

2.31 The remaining Phase 2 pits (F2442, F2444 and F2454; Grid Squares D2 and E2-E3) were devoid of datable material and were dated based on their spatial/ stratigraphic relationships. All lay in close proximity to Phase 2 boundary features; the upper fill of Pit F2454 was truncated by Gully F2452.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2025	2026	Sub-oval/ moderately sloping sides, flattish base (1.50 x 1.50 x 0.50m)	Friable, mid grey brown sandy silt with moderate small stones	Pit; cut L2001, F2027 and F2062; sealed by L2000	Pottery (4g)
2442	2443	Irregular/ irregular sides, flattish base (2.73 x 1.22 x 0.68m)	Friable, dark grey brown sandy silt with occasional stones	Pit; cut L2001; sealed by L2009	-
2444	2445	Sub-circular/ gently sloping sides, concave base (1.51 x 0.88 x 0.17m)	Friable, mid reddish brown sandy silt occasional stones	Pit; cut L2001; sealed by L2009	-
2454	2455	Sub-circular/ steep sides, concave base (0.82 x 0.47 x 0.34m)	Friable, mid reddish brown silty sand with occasional stones	Pit; cut L2001; cut by F2452 and F2457	-
	2456		Friable, light grey brown silty sand with occasional stones		-

Table 7: Dispersed Phase 2 pits

Phase 3: Middle to Late Iron Age (c. 400BC to AD 43)

Summary

2.32 The middle to late Iron Age at the site was represented by just four dispersed pits, all of which were located in the northern half of the excavation (Fig. 7). This comparative dearth of Phase 3 activity suggests either a large-scale reduction in the scale and intensity of activity at this time, or a major shift in the focus of activity away from the site, possibly to the north.

The Phase 3 pits

2.33 The Phase 3 pits (F2040 (Grid Square G6), F2310 (Grid Square C6), F2359 (Grid Square C6) and F2466 (Grid Square F6); Table 8; Figs. 6, 12, 17 and 21) were dissimilar in shape and form, and in the nature of their fills. These features were dated according to the finds they contained, or tentatively, according to their stratigraphic relationships. None was particularly notable. The largest pottery assemblage from any of these features comprises 14 sherds (132g) from Fill L2041 of F2040, while another small group (nine sherds; 129g) is present from Pit F2466 (L2467); Pit F2040 also yielded a single, residual sherd (18g) of late Bronze Age/ early Iron Age date. The Phase 3 pottery occurs in a single fabric, characteristic of middle to late Iron Age manufacture, while its occurrence with burnt flint in Pit F2310 (Table 8) might suggest a date within the earlier part of this range (see *The Prehistoric and Roman Pottery*). The larger Phase 3 groups both included cross-joining fragments of jars, similar to examples from Burgh in east Suffolk (Martin 1988: fig. 19.20-21).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2040	2041	Oval/ near vertical sides, flattish base (0.68 x 0.55 x 0.16m)	Firm, mid grey brown silty clay with occasional small sub-angular and sub-rounded flint	Pit; cut L2010; sealed by L2000	Pottery (150g); burnt flint (37g)
2310	2311	Sub-rectangular/ gently sloping sides, irregular base (2.15 x 0.60 x 0.14m)	Friable, very dark grey silty sand with occasional small rounded and sub-rounded stones	Pit; cut L2298 and L2313; sealed by L2000	Pottery (79g); CBM (56g); animal bone (6g)
2359	2360	Oval/ steep sides, concave base (0.98 x 0.38 x 0.21m)	Friable, dark brown/ black silty sand with occasional charcoal flecks and stones	Pit; cut L2001; sealed by L2000	Pottery (24g)
2466	2467	Sub-oval/ moderately sloping sides, irregular base (1.04 x 0.83 x 0.25m)	Friable, mind grey brown silty sand with moderate stones	Pit; cut L2469; sealed by L2000	Pottery (129g)

Table 8: The Phase 3 pits

Phase 4: Romano-British (AD 43 to 410)

Summary

2.34 Romano-British activity was most concentrated in the western area of the excavation, within and around a ditched, rectilinear enclosure (Enclosure 2; Fig. 8). The main area of Phase 4 activity was located to the south of Enclosure 2 and included a quarry pit, refuse pits and a possible hearth. A rectangular posthole structure (Structure 1) was also present in this part of the site. Two further ?hearths were assigned to this phase, one of which was part of a possible structural 'complex' displaying more than one phase of use. Several dispersed Romano-British features were also present.

Enclosure 2

2.35 The Romano-British enclosure was located in the far western area of the excavation (Grid Squares A5-B6; Table 9; Figs. 8 and 12). It was delineated by a single L-shaped enclosure ditch (F2281) which measured *c.* 34.5m west to east and *c.* 18m north to south. Both ends of this feature continued beyond the edges of the excavation, indicating that the interior of the enclosure extended further to the north and west. The excavated part of Enclosure 2 measured some 657m^2 (0.07ha). Three gullies (F2365, F2402 and F2407; Table 10) were present within the enclosure and may have represented internal divisions of space. These features broadly reflected the alignments of the enclosure ditch (Fig. 13) and ranged from *c.* 2.25m to *c.* 12.4m in length. Similar divisions of space have been identified at numerous Romano-British sites, including rural settlements at Beck Row, Suffolk (Mustchin 2014a) and Capston Gibbet in Cambridgeshire (Abrams and Ingham 2008, 38-9, fig. 3.2). The excavated field system at the Capston Gibbet site was sub-divided into narrow strips, each no more than 10m wide (*ibid.*). A single pit (F2481) was also present within Enclosure 4 at Oulton. Despite lacking finds, Pit F2481 cut the fill of Phase 4 Gully F2407 and was tentatively assigned a Romano-British date.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2281 =1011	2282 =1012	Linear/ moderately sloping sides, concave base (c. 50.00 x 0.82 x 0.29m)	Friable, mid grey brown silty sand with occasional small sub-rounded flint	Ditch; cut L2001; L2294; sealed by L2000	CBM (10g); animal bone (108g)
2365	2366	Sub-oval/ steep sides, concave base (c. 3.50 x 0.84 x 0.25m)	Friable, dark grey brown silty sand with occasional stones and moderate charcoal flecks	Pit; cut L2001; sealed by L2000	Pottery (151g); CBM (12g); animal bone (11g)
2402	2403	Sub-oval/ steep sides, concave base (c. 2.00 x 0.46 x 0.15m)	Firm, mid grey brown silty sand with occasional charcoal flecks and stones	Pit; cut L2001; sealed by L2000	Pottery (42g)
2407	2408	Linear/ moderately sloping sides, concave base (c. 12.30 x 0.65 x 0.22m)	Friable, mid grey brown silty sand with frequent stones	Gully; cut L2001 and L2002; cut by F2419	Pottery (32g)
2418	2419	Sub-oval/ moderately sloping sides, concave base (1.03 x 1.00 x 0.11m)	Friable, mid orange brown silty sand with occasional stones	Pit; cut L2408; sealed by L2000	- -

Table 9: Enclosure 2 and associated features

The Phase 4 activity area

2.36 An area of concentrated Romano-British activity was present in the south-western corner of the excavation, to the south of Enclosure 2 (Figs. 8, 13 and 16). Features in this area included a posthole structure (Structure 1; Grid Squares B3-C3), a possible hearth (within the upper profile of Pit F2420; Grid Square B3) and a substantial quarry pit (F2091; Grid Squares C3-C4 and D3-D4). The apparently industrial nature of the latter features might imply a similar function for the neighbouring structure although an agricultural use is equally possible, perhaps linked to Enclosure 1. Two Phase 4 pit clusters, a gully and a tree bole were also present in this part of the site; these are described separately. Additional Phase 4 ?industrial activity was represented by two dispersed hearths.

Structure 1

2.37 Structure 1 was represented by 32 postholes located in the south-western area of the excavation, close to Phase 4 Pits F2420, F2427 and Quarry Pit F2091 (GS B3-C3; Table 10; Figs. 8 and 13-14). The postholes formed a sub-rectangular arrangement, aligned east to west and measuring approximately 56m^2 (Fig. 14). The eastern part of the structure contained a greater number of postholes, including 'internal' features possibly associated with the 'internal' partitioning of space (e.g. F2438; Plate 3). The western end of Structure 1 was more loosely defined and may have represented a secondary or other lesser construction. A general lack of feature intercutting meant that no construction phases were identifiable. Possible maintenance/ alteration of the structure's interior posts was evidenced, however, by an intercutting pair of postholes (F2291 and F2346; Fig. 14). Finds from Structure 1 include trace Roman pottery and three fragments (82g) of possible tegula roof tile from Posthole F2265 (L2266). Sparse animal bone was also present.

2.38 Regional examples of Romano-British posthole structures include four substantial 3rd century buildings excavated at Brandon Road, Thetford, two of which appeared to represent aisled barns (Atkins and Connor 2010, 14-16, fig. 7). The buildings at the Brandon Road site were larger than the Oulton example and appeared to have an agricultural function, principally relating to animal husbandry (*ibid.* 15-16 and 108). Similar aisled structures have been excavated at Beck Row,

Suffolk (Bales 2004) and, more recently at Woodditton in Cambridgeshire (Mustchin 2015). Buildings at both of these sites were connected to the bulk processing of cereals. A less substantial posthole structure was also excavated a short distance to the south of the Beck Row aisled buildings (Mustchin 2014a). The latter measured approximately 57m^2 (closely resembling the Oulton example) and was interpreted as an ancillary agricultural building, possibly serving as a store or fulfilling some function linked to livestock husbandry (*ibid.* 319).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2245	2246	Circular/ moderately sloping sides, concave base (0.35 x 0.34 x 0.14m)	Friable, dark grey brown silty sand with occasional charcoal flecks	Posthole; cut L2001; sealed by L2000	CBM (8g)
2247	2248	Circular/ moderately sloping sides, concave base (0.42 x 0.34 x 0.18m)	Friable, mid grey brown silty sand with occasional small sub-angular stones	Posthole; cut L2001; sealed by L2000	Pottery (4g); baked clay (3g)
2249	2250	Circular/ moderately sloping sides, concave base (0.50 x 0.44 x 0.16m)	Friable, mid grey brown silty sand with occasional charcoal flecks	Posthole; cut L2001; sealed by L2000	CBM (59g)
2251	2252	Circular/ steep sides, concave base (0.42 x 0.32 x 0.53m)	Friable, mid grey brown silty sand with occasional small sub-angular stones	Posthole; cut L2001; sealed by L2000	CBM (147g)
2253	2254	Circular/ moderately sloping sides, concave base (0.40 x 0.38 x 0.16m)	Friable, mid yellowish brown silty sand with occasional small sub-angular stones	Posthole; cut L2001; sealed by L2000	Pottery (20g); CBM (37g); fired clay (9g)
2255	2256	Circular/ steep sides, concave base (0.35 x 0.33 x 0.18m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	Pottery (2g); CBM (49g); animal bone (24g)
2257	2258	Circular/ steep sides, concave base (0.21 x 0.21 x 0.18m)	Compact, mid greenish grey sandy clay	Posthole; cut L2001; sealed by L2000	-
	2345		Friable, mid brown grey silty sand with occasional small rounded stones		-
2259	2260	Circular/ steep sides, concave base (0.31 x 0.30 x 0.56m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	CBM (104g)
2261	2262	Circular/ steep sides, concave base (0.15 x 0.15 x 0.35m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2000	-
2263	2264	Circular/ steep sides, concave base (0.37 x 0.32 x 0.35m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	-
2265	2266	Circular/ steep sides, concave base (0.42 x 0.35 x 0.20m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	CBM (82g)
2267	2268	Circular/ steep sides, concave base (0.19 x 0.16 x 0.20m)	Friable, mid yellowish brown silty sand	Posthole; cut L2001; sealed by L2000	-
2269	2270	Circular/ steep sides, concave base (0.50 x 0.41 x 0.39m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	Pottery (21g)
2271	2272	Circular/ steep sides, concave base (0.28 x 0.18 x 0.23m)	Friable, mid grey brown silty sand with occasional small charcoal flecks	Posthole; cut L2001; sealed by L2000	Pottery (7g); CBM (7g); baked clay (42g)
2273	2274	Circular/ steep sides, concave base (0.47 x 0.32 x 0.18m)	Friable, dark brown grey silty sand with occasional small rounded stones and charcoal flecks	Posthole; cut L2001; sealed by L2000	CBM (37g); animal bone (10g)
2275	2276	Circular/ steep sides, concave base (0.22 x 0.21 x 0.14m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2000	CBM (94g)

2277	2278	Circular/ steep sides, concave base (0.21 x 0.20 x 0.14m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2000	Pottery (18g)
2279	2280	Circular/ moderately sloping sides, concave base (0.32 x 0.31 x 0.18m)	Friable, mid yellowish brown silty sand	Posthole; cut L2001; sealed by L2000	-
2283	2284	Circular/ moderately sloping sides, concave base (0.42 x 0.38 x 0.25m	Friable, dark grey brown silty sand with occasional small sub-rounded stones	Posthole; cut L2001; sealed by L2000	CBM (200g)
2285	2286	Circular/ steep sides, concave base (0.16 x 0.14 x 0.09m)	Friable, mid yellowish brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	-
2289	2290	Circular/ steep sides, concave base (0.32 x 0.26 x 0.25m)	Friable, mid grey brown silty sand with occasional small rounded stones	Posthole; cut L2001; sealed by L2000	-
2291	2292	Circular/ steep sides, concave base (0.44 x 0.26+ x 0.25m)	Friable, very dark grey silty sand with frequent small charcoal flecks	Posthole; cut L2001; cut by F2346	CBM (374g)
2303	2304	Circular/ steep sides, concave base (0.18 x 0.16 x 0.18m)	Friable, dark grey silty sand	Stakehole; cut L2001; cut by F2301	-
2308	2309	Circular/ steep sides, concave base (0.28 x 0.26 x 0.16m)	Friable, mid yellowish brown silty sand	Posthole; cut L2001; sealed by L2000	-
2346	2305	Sub-circular/ steep sides, concave base (0.30 x 0.10+ x 0.34m)	Friable, dark grey silty sand with frequent small charcoal flecks	Posthole; cut L2001 and L2292; cut by F2301	-
2374	2375	Circular/ moderately sloping sides, concave base (0.29 x 0.15 x 0.18m)	Friable, mid grey brown silty sand	Posthole; cut L2274; sealed by L2000	CBM (89g)
2430	2431	Circular/ steep sides, concave base (0.35m x 0.30 x 0.11m)	Friable, mid grey brown sand silt with occasional stones	Posthole; cut L2001; sealed by L2009	-
2432	2433	Sub-oval/ steep sides, flattish base (0.42 x 0.32 x 0.15m)	Firm, mid grey brown sandy silt with occasional stones and charcoal flecks	Posthole; cut L2001; sealed by L2009	-
2434	2435	Circular/ steep sides, concave base (0.34 x 0.31 x 0.10m)	Friable, dark grey brown silty sand with occasional charcoal flecks	Posthole; cut L2001; sealed by L2009	-
2436	2437	Sub-circular/ steep sides, concave base (0.30 x 0.28 x 0.19m)	Friable, mid grey brown sandy silt with occasional stones	Posthole; cut L2001; sealed by L2009	-
2438	2439	Sub-oval/ steep sides, concave base (0.43 x 0.31 x 0.15m)	Friable, mid grey brown sandy silt	Posthole; cut L2001; sealed by L2009	-
2440	2441	Sub-oval/ steep sides, flattish base (0.42 x 0.32 x 0.23m)	Friable, mid grey brown sandy silt	Posthole; cut L2001; sealed by L2009	-

Table 10: Structure 1

Pits F2420 and F2427

2.39 Pit F2420 was located in the south-west corner of the site, immediately west of Structure 1 (Grid Square B3; Table 11; Plate 4; Figs. 8 and 13). The lower fills of this pit (L2423, L2424, L2425 and L2426; Fig. 32) contained charcoal inclusions and appeared to comprise redeposited burnt material; the surrounding substrate showed no signs of heating. In contrast, the pit's uppermost fills (L2421 and F2422) appeared to have been burnt *in situ*. Fill L2422 comprised a mixture of baked clay and charcoal and was thought to represent the base of a possible Romano-British hearth. This somewhat crude 'base' was stratigraphically sealed by L2421, a dark grey brown charcoal-rich sand thought to be related to the use of the hearth. No diagnostic finds were present within the fills of F2420, however, and it was tentatively dated based on its close proximity to Structure 1 (see above).

2.40 The western side of Deposit L2421 (F2420) was truncated by Phase 4 Pit F2427 (Table 11; Plate 4; Figs. 8 and 32). Charcoal inclusions within the fill of this feature (L2428) suggest that it may have had represented a direct continuation of burning activity in this part of the site, although it is unclear whether L2428 was burnt *in situ*. Pit F2427 also lacked datable material.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2420	2426 (primary)	Irregular/ steep sides, concave base (2.70 x 2.59 x 0.69m)	Friable, mid grey brown sandy silt with occasional charcoal flecks	Pit; cut L2002; cut by F2427	-
	2425		Friable, light brown grey sandy silt with moderate charcoal flecks		-
	2424		Friable, dark brown/ black sandy silt with frequent charcoal flecks		-
	2423		Friable, mid brown grey sandy silt		-
	2422		Compact, light orange reddish clay with frequent CMB flecks		-
	2421 (uppermost)		Firm, dark grey brown silty sand with occasional stones and charcoal flecks		Animal bone (293g); slag (172g)
2427	2428	Sub-oval/ moderately sloping sides, concave base (2.00 x 0.68 x 0.19m)	Friable, light grey brown silty sand with occasional charcoal flecks and stones	Pit; cut L2021; sealed by L2000	-

Table 11: Phase 4 Pits F2420 and F2427

Quarry Pit F2091

2.41 Pit F2091 was the largest discreet feature encountered at the site (Grid Squares C3-C4 and D3-D4; Table 12; Figs. 8, 13, 16 and 32). It had steeply sloping sides and a concave base. The complex sequence of nine fills within this feature appeared to represent natural silting, which suggests that F2091 was left 'open' following its use and abandonment (Fig. 32). The basal fills yielded Roman pottery (Table 12), while uppermost Fill L2092 contained sparse middle to late Saxon pottery (most probably intrusive in nature). An intrusive Saxon sherd was also recovered from Fill L2104. The upper fills of F2091 were cut by a short section of gully (F2089; see below).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2091	2092	Sub-circular/ steep sides, flattish base (3.22 x 2.44 x 1.20m)	Friable, mid grey brown silty sand with occasional small sub-rounded flint and moderate charcoal flecks	Pit; cut L2001; cut by F2089	Pottery (34g); CBM (32g); animal bone (35g)
	2100		Friable, mid grey brown silty sand with occasional small sub-angular flint		Animal bone (2g)
	2101		Friable, dark grey brown silty sand with occasional small sub-angular flint		-
	2102		Friable, mid grey brown silty sand with occasional small sub-rounded stones and charcoal flecks		Pottery (76g)
	2097		Friable, mid blue/ green grey silty sand with frequent ironstone and charcoal flecks, and occasional small to medium rounded stones		Pottery (76g); CBM (12g)
	2104		Dark-mid brown orange sandy concretion with moderate small sub-angular stones		Pottery (14g)
	2103		Friable, light blue grey silty sand with occasional small sub-rounded stones		-
	2638		Firm, mid grey brown sandy silt		-
	2637		Friable, light blue grey, mottled with mid orange silty sand with moderate small sub-angular and sub-rounded stones		-

Table 12: Phase 4 Quarry Pit F2091

2.42 Regionally, Romano-British quarrying activity is widely attested, ranging from large-scale industries such as the clunch quarries at Reach in Cambridgeshire (Hughes and Hughes 2013, 113) to more modest enterprises such as a 3rd century roadside quarry pit excavated at Scole on the Norfolk/ Suffolk border (Ashwin and Tester 2014, 176). Further modest examples – similar in scale to the evidence from Oulton – include quarrying activity at the former Star and Fleece hotel, Kelvedon (Essex; Fell and Humphrey 2001) and two Roman sand quarry pits encountered during a watching brief at Lexden in Colchester (Colchester Archaeological Trust 2001, 2-3). Sand and gravel extraction has also been reported from Sheepen Hill, Colchester (Niblett 1985). The Oulton quarry pit also occupied natural sand and gravel deposits, indicating the potential targeting of one or both of these aggregates by the local Romano-British occupation.

The dispersed Phase 4 ?hearths

2.43 Two dispersed Romano-British ?hearths (F2572 and F2664) were located in the northern and central areas of the site, respectively. F2575 was the more complex feature and appeared to form part of a possible 'structural' complex with other nearby features.

?Hearth Structure S2501

2.44 ?Hearth Structure S2501 consisted of ?Hearth F2572 (Plate 5), Pit F2546 and Posthole F2548 (Grid Square H9; Table 13; Figs. 8, 20 and 33). Pit F2546 was the stratigraphically earliest of this group and contained a single fill with fired clay and charcoal inclusions (L2547). This material had not been burnt *in situ*. Hearth F2572 had been dug into the fill of F2546 and contained three consecutive fills. Primary Fill L2560 comprised dark grey/ black and red silty clay with frequent fired clay and charcoal. This thin layer was sealed by a solid layer of clay (L2559), which was in turn sealed by a high-fired layer of mid red/ orange clay (L2558). The nature of the latter suggests that is may have formed a hearth bottom. No further material (possibly relating to the use of this ?hearth) survived above L2558. Posthole F2548 was located to the south-west of the ?hearth and may have housed an upright post associated with the use of the latter; perhaps a pivot or support of some kind. Finds from S2501 comprise a single sherd (7g) of Roman pottery and a small assemblage (17 fragments; 133g) of daub from Pit F2546 (L2547).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2546	2547	Sub-oval/ steep sides, flattish base (3.86 x 2.20 x 0.28m)	Firm, dark blue brown clayey silt with moderate flecks of charcoal flecks and CBM	Pit; cut L2513; sealed by L2000	Pottery (7g); daub (133g)
2548	2549	Circular/ near vertical sides, concave base (0.42 x 0.40 x 0.28m)	Firm, dark blue brown clayey silt with moderate charcoal flecks and CBM	Posthole; cut L2547; sealed by L2000	-
2572	2558	Sub-oval/ steep sides, concave base (0.82 x 0.70 x 0.18m)	Compact, mid reddish orange clay with occasional chalk flecks	?Hearth; cut L2547; sealed by L2000	-
	2559		Compact, light white green clay with moderate chalk flecks		-
	2560		Friable, dark greenish red clayey silt with frequent charcoal flecks and burnt flint		-

Table 13: ?Hearth Structure S2501

?Hearth F2664

2.45 ?Hearth F2664 (Grid Square F5; Table 14; Plate 6; Figs. 8, 17 and 33) was near circular in plan with a wide U-shaped profile and two consecutive fills (L2665 and L2666). Primary Fill L2665 comprised redeposited charcoal-rich silt, while secondary fill L2666 – thought to represent a hearth bottom – comprised a mix of dark red fired clay, unfired clay and charcoal. Like Hearth F2572, no material survived above the ?hearth bottom. This possible hearth was devoid of datable material and was only tentatively assigned to Phase 4 based on its general resemblance to ?Hearth F2572 (see above).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2664	2665	Sub-circular/ steep sides, concave base (1.02 x 0.92 x 0.28m)	Friable, middle grey brown sandy silt with moderate small stones and charcoal flecks	Hearth; cut L2010; sealed by L2000	Animal bone (19)
	2666		Compact, mottled dark red fired clay and white clay with frequent charcoal flecks		-

Table 14: ?Hearth F2664

The Phase 4 Pit Clusters

2.46 Four Romano-British pit clusters were identified, two of which were located relatively close to Structure 1 and the associated activity area.

Pit Cluster 2

2.47 Pit Cluster 2 was formed of three large, inter-cutting pits (F2404, F2410 and F2414) close to the western edge of the excavation (Grid Square A4; Table 15; Figs. 8, 13 and 33). A small posthole (F2416) was located immediately to the west and may also have formed part of this group. Of these features, Pit F2404 contained the only notable material; the primary and uppermost fills of this feature (L2405 and L2413) comprised redeposited burnt material, possibly derived from a Romano-British ?hearth located some 16m to the south-east (F2572; see above). No other features were present in the immediate vicinity and Pit Cluster 2 was only very tentatively dated based on this possible relationship with the neighbouring ?hearth.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2404	2405	Sub-circular/ steep sides, concave (1.50 x 0.88 x 0.37m)	Firm, dark black silty sand with frequent charcoal flecks	Pit; cut L2411; cut by F2414	Burnt flint (18g)
	2406		Firm, mid yellowish brown with occasional stones		-
	2412		Friable, mid brown orange silty sand		-
	2413		Friable, mid to dark grey silty sand with occasional charcoal flecks		-
2410	2411	Sub-circular/ moderately sloping sides, concave base (1.70 x 1.16 x 0.31m)	Friable, mid yellowish brown silty sand	Pit cut L2001; cut by F2404	-
2414	2415	Sub-circular/ moderately sloping sides, concave base (2.08 x 1.33 x 0.24m)	Friable, mid yellowish grey silty sand with occasional stones	Pit; cut L2411, L2412 and L2413; sealed by L2000	-
2416	2417	Circular/ gently sloping sides, concave base (0.46 x 0.22 x 0.06m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2000	-

Table 15: Pit Cluster 2

Pit Cluster 3

2.48 Pit Cluster 3 comprised four individual pits (F2036, F2038, F2076 and F2078; Grid Square D4; Table 16; Figs. 8, 13 and 33), two of which (F2036 and F2038) were intercutting. These features were located a short distance to the north of Phase 4 Quarry Pit F2091 and may have been associated with the broader area of Romano-British activity (see above). Roman pottery was present in Pits F2036 and F2078 and it is possible that these features were dug for refuse disposal; possibly derived from activity within and/ or around Structure 1, a short distance to the south-west (Fig. 8). Other material from these features is sparse, however.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2036	2037	Sub-circular/ moderately sloping to steep sides, concave base (1.74 x 1.61 x 0.20m)	Friable, mid grey brown silty sand with occasional small sub-angular stones and charcoal flecks	Pit; cut L2039; sealed by L2000	Pottery (265g); animal bone (93g); struck flint (2g); burnt flint (202g)
2038	2039	Sub-circular/ steep sides, concave base (0.49 x 0.32 x 0.25m)	Friable, dark grey brown silty sand with moderate sub angular stones and charcoal flecks.	Pit; cut L2001; cut by F2036	-
2076	2077	Sub-rectangular/ gently sloping sides, flat base (1.16 x 0.62 x 0.06m)	Friable, dark grey brown sandy silt with occasional small rounded stones	Pit; cut L2001; sealed by L2000	-
2078	2079	Sub-rectangular/ irregular sides, flat base (1.32 x 0.73 x 0.09m)	Friable, dark grey brown sandy silt with occasional small sub-rounded stones	Pit; cut L2001; sealed by L2000	Pottery (40g)

Table 16: Pit Cluster 3

Pit Cluster 4

2.49 Pit Cluster 4 comprised four intercutting pits (F2667, F2669, F2671 and F2673) located within the central area of the site (Grid Square F4; Table 17; Figs. 8, 17 and 33). Finds were again sparse from this group, but included a single Roman pot sherd from Fill L2670 of Pit F2669. A small sherd (4g) of early Saxon pottery was also recovered from Fill L2672 of F2671, although is thought to represent intrusive material; F2671 was also the stratigraphically latest pit of this group. Given the relative isolation of this group from other Phase 4 features it is difficult to speculate regarding the source of the recovered pottery.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2667	2668	Sub-oval/ steep sides, concave (0.53 x 0.35+ x 0.10m)	Friable, mid grey brown silty sand with moderate stones	Pit; cut L2001; cut by F2669	-
2669	2670	Sub-oval/ steep sides, irregular base (1.12 x 0.74 x 0.18m)	Friable, mid grey brown silty sand with frequent stones and charcoal flecks	Pit; cut L2668; cut by F2671	Pottery (9g)
2671	2672	Circular/ steep sides, concave base (0.35 x 0.32 x 0.26m)	Compact, dark grey brown silty sand with moderate stones and charcoal flecks	Posthole; cut L2670; sealed by L2000	Pottery (4g)
2673	2674	Sub-circular/ steep sides, concave base (0.48 x 0.22 x 0.07m)	Friable, mid grey brown silty sand moderate stones	Pit; cut L2002; cut by F2669	-

Table 17: Pit Cluster 4

The dispersed Phase 4 pits

2.50 Three additional pits were assigned to the Romano-British period. These included one isolated feature (F2482 (Grid Square E2)) and a tentatively dated pair of pits within the confines of Enclosure 2 (F2463 and F2472 (Grid Square B6); Table 18; Figs. 8, 12 and 33). Although located some distance from the principal Phase 4 activity areas, Pit F2482 yielded a single sherd of Roman pottery. The possible source of this material is difficult to determine, however.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2482	2483	Sub-circular/ moderately sloping sides, concave base (1.28 x 1.12 x 0.23m)	Friable, mid grey brown silty sand with occasional stone	Pit; cut L2001; sealed by L2000	Pottery (3g)
2463	2464	Circular/ steep sides, concave base (0.98 x 0.78 x 0.15m)	Friable, mid reddish yellow sandy silt.	Pit; cut L2001; sealed by L2000	-
	2465		Friable, dark grey brown silt with frequent charcoal flecks and occasional stones		-
2472	2473	Sub-circular/ moderately sloping sides, concave base (1.21 x 1.10 x 0.26m)	Friable, dark brown sandy silt with moderate charcoal flecks	Pit; cut L2001; sealed by L2000	-
	2474		Friable, mid grey brown sandy silt		-
	2475		Friable, light brown grey sandy silt with occasional angular stones		-

Table 18: Dispersed Phase 4 pits

2.51 Although lacking datable artefacts, Pits F2463 and F2472 (Table 18) were assigned to Phase 4 based on the nature of the environmental assemblage from Pit F2463 (L2465). Carbonised remains from this pit were dominated by wheat grains, predominantly glume wheat with lesser quantities of barley (see *The Environmental Samples*). A significant proportion of germinated grains (comprising 35% of the wheat component) indicated the deliberate malting of grain, while the high ratio of grains to glume bases indicated the presence of fully cleaned grains (*ibid.*). Non-cereal taxa present included a number of brome grass seeds which also showed signs of germination, suggesting that they too were present during the malting process. Malt production – resulting in analogous carbonised assemblages – is a commonly encountered practice on Romano-British agricultural sites (*ibid.*), and the assemblage from Pit F2463 infers the presence of an agricultural kiln in the near vicinity; perhaps within the unexcavated portion of Enclosure 2. Adjacent Pit F2472 lacked similar environmental evidence but was assigned a Romano-British date based on its location in respect to Pit F2463; both features were also similar in plan and contained multiple fills.

Phase 5.1: Early to Middle Anglo-Saxon (5th to 9th Century AD)

Summary

2.52 The early to middle Anglo-Saxon period was the most intensive phase of past activity at the site and included evidence of land enclosure, industry and habitation. Of particular note were the remains of five sunken-featured buildings (SFBs) and five burnt flint pits. One of these (F2707) was associated with structural remains.

Evidence of enclosure

2.53 Three early to middle Anglo-Saxon gullies (F2019, F2023 and F2029) and a single ditch (F2121=2154) were present in the western area of the site (Grid Squares D5-E5 and D6; Table 19; Figs. 9, 17 and 19). These formed an L-shaped arrangement of possible boundaries and intercut with a number of other Phase 5.1 features. For example, the fill of Ditch F2121 (=2154) was cut by SFB 1. This suggests that any boundary represented may have been relatively short lived.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2019	2020	Curvilinear/ moderately sloping sides, concave base (c. 10.00 x 0.20+ x 0.13m)	Friable, light to mid grey brown silty sand with occasional small sub-angular flint	Ditch; cut L2001, L2061, L2081 and L2083; cut by F2021 and F2029	Pottery (21g); CBM (2g)
2023	2024	Linear/ gently sloping sides, concave base (c. 5.00 x 0.21+ x 0.07m)	Friable, light grey brown silty sand with occasional small sub-angular stones	Gully; cut L2022	-
2029	2030	Linear/ gently sloping sides, concave base (c. 3.50 x 0.55 x 0.17m)	Friable, light grey brown silty sand with occasional small sub-angular and sub-rounded stones	Ditch; cut L2001 and F2019; sealed by L2000	-
2121 =2154	2122 =2155	Linear/ moderately sloping sides, flat base (c. 20.00 x 0.37 x 0.15m)	Friable, mid grey brown silty sand with occasional small sub-angular stones	Ditch; cut L2001; cut by F2033 and F2125; sealed by L2000	Pottery (9g); slag (119g); baked clay (1g)
2695	2696	Linear/ steep sides, concave base (c. 12.20 x 0.64 x 0.23m)	Friable, mid grey brown sandy silt with occasional charcoal flecks	Gully; cut L2002 and L2698; sealed by L2000	-
2697	2698	Linear/ steep sides, concave base (c. 12.00 x 0.93 x 0.29m)	Friable, mid grey brown sandy silt with moderate small stones	Gully; cut L2002; cut by F2695; sealed by L2000	Animal bone (15g)
2740	2741	Linear/ steep sides, concave base (c. 20.00 x 0.73 x 0.19m)	Friable, mid grey brown sandy silt with moderate stones	Gully; cut L2002; sealed by L2000	Pottery (52g)

Table 19: Phase 5.1 boundaries

2.54 An additional group of contemporary boundaries was present in the south-eastern area of the site (Grid Squares I3-I4 and J3-J4; Table 20; Figs. 9, 21 and 23). Ditches F2695 and F2697 formed and L-shaped arrangement of boundaries, while Ditch F2740 mirrored the north to south alignment of F2697 a short distance to the east, and may have delineated a short section of trackway with the latter. These boundaries displayed strong affinities with the positions/ alignments of subsequent, Phase 5.2 boundaries (Enclosure 3; Fig. 9), but was firmly dated to the earlier part of the Anglo-Saxon period. It is possible, however, that Enclosure 3 was earlier in date than much of the pottery evidence suggests (see below), with features delineating its western and northern boundaries simply having been backfilled at a later date.

The sunken-featured buildings

2.55 Five SFBs were identified within the excavated area. Three of these formed a loosely clustered group of buildings in the south-east area of the site, while two were more dispersed. Recording of the SFBs followed conventions used in the publications for West Stow (West 1985), Pennylands (Williams 1993), Hartigans (ibid.), and more recently, Dernford Farm (Newton forthcoming) and Snape (Mustchin 2014b):

Key: a: maximum overall length b: distance between the gable post centres
c: mean width d: depth below stripped surface

2.56 Summary tables are presented for each SFB, while the individual features forming these structures are tabulated separately.

SFB 1

2.57 SFB 1 was located in the northern area of the site, close to contemporary features (Grid Squares D5-E5; Tables 20-21; Plate 7; Figs. 9 and 17-18). Sunken Feature F2033 (measuring 4.32 x 3.16 x 0.31m) cut the fills of Phase 5.1 boundary features (F2023 and F2121=2154). In addition to F2033 the SFB included five postholes (F2127, F2129, F2141, F2150 and F2152). The fill of Posthole F2127 (L2128) was cut by the sunken feature, however, and may not have formed part of the building.

Type	?Six-post
Dimensions	a. 4.32m b. 4.05m c. 3.00m d. 0.31m
Area	12.96m^2
Form	Two postholes located centrally at the eastern and western gable ends (F2150 and F2152). Additional postholes at the north-west and south-west corners (F2129 and F2141); no corresponding postholes at the north-east and south-east corners. One posthole located centrally on the northern side (F2127).
Orientation	East to west
GS	D5-E5

Table 20: Summary of SFB 1

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2033	2035	Sub-circular/ moderately sloping sides, flattish base (4.32 x 3.16 x 0.31m)	Friable, mid grey brown sandy silt with occasional small to large sub-angular to sub-rounded stones	Sunken feature; cut L2128; sealed by L2000	Pottery (31g); animal bone (13g); slag (457g)
	2034		Friable, dark grey brown sandy silt with occasional small sub-angular flint		-
2127	2128	Sub-circular/ gently sloping sides, concave base (0.35 x 0.30 x 0.15m)	Friable, mid grey brown sandy silt with occasional small to medium sub-angular to sub-rounded stones	Posthole; cut L2002; cut by F2033	-
2129	2130	Sub-circular/ steep sides, concave base (0.35 x 0.20 x 0.26m)	Friable, mid grey brown sandy silt with occasional small sub-angular to sub-rounded stones	Posthole; cut L2002; cut by F2033; sealed by L2035	-
2141	2142	Sub-circular/ gently sloping sides, concave base (0.28 x 0.26 x 0.12m)	Friable, mid grey brown sandy silt with occasional small sub-angular stones	Posthole; cut L2002; sealed by L2035	-
2150	2151	Sub-circular/ near vertical sides, concave base (0.30 x 0.28 x 0.84m)	Friable, mid grey brown sandy silt, with occasional small sub-rounded and sub-angular stones	Posthole; cut L2034; sealed by L2000	-
2152	2153	Circular/ vertical sides, concave base (0.24 x 0.21 x 0.45m)	Friable, mid grey brown sandy silt with occasional small sub-angular to sub-rounded stones	Posthole; cut L2002; cut by F2033	-

Table 21: SFB 1

2.58 Sunken Feature F2033 contained two consecutive fills. Primary Fill L2034 was mostly formed of charcoal; the surrounding substrate displayed no evidence of *in situ* burning, however. L2034 was devoid of finds, possibly suggesting that it comprised material that had been 'sifted' through a suspended wooden floor which overlay F2033 during the building's use (cf. Tipper 2004, 84). The lack of 'trampling' recorded in the base of F2033 lends support to this interpretation. Uppermost Fill L2035 yielded three sherds (27g) of early to middle Saxon pottery, slag (469g) and

animal bone (13g). A residual late Bronze Age/ early Iron Age pot sherd (4g) was also present. This fill is thought to have resulted from the deliberate backfilling of F2033 following its abandonment.

2.59 The fills of Postholes F2127, F2129 and F2141 were comparable to the uppermost fill of the sunken feature (L2035), suggesting that the posts were removed prior to the building's abandonment and backfilling. In contrast, L2035 had formed around posts within F2150 and F2152. This suggests either that the posts were left *in situ* following the abandonment of the SFB, or that their basal elements had rotted and had not been removed for re-use elsewhere.

SFB 2

2.60 SFB 2 (Grid Square J3; Tables 22-23; Plate 8) was the easternmost of a loose grouping of such buildings also including SFBs 3 and 4 (Figs. 9, 26 and 27). It was first identified during the trial trench evaluation (Orzechowski 2015) and comprised a sub-circular cut (measuring 4.36 x 4.26 x 0.60m) and three postholes (F2658, F2660 and F2662) truncating the base of the sunken feature.

Type	?Two-post
Dimensions	a. 4.36m b. 2.10m c. 4.26m d. 0.60m
Area	18.57m^2
Form	Two postholes (F2662 and F2688) were located within the base of the sunken feature, set in from its northern and southern edges. A third posthole (F2660) was located close to the feature's western edge, at the break of slope; no corresponding eastern posthole was present.
Orientation	?
GS	J3

Table 22: Summary of SFB 2

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2633	2634	Sub-circular/ steep sides, flat base. (4.36 x 4.26 x 0.60m)	Friable, dark grey brown sandy silt with moderate small to medium stones and occasional charcoal flecks	Sunken feature; cut L2001; Sealed by L2000	SF3 Fe knife blade (20g); Pottery (1436g); CBM (1008); animal bone (48g); burnt flint (140g); burnt pot (3g)
	2635		Friable dark grey brown silty sand with moderate small sub-rounded stones and occasional charcoal flecks		Pottery (87g); CBM (279g)
2658	2659	Sub-circular/ near vertical sides, concave base (0.25 x 0.20 x 0.10m)	Friable, mid grey brown sandy silt	Posthole; cut L2001; sealed by L2635	-
2660	2661	Sub-circular/ near vertical sides, concave base (0.25 x 0.20 x 0.19m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2635	Pottery (24g); CBM (5g)
2662	2663	Sub-circular/ near vertical sides, concave base (0.25 x 0.21 x 0.13m)	Friable, mid grey brown silty sand with moderate small to medium sub-rounded stones	Posthole; cut L2001; sealed by L2635	-

Table 23: SFB 2

2.61 Like SFB 1, Sunken Feature F2633 contained two consecutive fills. Primary Fill L2635 contained a small amount of cultural material, including nine pot sherds (87g). However, the majority of finds, including 106 pot sherds (1436g) of early to middle Anglo-Saxon date and a ferrous blade (SF3), came from uppermost Fill L2634. It is thought that this finds-rich material resulted from the post-abandonment backfilling of the sunken feature while the scarcity of finds from Fill L2635 may have resulted from its being 'sifted' through a suspended wooden floor during the

building's use (cf. Tipper 2004, 84). Once again, no evidence of trampling was recorded in the base of the sunken feature.

SFB 3

2.62 SFB 3 (Grid Square I3; Tables 24-25; Plate 9; Figs. 9 and 23-24) was located some 25m north-west of SFB 2 and 2m to the north-east of SFB 4. The only surviving element of the structure was Sunken Feature F2754 (measuring 3.36 x 2.14 x 0.52m). This feature contained two fills (L2755 and L2756). Primary Fill L2755 yielded no finds, again suggesting that it had been 'sifted' through a suspended wooden floor (cf. Tipper 2004, 84). Unlike SFBs 1 and 2, the uppermost fill of F2754 (L2756) contained few finds. Pottery from this context comprises just 12 sherds (88g). This might indicate that L2756 was not 'midden' type material; it may have primarily constituted spoil resulting from the excavation of a new sunken feature. It is possible, based on their very close proximity (Fig. 4), that SFBs 3 and 4 comprised a succession of buildings with one superseding the other.

Type	?
Dimensions	a. 3.36m b. N/A c. 2.14m d. 0.52m
Area	7.19m^2
Form	?
Orientation	North-east to south-west
GS	I3

Table 24: Summary of SFB 3

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2754	2756	Sub-rectangular/ near vertical sides, flat base (3.36 x 2.14 x 0.52m)	Friable, dark grey brown sandy silt with Frequent burnt clay and charcoal flecks, and moderate small stone	Sunken feature; cut L2002; sealed by L2000	Pottery (88g); animal bone (28g); fired clay (22g)
	2755		Friable, mid grey yellow silty sand with occasional small chalk pebbles and stone		-

Table 25: SFB 3

SFB 4

2.63 SFB 4 (Grid Squares H3-I3) comprised Sunken Feature F2750 and Posthole F2752, located close to the centre of its north-eastern gable end (Tables 26-27; Plate 10; Figs. 9 and 23-24). The SFB lay 2m to the south-west of SFB 3. The single fill of F2750 yielded a modest finds assemblage including eight sherds (111g) of early to middle Saxon pottery, five sherds of middle to late Saxon pottery and animal bone (52g). As previously stated, it is possible that SFB 4 was slightly later in date than SFB 3, and replaced the latter following its abandonment (or vice versa).

Type	?Two-post
Dimensions	a. 4.70m b. N/A c. 3.19 d. 0.34m
Area	14.99m^2
Form	One posthole (F2752) located centrally at the north-eastern gable end of the sunken feature. No corresponding posthole to the south-west.
Orientation	North-east to south-west
GS	H3

Table 26: Summary of SFB 4

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2750	2751	Sub-rectangular/ steep sides, concave base (4.70 x 3.24 x 0.34m)	Friable, mid grey brown sandy silt with moderate small stones and occasional charcoal flecks	Sunken feature; cut L2002; sealed by L2000	Pottery (275g); CBM (25g); animal bone (52g)
2752	2753	Circular/ vertical sides, flat base (0.30 x 0.30 x 0.49m)	Friable, mid grey brown sandy silt with moderate small stones	Posthole; cut L2002; sealed by F2751	-

Table 27: SFB 4

SFB 5

2.64 SFB 5 was located in the north-eastern area of the excavation, some 60m north of SFBs 2-4 (Grid Square I6; Tables 28-29; Plate 11; Fig. 9 and 21-22). This building survived as a sub-square sunken feature (F2563; 3.56 x 3.52 x 0.24m), which had been truncated along its north-western edge by a modern wheel rut. Although interpreted as an SFB, this building was distinctly different from the other excavated examples and lacked any dating evidence; its two fills (L2565 and L2556) were devoid of finds. Both fills had formed around *in situ* posts set within Postholes F2536, F2538 and F2540 – all located within the building's north-western quadrant. This indicates that the posts were not removed following the abandonment of the building (prior to the backfilling of F2563).

Type	?
Dimensions	a. 3.56m b. N/A c. 3.52m d. 0.24m
Area	12.52m^2
Form	Three postholes (F2536, F2538 and F2540) were located in the north-western quadrant of the sunken feature
Orientation	East to west
GS	GS I6

Table 28: Summary of SFB 5

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2563	2565	Sub-square/ near vertical sides, flat base (3.56 x 3.52 x 0.24m)	Friable, light grey brown sandy silt with occasional small stone	Sunken feature; cut L2564; sealed by L2000	-
	2566		Friable, light brown yellow silty sand		-
2536	2537	Oval/ moderately sloping sides, concave base (0.20+ x 0.50 x 0.38m)	Friable, dark blue black silty sand with frequent charcoal flecks	Pit; cut L2539; sealed by L2000	-
2538	2539	Circular/ vertical sides, concave base (0.15+ x 0.20+ x 0.11m)	Friable, mid yellowish brown silty sand with occasional stones	Posthole; cut L2566; cut by modern wheel rut	-
2540	2541	Circular/ steeps sides, concave base (0.26 x 0.20 x 0.14m)	Friable, mid grey brown silty sand with moderate charcoal flecks	Posthole; cut L2002; sealed by L2000	-

Table 29: SFB 5

Phase 5.1 Burnt Flint Pits

2.65 Five Anglo-Saxon burnt flint pits were present across site (Table 30; Figs. 9, 12, 21, 25 and 37). This feature type is well documented on Anglo-Saxon sites across East Anglia – in both domestic and non-domestic contexts – and is often considered as having a cooking function (e.g. Boulter and Walton Rogers 2012). Some examples have been interpreted as having an industrial use (e.g. Garrow *et al.* 2006). All of the Oulton pits were rectangular in plan with similar, steep-sided profiles. One (F2707) was associated with possible structural remains. Each pit contained at least three fills, including consecutive layers of burnt flint and charcoal.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2331	2337	Rectangular/ steep sides, flattish base (1.54 x 1.10 x 0.47m)	Friable, mid pinkish red with occasional stones	Pit; cut L2001; sealed by L2000	-
	2336		Friable, black silty sand with frequent charcoal		-
	2335		Compact, light grey/ white silty sand with frequent burnt flint		-
	2334		Friable, dark brown grey silty sand with moderate stones		-
	2333		Friable, mid grey brown silty sand		-
	2332		Friable, mid grey brown silty sand with occasional stones and charcoal flecks		-
2683	2684	Sub-circular/ steep sides, flattish base (1.26 x 1.25 x 0.22m)	Friable, black silty sand with frequent charcoal flecks and occasional burnt stones	Pit; cut L2002; sealed by L2000	-
	2685		Friable, mid orange brown silty sand with frequent burnt stones		-
	2686		Friable, dark grey silty sand with moderate charcoal flecks and burnt stones		-
2707	2708	Sub-rectangular/ steep sides, flattish base (1.18 x 1.08 x 0.30m)	Friable, mid grey yellow silty sand with occasional stones and charcoal flecks	Pit; cut L2760; sealed by L2000	-
	2709		Friable, black sand with frequent charcoal flecks		-
	2710		Compact, mid grey brown sandy silt with moderate charcoal flecks		-
2717	2718	Rectangular/ steep sides, flattish base (3.60 x 2.60 x 0.80m)	Friable, mid yellowish grey brown silty sand with moderate small stones and charcoal flecks	Pit; cut L2002; sealed by L2000	-
	2719		Friable, dark yellowish grey sand with frequent charcoal flecks and occasional stones		-
	2720		Friable, light grey brown sand		-
	2748		Compact, black sand with frequent charcoal flecks		-
	2749		Friable, mid red pink with occasional small stones		-
2731	2732	Rectangular/ steep sides, flattish base (1.48 x 1.30 x 0.19m)	Friable, mid brown grey silty sand with occasional stones	Pit; cut L2002; sealed by L2000	Pottery (83g)
	2733		Friable, mid red yellowish		-
	2734		Friable, dark grey black sand with frequent charcoal flecks		-
	2735		Friable, mid brown grey silty sand		-

Table 30: Burnt Flint Pits

Burnt Flint Pit F2331

2.66 The westernmost burn flint pit (F2331; Grid Square B5; Table 30; Plate 12; Figs. 12 and 37) contained six consecutive fills, including basal fills of charcoal (L2336) and burnt flint (L2335) (Table 30). The surrounding substrate showed signs of heating (oxidation). This feature was devoid of finds.

Burnt Flint Pit F2683

2.67 Burnt Flint Pit F2683 (Grid Square G5; Table 30; Plate 13; Fig. 21 and 37) contained three consecutive fills including a basal fill of charcoal (L2684) overlain by a layer of burnt flint (L2685). Uppermost fill L2686 contained additional burnt flint and charcoal, although in lesser amounts. No finds were present.

Burnt Flint Pit F2707

2.68 Burnt Flint Pit F2707 (Grid Square H5; Table 30; Figs. 21 and 37) was of particular interest as it was associated with possible structural remains (Gully F2759 and Posthole F2705; Table 31). The fill of Gully F2759 (L2760) was similar to the uppermost fill of Pit F2707 and it is possible that both were backfilled at the same time. L2760 yielded three sherds (26g) of mid 5th to mid 9th century pottery. It is thought that the gully originally acted as a beam slot that had a structural relationship with the neighbouring posthole. The precise nature of any such relationship remains uncertain, however. Burnt flint pits in close association with Anglo-Saxon buildings have previously been recorded at Eye, Suffolk (Caruth and Goffin 2012) and Redcastle Furze in Norfolk (Andrews 1995).

2.69 F2707 contained three fills, the earliest of which (L2708) comprised natural slumping (L2708). Secondary Fill L2709 was composed of charcoal (burnt *in situ*), overlain by a mixed layer of burnt flint and silt. This feature was devoid of finds.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2705	2706	Circular/ steep sides, concave base	Friable, mid grey brown silty sand with moderate small stones	Posthole; cut L2002; sealed by L2000	-
2759	2760	Sub-oval/ steep sides, concave base (1.54 x 0.42 x 0.15m)	Friable, mid grey brown silty sand with frequent stones	Pit; cut L2002; cut by F2707	Pottery (11g); animal bone (12)

Table 31: Possible structural remains

Burnt Flint Pit F2717

2.70 Burnt Flint Pit F2717 (Grid Square K2; Table 30; Plate 14; Figs. 25 and 37) was the best preserved of this feature type at Oulton, and contained a complex series of charcoal and burnt flint fills, overlain by a natural accumulation. Oxidation of the surrounding substrate was again evident. No finds were present.

Burnt Flint Pit F2731

2.71 Burnt Flint Pit F2731 was located a short distance to the south-east of SFB 5 (Grid Square I6; Table 30; Plate 15; Figs. 21 and 37). This pit contained four consecutive fills, the earliest of which (L2732) comprised a natural accumulation of silt. This suggests that the feature was left 'open' for an indeterminate period prior to its use. The upper profile of L2732 was oxidised as a result of heating. The secondary and tertiary fills comprised layers of charcoal (L2734) and burnt flint (L2735).

Phase 5.1 Pit Clusters

Summary

2.72 Two pit clusters were assigned to the earliest Anglo-Saxon phase.

Pit Cluster 5

2.73 A cluster of 11 pits was located in the central area of the excavation (Grid Square H5; Table 32; Figs. 9 and 21). This linear arrangement of features included both intercutting and discrete pits, mostly located to the south of the Burnt Flint Pit F2707. Pit F2744 comprised a possible outlier of this group. Four pit fills (L2222, L2613, L2688 and L2745) yielded early to middle Anglo-Saxon pottery. The remaining features were dated based on their spatial/ stratigraphic relationships with the dated features.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2221	2222	Circular/ moderately sloping sides, flat base (1.15 x 0.88 x 0.20m)	Compact, dark grey brown silty clay with frequent charcoal flecks and moderate medium rounded stones	Pit; cut L2001; sealed by L2000	Pottery (630g)
2223	2224	Sub-circular/ moderately sloping sides, concave base (0.42 x 0.34 x 0.10m)	Firm, mid orange brown silty sand with occasional small sub-rounded stones	Pit; cut L2002; sealed by L2000	-
2225	2226	Sub-oval/ moderately sloping sides, flat base (0.86 x 0.75 x 0.16m)	Friable, mid orange brown sandy silt with occasional small sub-rounded stones	Pit; cut L2002; sealed by L2000	-
2606	2607	Circular/ moderately sloping sides, pointed base (0.52 x 0.44 x 0.26m)	Friable, mid brown grey silty sand with occasional stones	Pit; cut L2001; sealed by L2000	-
2608	2609	Circular/ moderately sloping sides (0.40 x 0.08 x 0.10m)	Friable, mid to dark grey silty sand	Posthole cut L2001; cut by F2610	-
2610	2611	Circular/ gently sloping sides, concave base (1.05 x 0.58 x 0.07m)	Friable, dark grey brown silty sand with occasional stones	Pit; cut L2609; cut by F2612	-
2612	2613	Circular/ moderately sloping sides, pointed/ V-shaped base (0.84 x 0.63 x 0.32m)	Friable, dark grey brown silty sand with occasional stones	Pit; cut L2611; sealed by L2000	Pottery (7g)
2614	2615	Sub-circular/ moderately sloping sides, pointed base (0.78 x 0.57 x 0.30m)	Friable, mid grey brown silty sand	Pit; cut L2001; sealed by L2000	-
2616	2617	Sub oval/ gently sloping sides, concave base (0.86 x 0.33 x 0.18m)	Friable, mid orange brown silty sand with moderate stones	Pit; cut L2001; sealed by L2000	-
2687	2688	Sub-oval/ steep sides, concave base (0.84 x 0.65 x 0.17m)	Friable, mid grey brown silty sand with frequent small stones	Pit; cut L2002; sealed by L2000	Pottery (60g); burnt flint (1g)
2744	2745	Sub-circular/ steep sides, concave base (0.98 x 0.76 x 0.22m)	Friable, mid brown grey silty sand with moderate stones and occasional charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (102g)

Table 32: Pit Cluster 5

Pit Cluster 6

2.74 A cluster of seven pits was present in the central, western area, some 16.5m north of the excavation edge (Grid Square E3; Table 33; Figs. 9 and 16). Although varying in size, shape (in plan) and profile, the pits forming this cluster contained largely homogenous fills. Pits F2489, F2491 and F2493 were also intercutting. The only datable finds from this cluster comprise 52 sherds (828g) of early to middle Anglo-Saxon pottery from Pit F2164. The comparatively large assemblage from this feature suggests that it may have been purposefully dug for the disposal of domestic rubbish.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2164	2165	Circular/ steep sloping sides, flat base (2.74 x 2.60 x 0.37m)	Friable, mid grey brown silty sand with moderate small and medium rounded stones	Pit; cut L2002; cut by F2148	Pottery (826g); CBM (77g); slag (70g); struck flint (82g)
	2204		Friable, dark grey brown silty sand, with frequent small to medium charcoal fragments		Pottery (2g)
2227	2228	Irregular/ moderately sloping sides, concave base (0.92 x 0.48 x 0.24m)	Friable, mid orange brown silty sand with moderate small sub-rounded to rounded stones	Pit; cut L2001; sealed by L2000	-
2487	2488	Irregular/ irregular sides, concave base (1.24 x 0.67 x 0.10m)	Friable, mid grey brown silty sand with occasional stones	Pit; cut L2001; sealed by L2009	-
2489	2490	Circular/ steep sides, flattish base (0.72 x 0.60 x 0.10m)	Friable, mid brown grey silty sand with frequent stones	Pit; cut L2496; sealed by 2009	-
2491	2492	Circular/ moderately sloping sides, concave base (1.08 x 0.80 x 0.17m)	Friable, mind brown grey silty sand with occasional stones	Pit; cut L2002; L2009	-
2493	2494	Circular/ moderately sloping to steep side, concave base (0.68 x 0.56 x 0.19m)	Firm, mid red orange sandy silt with occasional stones	Pit; cut L2001; cut by F2495	-
2495	2496	Sub-rectangular/ steep sides, flattish base (0.68 x 0.70 x 0.31m)	Friable, mid blue grey silty sand with occasional stones	Pit; cut L2001; L2494 cut by F2489	-
	2497		Friable, dark blue grey silty sand with moderate stones		-
	2498		Friable, mid blue grey, silty sand with occasional stones		-
	2499		Friable, mid yellowish orange silty sand with frequent stones		-
	2512		Friable, light grey brown silty sand with moderate stones		-

Table 33: Pit Cluster 6

Dispersed Phase 5.1 Features

2.75 Twenty-four dispersed early to middle Anglo-Saxon features were encountered across the excavation area (Table 34; Fig. 9). While many of these were discrete, some were stratigraphically related to other Phase 5.1 features; e.g. Pit F2125 cut the Fill of Ditch F2121 (=2154), immediately south of SFB 1. Features which lacked datable artefacts were phased based on their stratigraphic and/ or spatial relationships with dated features.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2021	2022	Sub-circular/ steep sides, concave base (1.92 x 1.68 x 0.15m)	Friable, light grey brown silty sand with occasional small sub-angular to sub-rounded stones	Pit; cut L2020; cut by F2023	-
2060	2061	Sub-oval/ steep sides, flat base (1.70 x 1.10 x 0.24m)	Firm, light grey brown silty sand with occasional small to medium sub-rounded flint	Pit; cut L2020; sealed by L2001	-
	2070		Firm, dark red brown silty sand		-
	2071		Firm, mid grey brown silty sand, with occasional small sub-rounded flint		CBM (3g)
2064	2065	Oval/ steep sides, flat base (0.84 x 0.70 x 0.28m)	Friable, mid grey brown sandy silt with occasional small stones	Pit; cut L2002; sealed by L2000	Burnt stone (184g)
2074	2075	Sub-oval/ steep sides, irregular base (0.79 x 0.46 x 0.15m)	Friable, mid grey ashy silty sand with occasional small charcoal flecks	Pit; cut L2061; sealed by L2000	-
2080	2081	Sub-circular/ gently sloping	Friable, mid grey brown silty	Pit; cut L2001; cut by	-

		sides, concave base (0.60 x 0.28 x 0.10m)	sand with occasional small sub-round stones	F2019	
2082	2083	Sub-circular/ gently sloping sides, concave base (0.66 x 0.52 x 0.11m)	Friable, mid grey brown silty sand, with occasional small sub-angular and sub-rounded stones	Pit; cut L2001; cut by F2019	-
2093	2094	Sub-oval, moderately sloping sides, concave base (2.40 x 1.72 x 0.47m)	Firm, mid grey brown sandy silt, with occasional small to medium sub-angular stones and charcoal flecks	Pit; cut L2001; sealed by L2009	Pottery (344g); CBM 101g); animal bone (6g); slag (82g); struck flint (3g)
	2095		Firm, mid brown yellow sandy silt		-
	2096		Firm, dark grey brown sandy silt with occasional small and medium sub-rounded stones and charcoal flecks		-
2125	2126	Sub-circular/ moderately sloping sides, concave base (c. 1.30 x c. 1.00 x 0.15m)	Friable, mid grey brown silty sand with moderate medium sub-rounded flint	Pit; cut L2001, F2151 and F2121; sealed by L2000	-
2131	2132	Sub-circular/ moderately sloping sides, flattish base (2.60 x 1.90 x 0.19m)	Friable, dark grey brown silty sand with occasional small sub-angular stones	Pit; cut L2001; sealed by L2009	Pottery (682g); CBM (90g); animal bone (39g); struck flint (75g); worked stone (36g)
2459	2460	Circular/ gently sloping sides, convex base (0.76 x 0.66 x 0.15m)	Friable, dark brown/ black sand with moderate stones	Pit; cut L2002; cut by F2287	Pottery (5g); CBM (441g)
2639	2640	Sub-circular/ moderately sloping sides, flattish base (1.20 x 0.99 x 0.26m)	Friable, dark greyish brown silty sand with moderate stones and occasional charcoal flecks	Pit; cut L2002; L2000	Pottery (4g); CBM (113g); animal bone (10g)
2643	2644	Circular/ steep sides, concave base (0.54 x 0.50 x 0.38m)	Friable, dark brown silt with frequent charcoal flecks	Pit cut L2002; sealed by L2000	-
	2645		Friable, dark grey brown silty sand with moderate charcoal flecks		Pottery (3g); CBM (19g); struck flint (5g)
2679	2680	Sub-oval/ steep sides, concave base (0.64 x 0.55 x 0.18m)	Friable, mid yellowish brown/ black sandy silt with moderate small stones and occasional charcoal flecks	Pit; cut L2002; sealed by L2000	-
2681	2682	Sub-oval/ steep sides, concave base (0.78 x 0.58 x 0.18m)	Friable, dark grey/ yellowish brown sandy silt with moderate small stones	Pit; cut L2002; sealed by L2000	-
2689	2690	Circular/ steep sides, concave base (0.38 x 0.30 x 0.12m)	Friable, dark grey brown sandy silt with frequent charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (18g)
2691	2692	Circular/ steep sides, flattish base (0.50 x 0.49 x 0.05m)	Friable, dark grey brown sandy silt with moderate mall stones and charcoal flecks	Pit; cut L2002; sealed by L2000	-
2693	2694	Circular/ steep sides, flattish base (0.32 x 0.31 x 0.30m)	Friable, black sand with frequent charcoal flecks and occasional small rounded stones	Posthole; cut L2001; sealed by L2000	-
2701	2702	Circular/ steep sides, concave base (0.46 x 0.42 x 0.19m)	Friable, mid grey brown sand with frequent small rounded stones	Pit; cut L2704; sealed by L2000	-
2703	2704	Circular/ steep sides, concave base (0.28 x 0.25+ x 0.19m)	Friable, mid grey brown sand with frequent rounded stones	Posthole; cut L2002; cut by F2701	-
2711	2712	Sub-oval/ steep sides, concave base (1.48 x 0.66 x 0.30m)	Friable, dark reddish brown sandy silt with moderate medium stones	Pit; cut L2002; sealed by L2000	-
2721	2722	Sub-circular/ steep sides, concave base (0.49 x 0.44 x 0.19m)	Friable, dark grey brown silty sand with occasional sub angular stones	Pit; cut L2002; sealed by L2000	-
2723	2724	Sub-oval/ steep sides,	Compact, mid brown grey	Pit; cut L2002;	Pottery (98g);

		flattish base (3.50 x 2.00 x 0.58m)	sandy silt with moderate stones	sealed by L2000	CBM (14g
	2725		Firm, dark brown grey sandy silt with occasional small stones and charcoal flecks		-
	2726		Compact, mid yellowish brown sandy silt with occasional small stones and charcoal flecks		-
2742	2743	Sub-circular/ steep sides, concave base (1.76 x 1.34 x 0.44m)	Firm, mid brown grey sandy silt with moderate stones and occasional charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (39g)
2761	2762	Circular/ steep sides, concave base (0.73 x 0.64 x 0.25m)	Friable, dark grey brown sandy silt with occasional stones	Pit; cut L2002; sealed by L2000	Pottery (11g); animal bone (12g)

Table 34: Dispersed Phase 5.1 Features

Phase 5.2: Middle to Late Anglo-Saxon (9th to mid 12th century AD)

Summary

2.76 The middle to late Anglo-Saxon period was principally characterised by a large, rectilinear enclosure in the central area of the excavation (Enclosure 3; Fig. 9). This represented a direct development of the earlier, Phase 5.1 boundaries and was delineated to the north and west by a system of ditched trackways. A cluster of pits was present at the north-western corner of the enclosure, while possible structural remains were recorded along its southern edge. A small number of dispersed pits were also present; one of these contained a set of 11 weights, comprising eight cylindrical pan weights, some of which include embedded coins; and three spherical hanging weights (see *The Small Finds*).

The Phase 5.2 enclosure and trackways

2.77 Enclosure 3 dominated the central area of the Phase 5.2 site and displayed a clear spatial relationship with the earlier Anglo-Saxon boundaries (Fig. 9, 16-17, 21 and 23). This might infer that the features forming Enclosure 3 (Table 35) were earlier in date than suggested by the associated pottery assemblage. If Phase 5.1 ditches F2695 and F2697 are taken to represent the south-eastern extent of the enclosure (Figs. 9 and 23), its internal area is calculable as approximately 3200m^2 (0.32ha). However, the earlier backfilling date suggested for these features may indicate that the middle to late Anglo-Saxon enclosure had no eastern boundary, being effectively open along one side. It is also possible that some form of archaeologically 'invisible' boundary replaced the earlier ditches in this area (e.g. hedging).

2.78 Enclosure 3 was principally formed of three ditches (F2139 (=2156), F2146, and F2510) delineating its northern, southern and western limits (Figs. 9, 16-17, 21 and 39). Apart from a *c.* 0.5m wide gap between the termini of Ditches F2139 (=2156) and F2510 (GS E5; Fig. 17), no break in this boundary was evident. The profiles and fills of these ditches were similar and they all yielded modest quantities of pottery.

2.79 Two sections of possible trackway were present to the north and west of Enclosure 3 (Table 35; Figs. 9, 16-17, 19 and 21). The northern section, delineated by Ditches F2042 and F2068 was L-shaped in plan, running east to west along the northern edge of the enclosure before turning sharply to the north and disappearing

beyond the edge of the excavation. This broad trackway was between 10m and 17m wide along its length. A narrower southern continuation of this trackway ran along the western edge of Enclosure 3, bounded to the west by Ditch F2087 (Figs. 9 and 16-17). This trackway was 2.8m wide in the north, tapering sharply to 0.5m at its southern extent (Grid Square F3). It is possible that the narrowing of the westernmost trackway was designed to control the movement of livestock. Ditch F2087 was devoid of finds.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2042	2043	Linear/ moderately sloping sides, concave base (c.35.00 x 0.64 x 0.18m)	Firm, mid grey brown silty clay with occasional small sub-angular and sub-rounded stones	Ditch; cut L2010; sealed by L2000	Pottery (43g)
2068	2069	Linear/ moderately sloping sides, flat base (c. 20.00 x 1.10 x 0.30m)	Friable, mid grey brown silty sand with occasional small sub-angular flint	Ditch; cut L2001, L2084, L2118; sealed by L2000	Pottery (26g)
	2119		Friable, mid yellowish brown silty sand		-
	2120		Friable, dark grey brown silty sand		-
2087	2088	Linear/ gently sloping sides, concave base (*c.* 40.00 x 0.98 x 0.34m)	Friable, mid grey brown sandy silt with moderate small and medium rounded and sub-rounded stones	Ditch; cut L2001, L2002, L2028, L2047 and L2460; sealed by L2000	-
2146	2147	Linear/ moderately sloping sides, V-shaped base (*c.* 17.00 x 0.50 x 0.27m)	Friable, mid yellowish grey brown silty sand with occasional small sub-rounded flint	Ditch; cut L2001; cut by F2148 and F2157	-
2139 =2156	2140 =2157	Linear/ moderately sloping sides, concave base (c.45.00 x 1.40 x 0.36m)	Friable, mid brown grey silty sand with occasional small and medium sub-angular and sub-rounded stones	Ditch; cut L2001, L2002, L2117, L2147 and L2543; cut by F2137	Pottery (15g); animal bone (4g)
	2145		Friable, mid yellowish orange sandy silt with frequent small to medium sub-angular to rounded stones		-
2510	2511	Linear/ steep sides, concave base (*c.* 55.00 x 0.28 x 0.24m)	Friable, mid grey brown silty sand with occasional stones and charcoal flecks	Ditch; cut L2002, L2118 and L2700; cut by F2675	Pottery (105g); animal bone (105g)

Table 35: Phase 5.2 boundaries

Pit Cluster 7

2.80 A cluster of eight pits (Grid Squares E5–F5; Table 36; Figs. 9, 17 and 39) was located in the north-western corner of Enclosure 3. This group did not wholly respect the enclosure's boundary, although their clustering at the 0.5m gap between Ditches F2139 (=2156) and F2510 (see above) is not thought to be coincidental. Pit F2675 cut the fill of Enclosure Ditch F2510 (L2511). None of these features contained finds.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2098	2099	Sub-circular/ moderately sloping sides, concave base (0.79 x 0.58 x 0.19)	Friable, mid grey brown silty sand	Pit; cut L2118; sealed by L2000	-
2502	2503	Oval/ steep sides, flattish base (0.35 x 0.30 x 0.15m)	Friable, mid brown/ black silty sand with occasional stones and charcoal flecks	Posthole; cut L2001; sealed by L2000	CBM (8)
2504	2505	Oval/ steep sides, concave base (0.30 x 0.26 x 0.15m)	Friable, mid brown/ black silty sand with occasional stones and charcoal flecks	Posthole; cut L2118; sealed by L2000	-
2506	2507	Oval/ steep sides, flattish base (0.34 x 0.26 x 0.16m)	Friable, mid brown/ black silty sand with occasional stones and charcoal flecks	Posthole; cut L2001; sealed by L2000	-
2508	2509	Sub-oval/ steep sides, irregular base (0.70 x 0.68 x 0.25m)	Friable, mid brown grey silty sand with moderate stones	Pit; cut L2118; sealed by L2000	-
2550	2551	Sub-oval/ steep sides, concave base (0.47 x 0.34 x 0.21m)	Friable, dark grey brown sandy silt with occasional stones	Pit; cut L2002; sealed by L2000	-
2675	2676	Sub-oval/ moderately sloping sides, concave base (0.28 x 0.24 x 0.10m)	Friable, dark grey brown sandy silt	Pit; cut L2511; sealed by L2000	-
2677	2678	Sub-circular/ steep sides, concave (0.38 x 0.34 x 0.14m)	Friable, mid orange brown silty sand	Pit; cut L2002; sealed by L2000	-

Table 36: Pit Cluster 7

Possible structural evidence

2.81 A grouping of two gullies and 21 pits and postholes at the southern edge of Enclosure 3 was thought to represent possible structural remains (Grid Squares G3-H3; Table 37; Figs. 9, 23 and 40). During the excavation, Gullies F2594 and F2600 were interpreted as beam slots. These features were spaced approximately 3.8m apart along most of their length and followed parallel, east to west alignments; Gully F2594 was slightly curvilinear in plan (Fig. 23). The alignment of the gullies was mirrored to the north by a linear arrangement of ten pits and postholes (F2516, F2518, F2520, F2522, F2524, F2526, F2528, F2530, F2532 and 2534). Two possible outliers to this group (F2602 and F2604) were also present. Approximately 6m to the north/ north-west of Gully F2600, a second arrangement of seven pits and postholes (F2619, F2621, F2623, F2625, F2627, F2629 and F2631) appeared to follow a roughly similar alignment. Two pits (F2596 and F2598) were also present 'within' the area defined by the ?beam slots (Fig. 23). No deposits, potentially representative of floor/ occupation surfaces were present. None of the features forming this possible structure contained finds; the remains were assigned to Phase 5.2, however, based on the alignment of the constituent features in respect to the southern edge of Enclosure 3.

2.82 The form of any structure represented by these features remains unclear. However the uniformity of alignment displayed by the gullies and southernmost pit/ posthole group strongly suggests a planned layout of some description. Posthole structures are common to early Anglo-Saxon sites such as West Stow, Suffolk and Mucking in Essex, and in some cases were replaced by post-in-trench structures (Powlesland 2003, 107); such 'beamslot' foundations are rarely encountered in the early Anglo-Saxon period (Lyons 2011, 92). At Mucking, some of the posthole structures are thought to have constituted little more than 'sheds or partly enclosed shelters (Hamerow 1993, 8). The lack of occupation deposits associated with the Oulton ?structure may suggest such a function in this instance. A similarly 'sterile' posthole structure – dating to the early to middle Anglo-Saxon period – was excavated at Chruch Road, Snape (Mustchin 2014b).

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2516	2517	Circular/ steep sides, concave base (0.33 x 0.22 x 0.08m)	Friable, mid brown grey silty sand with occasional stones	Posthole; cut L2002; sealed by L2000	-
2518	2519	Sub-circular/ steep sides, irregular base (0.29 x 0.28 x 0.12m)	Friable, mid grey brown silty sand with occasional stones	Posthole; cut L2002; sealed by L2000	-
2520	2521	Circular/ steep sides, concave base (0.28 x 0.25 x 0.11m)	Friable, dark brown grey silty sand with occasional stones and CBM flecks	Posthole; cut L2001; sealed by L2000	-
2522	2523	Circular/ steep sides, concave base (0.22 x 0.19 x 0.10m)	Friable mid brown grey silty sand with occasional stones	Posthole; cut L2002; sealed by L2000	-
2524	2525	Circular/ steep sides, concave base (0.29 x 0.26 x 0.10m)	Friable, mid brown grey silty sand with occasional stones	Posthole; cut L2002; sealed by L2000	-
2526	2527	Circular/ moderately sloping sides, concave base (0.34 x 0.30 x 0.09m)	Friable, mid brown grey silty sand	Posthole; cut L2001; sealed by L2000	-
2528	2529	Circular/ steep sides, flattish base (0.28 x 0.25 x 0.15m)	Friable, dark brown grey silty sand with occasional stones and CBM flecks	Posthole; cut L2001; sealed by L2000	-
2530	2531	Circular/ steep sides, flattish base (0.30 x 0.26 x 0.11m)	Friable, mid grey brown silty sand with occasional stones	Posthole; cut L2001; sealed by L2000	-
2532	2533	Circular/ steep sides, flattish base (0.24 x 0.24 x 0.14m)	Friable, mid grey brown silty sand with occasional stones	Posthole; cut L2001; sealed by L2000	-
	2544		Friable, dark grey brown silty sand with occasional stones		-
2534	2535	Oval/ steep sides, flattish base (0.22 x 0.19 x 0.10m)	Friable, mid grey brown silty sand with occasional stones	Posthole; cut L2001; sealed by L2000	-
	2545		Friable, dark grey brown silty sand with occasional stones		-
2594	2595	Curvilinear/ moderately sloping to steep sides, concave base (c. 9.00 x 0.47 x 0.14m)	Friable, mid orange brown silty sand with moderate stones	Gully; cut L2002; cut by F2598	-
2596	2597	Circular/ steep sides, concave base (0.69 x 0.68 x 0.29m)	Friable, dark orange brown sandy silt with occasional stones	Pit; cut L2002; sealed by L2000	-
2598	2599	Sub-oval/ steep sides, flattish base (0.83 x 0.40+ x 0.12m)	Friable, dark orange brown sandy silt with occasional stones	Pit; cut L2595; sealed by L2000	-
2600	2601	Linear/ moderately sloping sides, concave base (c. 12.10 x 0.73 x 0.14m)	Friable, mid brown grey silty sand with moderate stones	Gully; cut L2002; sealed by L2000	-
2602	2603	Sub-oval/ moderately sloping sides, concave base (0.74 x 0.55 x 0.16m)	Friable, mid yellowish brown silty sand with moderate stones	Pit; cut L2002; sealed by L2000	-
2604	2605	Circular/ moderately sloping sides, concave base (0.40 x 0.37 x 0,10m)	Friable, mid brown grey silty sand with frequent stones	Posthole; cut L2002; sealed by L2000	-
2619	2620	Sub oval/ moderately sloping sides, irregular base (0.35 x 0.30 x 0.19m)	Friable, mid brown grey silty sand with moderate stones	Posthole; cut L2001; sealed by L2000	-
2621	2622	Circular/ steep sides, flattish base (0.36 x 0.33 x 0.25m)	Friable, mid brown grey silty sand with moderate stones	Posthole; cut L2001; sealed by L2000	-
2623	2324	Oval/ steep sides, concave base (0.44 x 0.38+ x 0.30m)	Friable, mid orange brown silty sand with moderate stones	Posthole; cut L2001; cut by F2625	-
2625	2626	Oval/ steep sides, uneven base (0.26 x 0.18 x 0.33m)	Friable, mid greyish brown silty sand with occasional stones	Posthole; cut L2624; sealed by L2000	-
2627	2628	Sub-oval/ steep sides, flattish base (0.24 x 0.20 x 0.20m)	Friable, mid brownish grey silty sand with occasional stones	Posthole; cut L2001; sealed by L2000	-
2629	2630	Sub-circular/ steep sides, concave base (0.46 x 0.43 x 0.35m)	Friable, mid brownish grey silty sand with frequent stones	Posthole; cut L2001; sealed by L2000	-
2631	2632	Circular/ steep sides, flattish base (0.42 x 0.40 x 0.17m)	Friable, mid brownish grey silty sand with frequent stones	Posthole; cut L2001; sealed by L2000	-

Table 37: Possible Phase 5.2 structural features

Dispersed Phase 5.2 pits

2.83 Two dispersed pits (F2162 (Grid Square E4) and F2729 (Grid Square I7); Table 38; Figs. 9, 17, 20 and 40) were dated to Phase 5.2. Pit F2729 (L2730) yielded four sherds of 10th to mid 12th century AD pottery. Pit F2162, located some 17m to the west of Enclosure 3 was of particular interest. The single fill of this small

feature (L2163) contained 11 weights, comprising eight cylindrical pan weights, some of which include embedded coins; and three spherical hanging weights (see *The Small Finds*). Pan weights including embedded coins are well attested in the literature (e.g. Williams 1999) and are associated with the Anglo-Saxon and Viking periods. Comparative collections are best known from medieval urban centres including Winchester and London (Biddle 1990, 918, fig. 280; Egan 1998, 301-322, fig. 235; see *The Small Finds*). The small size of Pit F2162 – barely larger than the objects it contained – suggests that it was purposefully dug to contain the weights. Iron fragments from this feature may represent the corroded remains of a set of scales.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2162	2163	Circular/ moderately sloping sides, concave base (0.70 x 0.63 x 0.11m)	Friable, mid grey brown silty sand, with occasional small sub-angular to sub-rounded stones	Pit; cut L2063; sealed by L2000	SF1 (coin weights); pottery (4g); Fe (62g); fired clay (84g)
2729	2730	Sub-oval/ steep sides, irregular base (1.19 x 1.04 x 0.17m)	Friable, mid grey brown silty sand with occasional charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (35g); animal bone (2g); slag (151g)

Table 38: Dispersed Phase 5.2 pits

Phase 6: Saxo-Norman/ Medieval (11th to 14th century AD)

Summary

2.84 Twenty-four features were dated to the Saxo-Norman/ medieval period. The vast majority of these features (23) were associated with a metallurgical waste area located in the north-eastern part of the site (Grid Square H7; Fig. 10). The remaining feature was a discrete pit located in the central, western area of the site.

The Phase 6 metallurgical waste area

2.85 A cluster of 23 pits and gullies was located in the north-eastern area of the site (Grid Square H7; Table 39; Plates 16-17; Figs. 10, 20 and 40). All of these features contained single fills and appear to have been associated – at least in part – with the disposal of waste from metallurgical processes (possibly occurring in the near vicinity). Thirteen of the features yielded smelting or undiagnostic slag (totalling 1487g), while one (F2180) contained a single metal fragment (30g); no smelting furnace was present within the excavation area. A circular lock escutcheon plate of uncertain medieval date (see *The Small Finds*) was present in the fill of Pit F2746 (L2747). Other finds from these features include trace animal bone (3g), a single sherd (19g) of 9th to 12th/ 13th century pottery from Fill L2747 of Pit F2746, and one sherd of 11th to 14th century pottery from Fill L2191 of Pit F2190. As such, this feature cluster was only tentatively dated.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2170	2171	Oval/ vertical sides, concave base (0.20 x 0.12 x 0.10m)	Compact, dark yellowish grey silty clay	Posthole; cut L2010; sealed L2000	-
2172	2173	Sub-oval/ steep sides, flat base (0.40 x 0.37 x 0.13m)	Compact, dark yellowish grey silty clay with occasional charcoal flecks	Posthole; cut L2010; sealed by L2000	-
2174	2175	Circular/ steep sides, flat base (0.19 x 0.19 x 0.11m)	Compact, dark grey brown sandy clay with frequent charcoal flecks	Posthole; cut L2010; sealed by L2000	Animal bone (3g); slag (188g)
2176	2177	Circular/ vertical sides, concave base (0.15 x 0.15 x 0.25m)	Compact, very dark grey sandy clay with occasional small charcoal flecks	Posthole; cut L2002; sealed by L2000	Slag (50g)
2178	2179	Circular/ steep sides, concave base (0.80 x 0.60 x 0.27m)	Compact, very dark grey sandy clay with occasional small charcoal flecks	Pit; cut L2002; sealed by L2000	Slag (105g)
2180	2181	Circular/ steep sides, concave base (0.40 x 0.36 x 0.22m)	Firm, dark grey sandy clay with occasional small charcoal flecks	Pit; cut L2002; sealed by L2000	Metal fragment (30g)
2182	2183	Sub-oval/ gently sloping sides, irregular base (0.88 x 0.66 x 0.10m)	Firm, mid brown grey silty clay with occasional small sub-angular to sub-rounded stones and moderate charcoal flecks	Pit; cut L2010; sealed by L2000	Slag (34g)
2184	2185	Sub-circular/ steep sides, irregular base (0.38 x 0.30 x 0.14m)	Firm, mid brown grey silty clay with frequent charcoal flecks and occasional small rounded stones	Posthole; cut L2187; sealed by L2000	Slag (258g)
2186	2187	Irregular/ gently sloping sides, irregular base (0.40 x 0.38 x 0.06m)	Firm, mid brown grey silty clay with moderate charcoal flecks and occasional small rounded stones	Pit; cut L2010; cut by F2184 and F2188	Slag (11g)
2188	2189	Sub-circular/ steep sides, flat base (0.28 x 0.24 x 0.25m)	Friable, mid orangey brown silty sand with occasional small to medium sub-angular to sub-rounded stones	Posthole; cut L2187; sealed by L2000	-
2190	2191	Curvilinear/ near vertical sides, concave base (c. 2.00 x 0.15 x 0.12m)	Firm, mid grey brown clay silt with occasional small sub-angular stones	Gully; cut L2010 and L2210; sealed by L2000	Pottery (5g); slag (6g)
2192	2193	Sub-circular/ moderately sloping sides, concave base (1.10 x 0.86 x 0.20m)	Firm, brown grey silty clay with moderate charcoal flecks and occasional small sub-rounded stones	Pit; cut L2010; cut by F2200, F2194 and F2196	Pottery (5g); slag (459g)
2194	2195	Sub-circular/ steep sides, concave base (0.27 x 0.27 x 0.09m)	Firm, mid brown grey silty clay	Posthole; cut L2193; cut by F2196	-
2196	2197	Sub-circular/ gently sloping sides, concave base (1.86 x 1.70 x 0.17m)	Firm, mid brown grey silty clay with occasional charcoal flecks	Pit; cut L2193 and L2195; cut by F2198 and F2205	-
2198	2199	Circular/ steep sides, concave base (0.22 x 0.20 x 0.08m)	Firm, Dark grey silty clay with moderate charcoal flecks	Posthole; cut L2197; sealed by L2000	-
2200	2201	Circular/ steep sloping sides, flattish base (0.66 x 0.56 x 0.11m)	Firm, dark grey, silty clay with frequent charcoal flecks and occasional small sub-angular stones	Pit; cut L2193; sealed by L2000	Slag (165g)
2205	2206	Circular/ steep sides, concave base (0.32 x 0.20 x 0.08m)	Firm, dark grey brown silty sand with moderate charcoal flecks	Posthole; cut L2197; sealed by L2000	Slag (43g)
2207	2208	Curvilinear/ near vertical sides, concave base (c. 1.70 x 0.16 x 0.05m)	Firm, light grey brown silty clay	Gully; cut L2010; cut by F2209 and F2211	-
2209	2210	Sub-circular/ steep sloping sides, concave base (0.44 x 0.16 x 0.08m)	Firm, mid grey brown clay silt with occasional small sub-angular stones	Posthole; cut L2208; cut by F2190	-
2211	2212	Circular/ near vertical sides, concave base (0.28 x 0.22 x 0.08m)	Compact, mid grey brown clay silt	Posthole; cut L2208; sealed by L2000	-
2213	2214	Sub-circular/ steep sloping sides, concave base (0.34	Firm, mid grey brown silty clay with moderate charcoal flecks and	Posthole; cut L2010; sealed by L2000	Slag (63g)

		x 0.29 x 0.09m)	occasional small sub-angular to sub-rounded stone		
2215	2216	Sub-circular/ steep sides, concave base (0.29 x 0.26 x 0.09m)	Firm, mid grey brown silty clay with moderate charcoal flecks and occasional small sub-angular stone	Posthole; cut L2010; sealed by L2000	Slag (59g)
2746	2747	Sub-oval/ steep sides, flattish base (1.35 x 1.00 x 0.55m)	Firm, light grey brown clayey silt with moderate stone	Pit; cut L2593; sealed by L2000	SF2 Fe (17g); pottery (19g); slag (307g)

Table 39: features forming the Phase 6 metallurgical waste area

Pit F2641

2.86 Pit F2641 (Grid Square E4; Table 40; Figs. 10, 17 and 40) was the only isolated feature of Saxo-Norman/ medieval date; it contained three sherds (19g) of 11th to 13th century AD pottery. Pit F2641 was located a considerable distance from other Phase 6 features and its function remains uncertain.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2641	2642	Sub-rectangular/ steep sides, flattish base (1.06 x 0.68 x 0.28m)	Friable, dark grey brown silty sand with moderate stones and charcoal flecks	Pit; cut L2002; sealed by L2000	Pottery (19g); CBM (113g)

Table 40: Pit F2641

Phase 7: Post-Medieval to Early Modern/ Modern (c. AD 1500-1900+)

2.87 Twenty features were dated to this latest chronological phase (Table 41; Fig. 11). The landscape at this time was defined by two linear boundary alignments represented by Ditches F2143, F2148 and F2396 (Figs. 11, 13, 15-16, 21, 23, 25 and 25). These separated the site into four large, rectilinear fields (based on the exposed evidence), all of which extended beyond the excavated area. This represented an 'opening up' of the immediate landscape compared to earlier phases of enclosure (*i.e.* Phases 4 and 5.2) and parallels a late medieval/ post-medieval pattern of landscape reorganisation noted at a number of other sites (e.g. Wheatcroft Farm, Bradwell (*Mustchin et al.* in preparation)). The remaining Phase 7 features comprised a mix of linear and discrete features, none of which were particularly notable. A possible fenceline was represented by six postholes, close to the southern edge of the excavation (Grid Squares B2-C2; Figs. 11, 15 and 41). Despite lacking datable material, these features ran parallel to Phase 7 Ditch F2396, some 5m to the north and the modern site boundary, and were dated accordingly. Some other Phase 7 features were tentatively dated based on their spatial or stratigraphic relationships with dated features.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2011	2012	Sub-oval/ near vertical sides, concave base (1.23 x 0.74 x 0.43m)	Friable, mid grey brown silty sand with frequent medium and occasional small gravel	Pit; cut L2002; sealed by L2000	CBM (180g)
2013	2014	Sub-oval/ near vertical sides, flat base (1.20 x 0.70 x 0.39m)	Friable, mid grey brown sandy silt with occasional small stones	Pit; cut L2002; sealed by L2000	-
2015	2016	Sub-circular/ steep sides, concave base (0.64 x 0.52 x 0.06m)	Friable, mid grey brown sandy silt with occasional small stones	Pit; cut L2002; sealed by L2000	Burnt stone (108g)
2017	2018	Sub-oval/ near vertical sides, flat base (0.61 x 0.42 x 0.04m)	Friable, grey brown sandy silt with occasional small stones	Pit; cut L2002; sealed by L2000	-
2123	2124	Linear/ gently sloping sides, irregular base (c. 2.00 x 0.60 x 0.14m)	Friable, mid grey brown silty sand with occasional small sub-angular flint	Ditch; cut L2001; sealed by L2000	Pottery (5g)
2143	2144	Linear/ steep sides, concave base (c. 105.00 x 1.03 x 0.48m)	Friable, mid grey brown sandy silt with moderate small sub-angular and sub-rounded stones	Ditch; cut L2010; sealed by L2000	Pottery (439g); glass (65g); slate (25g)
2148	2149	Linear/ moderately sloping sides, flat base (c. 174.00 x 1.40 x 0.30m)	Friable, mid grey brown silty sand with moderate small to medium sub-angular to sub-rounded flint	Ditch; cut L2001, L2002, L2147 and L2165; cut by F2573; sealed by L2000	Pottery (1g); CBM (495g)
2287	2288	Rectangular/ steep sides, flat base (0.74 x 0.60 x 0.90m)	Compact, mid grey brown sandy silt	Posthole; cut L2001; sealed by L2000	-
2301	2302	Circular/ steep sides, flat base (0.82 x 0.62 x 0.32m)	Friable, mid grey brown clay silt with occasional small and medium rounded stones	Pit; cut L2001 and L2305; sealed by L2000	-
2306	2307	Oval/ moderately sloping sides, irregular base (4.00+ x 0.92 x 0.17m)	Friable, mid grey brown silty sand with occasional small sub-rounded flints	Pit; cut L2294; sealed by L2000	Pottery (7g)
2378	2379	Irregular/ steep sides, concave base (0.42 x 0.39 x 0.06m)	Friable, mid grey brown silty sand	Pit; cut L2001; sealed by L2000	-
2384	2385	Sub-circular/ steep sides, flattish base (0.18 x 0.18 x 0.11m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2386	2387	Sub-circular/ steep sides, concave base (0.16 x 0.16 x 0.18m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2388	2389	Circular/ steep sides, concave base (0.19 x 0.18 x 0.18m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2390	2391	Circular/ steep sides, flattish base (0.18 x 0.18 x 0.09m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2392	2393	Circular/ steep sides, flattish base (0.18 x 0.18 x 0.19m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2394	2395	Sub-circular/ steep sides, flattish base (0.21 x 0.18 x 0.21m)	Friable, mid grey brown silty sand	Posthole; cut L2001; sealed by L2009	-
2396	2397	Linear/ steep sides, concave to flattish base (c. 55.00 x 0.89 x 0.28m)	Friable, mid grey brown silty sand with occasional stones	Ditch; cut L2001 and L2002; sealed by L2000 and L2009	-
2573	2574	Linear/ gently sloping sides, flattish base (c. 2.00 x 0.40 x 0.19m)	Friable, mid orange brown sandy silt	Gully; cut L2002 and L2149; sealed by L2000	-
2618	2766	Circular/ steep sides, flattish base (1.12 x 0.97 x 0.42m)	Compact, light grey sandstone	Pit; cut L2002; sealed by L2000	-
	2767		Compact, light grey sandstone		-

Table 41: Phase 7 features

Undated

2.88 A number of undated and natural features were encountered (Table 42). None of these could be securely dated based on their spatial or stratigraphic relationships with dated features. A small quantity of pottery recovered from two un-numbered tree boles (contexts L2086 and L2429), plus small CBM fragments from four undated features (Table 42) are not thought to have been securely stratified.

Feature	Fill(s)	Plan/ profile (dimensions)	Fill description	Comments/ relationships	Finds
2031	2032	Sub-oval/ steep sides, flat base (1.32 x 0.93 x 0.40m)	Friable, mid grey brown sandy silt with moderate small sub-angular to sub-rounded stones	Pit; cut L2002; sealed by L2000	-
2044	2045	Sub-oval/ steep sides, flattish base (1.50 x 1.30 x 0.22m)	Friable, mid grey brown sandy silt with occasional small sub-angular stone	Pit; cut L2001; sealed by L2000	-
2046	2047	Circular/ moderately sloping sides, flat base (0.30 x 0.30 x 0.07m)	Friable, mid orange brown sandy silt with occasional small sub-angular stones	Posthole; cut L2002; sealed by L2000	-
2048	2049	Circular/ moderately sloping sides, flat base (0.28x 0.28 x 0.11m)	Friable, dark grey brown sandy silt with occasional small sub-angular stones and charcoal flecks	Posthole; cut L2002; sealed by L2000	-
2050	2051	Sub-oval/ Steep sloping sides, concave base (0.48 x 0.38 x 0.10m)	Friable, mid grey brown silty sand with occasional small sub-angular flint	Pit; cut L2001; sealed by L2000	-
2052	2053	Sub-rectangular/ vertical sides, irregular base (0.86 x 0.50 x 0.18m)	Friable, dark grey silty sand with occasional small rounded flint	Pit; cut L2001; sealed by L2000	-
2054	2055	Sub-oval/ gently sloping sides, concave base (1.12 x 0.62 x 0.20m)	Friable, dark yellowish brown silty sand with frequent medium rounded stones	Pit; cut L2001; sealed by L2000	-
2058	2059	Sub-oval/ moderately sloping sides, irregular base (1.57 x 0.74 x 0.22m)	Friable, dark grey brown silty sand with occasional small sub-angular stones and frequent charcoal flecks	Pit; cut L2001; sealed by L2000	-
Natural hollow (unnumbered)	2084	-	Friable, mid yellowish brown silty sand	Natural Hollow; cut L2001; cut by F2068	-
Tree bole (unnumbered)	2086	Irregular/ irregular sides, irregular base (4.20 x 3.60 x 0.31m)	Friable, mid yellowish brown silty sand	Tree Bole; cut L2002; L2000	Pottery (25g)
2089	2090	Linear/ moderately sloping sides, concave base (c. 7.00 x 0.87 x 0.13m)	Firm, dark grey brown silty sand with occasional small sub-rounded flint	Ditch; cut L2001 and L2092; sealed by L2009	-
2113	2114	Sub-oval/ steep sides, irregular base (0.31 x 0.17 x 0.04m)	Friable, mid grey brown sandy silt with moderate small sub-angular stones	Pit; cut L2002; sealed by L2000	-
2133	2134	Sub-circular/ moderately sloping sides, concave base (0.30 x 0.22 x 0.06m)	Friable, dark brown grey silty sand with occasional small sub-angular stones	Posthole; cut L2001; sealed by L2009	-
2137	2138	Linear/ moderately sloping sides, concave base (c. 2.12 x 0.37 x 0.27m)	Friable, mid brown grey sandy silt with occasional small angular stones	Gully; cut L2001, L2028 and L2145; sealed by L2000	-
2158	2159	Sub-oval/ steep sides, flat base (0.68 x 0.42 x 0.06m)	Compact, dark grey brown silty clay with occasional small rounded stones and charcoal flecks	Pit; cut L2010 and L2161; sealed by L2000	-
2160	2161	Oval/ steep sides, flat base (0.23 x 0.18 x 0.22m)	Compact, dark yellowish grey silty clay with occasional charcoal flecks	Posthole; cut L2010; cut by F2158	-
2217	2218	Irregular/ irregular sides, irregular base (1.68 x 1.50	Firm, mid grey brown silty sand with occasional small to	Pit; cut L2001 and L2010; sealed by	-

		x 0.74m)	medium sub-angular flint	L2000	
	2219		Firm, mid pink red/ grey brown silty clay with moderate small sub-angular flint		CBM (1g)
	2220		Compact, mid yellowish brown silty clay with occasional small sub-angular stones		-
2229	2230	Oval/ steep sides, concave base (0.59 x 0.46 x 0.13m)	Friable, mid brown grey silty sand with occasional small sub-rounded stones	Pit; cut L2238; sealed by L2000	-
2231	2232	Circular/ near vertical sides, concave base (0.19 x 0.18 x 0.17m)	Friable, dark grey brown silty sand with occasional small sub-angular stones	Pit; cut L2234; sealed by L2000	-
2233	2234	Circular/ steep sides, concave base (0.44 x 0.42 x 0.13m)	Friable, mid grey brown silty sand with occasional small sub-rounded flint	Pit; cut L2336; cut by F2231	-
2235	2236	Oval/ moderately sloping sides, flat base (0.44 x 0.32 x 0.11m)	Friable, mid grey brown silty sand with occasional small sub-rounded flint	Pit; cut L2001; cut by F2233 and F2237	-
2237	2238	Oval/ steep sides, irregular base (0.43 x 0.38 x 0.13m)	Friable, mid grey brown silty sand with occasional small sub-rounded flint	Posthole; cut L2236; cut by F2229	-
2239	2240	Circular/ vertical sides, concave base (0.24 x 0.22 x 0.22m)	Friable, dark grey brown silty sand with occasional small sub-angular flint	Posthole; cut L2001; sealed by L2000	-
2314	2315	Circular/ steep sides, concave base (0.62 x	Friable, dark brown grey silty clay with occasional small flint	Pit; cut L2001; sealed by L2000	-
	2316	0.57 x 0.10m)	Friable, dark-mid brown grey silty sand with moderate small sub-angular flints		CBM (49g)
2319	2320	Sub-oval/ steep sides, concave base (0.84 x 0.28 x 0.08m)	Friable, dark grey brown sandy silt with occasional charcoal flecks and stones	Pit; cut L2002; sealed by L2000	-
2321	2322	Circular/ vertical sides, flattish base (0.42 x 0.34 x 0.12m)	Friable, mid orange brown silty sand with occasional stones	Pit; cut L2002; sealed by L2000	-
2323	2324	Sub-oval/ steep sides, concave base (0.64 x 0.54 x 0.20m)	Friable, mid orange brown silty sand	Pit; cut L2001; sealed by L2000	-
2380	2381	Circular/ steep sides, concave base (0.26 x 0.25 x 0.11m)	Friable, mid grey brown silty sand	Pit; cut L2001; sealed by L2000	-
2382	2383	Sub-oval/ steep sides, concave base (0.50 x 0.40 x 0.15m)	Friable, mid grey brown silty sand	Pit; cut L2001; sealed by L2000	-
Tree bole (unnumbered)	2409	Irregular/ moderately sloping sides, concave base (1.68 x 1.40 x 0.40m)	Friable, mid yellowish brown silty sand with moderate stones	Tree bole; cut L2001; sealed by L2000	-
Tree bole (unnumbered)	2429	Irregular/ irregular sides, uneven base (2.74 x 2.03 x 2.24m)	Firm, mid grey brown silty clayey sand with moderate stones and charcoal flecks and occasional CBM flecks	Tree bole; cut L2001; sealed by L2009	Pottery (4g); CBM (21g)
2446	2447	Oval/ gently sloping sides, irregular base (0.91 x 0.52 x 0.13m)	Friable, dark brown/ black sandy silt	Pit; cut L2002; cut by F2287; sealed by L2000	-
2448	2449	Irregular/ irregular sides, concave base (0.76 x 0.52 x 0.31m)	Friable, mid grey brown silty sand with occasional stones	Pit; cut L2002, L2451; sealed by L2009	-
2450	2451	Circular/ steep, flattish base (0.62 x 0.30 x 0.06m)	Friable, light grey brown silty sand with occasional stones	Pit; cut L2001; cut by F2448	-
2478	2479	Linear/ moderately sloping sides, V-shaped base (c. 4.50 x 0.78 x 0.50m)	Friable, mid brown grey silty sand with occasional stones	Ditch; cut L2001 and L2477; sealed by L2000	-
Tree bole (unnumbered)	2500	Irregular/ irregular sides, uneven base (1.94 x 1.12	Friable, dark grey brown silty sand	Tree bole; cut L2477; sealed by L2000	-

		x 0.10m)			
2552	2553	Oval/ steep sides, concave base (0m29 x 0.19 x 0.18m)	Friable, dark brown/ black sandy silt with occasional stones	Posthole; cut L2002; sealed by L2000	-
2556	2557	Oval, steep sides, irregular (2.46 x 1.10 x 0.55m)	Friable, mid yellowish brown silty sand with frequent stones	Pit; cut L2001; sealed by L2000	-
2561	2562	Curvilinear/ steep sides, concave base (c. 6.00 x 1.03 x 0.65m)	Friable, mid brown/ black sandy silt with frequent stones	Ditch; cut L2002; sealed by L2000	-
2579	2580	Oval/ moderately sloping sides, concave base (1.68 x 1.05 x 0.35m)	Friable, mid grey yellowish sand with moderate stones	Pit; cut L2582; sealed by L2000	-
2581	2582	Sub-oval/ moderately sloping sides, concave (1.53 x 0.75 x 0.24m)	Friable, mid grey brown silty sand with frequent stones	Pit; cut L2002; cut by F2579	-
2583	2584	Irregular-shaped/ gently sloping sides, flattish base (1.64+ x 0.91+ x 0.20m)	Friable, mid red brown silty sand with moderate stones	Pit; cut L2001; cut by F2887	-
2585	2586	Circular/ steep sides, flattish base (0.52 x 0.52 x 0.28m)	Friable, mid red brown silty sand with frequent stones and occasional charcoal flecks	Posthole; cut L2588; sealed by L2000	-
2587	2588	Irregular-shaped/ moderately sloping sides, uneven base (1.96 x 1.18 x 0.30m)	Friable, mid orange brown silty sand	Pit; cut by F2585, cut L2584	-
2589	2590	Oval/ moderately sloping sides/ concave base (0.92 x 0.62 x 0.22m)	Friable, mid brown/ black sandy silt with frequent stones	Pit; cut L2001; sealed by L2000	-
2591	2592	Oval/ steep side, irregular (0.56 x 0.51 x 0.24m)	Friable, mid brown/ black silty sand with frequent stones	Pit; cut L2001; sealed by L2000	-
2646	2647	Sub-oval/ steep sides, concave base (0.49 x 0.30 x 0.12m)	Friable, mid grey brown silty	Pit; cut L2118=L2758; sealed by L2000	CBM (16g)
2648	2649	Circular/ steep sides, concave base (0.37 x 0.34 x 0.12m)	Friable, mid grey brown sandy silt with occasional stones	Pit; cut L2002; sealed by L2000	-
	2650		Friable, dark grey brown sandy silt with occasional stones and charcoal flecks		-
2651	2652	Sub-oval/ steep sides, concave base (0.72 x 0.70 x 0.25m)	Friable, dark black/ brown silty sand with frequent charcoal flecks	Pit; cut L2002; cut by F2654	-
	2653		Friable, mid grey brown silty sand with occasional stones		-
2654	2655	Sub-oval/ steep sides, flattish base (1.64 x 0.85 x 0.18m)	Friable, mid yellowish brown silty sand with moderate stones	Pit; cut L2653, cut by F2656	-
2656	2657	Sub-circular/ steep sides, concave base (1.60 x 1.30 x 0.19m)	Friable, mid grey brown silty sand occasional stones	Pit; cut L2655; sealed by L2000	-
2699	2700	Linear/ steep sides, concave base (c. 0.40 x 0.18 x 0.12m)	Friable, mid grey brown sandy silt	Gully; cut L2002; cut by F2510	-
2713	2714	Circular/ steep sides, concave base (0.34 x 0.25 x 0.09m)	Friable, mid grey brown silty sand with moderate small stones	Posthole; cut L2002; sealed by L2000	-
2715	2716	Sub-circular/ steep sides, concave base (0.56 x 0.45 x 0.24m)	Friable, mid grey brown silty sand with moderate stones	Pit; cut L2002; sealed by L2000	-
2727	2728	Circular/ steep sides, concave base (0.31 x 0.25 x 0.20m)	Firm, mid grey brown silty sand with occasional small stones	Pit; cut L2002; sealed by L2000	-
2736	2737	Sub-oval, steep sides, concave base (1.06 x 0.93 x 0.23m)	Friable, mid yellowish brown silty sand with moderate stones	Pit; cut L2002; sealed by L2000	-
2738	2739	Sub-circular/ steep sides, concave base (0.90 x 0.47 x 0.45m)	Friable, mid yellowish brown silty sand with moderate stones	Pit; cut L2002; sealed by L2000	-
Hollow	2765	-	Friable, light grey brown	Spread; cut L2002;	-

(unnumbered)			sandy silt with occasional small stones	cut by F2050	
2768	2769	Sub-oval/ steep sides, concave base (0.99 x 0.78 x 0.38m)	Friable, light grey brown sandy silt	Pit; cut L2002; sealed by L2000	-

Table 42: Undated features

3 SPECIALIST FINDS AND ENVIRONMENTAL REPORTS

The Small Finds

Nicholas J. Cooper
Carolingian coin identifications by Simon Coupland; conservation and photographs by Graham Morgan

Introduction

A small but highly significant assemblage of Late Saxon or Viking period (late 9th to early 10th century) finds was recovered from three contexts at the site, the most significant being a group of 11 weights from Pit F2162 (L2163), two of which have Carolingian coins embedded into the upper surface, and two others have Roman coins (Fig. 43).

The Weights

1) SF1 F2162 (L2163): Collection of 11 weights comprising eight short cylindrical lead pan weights (left-hand side and centre of Plate 18), four with a coin embedded into the upper surface; and three spherical hanging weights of Viking type, with copper alloy sheaths and iron cores and suspension loops (right-hand side of Plate 19). Each weight is described below from the smallest to the largest by type and preceded by a discussion of each group.

Plate 18: Collection of weights recovered from (2163) photographed prior to conservation

Pan weights

Disc-shaped pan weights in lead are widely paralleled at medieval urban centres such as Winchester (Biddle 1990, 918, fig. 280) and London (Egan 1998, 301-322, fig. 235), whilst smaller numbers are securely identified as pre-Conquest, associated either with Viking or Late Anglo-Saxon activity (Williams 1999). Amongst those identified as pre-Conquest is a distinctive group with coins or other decorative items embedded in their tops which are often, but not invariably, associated with the Vikings and were perhaps used specifically for the weighing of bullion (Biggs and Withers 2000, 18; Williams 1999, 32). The fact that the pan weights here were found alongside iron hanging weights of Viking type (see below) and that the two Carolingian coins date to the later 9th or early 10th century, further supports the idea of this representing Viking rather than Late Anglo-Saxon activity, although both possibilities presuppose that only the Roman coins were obsolete at the time of use.

The fact that all eight pan weights were found together indicates that they might be considered to have formed a set. The difficulties of reconciling their weights with known units of measurement are considered below, but in terms of manufacture, all except one, with convex sides, appears to have been cast by pouring molten lead into a roughly circular mould, and in four cases, coins were embedded into the top surface whilst the lead was still soft. Simon Coupland (*pers. comm.*) has supplied the following identifications of the Carolingian coins (see catalogue entry (v) and (vii) below) and comments that 'such coins are often attributed to Charles the Bald (AD 840-877) and are found in numbers in several hoards of the 880s: they remained in circulation until the 10th century, when an identical type was minted between 898 and 923 by Charles the Simple. It is thus impossible, without other evidence, to date the removal of these two specimens from circulation more precisely than to the late 9th or early 10th century'. The re-use of worn, 2nd century Roman coins, already ancient, is not easily explained but the choice of a reverse bearing a cornucopia and possibly scales, in the arms of the seated female figure, may have a symbolic link to trade.

The occurrence of coins set into the top of the weights has been reviewed by a number of authors (Archibald 1991; Biggs and Withers 2000, 18-20; Williams 1999). The Rogers collection includes an example with a late Roman coin of Constantine, one with a sceat dating *c*. 700-725 and another with a Northumbrian styca dating *c*. 841-50, the last being the most commonly occurring (Biggs and Withers 2000, 18, fig. 1 and Nos. 11 and 12 respectively), as overviewed by Pirie (2000, 25-9) and Kruse (1992, 67-95). Significantly, one example containing a Northumbrian styca dating to the 840s has previously been found near Lowestoft (Williams 1999, 25, No. 10). Later 9th century issues of Wessex and Mercia have also been found on such weights (Biggs and Withers 2000, 18) and a number of examples have been gathered together by Williams (1999, 23-31).

Importantly all of the weights so far found incorporate English coinage and the occurrence of Carolingian coins on weights does not appear to be paralleled. The exact significance of this is uncertain as the basic design on the reverses of coins of this period, a central cross surrounded by a legend, continues to be used on weights well into the medieval period (Egan 1998, fig. 233.998 and fig. 235.1011), indicating that whatever authority was imparted by it, continued to be recognised. For example, weights impressed with a recognisable coin die of Edward the Confessor

are known (Biggs and Withers 2000, 18) and other examples have been recognised by Williams (1999, 19-23), who reached the conclusion that they were likely to be late Saxon in origin rather than Viking and probably influenced the latter's use of coins in weights. Also from London, the base of a circular balance pan is stamped with a coin-like design with a legend surrounding the representation of a castle (the Abbey at Tours), the legend translated as the 'weight of denier [penny] Tournois' (Egan 1998, 324, fig. 240.1039).

The weights in the present group vary in diameter and height and their weights are as follows: i) 15.9g and 16.2g; ii) 78.2g; iii) 94.5g; iv) 98.2g; v) 135.1g; vi) 141.5g; vii) 292.5g. Two units thought to have been used during the Viking period are the *eyrir* (pl. *aurar*) (ora) or ounce of about 24.4g and the *ertog* (pl. *ertugar*) representing one third of an ounce at about 8.1g (Williams 1999, 32). The hanging weights (see below) appear to agree fairly closely with these units whilst two of the pan weights, (iii) and (iv), are close to 100g (the former with a Roman coin embedded) and may indicate their equivalence to a Viking half-mark (comprising four *aurar* (oras) of about 24g, as represented by an example in the Rogers Collection, found on the north bank of the River Humber (Biggs and Withers 2000, 20, No. 22). The two small pan weights (i) of about 16g could represent two *ertuger* (two thirds of an ounce). The heavier weights (v)-(vii) (all with coins embedded) may represent multiples of the half-mark or subdivisions thereof; the heaviest at 292.5g being equivalent to three half-marks. The fact the weights do not conform closely to the systems in use during the medieval period, usefully summarized by Egan (1998, table 14), would tend to confirm the contention that the present collection was in use during the Viking period rather than later.

i) Two short lead cylinders. The one on the left of each image (Plate 19) has straight sides. Diameter: 15mm, thickness: 8mm, weight 15.9g. The one on the right of each image is cheese-shaped with convex sides. Diameter: 17mm, thickness: 8mm, weight: 16.2g. Both weights would appear to represent approximately half an ounce.

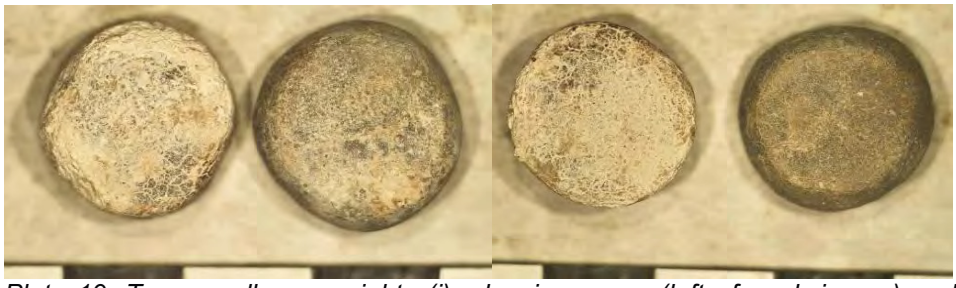


Plate 19: Two, small pan weights (i), showing upper (left of each image) and lower (right of each image) surfaces

ii) A slightly tapering or conical lead cylinder with a core of black glassy material with a crazed surface (Plate 20). Diameter: 25mm, thickness: 16mm, weight: 78.2g.

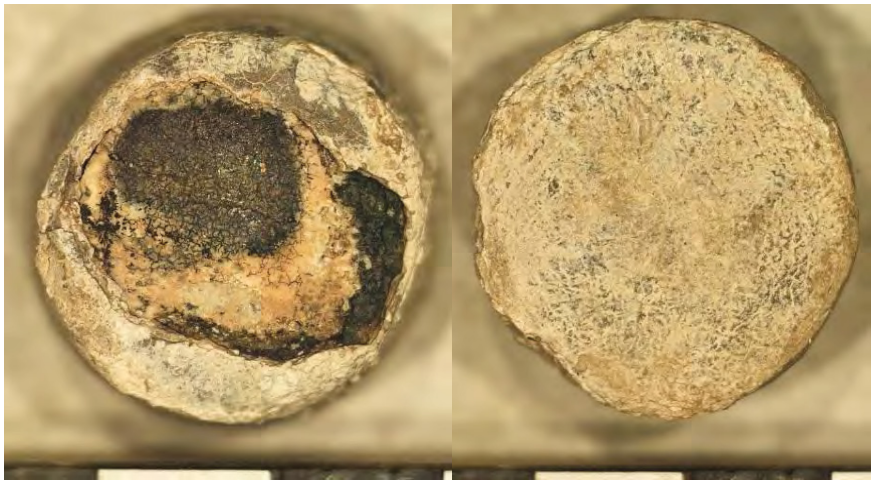


Plate 20: Upper (left) and lower (right) surfaces of lead weight (ii)

iii) Short cylindrical lead weight with a Roman copper alloy coin, possibly a *sestertius,* or more likely a *dupondius*, inset into the top (Plate 21; Fig. 43.1); 31mm in diameter, 11mm thick, weighing 94.5g. The coin is worn and only the reverse is visible. The legend is worn except for the exergue, below the seated figure, which reads [TRP], and refers to the award of Tribunician Power. The representation of the seated female figure holding a cornucopia in the cruck of the left arm, and possibly scales in the outstretched right arm is similar to late 2nd century issues.

Plate 21: Upper (left) and lower (right) surfaces of lead weight (iii) with Roman coin inserted

iv) Short cylinder lead weight (Plate 22); diameter: 27mm, thickness: 17mm, weight: 98.2g.

v) Cylindrical lead weight with a silver coin in very good condition, inserted into the upper surface, with only the reverse visible (Plate 23; Fig. 43.2). Simon Coupland (*pers. comm.*) identifies it as a denier of the Gratia D-i rex type, minted from 864 onwards, of the Palace mint: +PALATINAMONE: MG 629, Depeyrot 750, cf. MEC 1.884 (MONET). The mint's precise location is uncertain. Diameter: 30mm, thickness: 19mm, weight 135.1g.

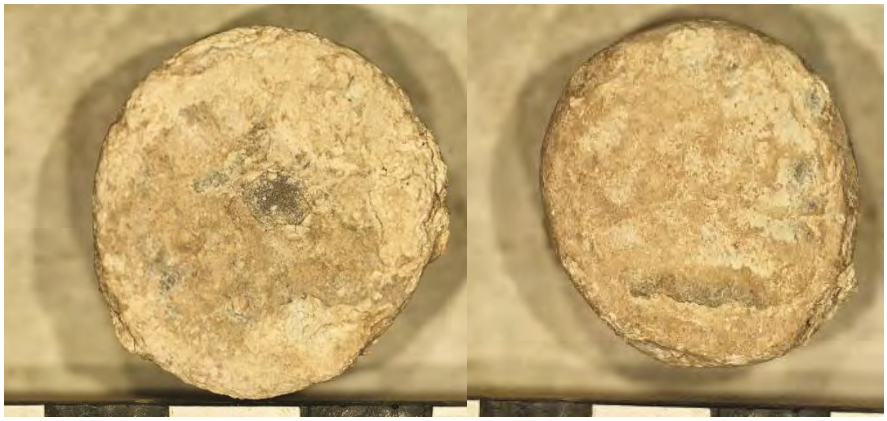


Plate 22: Upper (left) and lower (right) surfaces of lead weight (iv)

Plate 23: Upper (left) and lower (right) surfaces of weight (v) with Carolingian silver coin inserted

vi) Short cylindrical lead weight with an inset copper alloy coin (Plate 24); diameter: 38mm, thickness: 12mm, weight: 141.5g. The coin is illegible but likely to be a later 2nd century *sestertius* or *dupondius*.

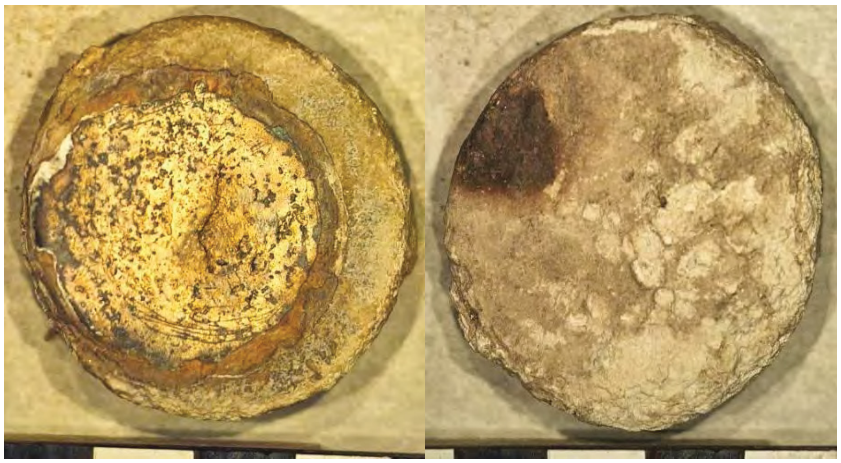


Plate 24: Upper (left) and lower (right) surfaces of lead weight (vi) with illegible Roman coin inserted

vii) Large cylindrical lead weight with a coin in very good condition, inserted into the upper surface, with only the reverse visible (Plate 25; Fig. 43.3). (IMG 22079) –

denier of the same Gratia D-i rex type, of the Laon mint, LVGDVNICLAVATI, MG 794, Depeyrot 482, MEC 1.869. Diameter: 35mm, thickness: 24mm, weight 292.5g.

Plate 25: Upper (left) and lower (right) surfaces of lead weight (vii) with Carolingian silver coin inserted

Hanging weights

Three spherical weights with copper alloy sheaths were present. Each is covered in iron corrosion and, as would be typical of these Viking Age weights, the core appears to be iron rather than lead. Weights of this kind, with copper alloy sheaths are paralleled in later contexts at Winchester (Biddle 1990, 921, fig. 283.3200) and London (Egan 1998, 309, fig. 230.975; dated to Ceramic Phase 6, *c*. 1150-1200). The latter example bore similar punched decoration on its flat base to (ix) (Plate 27), with three dots centrally, perhaps being the worn remains of a three-armed 'triskele' motif. The two larger weights are close to 24g in weight which would equate to one *eyrir* (ounce) if a Viking system was being used, whilst the smaller weight at 7.7g is close to the value of one *ertog* (a third of an ounce).

viii) Spherical weight with copper alloy sheath (open at both poles), which appears to have an iron core from which an iron suspension loop was presumably fixed (Plate 26). Diameter: 13mm, height: 12mm, weight 7.7g.

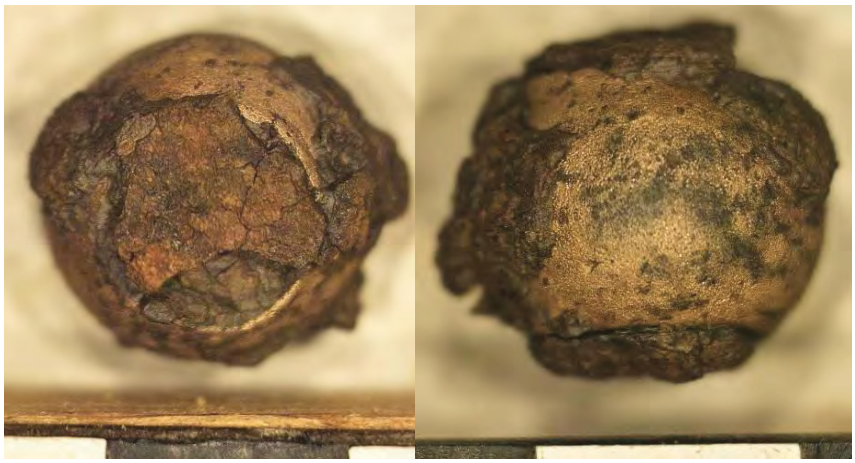


Plate 26: Upper surface (left) and side (right) of weight (viii)

ix) Spherical weight with copper alloy sheath and corroded remains of an iron core and suspension loop on the top (Plate 27). The bottom is flattened and is decorated with a ring of punch marks on the circumference and a central three-armed 'triskele' motif. Diameter: 18mm, height: 17mm, weight: 23.8g.

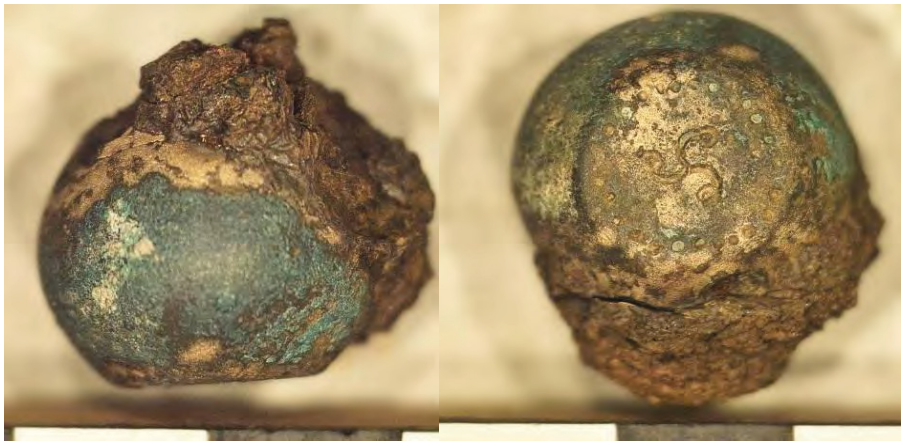


Plate 27: Side (left) and decorated lower surface (right) of weight (ix)

x) Spherical weight with copper alloy sheath (open at both poles), and an iron core from which the base of a suspension loop extends (Plate 28). The surface of the copper sheath is decorated with triangles of punch marks with groups of three 'grapes' at each vertice. Diameter: 18mm, height: 18mm, weight: 24.1g.

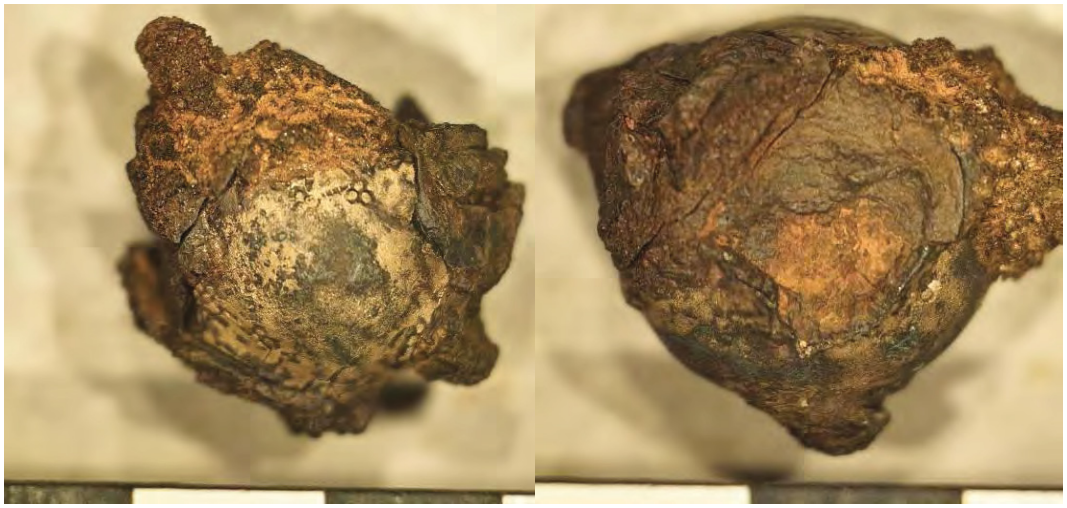


Plate 28: Decorated upper (left) and lower (right) surfaces of weight (x)

Lock Plate

2) SF2 F2746 (L2747): Iron circular lock escutcheon plate with central keyhole-shaped perforation. Diameter: 35mm. Not closely datable within the medieval period.

Knife

3) SF3 F2633 (L2634 (Seg.D)): Complete, small iron whittle-tanged knife of Winchester Type D, with tapering blade, where back and cutting edge taper evenly

from the junction with the tang (Biddle 1990, 848, fig. 255.2761) of ?mid-13th century date. Total length: 113mm, length of blade: 67mm. Knives of this kind are very difficult to date with any accuracy, and an earlier medieval date is perfectly possible.

Concluding Remarks

The set of weights, found as single group, and according with Viking units of measure, is a significant discovery. Williams has observed that the majority of discoveries so far have been within the Danelaw or other areas of Viking settlement, with the exception of two from the Isle of Purbeck and one from Cirencester, which may relate to Viking activity in the 870s (Williams 1999, 32). The present discovery, just outside the East Anglian port of Lowestoft, joins a previous discovery of a single weight in 1998, mentioned above, and it is likely that metal-detected finds reported to the Portable Antiquities Scheme will add to the list. The use if Carolingian and Roman coins is highly significant. Williams makes the point that the Vikings may have been influenced by the use of coin dies on late Saxon weights, before they themselves used coinage, and that their increasing familiarity with coinage led to it being perceived as a visual symbol of authority, or of a recognized weight standard, by people who were otherwise illiterate at the time of the early Viking settlement (Williams 1999, 35-6). Was the use of Carolingian issues therefore significant in terms of the original source of the weights, potentially across the North Sea, or the symbolism of the basic design of the reverse, or both?

The Prehistoric and Roman Pottery
Andrew Peachey

Excavations recovered a total of 218 sherds (2019g) of prehistoric and Roman pottery; the bulk of which comprised coarse calcined flint-tempered fabrics that could be assigned a late Bronze Age to early Iron Age date (Table 43), including two bowls that indicate the latter period may be more applicable. The assemblage also included sand-tempered jars with limited burnished decoration of mid-late Iron Age date, and Roman pottery probably dating to the latter half of the 4th century AD. The pottery is generally in a moderately abraded and fragmented condition, but is limited to a sparse distribution, including isolated small groups that contain only rare diagnostic rim or decorated sherds.

Pottery Date	Sherd Count	Weight (g)
Late Bronze Age-Early Iron Age	159	2019
Mid-Late Iron Age	28	366
Late Roman	31	777
Total	*218*	*3162*

Table 42: Pottery quantification by period

Methodology

The pottery was examined at x20 magnification to define fabric categories and quantified by sherd count, weight (g) and R.EVE with all diagnostic features and observations also recorded in accordance with the guidelines of the Prehistoric Ceramics Research Group (PCRG 1995) and Study Group for Roman Pottery (Darling 1994). All data will be entered into a Microsoft Excel spreadsheet that forms part of the archive.

Commentary

The late Bronze Age to early Iron Age pottery occurs in two coarse calcined flint-tempered fabrics (Table 44: F1 and F2) that are consistent with fillers used in the ceramic traditions from the period in the region (Martin 1999a, 74). Small groups of fabric F1 were contained in Ditch F2461 and Pit F2484, and Fabric F2 in Pit F2569, and appear to represent the partial remnants of single vessels in each feature. The remaining fabric F1 and F2 sherds are limited to small, sparsely distributed body sherds that typically occur as 1-5 sherds in pit and posthole features, notably including a decorated body sherd in Pit F2349.

Fabric	Description (hand-made, bonfire-fired)	Sherd Count	Weight (g)
F1	Common moderately to well-sorted calcined flint (generally 1-3mm, occasionally larger)	108	1264
F2	Common moderately-sorted calcined flint (0.5-5mm)	51	755
Total		*159*	*2019*

Table 44: Late Bronze Age to Early Iron Age pottery fabrics

Single vessel types in fabric F1 and F2 could be identified in Ditch F2461 (L2462) and Pit F2569 (L2570) respectively; with both vessels comprising bowls that form part of the post-Deverel-Rimbury (PDR) ceramic tradition of the period. The traits of the bowls are too limited to allow for more detailed stylistic and chronological analysis within PDR groups (Brudenell 2011, 16-20), but comparisons from east Suffolk suggest an origin the early Age is more likely. The bowl in Ditch F2461 has an angular shoulder beneath a plain cordon (base present, rim missing) and is closely comparable to early Iron Age bowls at Little Bealings (Martin 1993, fig. 37.20-1); while the bowl in Pit F2569 has a slightly flaring rim decorated with finger-tip impressed cabling comparable to an early Iron Age bowl at Framlingham (Martin 1993, fig. 42.2). Furthermore a fabric F1 body sherd from Pit F2349 forms part of the shoulder or girth of a vessel decorated with a single row of finger-top impressions, broadly consistent with PDR decorative styles. While moderately fragmented, both the bowls identified were represented by cross-joining sherds; with that in Ditch F2461 also exhibiting soot or burnt residue on its interior surfaces, potentially consistent with scattered domestic activity in the early Iron Age than more focussed midden/rubbish deposition or burial/ ritual contexts.

The mid to late Iron Age pottery appears to have been manufactured in a single handmade fabric, and includes small groups in Pits F2040 and F2466, with further sparse sherds in Pits F2310 and F2359. The fabric tends towards dark grey to black, and has inclusions of common, poorly-sorted quartz (0.1-0.5mm) with occasional flint (shattered and calcined) (<3mm), consistent with manufacturing processes that dominate in the mid to late Iron Age (Martin 1999a, 80), though the consistent (occasional) presence of burnt flint might suggest a date towards the beginning or the middle Iron Age, or possibly just localised expedient use of resources/ technology. Pits F2040 (L2041) and Pit F2466 (L2467) both contain cross-joining fragments of jars with slightly everted plain rims and shouldered bodies, comparable to late Iron Age vessels at Burgh in east Suffolk (Martin 1988, fig. 19.20-21). Neither vessel exhibits any evidence of use-wear, although both have burnished rims and necks (excluding the shoulder and lower body), and the same diameter. It remains possible they represent portions of a single vessel although no cross-joins were identified between features.

The 31 sherds (777g) of Roman pottery are dominated by locally-produced reduced (sandy, grey) coarse wares, but also include sparse regional imports (Table 45) consistent with supply patterns in the late Roman period in East Anglia. The Roman pottery is very sparsely distributed, predominantly in pit features, with a small group of GRS1 and ROB SH in Pit F2036 containing a 4th century AD GRS1 dish and ROB SH jar. This chronology is supported by the presence of a further GRS1 dish in Colluvial Deposit L2009 that dates to the latter half of the 4th century AD; while a small group of non-diagnostic GRS1 and BSW1 body sherds were contained in Pit F2365,

Fabric	Description (hand-made, bonfire-fired)	Sherd Count	Weight (g)
GRS1	Sandy grey ware. Mid grey with slightly paler core and contrasting grey margins. Inclusions comprise moderately-sorted common quartz (0.1-0.25mm), sparse-common silver mica and occasional flint (<5mm).	25	710
BSW1	Romanising/Black-Surfaced grey ware. Dark grey to black surfaces with oxidised margins and core. Inclusions comprise moderately-sorted common quartz (0.1-0.5mm) with sparse red and black iron ore/-rich grains and sparse fine mica. A locally-produced coarse ware.	4	50
LNV CC	Lower Nene Valley colour-coated ware (Tomber and Dore 1998, 118)	1	4
ROB SH	Romano-British shell-tempered ware (Tomber and Dore 1998, 212), wheel-made with common, moderately sorted shell (0.5-7mm, occasionally larger). Probably manufactured at Harrold, Bedfordshire (Brown 1994).	1	13
Total		*31*	*777*

Table 45: Roman pottery fabrics

The GRS1 dish in Pit F2036 has a shallow profile, out-turned sides and two grooves beneath the rim comparable to 4th century AD examples at Burgh Castle, Norfolk (Johnson 1983, fig. 42.164) and Caister-by-Sea (Darling and Gurney 1993, fig. 155.598). Similarly the GRS1 dish from Colluvial Deposit L2009, which has a deep body, tall grooved bead and flange decorated with comb-impressions, also finds parallels at in these two coastal assemblages (Johnson 1983, fig. 42.172; Darling and Gurney 1993, fig. 154.580). However, the development of bead-and-flange rim dishes to incorporate a tall bead and decorated flange is a very late evolution of the more common type that emerges in the late 3rd century AD, occurring only in the latter half of the 4th century AD, if not the latter decades only. Regional imports such as ROB SH and LNV CC are in common circulation in east Suffolk in the 3rd-4th centuries, but become increasingly common as the 4th century AD progresses. The ROB SH jar is consistent with late Roman types also recorded at Burgh Castle (Johnson 1983, fig. 43.216), while the LNV CC in Tree Bole F2429 is limited to a body sherd, possibly from a bowl. The Roman pottery comprises a limited assemblage but is consistent with 4th century AD activity along the east coast of Norfolk and Suffolk, in an area at the south of the Great Estuary, possibly on the southern end of the island or peninsular on which Burgh Castle was located, one of the shore forts that were substantial market consumers of pottery in the period.

The Post-Roman Pottery

Peter Thompson

Introduction

Excavations at Oulton produced 451 sherds of pottery weighing 5808g (Table 46). The majority of the sherds (390/4.673kg) are early to early middle Anglo-Saxon in date and account for 86% of the total assemblage. The condition of these sherds can

be classed in general as abraded but not heavily so, with some that have lighter abrasion.

Period	Date	Sherd No.	Fabric Weight (g)	Average sherd weight (g)
Saxon	Mid 5th-7th	390	4673	11.9
Saxo-Norman	Mid 9th-mid 12th	25	305	12.2
Medieval	11th-13th	10	154	15.4
Post-Medieval	Late 16th-18th	1	26	26
Late Post-Medieval to modern	19th-20th	25	650	26
Total		*451*	*5808*	

Table 46: Quantification of pottery by period

Methodology

The sherds were examined under x35 binocular microscope and recorded in accordance with the Post-Roman Pottery Research Group Guidelines (Slowikowski 2001; Table 47). Details including sherd number and weight, fabric type, vessel and rim type, were recorded (where possible) directly into a Microsoft Excel spreadsheet, which will be deposited with the site archive. All fabric codes comprising letters and numbers, were assigned from the Suffolk post-Roman fabric series, which includes Norfolk, Essex, Cambridgeshire and Midlands fabrics, as well as imported wares. Form terminology is based on the Suffolk post-Roman rim forms and forms in the Medieval Pottery Research Group (MPRG) guidelines (1998), with reference to other published Anglo-Saxon pottery.

Ware	Fabric group	Code	Sherd Number	Fabric Weight (g)
Early Anglo-Saxon				
Grass Tempered Ware	ESO1	2.01	1	18
Grass and Sand Tempered Ware	ES02	2.02	130	1636
Coarse Quartz	ESCQ	2.03	49	603
Fine Sand	ESFS	2.04	1	6
Grog and Sand	ESGS	2.05	46	512
Coarse Shelly	ESCS	2.09	61	754
Sandstone	ESSA	2.18	26	72
Gog and Granite	ESGG	2.19	1	17
Calcareous and Granitic (gold mica)	ESCM	2.21	22	367
Medium sandy	ESMS	2.22	52	590
Grog and Calcareous	ESGC	2.26	1	98
Saxo-Norman				
Thetford ware	THET	2.50	25	305
Medieval				
Early Medieval Ware	EMW	3.10	10	154
Post-Medieval				
Glazed Red Earthenware	GRE	6.12	1	26
Late Post-Medieval and Modern				
Transfer Printed Ware	TPE	8.00	8	243
Late Post-Medieval red earthenware	LPMRE	8.01	2	12
Factory made white earthenware	RFWE	8.03	3	153
English Stoneware	ESW	8.20	4	80
Modern Porcelain	PORC	8.30	6	104
Yellow ware	YELW	8.13	2	58

Table 47: Quantification of pottery by ware/ fabric

The Early to Middle Anglo-Saxon Pottery

Fabrics

The fabrics are very mixed often containing two, three or even four groups of inclusions, in varying quantities. Many sherds also contain rare to moderate small voids from leached calcareous inclusions and/ or carbonised organic fragments. The

fabrics have therefore been divided into groups according to the predominant inclusion (Table 48).

Fabric Group	Main inclusions	Sherd Number	Fabric Weight (g)	Sherd %
1	Organics	131	1654	33.6
2	Quartz	102	1207	26.2
3	Calcareous	61	754	15.6
4	Grog	48	619	12.3
5	Sandstone	26	72	6.7
6	Granite	22	367	5.6
Total		*390*	*4661*	

Table 48: Fabric groups by main inclusions

Group 1 comprising sand and sparse to moderate, and occasionally common, burnt organics or grass tempering, was the largest category comprising one third of the fabric total. However, only one sherd (18g) from Ditch F2019 (L2020 (Seg.B)), contained abundant grass temper only, the remainder containing varying amounts of quartz sand and sometimes other inclusions. The second largest group, Group 2 quartz comprises 26.2% of the sherd total and ranges from fine up to very coarse quartz inclusions. This group includes quartz sand tempering as a sub group which, accounted for 50 sherds (596g) of the early to middle Anglo-Saxon total and 49% of the Group 2 category. Group 3 calcareous wares, makes up 15.6% of the early to middle Anglo-Saxon fabric total. These sherds have distinctive surfaces punctuated by numerous small circular and irregular voids, probably deriving from leached shell naturally occurring in fossiliferous clay. Group 4 (12.3%), contained grog added in varying amounts ranging from sparse to moderate in quantity, in most cases the grog is a distinctive red or orange colour, but is occasionally pale grey or off white. Group 5 sandstone, totalling 6.7% of the fabric total contains sparse to moderate medium polycrystalline quartz clusters present within the matrix. The smallest group, Group 6, contains sub-angular grey and occasionally pink quartz-like inclusions with sparse gold mica on the surfaces, and is of similar description to biotite granite that was present at Bloodmoor Hill, Carlton Coalville (Tipper 2009, 202). Table 49 shows the fabric quantities (by sherd percentage) for three other sites in north-east Suffolk: Bloodmoor Hill, Carlton Coalville, Church Road, Snape and Hartismere High School, Eye, in comparison to Oulton.

Site / Fabric	Lime Avenue, Oulton	Bloodmoor Hill, Carlton Coalville	Church Road, Snape	Hartismere High School, Eye
Organics	33	24.6	41	12.3
Quartz	26.2	49.5	19.9	46.5
Calcareous	15.6	8.9	6.9	18
Grog	12.3	1.6	14.3	6.2
Sandstone	6.7	9.1	16.4	0.7
Granite	5.6	6.3	1	14.6
Other			0.5	1.7
Sherd Total	*451*	*6479*	*231*	*1799*

Table 49: Fabrics present (by percentage) on three early Anglo-Saxon sites in north-east Suffolk

Forms

All of the Anglo-Saxon pottery is handmade. The forms with one or two exceptions, can be characterised as shouldered (Fig. 44.1), straight sided ovoid (Fig. 44.3) and globular or ellipsoid (Fig. 44.7). The presence of only partial profiles makes it difficult in many cases to differentiate between jars and bowls. In only one example could a

rim be certainly matched to a base, due in part to its decoration (Fig. 44.9). However, the forms in general match those present at Bloodmoor Hill, with the exception of low-bulbous jars and biconical and sub-biconical profiles that appear to be absent at Oulton (Tipper 2009, 208). Out of 37 rims, 23 are simple fairly upright with one flat topped (Fig. 44.12). Six are out-turned, one being slightly thickened, and eight are slightly inturned (Fig. 44.4), one being slightly thickened. Measurable rim diameters range from 8cm to 28cm with 14 out of 18 rims (77.7%) between 8cm and 22cm diameter. A figure of 96% for rims between 10cm and 20cm diameter was obtained from Bloodmoor Hill (Tipper 2009, 217). Out of the 12 bases evident, two are flat, with the remainder being sagging or rounded. The presence of patches of charcoal residue on some sherds indicates a domestic use as cooking pots.

At Hartismere High School, Eye there was an additional category of flaring rims making up 18.9% of the rim total, while most of the 89 bases were flat rounded or flat angled with just 18 (20%) rounded or sagging. Additionally there were three pedestal footrings, a form also found at Bloodmoor Hill along with a pedestal base sherd (Anderson 2012a, 78; Tipper 2009, 208). Hartismere High School produced a much wider range of forms including carinated, biconical and sub-biconical vessels, flaring bowls and a lamp or crucible. The commonest vessels included globular and shouldered vessels and hemispherical bowls as at Oulton (Anderson 2012a, 78). Vessels with sloping necks were also fairly common, which may equate with the low bulbous jars from Bloodmoor Hill; a form absent from Oulton Sands. Oulton can also be compared and contrasted with the smaller but more diverse assemblage from Church Road, Snape. The Church Road site yielded baggy shouldered jars and hemispherical and ovoid/ straight sided bowls. There was a single biconical form, a carinated sherd, and, while rims were mainly similar in proportion to Oulton (simple upright 14; everted 4; inturned 3) there were also three thickened or 'developed' rims and a flaring rim. The Snape assemblage was dated between the mid 5th and mid 8th centuries, with two sunken-featured buildings (SFBs) providing mid 6th century radiocarbon dates (Mustchin 2014b, 34). The latest demonstrable sherd was one of Ipswich ware, but that was in the post-abandonment backfill of an SFB (Thompson 2014, 76).

Decoration and surface treatment

Decoration on the Oulton sherds/ vessels is fairly low. Three vessels contain a total of four different stamps. Pit F1114 (L1115) contained the rim and base of a small ovoid bowl with dispersed vertical incised lines down the length of the vessel, with seemingly random negative circle stamps (Briscoe Type A1b) along the vessel length (Briscoe 1981, 4). Part of a slight small boss also survives (Fig. 44.9). Pit F2131 (L2132) contained a body sherd with dispersed floral type motif stamps (Briscoe 1981, Type F7a; Fig. 44.14), and a second sherd with irregular rosette stamps (Briscoe Type A 5a) and a partial segment stamp, both set within an incised chevron (Fig. 44.15). In addition to the incised decoration illustrated above, a body sherd from SFB 2 (L2634 (Seg.B)) contained vertical incised line decoration (Fig. 44.5), and two further sherds from the assemblage contained single or dispersed horizontal incised lines. At Hartismere High School, there were 13 stamps, some duplicated, including rosettes and crosses in circles. Other traits included faceted carinations and bosses (Anderson 2012a, 78-9). At Bloodmoor Hill, which was dated between the early to mid 5th and early 8th centuries, 72 different stamps and 27

decorated bosses were present. Radiocarbon dating indicated that the stamp decorated pottery belonged to the first half of the 6th century (Tipper 2009, 302-43).

Burnishing was also very low at Oulton with just six sherds treated that way, and a further four sherds with 'polished' surfaces, but not to the extent of being burnished. It is possible the figure could be a little higher with outer surfaces being heavily abraded on some sherds. This is in contrast with Bloodmoor Hill where 39% of sherds exhibited evidence of burnishing, with a further 28% wiped to the point of having 'lustrous surfaces' (Tipper 2009, 216). At Hartismere High School, out of 1172 vessels identified 43 (3.6%) had burnishing and 405 (34%) had smoothed surfaces (Anderson 2012a, 78-9).

The main features containing early to middle Saxon pottery

Eight features contained a minimum of 15 sherds, whose combined total of 294 sherds makes up 75.3% of the early to middle Saxon total (Table 50). SFBs 2 (F3633), 3 (F2754) and 4 (F2750) contained 160 sherds (1860g) accounting for 41% of the early to middle Saxon total. SFB 2 contained the most pottery (114 sherds (1464g)) with a minimum of 17 vessels represented. SFB 4 also contained a sherd of medieval roof tile which is almost certainly intrusive. Pit F2164 contained 58 sherds (793g), while Pit F2132 contained two stamp decorated sherds.

Feature	Context	Sherd No	Fabric Weight (g)	Forms
SFB 2 (F2633)	L2634, L2635	114	1,464	Minimum of 17 vessels represented including 12 rim and 2 base sherds, and a decorated body sherd (Figs. 44.1-5)
SFB 3 (F2754)	L2756	31	86	Minimum of 5 vessels represented including one rim (Fig. 44.8)
SFB 4 (F2750)	L2751	15	256	Minimum of 9 vessels including 6 rim and 2 base sherds (Figs. 44.6-7)
Pit F2164	L2185, L2204	58	793	Minimum of 10 vessels including 5 rims (Figs. 44.16-17)
Pit F2131	L2132	37	688	Minimum of 13 vessels including 6 rim and 5 base sherds, and 2 stamp decorated sherds (Figs. 44.11-15)
Pit F1114	L1115	34	406	Minimum of five vessels including four rims and a base, includes stamp and incised line decorated vessel (Fig. 44.9)
Pit F2093	L2094	19	339	Minimum of 5 vessels including 3 rims and a base
Pit F2744	L2745	10	101	All one vessel including rim
Pit F2687	L2688	10	59	All one vessel including rim

Table 50: Features containing ten or more sherds of early to middle Saxon pottery

The Later Pottery

Thetford Ware

There were 25 sherds (305g) of wheel-made Thetford ware present in eight features (Ditches F1041, F1043, F1084, F2042 and Pits F1047, F2091, F2729 and F2746). These include four cooking pot rims, one with a band of rouletting across the shoulder, and a bowl with rouletting across the rim (Figs. 44.18-21). The presence of small patches of sooting indicates that they were used as domestic cooking vessels. The rim forms are all between 12cm and 16cm in diameter, and are similar to examples from Norwich. In particular, a flat base sherd with wire marks underneath is typical of examples from Norwich and suggests a pre-Conquest date (Jennings 1981, 14). The Thetford ware industry probably operated in Norwich between the late 10th and mid 12th centuries (McCarthy and Brooks 1988, 162).

Early Medieval Ware

Ten sherds (154g) of early Medieval sandy ware were present in eight features; Pit F1159 (Trial Trench 117; Orzechowski 2015), Postholes F2247, F2671, F2287; Gullies F2190, F2510; Pits F2162 and F2641. Forms comprise two bowl rims, a sagging base, and a flat topped wheel-made rim from Pit F1159 which is probably intrusive.

Post-medieval to modern wares

Ditch F2068 (L2069) yielded a large abraded brown glazed post-medieval red earthenware bowl rim (26g) with finger decoration below the lip. The remaining 25 sherds (650g) from Ditches F1035, F2143, Pits F2306, F2357 and the topsoil (L2000), are of mid 19th to 20th century date.

Discussion

The contrasts in certain traits between the abovementioned comparative sites, such as the proportion of burnishing, and perhaps to a lesser degree the forms, suggests that each site had its own characteristics and idiosyncrasies. While the fabrics are always going to be influenced by the composition of the local clays there are certain trends apparent over time. Anderson (2012a, 77) points out that in general, fine, medium and coarse quartz-tempered pottery tend to be the most common fabric groups at sites in East Anglia, although in the later early Anglo-Saxon period these appear to have been replaced to some extent by grass-tempered pottery.

Radiocarbon dating of organic residues from the Bloodmoor Hill assemblage showed that the biotite granite pottery from the SFBs was exclusively 6th century, and that there was a positive correlation between granite tempering and decorated sherds within the fills of structures (Tipper 2009, 207-8). At Mucking in Essex, the dominance of grass tempered pottery was a later early Anglo-Saxon development featuring in 6th and particularly 7th century deposits (Hamerow 1993, 31), and this is also thought to be the case for Suffolk (Anderson 2012a, 77). At Bloodmoor Hill organic tempering dates ranged between the early 6th and late 7th centuries (Tipper 2009, 207). The 6th to mid 7th century cemetery at Flixton, Suffolk yielded a small to medium assemblage of 389 sherds containing 70% grass tempering, while shell tempered wares and a relatively high proportion of red grog were also present (Anderson 2012b, 138-40). A decrease in calcareous wares was noted at Mucking after the early 6th century (Hamerow 1993, 31). Conversely, in the Midlands shelly wares appear to increase in the later period and are eventually superseded by Maxey-type wares in the late 7th century (Anderson 2012a, 77).

Oulton has a relatively homogenous range of forms which may indicate that the assemblage is of a relatively narrow time span. The lack of carinated or biconical forms or other traits, such as *schlickung* decoration, present at Hartismere High School are not represented at Oulton, suggesting the site is later than the 5th century (Anderson 2012a, 77; Hamerow 1993, 31 and 42-44). The two Oulton stamp decorated sherds from Pit F2131 (L2132) (Figs. 44.14-15) are in Group 2 quartz (sand) and Group 3 calcareous fabrics respectively, and were associated with a mixed group of fabrics dominated by quartz, calcareous and organic tempered

fabrics. The stamped vessel from Pit F1114 (L1115) was associated with quartz (sand) tempered sherds only. However, the dating evidence cited above, particularly radiocarbon dates, tentatively suggests that the stamped sherds are most likely to belong to the 6th century. The lack of Middle Saxon Ipswich ware which commenced production *c.* 720 again might suggest – subject to the small size of the pottery assemblage – that activity on the site had ceased before that date. The presence of Thetford ware and Early Medieval wares shows that further activity took place on the site in the late Anglo-Saxon period probably by the mid 10th century which lasted up to the 12th or possibly 13th centuries.

List of Illustrations

Fabric group in brackets [ ]

Fig. 44.1: SFB F2633 (L2634) shouldered vessel dark brown outer surface, dark grey inner surface [2]
Fig. 44.2: SFB F2633 (2634 (Seg.B)) ovoid jar with pale orange outer surface mottled with dark grey patches, and dark grey inner surface [4]
Fig. 44.3: SFB F2633 (L2634 (Seg.B)) straight sided cooking pot, pale orange brown surfaces with dark grey mottling and small patches of charcoal residue [4]
Fig. 44.4: SFB F2633 (2634 (Seg.B)) ovoid or barrel shaped jar with dark grey surfaces mottled with pale orange patches. Outer surface polished [1]
Fig. 44.5: SFB F2633 (2634 (Seg.B)) dark grey body sherd with incised line decoration [4]
Fig. 44.6: SFB F2750 (L2751) upright rim to shouldered vessel mid brown with oxidised margins [4]
Fig. 44.7: SFB F2750 (L2751 (Seg.C)) inturned simple rim to globular or ellipsoid bowl, dark grey surfaces with patchy orange mottling [1]
Fig. 44.8: SFB F2754 (L2756 (Seg.D)) hemispherical bowl rim with black outer surface and dark grey inner surface [6]
Fig. 44.9: Pit F1114 (L1115) slightly inturned rim to ovoid bowl with flat base, pale brown surfaces. Incised horizontal line below rim and dispersed vertical lines with a slight boss. Random circular stamp decoration between the panels of A1b negative circles [2]
Fig. 44.10: Pit F2093 (L2094) ovoid vessel with outurned rim, pale brown outer surface mottled with orange patches and dark grey inner surface [1]
Fig. 44.11: Pit F2131 (L2132) globular jar [1]
Fig. 44.12: Pit F2131 (L2132) globular or shouldered jar with upright flat topped rim. Orange brown pitted surfaces [3]
Fig. 44.13: Pit F2131 (L2132) inturned rim to globular or ellipsoid bowl, pale orange brown outer surface with charcoal patches, mottled pale orange brown and dark grey inner surface [1]
Fig. 44.14: Pit F2131 (L2132) F7a type 'floral' motif stamp [3]
Fig. 44.15: Pit F2131 (L2132) A5a irregular Rosette stamp, possible segmented line, and incised lines [2]
Fig. 44.16: Pit F2164 (L2165) ovoid cooking pot with dark brown outer surface with adhering, and dark grey inner surface [6]
Fig. 44.17: Pit F2164 (L2165) small ovoid bowl pale orange outer surface, dark brown inner surface [1]
Fig. 44.18: Ditch F1043 (L1044) Thetford ware jar upper profile, dark grey surfaces with rouletted band across the shoulder
Fig. 44.19: Pit F2091 (L2092 (Seg.A)) Thetford ware cooking pot rim, dark grey mottled with pale orange patches, with patches of charcoal residue
Fig. 44.20: Pit F2042 (L2043) Thetford ware bowl rim with faint rouletting on rim
Fig. 44.21: Pit F2729 (L2730) Thetford ware dark grey cooking pot rim

The Fired Clay, Daub and Ceramic Building Materials

Andrew Peachey

Excavations recovered a total of 233 fragments (6493g) of fired clay, daub and ceramic building materials (CBM) in a very highly fragmented and abraded condition (Table 51). The bulk of the fired clay and daub appears to be of probable Saxon date or deposition, but may represent re-deposited or recycled Roman kiln furniture. The fired clay includes possible pre-fabricated objects, notably bars and slabs/ bricks, but the highly friable preservation of these objects has limited their analysis. Occasional, very small fragments of Roman CBM were also present, while medieval (early 14th century) estuarine silt bricks were recovered from the backfill of Saxon features.

Fired Clay/ Daub/ CBM type	F	W
Roman		
Tile (?Tegula)	11	222
Saxon		
Baked Clay Bar	11	129
Baked Clay Brick/ Plate/ Pedestal	18	960
Miscellaneous Baked Clay	68	650
Daub	85	941
Medieval		
Brick	3	211
Post-Medieval		
Brick	26	3161
Peg Tile	11	219
Total	*233*	*6493*

Table 51: Quantification of Fired Clay, Daub and CBM by frequency (F) and weight (W, in grams)

Methodology

The fired clay, daub and CBM were quantified by fragment count and weight, with fabrics examined at x20 magnification and any extant dimensions/ technological traits measured or characterised. All data were entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive.

The Roman CBM

Roman CBM is limited to small fragments of flat tile (average weight 20.7g), probably tegula roof tile, but no flanged or diagnostic fragments are present. The fabric of the tile is typical of Roman CBM in the region: orange-red with inclusions of common quartz (0.1-0.5mm), sparse red and cream clay pellets (0.5-3mm) and sparse fine mica. The tile was sparsely distributed in SFB 2 (F2633), Gully F2697 (Seg.C), Posthole F2265, Pits F2056, F2091, F2093 and F2365; with no evidence that it was directly associated with a Roman structure, nor subject to any form of re-cycling or curation in subsequent periods.

The Fired Clay

The fired or baked clay occurs in a single friable fabric that has pale-mid orange surfaces fading to a mottled orange to dark grey core, and tempered with chopped organic material, burnt out but seemingly grass and chaff (typically 0.5-7mm, occasionally larger). The bulk of the small fragments could not be categorised, but two object types could be partially defined. The former comprised a bar with a sub-

rectangular section and rounded edges (profile: *c*. 30 x 20mm). Only small sections of these bars were contained in Pits F2314 and F2357, but these appear uniform along their limited straight length rather than tapering. Thus, the bars are superficially similar to kiln bars known to be used in Roman kilns, but are smaller and lack the tapering length; thus may have been deployed in a similar setting, though there is no evidence of burning. The second object type appears to comprise slabs, bricks or plates with a thickness of *c*. 40mm and rough surfaces, but no other extant dimensions/characteristics; contained in Anglo-Saxon SFB 2 (F2633 (Seg.B)), Pits F2131, F2301, F2310 and F2459. These appear to represent prefabricated objects, again superficially similar to Roman kiln furniture and pedestals, such as those identified at West Stow (West 1990: figs. 63-5), however the examples at West Stow are larger and none were identified as re-used in the adjacent Anglo-Saxon settlement (although Roman pottery was curated). The objects in this assemblage do not exhibit any evidence for burning, exposure to heat or other use, and it remains possible these were either re-deposited from nearby Roman industry, salvaged and re-cycled from Roman debris to act as prefabricated components in Anglo-Saxon structures, or a deliberate Anglo-Saxon product for an un-defined purpose.

The Daub

A significant proportion of the assemblage comprised daub, which accounts for a total of 85 fragments (941g), but the highly friable nature of the material severely restricts its potential to be informative. The daub comprises sun-dried clay tempered with common rounded chalk (generally <5mm, occasionally to 10mm), resulting in a mottled pale orange to mid brown colour. This type of daub has been recorded across Suffolk on Iron Age to medieval sites, due to the suitability of the local boulder clays for its production. In this assemblage fragments are associated with prehistoric, Roman and Anglo-Saxon features, but are only present in quantities over 100g in Roman Pit F2546, undated Postholes F2251, f2259 and F2283; while Anglo-Saxon features tend to contain only 'crumbs'. The daub fragments do not preserve any surfaces, although a single fragment in undated Posthole F2342 does preserve a 20mm wide impression of a rod that probably formed part of a wattle panel.

The Medieval CBM

A total of three fragments (211g) of medieval brick were contained in Anglo-Saxon SFB 2 (F2633 (Seg.C)) and Pit F2164. The brick is comprised of distinctive Flemish-type estuarine silt bricks, which have fabrics containing abundant small shells and casts (Ryan 1996, 94). Flemish-type bricks were probably imported in the early 14th century, or possibly from the mid/ late 13th century, and are especially common around the wash and east coast due to their trade being facilitated by Hanseatic merchants and ports (Drury 1981, 127). Although of distinctive fabric, the brick fragments in the assemblage are heavily abraded and do not preserve any extant dimensions or other diagnostic characteristics.

Post-Medieval CBM

The assemblage includes a total of 38 fragments (3395g) of post-medieval CBM, in a rubble-like condition and of varying date within the period. The bulk appear to

comprise 17th to early 18th century bricks in a sandy orange-red fabric, with dimensions if *c*. ? x 110 x 45mm and a slightly rough to smooth base. Relatively large fragments of this type of brick were limited to Ditch F2148 (Segs. A and G) with the remaining fragments identified by fabric and the presence of small comparable edges only. Also present in Ditch F2140, as well as Pit F2011 were 18th to 19th century red bricks, suggesting the post-medieval CBM may be associated with field enclosures and associated soil improvement (by the addition of rubble). Sparse fragments of post-medieval peg tile were also recovered from Topsoil L2000 and were probably redistributed by ploughing and related agricultural processes.

The Slag
Andrew A.S. Newton

Introduction

A total of 143 (3347g) pieces of slag, originating from 26 contexts, was recovered during archaeological excavation at Lime Avenue, Oulton, Suffolk. The slag was identified on morphological grounds by visual examination.

Visual examination of metalworking residues allows them to be categorised according to morphology, colour, density, and vesicularity. It should be noted, however, that not all slags are diagnostic of a particular metalworking process or part of that process. Slags are also particularly susceptible to morphological and composition alteration by secondary corrosion products.

Reference was made to the National Slag Reference Collection (Dungworth *et al*. 2009) where appropriate and to the relevant subject-specific (Bayley *et al.* 2008) and regional research frameworks (Medlycott 2011).

Results

L2000: *3 fragments, 4g*. Red brown, very fragile. Uniform dull surface. Slightly magnetic. Possibly very small fragments of very degraded slag or perhaps small pieces of iron-rich geology.

F2033, L2035: *1 fragment*, *459g*. Dark red brown to light orange brown. Some black or grey patches of vitrification. Very dense. Few browken surfaces but where these are present very small (less than 1mm diam air pockets are visible). Is plano-convex in form and displays several of the other characteristics of a smithing hearth bottom (Crew 1996) but is only faintly magnetic. Therefore, this is possibly a PCB but otherwise may simply be classifiable only as undiagnostic Fe slag.

F2093, L2094: *1 fragment, 86g*. Dark grey with purple red tinges. Smooth, matte surfaces. Very dense, broken surfaces reveal no internal porosity. No response to magnet. Globular/ rippled morphology identify this as a fragment of tap slag clearly broken from a larger fragment after cooling in antiquity.

F2154, L2155:*1 fragment, 119g*. Orange brown to black in colour. Broken surfaces reveal moderate interior vesicularity/ porosity; despite this material is quite dense. Upper surface might be described as an intact cooling surface but beyond this diagnostic morphological traits are lacking. Slight response to magnet. Undiagnostic Fe slag.

F2164, L2165: *2 fragments, 75g*. Mid brown to black. Sharply rippled/ mammilated surface may represent an intact cooling surface. Some vitrification. Very similar to the material from L2216 (see below) but lacking the charcoal impressions. Possibly a slag prill, or part thereof, from the interior of the smelting furnace (Crew 1995).

F2215, L2216: *1 fragment, 61g*. Orange red to very dark brown. Dull surfaces. Dense with little indication of internal air pockets. Upper surface sharply rippled or globular, representing an intact cooling surface. Lower surface displays impressions of charcoal. These characteristics indicate that this fragment is likely to represent a slag prill from the interior of the smelting furnace (Crew 1995).

F2170, L2171: *4 fragments, 97g*. Uniform mid grey. Dull finish. Moderate internal porosity; air pockets of varying size. No response to magnet. Undiagnostic Fe slag.

F2174, L2175: *11 fragments, 287g*. Four fragments bright red brown to very dark red brown (near black), Rough dull finish. Varying from dense to pumice-like. Moderately to strongly magnetic.

Five fragments mid red brown to dark grey with occasional very light grey patches. Smooth, rippled surfaces, mostly dull but with some eburnation. Not particularly dense and with indications of large (greater than *c*. 10mm in some cases) air pockets. No response to magnet.

Two fragments mid grey in colour. Dull but smooth surfaces with occasional vitrified patches. Globular, mammilated form. Intact cooling surfaces. No response to magnet. Possible fragments of tap slag.

All of the material from this context would appear to derive from ironworking but morphological characteristics are insufficient to determine from which phase of the process they derive, although smelting is perhaps more likely than smithing.

F2176, L2177: *3 fragments, 51g*. Black to dark brown. Some vitrified patches. Small (1mm diam or less) moderate to occasional air pockets. Non-magnetic. Morphology would suggest that these are four very small fragments of tap slag or small slag flows from the interior of the smelting furnace (Crew 1995).

F2178, L2179: *5 fragments, 9g*. Two fragments, light grey to black with rough, dull surfaces. Some very small patches of vitrification. Pumice-like with numerous interior air pockets suggesting a very frothy material when molten. Small pieces of burnt flint are impressed into the surfaces. No response to magnet.

Three fragments, mid orange to dark orange brown. Dull, rough, powdery finish. Strongly magnetic. Undiagnostic Fe slag.

F2178, L2179: *2 fragments, 71g* (from sampling residues). Mid to very dark grey with some grey-white patches and occasional red-brown staining. Dull finish, contorted shape, moderate air pockets (<2mm), moderate piece of crystalline stone embedded in one fragment. Possible tap slag or internal flow of slag from the interior of the furnace.

F2182, L2183: *8 fragments, 34g*. Black to dark orange brown in colour. Light, vesicular fragments, mostly globular in form. Powdery dull finishes. Some strongly magnetic, others display no response to magnet. Undiagnostic Fe slag.

F2184, L2185: *19 fragments, 258g.* Colour varies from bright orange to black. Material is mostly pumice-like but there is some variation in density. Vesicularity is quite high, in keeping with its pumice-like qualities. Material is amorphous in form. Some pieces show small patches of vitrification. Much of the material comprises baked ceramics indicating the slag has incorporated part of the furnace lining. No response to magnet. Fe slag clearly originating from the interior of the furnace (or possibly the smithing hearth, but this is probably less likely).

F2186, L2187: *1 fragment, 12g*. Very dark brown with occasional orange brown patches. Dense with little indication of interior air pockets. Very slightly magnetic. Vaguely globular, suggesting that it may represent a very small piece broken from a flow of tap slag but otherwise only classifiable as undiagnostic Fe slag.

F2190A, L2191A: *1 fragment, 6g*. Dark brown to black with orange brown patches. Rough, dull finish. Moderately light with some vesicularity. Globular in form and clearly broken from a larger piece. Possibly part of a slag run from the interior of the smelting furnace.

F2192, L2193: *24 fragments, 418g*. One fragment is mid orange brown with a dull powdery exterior. Dense and strongly magnetic. Quite possibly a heavily corroded piece of iron.

Three fragments are light and pumice-like ranging from pale beige to dark grey in colour. A large proportion of each of these fragments appears to comprise baked ceramic material and one has a piece of flint embedded in it. These would appear to represent fragments of furnace lining.

The remaining 20 fragments are dark orange brown to black in colour. They vary in density but would all appear to derive from the same source. Intact cooling surfaces, displaying the globular or rope-like characteristics of tap slag are present and it would appear that this material represents pieces of a broken-up accumulation of tap slag.

F2192B, L2193B: *7 fragments, 39g.* One fragment is mid orange brown with a dull powdery exterior. Dense and strongly magnetic. Possibly a heavily corroded piece of iron.

6 fragments are light and vesicular ranging in colour from light grey to black with frequent surface vitrification. Low response to magnet. Possibly fuel ash slag but perhaps more accurately classified as undiagnostic Fe slag.

F2200, L2201: *11 fragments*, *170g.* Three fragments bright to dark orange brown. Broken surfaces reveal black, quite dense interior. Strongly magnetic.

Four fragments grey to very dark brown pumice-like material with ceramic material adhering to it and fragments of burnt flint embedded.

Four fragment black to dark red brown with some glittery areas. Dense with little indication of air pockets. Some sharp rippling may represent intact cooling surfaces. Possible fuel impressions and the presence of burnt flint embedded in two of the pieces might indicate that these are pieces broken from slag prills from within the smelting furnace.

F2205, L2206: *5 fragments*, *48g*. Dark grey to grey brown in colour. Dull powdery surfaces. Some intact cooling surfaces but insufficient to identify it as tap slag. No response to magnet. Undiagnostic Fe slag.

F2213, L2214: *3 fragments, 67g*. Two fragments black to dark orange brown with light grey patches. Pumice-like in character, no response to magnet very similar to the material from L2179.

One fragment black to mid orange brown. Small and dense with no clear indication of internal porosity. Very strongly magnetic. Undiagnostic Fe slag.

F2362, L2364: *1 fragment, 8g*. Dark grey to dark brown. Dull, powdery surfaces. Moderately dense but with numerous small air pockets (<1mm). Slightly magnetic. Undiagnostic Fe slag.

F2506, L2507: *5 fragments, 9g*. Dark red brown to black in colour. Very small fragments. Hard yet brittle. Rough dull finish. Moderate air pockets (*c*. 1mm diam). Very slight response to magnet. Undiagnostic Fe slag.

F2506, L2507: *3 fragments, 8g* (from sampling residues). Black. Very hard material. Rough dull finish. Numerous air pockets (up to 7mm diam.). No response to magnet. Undiagnostic Fe slag.

F2536, L2537: *3 fragments, 150g*. Two fragments purple grey to very dark grey amorphous globular/mammilated material. Material is pumice-like in character with numerous small air pockets. There is evidence of vitrification on some exterior surfaces and, indeed, on the interior walls of some of the air pockets visible at the broken surfaces. Slight response to magnet.

One fragment dark orange brown to black in colour. Very dense and with strong response to magnet. This is either a very Fe-rich piece of slag or, as is more likely, a heavily corroded piece of iron.

F2536, L2537: *3 fragments, 169g* (from sampling residues). This material is all very similar in appearance with rough dull surfaces, colour varying from dark brown to mid red brown, and a rough

globular morphology. However, magnet response and density varies widely from fragment to fragment. Frequent charcoal impressions, and fragments of charcoal impressed into the material, are present. These fragments would appear to comprise conglomerations of slag, fuel and ceramic furnace lining with the largest and most dense fragment also incorporating fragments of iron.

F2538, L2539: *2 fragments, 9g*. I fragment, mid grey with smooth surfaces. Broken surfaces reveal large interior air pockets. No response to magnet. Morphology indicates that this is a very small run or drip of tap slag.

One fragment dark grey to orange brown in colour. Rough surfaces. No response to magnet. Undiagnostic Fe slag.

F2540, L2541: *7 fragments, 113g*. Mid grey to dark red brown in colour. Dull powdery surfaces. Limited evidence of interior porosity. Amorphous with limited diagnostic traits. Fe slag.

F2540, L2541: *4 fragments, 57g* (from sampling residues). Black to mid grey. Some vitrification but mostly dull surfaces. Pumice-like in consistency. Intact but contorted cooling surface. Undiagnostic Fe slag.

F2729, L2730: *1 fragment, 149g*. Very dark grey to mid red-brown in colour. Rough, dull finish. Dense and with limited indication of air pockets. Small fragments of stone (poss quartz-like material) adhere to what would appear to be the upper surface. Moderate response to the magnet. Seemingly broken from a larger piece and displaying no diagnostic morphological characteristics. Undiagnostic Fe slag, however, the stone fragments on the upper surface could represent flux, which might indicate that this is a piece of slag broken from a larger smithing hearth cake.

F2746, L2747: *2 fragments, 304g*. Mid grey brown to dark grey brown. Rough, dull finish. Dense but with moderate air pockets (up to *c*. 3mm diam.) Both fragments are broadly plano-convex in form but it appears unlikely that they represent smithing hearth cakes; this form may simply result from the location they were sitting in when they cooled. Slight response to magnet. Undiagnostic Fe slag.

Discussion

Although over 3kg of slag was recovered during archaeological work at Lime Avenue, Oulton this is insufficient to suggest that metalworking was being carried out at this site and, furthermore, none of this material appears to have been recovered from a primary metal working context. It does, however, suggest that metalworking was being conducted somewhere in the surrounding area.

It appears that all of this material is derived from ironworking, rather than the working of any other kind of metal. The presence of possible smithing hearth cakes/ plano-convex smithing hearth bottoms in the assemblage indicates that refining of blooms was being carried out alongside iron smelting, which is better represented in the assemblage.

The presence of tap slag is consistent with the Anglo-Saxon date assigned to some contexts from which slag was recovered.

The Struck Flint
Andrew Peachey

Excavations recovered a total of 19 pieces (115g) in an un-patinated condition (Table 52). The assemblage appears to represent the blade-based technology of the earlier Neolithic period, including a platform rejuvenation flake from a blade core

that was rotated to create a new platform, blades and a side scraper, and a small group of debitage removed from a single core.

Struck Flint Type	F	W
Platform rejuvenation flake	1	22
Blade	2	12
Scraper	1	10
Debitage (blade-like)	15	71
Total	*19*	*115*

Table 52: Quantification of struck flint implements and debitage by frequency (F) and weight (W, in grams)

Methodology and Terminology

The flint was quantified by fragment count and weight (g), with all data entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive. Flake type (see 'Dorsal cortex,' below) or implement type, patination, colour and condition were also recorded as part of this data set, along with free-text comments.

The term 'cortex' refers to the natural weathered exterior surface of a piece of flint, and the term 'patination' to the colouration of a flaked surface exposed by human or natural agency. Dorsal cortex is categorised after Andrefsky (2005, 104 and 115) with 'primary flake' referring to those with cortex covering 100% of the dorsal face; 'secondary flake' with 50-99%; 'tertiary' with 1-49% and 'un-corticated' to those with no dorsal cortex. A 'blade' is defined as an elongated flake whose length is at least twice as great as it's breadth, often exhibiting parallel dorsal flake scars (a feature that can assist in the identification of broken blades that, by definition, have an indeterminate length/ breadth ratio). Terms used to describe implement and core types follow the system adopted by Healy (1988, 48-9).

Raw Material

The raw flint in the assemblage is typically mid to dark grey in colour the limited cortex present ranging between thin brown-grey to white and chalky; suggesting a source in local secondary or tertiary gravels derived from local chalk deposits. However the platform rejuvenation flake contained in Pit F2164 is near black with a particularly chalky cortex; characteristics of the primary chalk-derived flint typical of the Breckland, and suggesting that the group of associated mid-dark grey debitage flakes with a white chalky cortex in the same feature may have been imported from the same source.

Distribution and Technology

The struck flint appears to occur primarily as residual material in Anglo-Saxon pits, with a notable group of 12 pieces (82g) contained in Pit F2164. The group includes a platform rejuvenation flake indicative of earlier Neolithic core maintenance and blade production, but is more notable for a blade and ten debitage flakes that appear to have been removed from a single core, indicative of an earlier Neolithc knapper working in the immediate vicinity.

The platform rejuvenation flake in Pit F2164 is the only direct evidence for core technology in the assemblage, and represents a blade core that had been rotated to

exploit two platforms perpendicular to one another, before the flake was removed presumable to create a new platform on a cube-like core. The platform rejuvenation flake was removed with a hard-hammer and is of comparable length to the blades in Pit F2164 and Topsoil L2000, which in contrast were removed with soft-hammer, indirect percussion. The only other implement in the assemblage comprises a side scraper from Topsoil L2000, which is technologically indistinct, but probably contemporary with the bulk of the assemblage. The debitage flakes in the assemblage exhibit minor variability but remain consistent with blade production in the earlier Neolithic. The ten flakes in Pit F2164 are slightly bigger than the blades and rejuvenation flake, with the shades, variation and profile of the mid grey interior and extant cortex clearly indicative of a shared core source, though no cross-joining flakes could be identified. The remaining debitage flakes are significantly smaller, and include in Pits F2036 and F2043 small flakes probably resultant from platform trimming, maintenance or preparation; while equally small blade-like flakes in Pits F2093 and F2484 may represent mis-hit removals, unintended results or small flakes continually removed as a core was continually shaped/ prepared.

The Animal Bone
Dr Julia E.M. Cussans

Introduction

A small and poorly preserved assemblage of animal bones and teeth was recovered and is analysed below. The majority of material came from Roman and Anglo-Saxon contexts with little prehistoric or medieval material present. The taxa represented and taphonomic issues encountered are discussed.

Method

The entire animal bone assemblage was scanned one context or context segment at a time and the results recorded on a bone scan pro-forma. The pro-forma took into account observations on bone condition including general preservation, colour, abrasion, fresh breaks and gnawing. Preservation was rated on a five point scale of very poor (bone highly fragmented and friable, surface highly abraded, little identifiable bone), poor (bone fragmented, surfaced fairly abraded, some identifiable material), ok (some fragmentation and surface abrasion, but bone generally identifiable), good (bones may be fragmented but have little surface abrasion, identification is not impaired) and excellent (bones in near perfect (as buried) condition). The presence of abraded bones, fresh breakages and gnawing was rated on a semi-quantitative scale of none/ few/ some/ many. Bone identifications were made using the in house reference collection and with the aid of reference manuals (e.g. Cohen and Serjeantson 1996; Hillson 1992; Pales and Garcia 1981 a and b; Pales and Lambert 1971 a and b; Schmid 1972). Mammal bones were quantified by species where possible or where this was not possible by size category, where large indicates cattle or horse sized, medium is sheep/ goat, pig or large dog sized and small mammal is cat or hare sized. The presence of bird, fish and other small fauna could also be noted. For the identified mammal species the particular elements present were noted, as was the presence of butchery, ageable mandibles and teeth, unfused epiphyses, measurable bones and those displaying pathologies. The presence of such features was noted in a semi-quantitative manner, as above.

Further to this, notes were made on any particular points of interest. Once recorded animal bone data were entered into an MS Excel spreadsheet along with context descriptions, feature group and phase to assist with data processing and analysis. Tooth eruption and wear was recorded following Grant (1982) and age stages assigned following Payne (1973) for sheep/ goat and Halstead (1985) for cattle; no ageable pig or horse teeth were present. Epiphysial fusion of long bones was assigned to age stages (Early, Intermediate, Late) following O'Connor (1989).

Results

Taphonomy

As previously noted (Cussans 2015) the bones from this assemblage are generally in a poor state of preservation. The most notable feature of this is that the vast majority of identifiable elements are teeth or tooth fragments, with very few postcranial elements being intact enough to be identified to specific taxa; long bone fragments for example are however present in the large and medium mammal assemblages, indicating their presence in the buried assemblage. Teeth (particularly tooth enamel) have a much higher mineral content and much lower organic content than bones (Lyman 1994, 79) and hence survive much better in conditions of poor organic preservation. Bone preservation ratings, which were made on a context by context basis, are shown by phase in Chart 1. No contexts were rated as having good or excellent preservation and only five were rated as ok. The remainder were fairly evenly split between poor and very poor preservation.

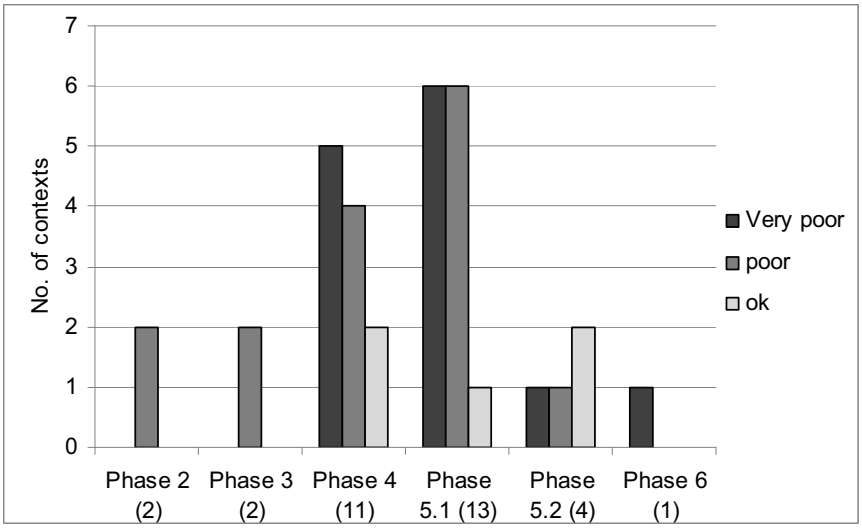


Chart 1: Bone preservation ratings of contexts by phase

Chart 2 shows the occurrence of fresh breakages and indicates that these were particularly common, especially in the larger assemblages. The occurrence of fresh (post excavation) breakages is an indicator of the friability and preservation state of the bone, likely indicating a significant loss of organic content. Chart 3 shows that abraded bones were also fairly common, indicating a significant loss of bone surface across the assemblage, which has consequences for the recognition of other bone surface modifications such as butchery marks and pathological lesions.

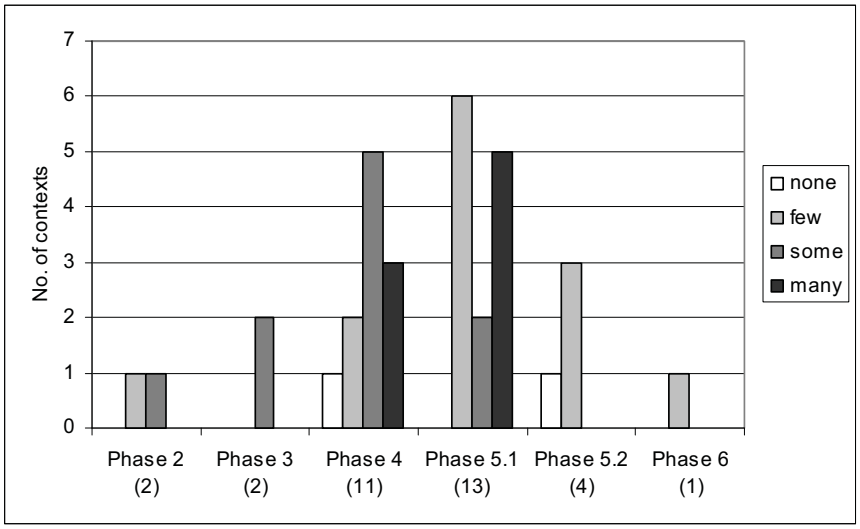


Chart 2: Bone fragmentation rating of contexts by phase

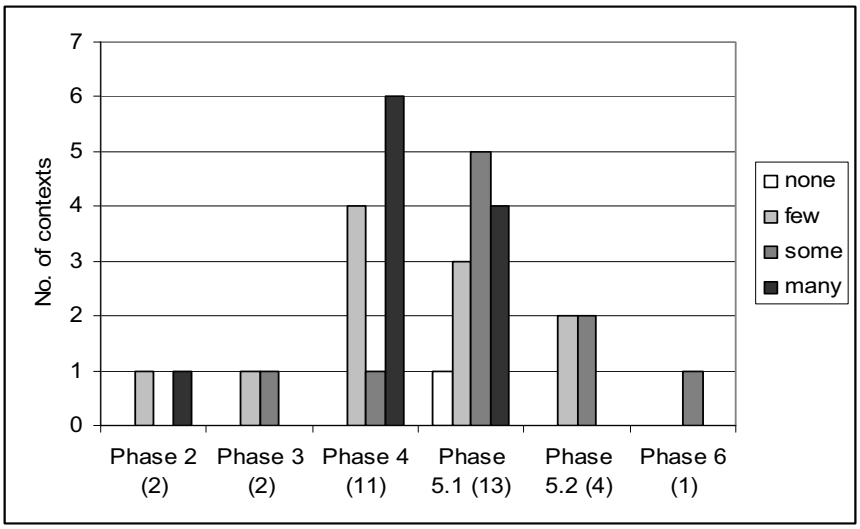


Chart 3: Bone abrasion rating of contexts by phase

Species present and quantification

Despite the preservation issues described above a small proportion of the assemblage was identifiable to specific taxa (Table 53). In order of abundance cattle, sheep/ goat, horse and pig were all identified. These identified elements only accounted for 13% of the assemblage by number of identified specimens (NISP). The vast majority of the assemblage was made up of bones that could only be designated as large mammal; a small proportion was designated as medium mammal. Not all taxa are present in all phases; in fact the only phase where they are all present is Phase 5.1. Phases 3 and 6 had no identifiable taxa, only bones designated as large mammal and Phase 2 had only a single identifiable cattle element. It seems most likely that the absence of some of the taxa from some of the phases is most likely a product of the poor preservation and resultant small sample size and hence one cannot draw too much inference from the relative representation of different taxa across the phases. The bones present in each of the phases will be described in detail below.

	Phase						
Taxa	**2**	**3**	**4**	**5.1**	**5.2**	**6**	***Total***
Cattle	1		11	14	1		*27*
Sheep/ goat			3	1	1		*5*
Pig				1			*1*
Horse				1	1		*2*
Large Mammal	4	8	109	72	1	1	*195*
Medium mammal			15	9	2		*26*
Total	*5*	*8*	*138*	*98*	*6*	*1*	*256*

Table 53: Quantification of animal remains from Oulton by taxa and phase

Description by Phase

Phase 2

Phase 2 comprised a total of five bones, one of which was a fragment of cattle pelvis with the remainder only being identifiable as large mammal, two of which were thought to be mandible fragments, the others were not identified to body part. These bones all derived from pits in the Phase 2 dispersed feature cluster (Sections 2.29-30; Table 6). No butchery or pathology was observed and no ageable elements were present.

Phase 3

The Phase 3 assemblage was entirely derived from Pit F2310 and made up of large mammal tooth fragments. These were highly fragmented and could not be further identified.

Phase 4

Phase 4 has the largest bone assemblage of all the phases but only 14 identifiable fragments. Cattle and sheep/ goat are the only identified taxa. Sheep/ goat are represented by three teeth, all of which are upper permanent premolars and all in wear, indicating the presence of adult animals. All of these derived from Posthole F2273 associated with Structure 1. This is the only bone containing context found in association with this structure and it is likely that all of the teeth belong to a single animal. Other bone fragments from this context are all recorded as medium mammal and are a mix of skull and long bone fragments.

Cattle bones derive from four different features and are a mix of teeth and long bones. There are eleven cattle bones/ teeth in total, eight of which come from L2421 (Pit F2420). These include a fused proximal radius and an unfused distal radius (epiphysis and fragment of diaphysis); these radius fragments may have come from the same bone but could not be joined. An unfused proximal tibia was also present as well as a mandible fragment with no teeth intact, a second or third permanent premolar, two upper molars and an upper permanent premolar, all of which were in wear. Both the distal radius and proximal tibia are late fusing elements (O'Connor 1989), whereas proximal radius is an early fusing element; these bones and teeth may well represent an animal/ animals that have reached approximately full size but are not yet skeletally mature and hence possibly represent prime meat aged animals. Other cattle remains from Phase 4 were a fused proximal radius, a

mandible fragment and a molar fragment (in wear); these bones fit well with the group from L2421.

The rest of the Phase 4 assemblage was made up of bone fragments recorded as large mammal; these were largely long bone fragments.

Phase 5.1

Phase 5.1 yielded the second largest collection of bones/ bone fragments and the largest number of identifiable bones/ teeth as well as the greatest number of identified taxa. Cattle are again dominant but sheep/ goat, pig and horse are also represented. The identified assemblage is overwhelmingly dominated by teeth and tooth fragments. The only partial exception to this is a fragment of sheep/ goat mandible from L1115 (Pit F1114). This mandible had three teeth intact: a fragment of the M1, the M2 and the M3, all of which were in wear. The M3 was worn to Grant's (1982) wear stage g and the M2 to stage h. This indicates an animal at Payne's (1973) age stage H with a suggested age of 6-8 years. The only pig element present was an upper deciduous 4th premolar (dp4) which had very slight wear on the tips of the cusps indicating a fairly young animal. Horse is represented by a permanent upper 2nd premolar (P2) which is in wear but not complete enough for age assessment. Cattle were represented solely by teeth and tooth fragments; none of these could be assigned to wear stages or age groups. In the main bone fragments assigned as large or medium mammal were noted as long bone fragments indicating that post-cranial elements were also present.

The Phase 5.1 bones came from two feature types, sunken-featured buildings (SFBs) and dispersed pits (Section 2.76; Table 34) group. Bones/ teeth were found in SFBs 1, 2, 3 and 4 but not SFB 5. SFB 2 had the largest bone assemblage but other than this no distinct patterning could be detected, largely due to the small size of the assemblage.

Phase 5.2

The assemblage from Phase 5.2 is small but contains a reasonable spread of taxa. Cattle, sheep/ goat and horse are all represented by a single element each. Cattle is represented by a lower M3, with a Grant's (1982) wear stage of g, indicating an animal of Halstead's (1985) age stage G (adult). Sheep/ goat were represented by a metatarsal shaft fragment with no age or butchery data. The only horse bone was a fragment of proximal tibia which was fused; this being a late fusing bone indicates the presence of an adult animal. Very few bones were identified as large or medium mammal and these were a large mammal mandible fragment and some medium mammal long bone fragments.

Phase 6

A single large mammal long bone fragment was recovered from Phase 6 Posthole F2174 in association with the metallurgical waste area (Section 2.86; Table 39). No butchery marks or other modifications were observed.

Summary and Discussion

Overall the assemblage is poorly preserved and likely does not accurately represent the original buried assemblage. The more porous bones of younger animals and those species more prone to decay, for example pigs (Bond 1995) are likely to be under represented. Roman period (Phase 4) remains include cattle and sheep/ goat. The limited age data available indicate the presence of adult sheep/ goat and young adult (prime meat) cattle. The lack of pigs and horses from the Roman period assemblage is likely a product of the poor preservation and small sample size as both species are common at Roman site in East Anglia (e.g. Curl and Cussans 2014, Cussans and Philips in press). It is also likely that a selection of other taxa such as dog, deer and chicken were present at the site (*ibid*.) but are not represented in the available bone assemblage.

Anglo-Saxon (Phase 5) animal bones included cattle, sheep/ goat, horse and pig. Adult cattle, sheep/ goat and horse were identified and the presence of relatively young pig was noted. Pigs in particular are likely under represented as they are noted as a key element of the Anglo-Saxon economy (Crabtree 2014). Hagen (2006, 116) however suggests that in Anglo-Saxon times pigs were often consumed as salt pork and that at the point of consumption this product produces no bones, which may at some sites account for the lack of pig remains and may be a contributing factor here. However as mentioned above pig bones may also be under represented due to their greater tendency to decay. Several other common Anglo-Saxon taxa such as domestic fowl and goose (e.g. Holmes 2014; Mustchin *et al*. in preparation) may also have originally been present.

The Environmental Samples
Dr John R. Summers

Introduction

During excavations at land north of Sands Lane, Oulton, 154 bulk soil samples for environmental archaeological assessment and analysis were taken and processed. Sampled deposits from all phases of occupation on the site are represented, from the late Bronze Age, through to the post-medieval period. This report combines information from the assessment of the bulk sample light fractions with the full analysis of a small number of richer samples from Phase 4 and 6 deposits. In addition, charcoal remains from five burnt flint pits of Anglo-Saxon date (Phase 5.1) were analysed and the results are presented below. The significance of the identified remains to the interpretation of activities undertaken at the site during its long period of use is discussed in relation to relevant archaeological and archaeobotanical research in the region.

Methods

Samples were processed at the Archaeological Solutions Ltd facilities in Bury St Edmunds using standard flotation methods. The light fractions were washed onto a mesh of 500µm (microns), while the heavy fractions were sieved to 1mm. The dried light fractions were sorted under a low power stereomicroscope (x10-x30 magnification). Botanical and molluscan remains were identified and recorded using

reference literature (Cappers *et al.* 2006; Jacomet 2006; Kerney and Cameron 1979; Kerney 1999) and a reference collection of modern seeds. Potential contaminants, such as modern roots, seeds and invertebrate fauna were also recorded in order to gain an insight into possible disturbance of the deposits.

Charcoal remains were fractured on three planes (transverse, tangential and radial) for microscopic analysis. Transverse sections were characterised using a low-power stereomicroscope (x10-x30 magnification) and the microscopic features in the tangential and radial planes were examined using a metallurgical microscope with magnification up to x400. Identifications were made using reference literature (Schweingruber 1978; Schoch *et al*. 2004). Identifiable charcoal fragments over 2mm were recorded by fragment count and by weight (to the nearest 0.001g).

Results

The assessment data from the bulk sample light fractions are presented in the assessment report (Summers 2015a, Appendix 1). Table 54 presents the distribution of samples by phase and Table 55 displays the raw data from the fully quantified Phase 4 and 6 samples.

Phase	Number of samples	Volume (litres)
Phase 1: Earlier Prehistoric (pre-400 BC)	2	20
Phase 2: Late Bronze Age/ early Iron Age (*c.* 1300-400 BC)	21	210
Phase 3 - Middle to late Iron Age (*c.* 400 BC-AD 43)	2	20
Phase 4 - Romano-British (AD 43-410)	51	600
Phase 5.1 - Early to middle Anglo-Saxon (5th to 9th century AD)	51	670
Phase 5.2 - Middle to late Anglo-Saxon (9th to mid 12th century AD)	13	130
Phase 6 - Saxo-Norman/ medieval (11th to 14th/ 15th century AD)	7	70
Phase 7 - Post-medieval to early modern/ modern (*c.* AD 1500 to 1900+)	2	20
Undated	5	50
Total	*154*	*1790*

Table 54: Distribution of samples by phase

Phase 1: Earlier Prehistoric (pre-400 BC)

Two samples were recovered from Phase 1 deposits, which contained only a small number of charcoal fragments.

Phase 2: Late Bronze Age/ early Iron Age (*c.* 1300-400 BC)

From Phase 2 deposits, there were 21 bulk samples. Nine of these samples contained identifiable carbonised plant macrofossils in the form of cereal remains (42.86%; Chart 4). Cereals were present in the form of hulled barley (*Hordeum* sp.), wheat, including free-threshing type wheat (*T. aestivum/ turgidum* type), oats (*Avena* sp.) and rye (*Secale cereale*). Wheat and barley were recorded in less than 10% of samples and the other crops in less than 5% of samples. Rye and free-threshing type wheat are not typical late Bronze Age/ early Iron Age crops and may either represent weed contaminants of other crops or intrusive remains from later periods of activity on the site. The same could also be true for oat, which only had a limited presence in the Phase 2 samples.

Non-cereal taxa included knotweed (*Persicaria* sp.) and brome grass (*Bromus* sp.), which are common arable weeds, most likely associated with cereals in the deposits.

Phase 3: Middle to late Iron Age (*c.* 400 BC-AD 43)

Only two samples were present from Phase 3, containing a single indeterminate cereal grain and a modest concentration of charcoal.

Phase 4: Romano-British (AD 43-410)

The Romano-British period showed an increase in the intensity of activity at the site. Fifty one samples were taken and processed from Phase 4 deposits and carbonised cereal remains were recorded in 31 of these (60.78%). Hulled barley (*Hordeum* sp.), glume wheat (*T. dicoccum/ spelta*), free-threshing type wheat (*T. aestivum/ turgidum* sp.), rye (*Secale cereale*) and oats (*Avena* sp.) were all recorded. Barley was most ubiquitous, being recorded in 29.41% of samples, closely followed by rye in 27.45% of samples. Wheat was third most ubiquitous (19.61%), followed by oat (17.65%). The site lies in an area of free-draining, slightly acidic soils, which would not have been well suited to traditional wheat cultivation. There are areas of heavier soil to the north, although they are not particularly fertile (Soilscapes 2015). Barley, oats and rye have a greater tolerance for drought and do not require such high soil fertility as wheat.

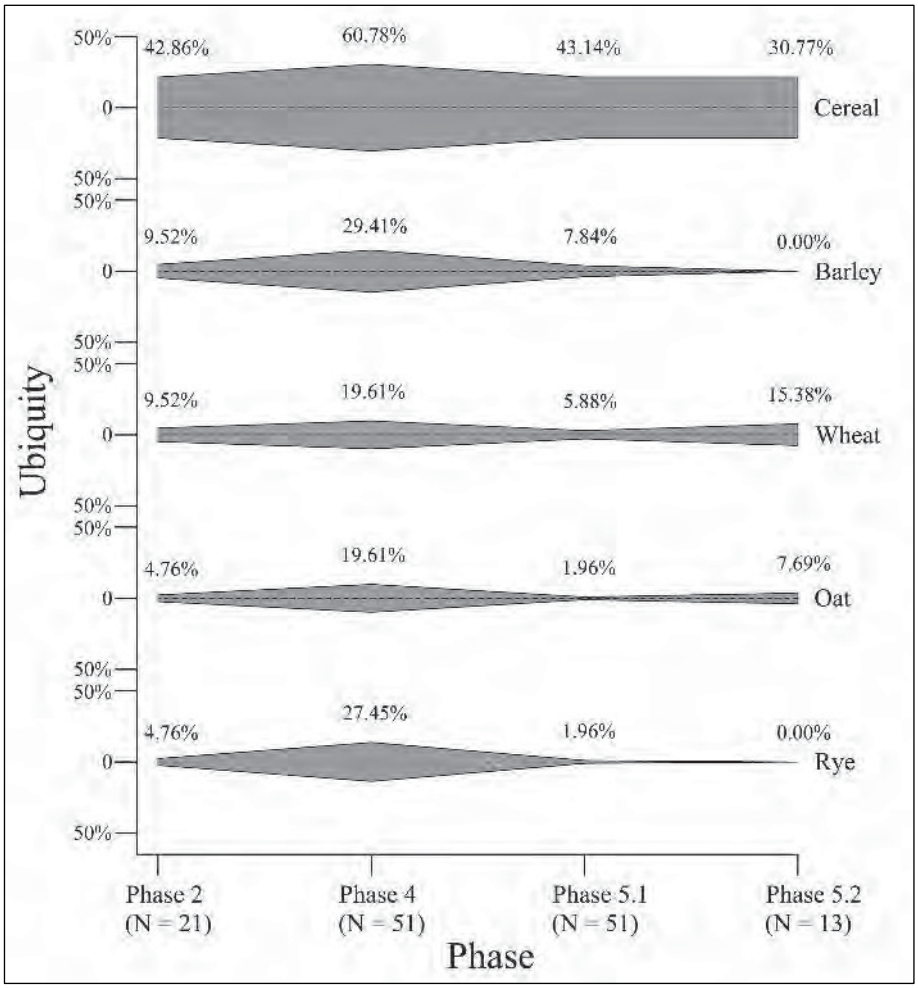


Chart 4: Ubiquity values for the main crop taxa arranged by phase. Phases 1, 3 and 6 omitted due to insufficient sample size (<10)

Non-cereal taxa included goosefoot (*Chenopodium* sp.), corn cockle (*Agrostemma githago*), dock (*Rumex* sp.), wild radish (*Raphanus raphanistrum*), bedstraw (*Galium* sp.), stinking chamomile (*Anthemis cotula*), vetch/ wild pea (*Vicia/ Lathyrus* sp.) and brome grass (*Bromus* sp.). All of these are common arable weeds. The presence of stinking chamomile, which prefers heavier soils, may indicate the cultivation of clayey soils north of the site, whilst wild radish is more indicative of sandy or free-draining soils.

Rich samples were recovered from L2284, L2290, L2292, L2465 and L2547 (Table 55). The samples from L2284, L2290, L2292 and L2547 were all comparable, with barley, oats or rye dominating the cereal remains. Chaff elements were rare and non-cereal taxa included a small range of typical arable weed taxa. The density of remains was relatively low in these deposits, ranging between 1.5 and 4.6 items per litre. This is likely to represent the deposition of carbonised plant remains from mixed sources, most likely including routine crop processing and food preparation activities.

A much richer sample was recovered from L2465 (F2463), which produced 64.3 items per litre. The dominant class of material was cereal grains (58.32%). Wheat grains dominated (57.27%), the majoriy of which could be identified were found to be glume wheat (*T. dicoccum/ spelta*). Barley was the only other cereal present and made up the remaining 42.73% of the identifiable cereal grain in the sample. A number of the wheat grains showed signs of germination (Plate 29), making up 35% of the wheat in the deposit. This is sufficient to indicate deliberate malting (cf. van der Veen 1989).

Plate 29: Photograph of a sub-sample of germinated glume wheat (T. dicoccum/ spelta) grains from L2465 (scale = 1mm)

A small number of chaff elements were present, including spelt wheat (*T. spelta*) glume bases and indeterminate glume wheat spikelet forks. A calculation of the ratio of glume wheat grains to glume bases gave a result of 20.98:1, far in excess of the

1:1 expected for unprocessed spikelets. This indicates that the wheat in the deposit was predominantly of clean grain following de-husking.

Non-cereal taxa were dominated by large seeded taxa, such as vetch/ wild pea (*Vicia/ Lathyrus* sp.) and indeterminate medium legumes (Fabaceae), large grasses, such as chess type (*Bromus secalinus* type), soft brome type (*Bromus hordeaceus* type) and other indeterminate large grasses (Poaceae), and corncockle (*Agrostemma githago*). These large seeded taxa commonly remain with the crop after processing and may well have been a tolerated component of the cereal crop, particularly legumes and large grasses (cf. Campbell 2000, 48-50). Numerous goosefoot seeds were also present, which are small dense seeds, although these may have been present as larger seed heads that broke down during carbonisation. A number of the *Bromus* seeds also showed signs of germination, which suggests they were present in the crop during malting.

It is most likely that the material in L2465 was the carbonised remains of deliberate malting activity, focussed primarily on spelt wheat. The product of this process may have been carbonised during malt drying. This not only implies malting activity on the site during the Roman period but also the likely presence of a drying kiln in the vicinity.

A range of wood types were recorded in the Phase 4 charcoal assemblage, including oak (*Quercus* sp.) and probable gorse (cf. *Ulex* sp.).

Phase 5.1: Early to Middle Anglo-Saxon (5th to 9th Century AD)

Phase 5.1 represents the most intensive period of post-Roman activity at the site, with 51 samples collected. Sampled deposits included the fills of five sunken-featured buildings (SFBs) and five burnt flint pits. Overall, the representation of carbonised plant macrofossils was poor, with only low concentrations of material recovered. Cereal remains were present in 43.14% of the samples (Chart 4), which suggests fairly common usage of cereals but, coupled with low concentrations, indicates that there was no bulk processing or storage carried out at the site. Most of the cereal remains could not be identified. Wheat, including free-threshing type wheat (*T. aestivum/ turgidum* type), was present in 5.88% of samples, barley (*Horderum* sp.), including hulled grains, was present in 7.84% of samples, and oat (*Avena* sp.) and rye (*Secale cereale*) were each present in 1.96% of samples. Pulses (Fabaceae) were also recorded, although only in two sample (3.92%). The small range of non-cereal taxa included goosefoot (*Chenopodium* sp.), black bindweed (*Fallopia convolvulus*), dock (*Rumex* sp.) and brome grass (*Bromus* sp.).

Sunken-featured buildings

The fills of the SFBs fitted the overall pattern of sparse carbonised plant macrofossils. Such low densities most likely represent scattered background debris on the site which became incorporated into the feature fills. It seems unlikely that the use or processing of cereals was strongly associated with any of the five sampled SFBs on the site.

Burnt flint pits

The fills of the five burnt flint pits contained few carbonised plant macrofossils but were largely rich in charcoal. Charcoal remains were identified from all five pits (Table 56), predominantly from primary fills unless the assessment found the primary fills to contain lower concentrations of charcoal (i.e. L2708 of F2707 and L2732 of F2731). Particularly rich was L2748 (F2717) which contained 1.358kg of charcoal >2mm in just 10 litres of sediment.

Oak (*Quercus* sp.) was the most abundant taxon in all five pits. In most instances, weak ring curvature and the presence of tyloses in the vessels indicated heartwood and the burning of mature oak timber. Occasional pieces of round wood probably represent smaller branches from the felled trees. Hazel (*Corylus* sp.) was recorded in four of the samples (L2684, L2709, L2734 and L2735). In L2684 and L2709 it constituted only a very minor contribution. In L2734 hazel was more prominent, although remains of oak still dominated. It is likely that in this instance, a mixed fuel source of oak and hazel was burned. The material from L2735 contained only hazel but the density of charcoal fragments was very low and it is not likely that it represents the remains of *in situ* burning within the pit.

The use of oak fuel in burnt flint pits is not uncommon. For example, a burnt flint pit at Snape, Suffolk, contained large volumes of oak charcoal, accompanied by hazel (Summers 2014). Another burnt flint pit from Snape was more varied, as were those from Flixton (Boulter and Rogers 2012, 94). Recent assessment of material from similar features at a site near Stowmarket also indicates more varied fuel wood selection (Summers 2015b). The overwhelming dominance of oak in the Oulton examples may simply be a reflection of local woodland availability as those from other sites indicate a less rigid selection of fuel resources.

Phase 5.2: Middle to Late Anglo-Saxon (9th to mid 12th Century AD)

In the thirteen samples from Phase 5.2, carbonised macrofossils were again rather sparse. Cereals were recorded in 30.77% of the samples, which included a small number of wheat (*Triticum* sp.) and oat (*Avena* sp.) remains. A single knotweed (*Persicaria* sp.) seed was recorded in L2730. Charcoal, including oak (*Quercus* sp.) and probable gorse (cf. *Ulex* sp.), was quite common. This indicates the deposition of fuel debris with few associated remains from the use and processing of cereals.

Phase 6: Saxo-Norman/ Medieval (11th to 14th/ 15th Century AD)

Seven samples were assessed from Phase 6, only two of which contained carbonised plant macrofossils. Sample 113 of L2642 contained a single indeterminate cereal grain but Sample 146 of L2747 was richer. This deposit contained grains of hulled barley (*Hordeum* sp.), oat (*Avena* sp.) and rye (*Secale cereale*), along with a small range of non-cereal taxa (Table 55). The range of cultivars is similar to preceding periods, with barley, oats and rye apparently dominating the economy. Unfortunately the results from a single sample make it difficult to determine how representative of Phase 6 deposits these data are. Charcoal, particularly oak (*Quercus* sp.), was well represented in the Phase 6 samples.

Phase 7: Post-Medieval to Early Modern/ Modern (c. AD 1500-1900+)

Only two samples were assessed from Phase 7. The material from L2379 was richer, containing hulled barley (*Hordeum* sp.), wheat (*Triticum* sp.) and pea/ bean (Fabaceae). A small range of non-cereal taxa was also present, including corn cockle (*Agrostemma githago*), legumes (Fabaceae) and brome grass (*Bromus* sp.). Although the evidence is quite limited, the presence of wheat is in contrast to Phase 6 and may represent an element of economic change. However, the significance of this is difficult to determine within a broad post-medieval period.

Undated

Only five samples were present from undated deposits, the majority of which were poor in carbonised plant macrofossils. Sample 8 of L2059 contained a higher concentration of remains, predominantly in the form of grains from hulled barley (*Hordeum* sp.), glume wheat (*T. dicoccum/ spelta*) and oat (*Avena* sp.). A small number of legume seeds (Fabaceae) probably derived from the arable weed community. Sample 6 from L2049 was rich in oak (*Quercus* sp.) charcoal.

Conclusions

Analysis of the bulk samples from Oulton has demonstrated the use of cereals at the site from the late Bronze Age/ early Iron Age through to the post-medieval period. Over this time there was variation in the intensity of arable production and processing associated with the site, which was most pronounced during the Romano-British period (Phase 4).

The elevated number of rich samples in Phase 4 indicates that cereals were being dealt with in larger volumes than in the preceding phases. The rich deposit from L2465 included a significant proportion of germinated glume wheat and indicates malt production in the vicinity. Such a deposit may have been carbonised during drying and may indicate the presence of a cereal or malt drying kiln on or near the site. Malt production was common on Romano-British agricultural sites (e.g. Fryer 2003; Summers 2015c; 2015d), probably representing a trade commodity in some instances (e.g. van der Veen and O'Connor 1998, 134). It is difficult to determine the scale of the practice at the present site based on the evidence of a single sample and malting may have been undertaken for consumption by a single household.

Cereal production and processing appears to have been less significant during the Anglo-Saxon period. Remains of cereals were present in less than half of deposits and only in low densities. This is consistent with background debris, most likely originating from low level cereal use on the site. Following Phase 5.1, activity on the site was less intensive and this is reflected in the archaeobotanical assemblage.

Activities associated with the Phase 5.1 burnt flint pits remain enigmatic. However, there appears to have been a careful selection of predominantly mature oak timber for the purpose. Similar features elsewhere show a range of fuel wood types (e.g. Boulter and Rogers 2012, 94; Summers 2014; 2015b) and consistently contain few diagnostic remains relating to function, other than charcoal and burnt flint.

Phase	**4**					**6**
Sample number	**54**	**58**	**59**	**92**	**106**	**146**
Context number	**2284**	**2290**	**2292**	**2465**	**2547**	**2747**
Feature number	**2283**	**2289**	**2291**	**2463**	**2546**	**2746**
Volume (litres)	**20**	**10**	**10**	**10**	**20**	**10**
Cereal grains:						
Cereal NFI	9	28	21	148	18	8
(Cereal NFI - tail grain)	(1)	-	-	-	-	-
(Cereal NFI - germinated grain)	-	-	-	(2)	-	-
Hordeum sp. - Barley	7	3	3	64	-	-
Hordeum sp. - Hulled barley	4	3	2	33	-	3
(*Hordeum vulgare* - twisted grain)	-	-	-	(5)	-	-
Triticum sp. - Wheat	-	-	1	87	2	-
(*Triticum* sp. - tail grain)	-	-	-	(1)	-	-
(*Triticum* sp. - germinated grain)	-	-	-	(24)	-	-
Triticum dicoccum/spelta - Emmer/spelt wheat	-	-	-	42	-	-
(*Triticum dicoccum/spelta* - germinated grain)	-	-	-	(22)	-	-
Triticum aestivum/ turgidum type - Free-threshing type wheat	-	-	1	1	-	-
Avena sp. - Oat	2	1	2	-	3	11
cf. *Secale cereale* - Rye	2	2	1	-	-	-
Secale cereale - Rye	-	4	5	-	2	3
Cereal indet. detached embryos	-	-	-	2	-	-
Cereal indet. sprout	-	-	-	9	-	-
Cereal chaff:						
Triticum spelta - Spelt wheat glume base	-	-	-	2	-	-
Triticum dicoccum/spelta - Emmer/spelt wheat glume base	-	-	-	2	-	-
Triticum dicoccum/spelta - Emmer/spelt wheat spikelet fork	-	-	-	3	-	-
Cereal/large grass rachis	1	-	-	-	-	-
Wild taxa:						
Chenopodium sp. L. - Goosefoot	-	-	-	64	2	1
Atriplex sp. L. - Oraches	-	-	-	1	-	-
Chenopodiaceae - Goosefoot family	-	-	-	3	-	-
Stellaria media L. - Common chickweed	-	-	-	1	-	-
Agrostemma githago L. - Corncockle	-	-	-	3	-	-
Caryophyllaceae indet. - Pink family	-	-	-	5	-	-
Persicaria sp. Mill. - Knotweed	-	-	-	-	-	1
Fallopia convolvulus (L.) A.Love - Black-bindweed	-	-	-	8	-	-
Rumex sp. L. - Dock	-	-	-	1	-	-
Polygonaceae indet. - Knotweed family	-	-	-	1	-	2
Raphanus raphanistrum L. - Wild radish	-	-	-	-	1	1
Vicia/Lathyrus sp. L. - Vetch/wild pea	-	-	-	15	-	-
Fabaceae indet. - Pea family (medium)	-	1	-	37	1	1
Anthemis cotula L. - Stinking chamomile	1	-	-	1	1	-
Asteraceae indet. - Daisy family	1	-	-	-	2	-
Luzula sp. DC. - Wood-rush	-	-	-	1	-	-
Bromus hordeaceus type L. - Soft-brome	-	-	-	18	-	-
(*Bromus hordeaceus* germinated)	-	-	-	(13)	-	-
Bromus secalinus type L. - Rye brome/ chess	-	-	-	9	-	-
Bromus sp. L. - Brome grass	-	1	-	52	-	-
(*Bromus* sp. Germinated)	-	-	-	(5)	-	-
Poaceae indet. - Grass (large)	3	3	1	30	-	1
Charcoal:						
Charcoal >2mm	X	XX	XX	XXX	X	XXX
Other carbonised:						
Arrhenatherum elatius var. *bulbosum* - Onion couch tuber	-	-	-	-	-	1

Table 55: Raw data from the fully quantified bulk samples; Key: X = present; XX = common; XXX = abundant

Sample number	Context	Feature	Feature type	Volume (litres)	Phase	Fraction	Quercus		Corylus		Diffuse porous		Indet./unidentified	Total weight (g)
							COUNT	WEIGHT (g)	COUNT	WEIGHT (g)	COUNT	WEIGHT (g)	WEIGHT (g)	
71	2336	2331	Burnt Flint Pit	20	5.1	>5mm	100	106	-	-	-	-	11	117
						2-5mm	100	2.42	-	-	-	-	14	16.42
						Total	200	108.42	-	-	-	-	25	133.42
130	2684	2683	Burnt Flint Pit	10	5.1	>5mm	44	3.672	-	-	-	-	0.149	3.821
						2-5mm	59	1.077	1	0.009	-	-	3.051	4.137
						Total	103	4.749	1	0.009	-	-	3.2	7.958
138	2709	2707	Burnt Flint Pit	10	5.1	>5mm	5	1.515	-	-	1	0.017	0.044	1.576
						2-5mm	10	0.173	3	0.05	2	0.021	1.315	1.559
						Total	15	1.688	3	0.05	3	0.038	1.359	3.135
144	2734	2731	Burnt Flint Pit	10	5.1	>5mm	63	23.15	13	1.82	-	-	0.172	25.142
						2-5mm	67	1.241	33	0.496	-	-	3.02	4.757
						Total	130	24.391	46	2.316	-	-	3.192	29.899
145	2735	2731	Burnt Flint Pit	10	5.1	>5mm	-	-	2	0.098	-	-	-	0.098
						2-5mm	-	-	17	0.278	-	-	0.169	0.447
						Total	-	-	19	0.376	-	-	0.169	0.545
153	2748	2717	Burnt Flint Pit	10	5.1	>5mm	100	158.427	-	-	-	-	813	971.427
						2-5mm	100	3.289	-	-	-	-	384	387.289
						Total	200	161.716	-	-	-	-	1197	1358.716

Table 56: Charcoal data from the investigation of the five burnt flint pit features

4 DISCUSSION

Summary

4.1 The excavation at Lime Avenue, Oulton revealed human activity spanning the prehistoric to modern era, with a particular emphasis on features and finds of Anglo-Saxon date. Although the earliest encountered features – representing little more than occasional/ transient use of the site – were not closely datable, the earliest recovered finds comprised sparsely distributed lithic blades of Neolithic character. These complement a previously documented late Neolithic artefact scatter found on neighbouring Pound Lane (SHER LWT 015), and build on the findings of the preceding trial trench evaluation (Peachey in Orzechowski 2015). In contrast, the first closely datable phase, dating to the late Bronze Age/ early Iron Age, witnessed an increased intensity of activity at the site, including the remains of a substantial ditched enclosure and areas of pit digging. However, subsequent mid to late Iron Age features were again few in number and suggest a shift in the focus of activity away from the site at this time.

4.2 The Romano-British period witnessed a re-intensification of on-site activity, and included a second ditched enclosure and a defined area of activity. The latter included the earliest encountered structural evidence, comprising a sub-rectangular arrangement of postholes in the south-west area of the excavation. This was interpreted as a post-built building of possible agricultural use; the animal bone and environmental evidence from this phase suggests a mixed agricultural economy. ?Hearths and a substantial quarry pit were also identified.

4.3 The Anglo-Saxon period was the principal period of past activity at the site, and the only one to include evidence of possible domestic structures. The early to middle Anglo-Saxon period (Phase 5.1) included the remains of five sunken-featured buildings, two of which were clustered together and may have represented a chronological sequence of occupation activity. Also belonging to Phase 5.1 were 5 burnt flint pits, a characteristic Anglo-Saxon feature type occurring on both domestic and non-domestic sites across the region. A ditched enclosure and trackways were also identified, along with evidence of a post-built structure dating between the middle and later Anglo-Saxon periods. Like preceding Phase 4, the animal bone and environmental evidence suggested a mixed agricultural economy.

4.4. Post-Anglo-Saxon evidence was again sparse. The Saxo-Norman/ medieval period was defined by a metallurgical waste area, comprising some 23 features, while the post-medieval to early modern/ modern site appeared to comprise open agricultural fields divided by substantial linear ditches, akin to the current land use.

4.5 The following discussion will focus mainly on the pre-modern phases of activity at the site, with particular emphasis on the Romano-British and Anglo-Saxon periods.

The Site within its Landscape

4.6 The site occupies a gentle, south-facing slope overlooking Oulton Broad, some 1.1km distant. The River Waveney passes approximately 1.9km to the west, beyond which are the Burgh Marshes – one of a chain of similar marshland habitats flanking the Waveney between Beccles, some 10km to the south-west of the current site and Yarmouth, *c.* 10km to the north-east (www.suffolklandscape.org.uk). The Waveney is a navigable watercourse and would have provided an important historical (and earlier) trade and communications link, originally reaching the sea via the valley of Oulton Broad and Lake Lothing (Lucy *et al.* 2009, 1 and 3). From the late prehistoric era to the early Anglo-Saxon period in England, the light, fertile soils of river valleys were the chief focus of clearance, settlement and cultivation, with the rivers themselves forming major arteries for communication and commerce (Mudd 2002, 3; Williamson 2010, 146, 152). The broad spread of local habitats and associated resources – including the site's free-draining soils (Soil Association of England and Wales 1983, 9) – would have been important factors influencing past settlement.

4.7 The earliest evidence from the current site comprises flint blades of Neolithic character. At this time the coastal plain of north-east Suffolk appears to have been characterised by a lack of permanent settlement, with finds overwhelmingly comprising scatters of pottery and lithics (e.g. Martin 1999b, 37). Across the border into Norfolk, coastal settlement during the Neolithic has been postulated as comprising transient occupation of 'specialised or seasonally-occupied [sites] in a diverse settlement and economic regime' (Ashwin 1996, 47). A focus of settlement activity on river valley slopes, within easy reach of water is also a characteristic of the Neolithic in Suffolk (Good and Plouviez 2007, 36; Martin 1999, 37); a pattern reflected by the location of the current site.

4.8 The local Bronze Age landscape appears more intensively occupied, with a minor concentration of barrows and ring-ditches, plus finds of metalwork noted in this part of Suffolk (Martin 1999c, 39). Monumental evidence from the immediate area includes undated ring-ditches (SHER OUL 005), possibly of Bronze Age date, while similar sites within a 2km radius include a probable Bronze Age barrow (SHER FTN 013) and similar earthworks/ cropmarks at Flixton. Complementary evidence is also forthcoming from neighbouring Norfolk, with an intensification of settlement activity – particularly reflected by finds of material culture – pointing towards 'an extensive and industrious farming community' (Yates 2007; after Lawson and Wymer 1993, 30). A small, unenclosed late Bronze Age farmstead including roundhouses and four-post granary type structures has been excavated at Bloodmoor Hill, Carlton Colville (Heard 2013); some 4.2km to the south of Oulton. The Bloodmoor Hill site occupies a similar geology and elevation to the current site, on a plateau partly defined by the Waveney Valley (*ibid.* 6).

4.9 Iron Age settlement evidence is comparatively scarce in north-east Suffolk, with the densest concentration of sites occupying the free-draining soils of the north-west and south-east, while settlement of the county's central clay lands is also evident (Martin 1999d, 40-1). Easy access to water was once again determining factor influencing settlement location at this time (*ibid.* 40). Despite this general trend, Iron Age evidence from Oulton includes finds of pottery from Mobbs Way (SHER OUL 011; Craven 2010).

4.10 Previously recorded Romano-British and early to middle Anglo-Saxon settlement activity is scarce from the immediate area. Although minor Romano-British settlements are present in the far north-east of Suffolk (Plouviez 1999, 43), the only previously documented finds within the immediate area of the site are two coins, respectively dated AD 98-117 and AD 293-6 (SHER OUL 001). Although subsequent early to middle Anglo-Saxon settlement was again most prolific in the north-west and south-east of the county, sites in the surrounding area include the significant early Anglo-Saxon settlement and cemetery at Bloodmoor Hill, Carlton Colville (Lucy *et al.* 2009). The topographical and geological setting of the Bloodmoor Hill settlement is similar to that of the current site, with both occupying slightly elevated positions on sandy soils overlooking the floodplain of the River Waveney (*ibid.* 1). Occupation at Bloodmoor Hill – dating between the 6th and early 8th centuries – was characterised by a large number of SFBs with fewer post-built structures, hearth/ oven bases, middens and pits (*ibid.*). The predominance of SFBs is usual for sandy/ gravelly sites where post-built structures or 'halls' tend to be scarcer (Tipper 2004, 24). The current site makes a useful addition to the known corpus of early Anglo-Saxon Settlement in this part of Suffolk, as well as providing good evidence for continuity of settlement activity into the later Anglo-Saxon period and beyond.

4.11 The post-Anglo-Saxon era is poorly represented in the immediate vicinity, with only a small number of finds and sites recorded (see Section 2.12). Although the parish church of St Michael (SHER OUL 004) is thought to have Norman origins, it is not recorded in the Domesday Book, nor is Oulton itself. The closest documented settlement was at Flixton, *c.* 1.4km to the north, comprising 65 households, two lord's plough teams and ten men's plough teams (http://opendomesday.org/). The population of this large rural settlement was mostly made up of smallholders and free

men, while the pastoral economy was dominated by sheep husbandry (*ibid*.). The overwhelmingly agricultural nature of the surrounding landscape appears to have persisted well into the modern era. The first edition Ordnance Survey map (dated 1885) displays the current site as occupying open agricultural fields, with little encroachment of modern Oulton until the early 20th century. A market was first recorded in Oulton in the early 14th century (SHER OUL Misc).

The Pre-Roman Evidence

4.12 The earliest evidence from the site comprises dispersed flint blades of Neolithic character. Overall, this early struck flint assemblage attests to little more than transient (possibly seasonal) activity within the surrounding area, with no associated 'activity area(s)' being identified. This pattern fits well within the current understanding of Neolithic activity along the eastern coastline of Suffolk/ Norfolk (cf. Ashwin 1996, 47), and may be linked to the occasional exploitation of resources within the coastal plain and local wetland habitats. Certainly, the current site provides good access to a number of different habitats, while the River Waveney would have provided a useful transport corridor and access to the coast.

4.13 The majority of encountered prehistoric features were dated to Phase 2 (Late Bronze Age/ Early Iron Age (*c.* 1300 to 400 BC)). The Phase 1 (earlier prehistoric) features may have formed part of the same occupation landscape, although most were only tentatively dated and no firm conclusions can be drawn. The substantial Phase 1 boundary ditches could have formed part of a more extensive system of local landscape divisions – mostly represented by undated cropmarks and earthworks (e.g. SHERs FTN 010 and LWT 286; cf. Good and Plouviez 2007, 37) – with subsequent Enclosure 1 and its associated ?trackway (Fig. 6) representing a continuity of enclosure activity within the site, albeit on a greatly altered alignment. Regionally, Bronze Age and Iron Age enclosures/ trackways are relatively well represented, with earlier examples including Late Bronze Age enclosures and trackways at South Hornchurch, Essex (Guttmann and Last 2000). This settlement site also produced good evidence of cereal exploitation (*ibid.*). Although defensive Iron Age enclosures are absent from this part of East Anglia (Cunliffe 2010, 198), enclosed sites – thought to reflect a broader shift towards settlement nucleation – have been identified (Bradley 1984, 139). Type sites include the multi-ditched enclosure complex at Fisons Way, Thetford (Gregory 1991) the complexity of which far exceeds the current evidence. Late Bronze Age/ early Iron Age enclosures associated with possible ring ditch structures ware also excavated at Beck Row in north-west Suffolk (Bales 2004, 62). This fen-edge area, like the current site, is well placed for the exploitation of a number of geological zones and different habitats (cf. Mustchin 2014a), thus making it attractive to settlers. Although the current site lacks evidence of prehistoric structures, it is tempting to see the Phase 2 site as representing part of a broader agricultural landscape associated with a nearby occupation site(s). The Phase 2 economic evidence suggests a mixed agricultural economy, possibly with an emphasis on cereal cultivation, while the associated pottery assemblage – consistent with regional late Bronze Age/ early Iron Age traditions – suggests local domestic activity.

4.14 Phase 3 (middle to late Iron Age) evidence was scarce – comprising just four dispersed features – and suggests either a large-scale reduction in the scale and

intensity of activity at this time, or a shift in the focus of activity away from the site. This dearth of activity is not unusual for the area, however. Recorded Iron Age sites and findspots are few from this part of the Suffolk coast and are generally of limited significance (Good and Plouviez 2007, 37), although it is probable that many of the area's undated cropmark enclosures/ fields are either Iron Age or Romano-British in date (*ibid*.).

The Romano-British Period

4.15 The Romano-British site included part of a single enclosure boundary (Enclosure 2) and a focussed area of activity – including possible industrial evidence – a short distance to the south (Fig. 8). A number of dispersed features were also encountered.

The Romano-British Enclosure

4.16 Although only the south-eastern corner of Enclosure 2 was excavated, it may well have formed part of a more extensively enclosed Romano-British landscape; numerous undated cropmark enclosures of possible Roman date have been recorded along this part of the Suffolk coast (cf. Cook and Plouviez 2007, 37), and this local pattern of enclosure, if genuine, fits well with the general picture of '…extensively and continuously bounded [Romano-British] landscapes' which pervade across southern and central England (Taylor 2007, 113). However, it is equally possible that Enclosure 1 was an isolated entity or part of a more limited system of land division.

4.17 Fulford (1982) proposes a number of reasons for Romano-British land enclosure, including agriculture/ horticulture and livestock containment (after Wallis 2011, 74). Excavated evidence from East Anglia also attests to domestic and industrial functions, as well as mixed uses (e.g. Atkinson and Preston 2015, 44-5; Lally *et al.* forthcoming; Mustchin and Peachey forthcoming). The evidence from Oulton suggests a predominantly agricultural economy, however, based on cereal cultivation/ processing and animal husbandry (see below). Although some possible industrial evidence was also encountered at the site, it was not directly associated with the enclosure. It is proposed, therefore, that Enclosure 1 fulfilled a primarily agricultural role, possibly as a livestock corral or a crop processing area. Similar agricultural fields/ enclosures have been excavated at numerous regional sites including Cedars Park, Stowmarket (Nicholson and Woolhouse forthcoming).

Structure 1

4.18 Structure 1 was represented by 32 postholes forming a roughly rectangular arrangement (approximately 56m^2) with some evidence of possible 'interior' sub-division of space (Plate 3; Fig. 14). Although the limited finds assemblage from this structure included three fragments (82g) of possible tegula roof tile, it is not suggested that the structure incorporated a significant CBM component. In addition, no floor or other internal 'occupation' deposits survived to suggest function. Despite being located within an area of ?industrial activity, the validity of the latter remains uncertain (see below), and Structure 1 may have held an agricultural or storage role linked to the Romano-British enclosure (see above).

4.19 Although examples of rural Romano-British posthole structures are common across East Anglia, many are larger than the Oulton structure and often represent substantial aisled barns with specialised functions, e.g. the storage and malting of grain (Bales 2004; Mustchin 2015). The majority of Romano-British dwellings were also timber-built, with earth-fast construction being the most widely employed building technique (Perring 2002, 83-4). However, although structure 1 at Oulton is clearly of earth-fast construction, the site does not appear to have been a domestic settlement *per se*, although the recovered pottery assemblage suggests that a settlement of some description existed in the near vicinity. One close parallel to the Oulton structure was excavated at Beck Row. The building in this instance was similar in size and plan to Structure 1 at Oulton, and also lacked internal deposits, suggesting that it may have represented a simple, ancillary building (Mustchin 2014a). Other, similar structures include a rudimentary Romano-British barn of timber construction at Milton, Cambridgeshire (Reynolds 1994, 12).

Other evidence

4.20 The remaining Romano-British evidence included four modest pit clusters, a quarry pit and three possible hearths. One ?hearth, the quarry pit and two pit clusters were located close to Structure 1 and were initially interpreted as forming a focussed area of possible industrial activity. However, only the ?hearth – set within the upper part of Pit F2420 – yielded obviously industrial material (172g of slag), although not in significant quantities. As such, the function of this ?hearth remains uncertain. The function(s) of the remaining Phase 4 ?hearths is equally ambiguous; both were devoid of outwardly industrial material; it is possible that they represented simply bonfires, perhaps used for the burning of waste. Elsewhere, hearths have been found on a number of site types including villas (e.g. Gurney 1986, 8 and 45) and industrial sites, being linked to activities such as ore roasting (Chirikure and Paynter 2002).

4.21 Quarry Pit F2091 has good regional parallels, including modest sand quarries at Lexden in Colchester (Colchester Archaeological Trust 2001, 2-3). Similar extraction activity has been reported from Sheepen Hill, Colchester (Niblett 1985). The natural substrate encountered at Oulton – comprising sand and gravel deposits – suggests that the small-scale extraction of one of both of these aggregates was occurring at the site. Sand had a number of uses in the Roman world, including an architectural role in the manufacture of mortar and concrete (Humphrey *et al.* 1998, 229-30) and a secondary application in the metallurgical industries (e.g. Sim and Ridge 2002), while one obvious use of gravel was for the metalling of roads (Humphrey *et al.* 1998, 180).

4.22 The Romano-British pit clusters are thought to have functioned – at least in part – for the disposal of rubbish, either domestic or otherwise. Many of these pits lacked finds, however, and no firm conclusions can be drawn. Although some pits were devoid of finds, it is possible that they originally contained organic material that did not survive in the burial environment. It is thought that the clusters in the vicinity of Structure 1 were directly related to its use.

The Romano-British Economy

4.23 Romano-British features yielded the greatest quantity of animal bone from any phase, although the majority of fragments could not be identified to species. The identifiable assemblage – numbering just 14 fragments – was exclusively cattle or sheep/ goat, however, and included evidence for the presence of adult animals (see *The Animal Bone*). Most of the remaining fragments were identified as large mammal, denoting cattle/ horse sized animals. Despite difficulties in identifying the animal bone, the size of the assemblage clearly denotes the importance of animal husbandry to the local Romano-British population.

4.24 Recovered plant remains also indicate an increased intensity of arable production/ processing at this time with a clear dominance of barley grains, while rye being the second most abundant taxa (see *The Environmental Samples*). Both species are well suited to cultivation on the area's sandy soils, while the presence of germinated grains (from Pit F2463) suggests malting activity and, by extension, the presence of a drying kiln in the near vicinity. Evidence of Romano-British malting activity is relatively abundant from the region, and includes the large-scale Maltings site at Beck Row, Suffolk (Bales 2004), and a more recently excavated agricultural kiln at Woodditton in Cambridgeshire (Mustchin 2015). It has been suggested that malted grain may have been an important Romano-British trade commodity (e.g. van der Veen and O'Connor 1998, 134). However, the scale of production at the current site is difficult to assess based on the limited evidence (see *The Environmental Samples*).

4.25 The site's mixed agricultural economy is typical of the Romano-British period across East Anglia, with animal husbandry and arable production recorded at sites including the former Smoke House Inn, Beck Row (Suffolk; Mustchin 2014a), Childerley Gate, to the west of Cambridge (Abrams and Ingham 2008) and two farmsteads near Kempston in Bedfordshire (Luke and Preece 2011). The Romano-British economy at Childerley Gate was dominated by cattle husbandry – possibly akin to the current site – with secondary evidence for horse breeding along with some level of crop husbandry (*ibid.* 61 and 63). Good access to water is essential for effective animal husbandry. Dairy cows, for example have a total water content of between 56 and 81 per cent of their body weight and require regular access to large quantities of water in order to maximise milk production (Murphy 1992). Although the location of the current site would have met this requirement, the local soils are not ideal for grazing (Soil Survey of England and Wales 1983, 9). However, it is possible that the local pastoral economy involved some level transhumance, perhaps between the site and nearby soils of the Newport 4 Association. These soils support lowland heath (*ibid.* 10) which is a traditionally important economic resource supplying fuel wood, animal bedding and grazing land (English Nature 2005). Similar Romano-British transhumance between heathland pastures and other areas has been suggested elsewhere (e.g. Caruth 2003 and Craven 2005).

The Anglo-Saxon Settlement

4.26 The Anglo-Saxon period (Phase 5) was represented by two sub-phases of activity, collectively spanning the 5th to mid 12th centuries AD. The earlier part of this period included the only firm evidence of domestic occupation, comprising five

sunken-featured buildings, five burnt flint pits and a small number of pit clusters. The pit clusters yielded a modest artefact assemblage, thought to represent general refuse disposal, and will not be discussed further. Evidence of enclosure was identified throughout the Anglo-Saxon period, but was more clearly defined in the latter part of Phase 5, suggesting a possible change in the use of the site at this time. Possible structural remains and a small number of dispersed pits were also identified within the middle to later Anglo-Saxon phase. One of the pits yielded a find of particular interest, a collection of 11 weights, two of which have Carolingian coins (x2) or Roman coins (x2) embedded in their upper surfaces. The early to middle Anglo-Saxon pottery assemblage is in a mixed selection of fabrics (numbering six in all), in predominantly handmade forms with only low incidences of decoration. The later assemblage comprises Thetford ware of 10th to 12th century date, including one sherd of probable pre-Conquest date.

Settlement location

4.27 The location of the Phase 5 site on light, easily worked soils is typical of the Anglo-Saxon period in Suffolk (West 1999, 44). In contrast, the county's central 'claylands' are devoid of early settlement evidence, with the exploitation of these heavier soils only beginning around AD 650-850 (Wade 1999, 46; West 1999, 44).

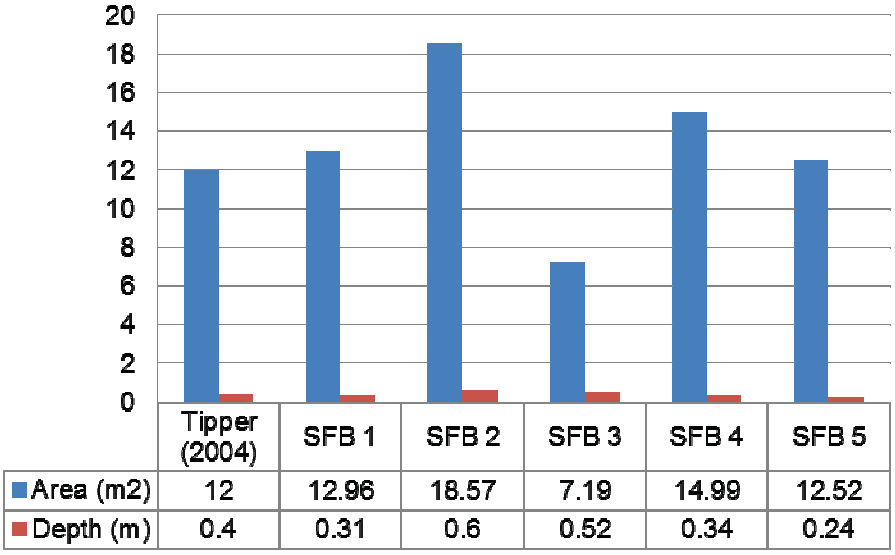
4.28 The site occupies an elevation between *c.* 10m and 20m AOD, overlooking the valley of Oulton Broad. At one time this valley linked the River Waveney to the sea, while the river's current route passes approximately 1.9km to the west. Such an elevated position is typical of Early Anglo-Saxon settlements across the region, with the deliberate positioning of structures on high ground having been noted at a number of sites including Brandon Road, Thetford (Norfolk) (Atkins and Connor 2010, 21), Duxford, Cambridgeshire (Lyons 2011, 91ff) and Snape, Suffolk (Mustchin 2014b). These sites all overlook river valleys; the Duxford settlement sits above the crossing point of the Icknield Way – an important communications route in the middle Anglo-Saxon period (Baker and Brookes 2013, 280) – over the River Granta (Roberts *et al.* 2011, 124), while the Brandon Road and Snape sites overlook the rivers Little Ouse and Alde, respectively (Atkins and Connor 2010, 2, fig. 1; Mustchin 2014b, fig. 1). From the late prehistoric to the early Anglo-Saxon period in England, the light, fertile soils of river valleys were the chief focus of clearance, settlement and cultivation, with the rivers themselves forming major arteries for communication and commerce (Mudd 2002, 3; Williamson 2010, 146, 152). As such, the juxtaposition the current site and the original route of the Waveney might have been an important factor in determining the placement of the Anglo-Saxon settlement. The inhabitants of the latter would have been well placed to exploit the resources of the Waveney Valley and surrounding wetlands as well as monitor any approaching river traffic.

Settlement form

4.29 The early to middle Anglo-Saxon period settlement comprised five SFBs, three of which formed a loosely clustered group of buildings. Five burnt flint pits, a small number of pit clusters and a few other Phase 5.1 features were also present. The latter included ditched boundaries which may have represented an early development of a later Anglo-Saxon enclosure (see below). Although SFBs are often found in combination with earth-fast structures (e.g. West Stow; West 1971),

none were present in this case. However, a predominance of SFBs is usual for sandy/ gravelly sites where post-built structures/ 'halls' tend to be scarcer (Tipper 2004, 24). SFBs are also broadly indicative of an early settlement date as this structural form is seen to decline during the middle Anglo-Saxon period and is absent at a number of 7th to 9th century settlements (*ibid.* 11-12).

4.30 Sunken-featured buildings (SFBs) or *Grubenhäuser* are the most commonly encountered form of Anglo-Saxon structure on archaeological sites and are ubiquitous throughout southern Britain (Hamerow 2011, 146; West 1971, 4). Other East Anglian examples are known from sites including Brandon Road, Thetford (Atkins and Connor 2010), Harston Mill, Harston (O'Brien forthcoming), Dernford Farm, Sawston (Newton forthcoming), the Old Bell, Marham (Newton 2013) and Hartismere High School, Eye (Caruth and Goffin 2012). Although the function of these sub-square structures is still widely debated, a study by Tipper (2004, 64-5) defines their average measurements as 3 x 4m in plan by 0.30-0.50m deep, which is similar to some of the Oulton examples (Chart 5). Hamerow (1993, 11) has noted, however, that later, 7th century SFBs can be much larger in size (after Hamerow 2011, 146), possibly suggesting a late date for SFB 2 at Oulton. However, Sunken Feature F2633 contained the largest group of early to middle Anglo-Saxon pottery from the site, thus firmly placing its use and backfilling within Phase 5.1.



	Tipper (2004)	SFB 1	SFB 2	SFB 3	SFB 4	SFB 5
Area (m2)	12	12.96	18.57	7.19	14.99	12.52
Depth (m)	0.4	0.31	0.6	0.52	0.34	0.24

Chart 5: Oulton SFB sizes and depths compared with Tipper's (2004) average dimensions. A median depth of 0.40m has been used based on Tipper's stated range of 0.30-0.50m

4.31 Although broadly contemporary, the SFBs at Oulton may have represented a temporal succession of buildings (at least in part). It is possible that SFBs 3 and 4, located *c.* 2m apart represented a short 'sequence' of structures with one building replacing the other. However, none of the SFBs yield a concentration of carbonised plant remains deemed suitable for radiocarbon dating, and the structural sequence remains unknown as a result.

The Sunken-Featured Buildings

Structural typologies

4.32 SFB typologies have previously been described by von Guyan (1952) and Ahrens (1966). Three of the Oulton SFBs displayed evidence of structural postholes midway along their short sides (Figs. 18, 24 and 27). These would most likely have housed upright, gable-end timbers in turn supporting a horizontal ridge pole which formed the apex of the roof. This structural format was defined by Ahrens (1966) as a *Giebelpfostenhaus* or *gable-post house* (after Tipper 2004, 68). In addition, SFB 1 at Oulton had postholes at two of its corners which may have held further uprights, perhaps tied into horizontal, gable-end crossbeams. Two-post SFBs (defined by von Guyan (1952)), of which SFBs 2 and 4 at Oulton may have been examples, are common, whilst six-post examples, with post settings similar to SFB 1, are largely confined to south-east England and East Anglia (Tipper 2004, 69; after West 1985, 121). Both forms were represented at the Anglo-Saxon village of West Stow (West 1971; 1985) and Spong Hill (Rickett 1995).

Evidence for suspended wooden floors

4.33 A lack of trampling recorded in the base of the Oulton SFBs suggests that all may have originally included suspended wooden floors. The absence of trampling is notable given the sandy nature of the underlying geology and suggests that bases of the sunken features did not themselves constitute floor levels. In at least three cases, this lack of trampling was accompanied by a dearth of finds from the primary fills; a limited quantity of cultural material was recovered from the primary fill of SFB 2 and the single Fill of SFB 4. It is thought that the 'sifting' of material through floorboards had resulted in this dearth of artefacts. In contrast, the upper fills contained numerous finds. A similar distribution was observed in SFB 5 at Dernford where the original presence of a suspended wooden floor was also attested by micromorphological analysis (Newton forthcoming). This pattern is by no means universal however (see Tipper 2004, 103ff). Trampled material and a hearth present in SFB 2037 at Marham, for example, suggests that the base of the sunken feature had itself formed the primary floor surface (Newton 2013, 335-6).

Depositional models

4.34 Tipper (2004, 107, 153, 184) suggests that, once derelict, most SFBs were subject to rapid backfilling with redeposited material from surface 'middens'. As such, the majority of finds from SFBs have no direct bearing on their primary use (*ibid.* 160); the same may be true for finds from Oulton. The stratigraphic evidence from the site also largely conforms to this pattern of backfilling, with finds-rich material sealing cleaner, primary deposits (thought to represent occupation deposits; see above).

The Burnt Flint Pits

4.35 The Phase 5 burnt flint pits each contained clearly defined fills yielding large quantities of burnt flint and charcoal (dominated by oak). Fill L2732 of Pit F2731 also yielded 83g of residual late Bronze Age to early Iron Age pottery. Despite the spot

date from this feature, comparable pits containing non-Anglo-Saxon finds are well documented. These include seven pits containing residual Roman material at Kilverstone, Norfolk (Lucy 2006, 184-6, fig. 5.16, plate XXI). An Anglo-Saxon burnt flint pit containing Roman pottery was also excavated at Church Road, Snape (Mustchin 2014b). The Kilverstone pifts were separated from contemporary structures and were thought to function as part of a periodic industrial process of uncertain character (Lucy 2006). Seventeen analogous pits excavated at Hartismere High School, Eye (Suffolk) were found scattered across a 4.67ha area, with some respecting the position of contemporary SFBs (Caruth and Goffin 2012, 45-6). Similar features, also in close association with structural remains, were found at Redcastle Furze (Andrews 1995) and were interpreted as having a cooking function (after Lucy 2006, 184, 186). A domestic role seems unlikely, however, due to the low thermal tolerances of flint; it can explode when rapidly heated and cooled (Sieveking and Clayton 2011, 284).

4.36 Seven similar pits containing burnt flints, tentatively associated with ritual feasting, were identified at Snape Anglo-Saxon Cemetery (Filmer-Sankey and Pestell 2001; Williams 2008, 248). These pits were of particular interest as the flint they contained is atypical of the site's geology and could not have been collected locally (Pestell 2001, 259). The Snape Cemetery pits were analogous to another 'cooking' pit recorded at Flixton (Boulter and Walton Rogers 2012, 94-5, fig. 6.3). Despite containing late Iron Age/ early Roman pottery, radiocarbon dating of the Flixton pit confirmed its association with the adjacent Anglo-Saxon site (*ibid.*).

Evidence of Enclosure

4.37 A large, rectangular enclosure was dated to the middle to late Anglo-Saxon period, but appeared to constitute a development of boundary alignments belonging to the earlier part of Phase 5. The enclosure was bounded to the north and west by contemporary sections of ditched trackway, the northernmost of which continued beyond the edge of the excavation in the same direction. The southernmost section of trackway, to the west of the enclosure, narrowed towards the south and may have been laid out purposefully to control the movement of livestock. Although small, the Phase 5.2 animal bone assemblage includes a good spread of taxa with cattle, sheep/ goat and horse all represented (see *The Animal Bone*). However, the few fragments recovered cannot be used to infer the relative economic importance of these species to the Anglo-Saxon population. Plant remains were also sparse from the latter part of Phase 5. As such, it is difficult to determine the function(s) of the Anglo-Saxon enclosure, although an agricultural use seems most likely. An economy based on sedentary farming, subsidised by hunting, is typical of the period in East Anglia (e.g. Crabtree 1985, 85ff; Higbee 2009; Powell and Clark 2002, 101ff).

Possible Structural Evidence

4.38 A group of 21 pits and two possible beam slots at the southern edge of the Anglo-Saxon enclosure may have represented structural remains. These features were devoid of finds, however, and were only tentatively dated. Evidence of 'internal' deposits – possibly relating to the use(s) of this ?structure – were also absent. This dearth of evidence, although possibly taphonomic in nature, might suggest that any structure represented was ancillary in nature, perhaps having a

storage function. Alternatively, the remains may have represented a livestock pen or similar agricultural structure, thus accounting for the dearth of cultural material.

4.39 Anglo-Saxon examples of earth-fast and beamslot structures are well documented; Addyman (1972, 283, fig. 5) provides a useful overview of 'post-built huts'. 'Beamslot' foundations are rarely encountered on early Anglo-Saxon sites, however (Lyons 2011, 92), thus supporting a middle to late Anglo-Saxon date for the Oulton ?structure.

The Anglo-Saxon Economy

4.40 It is difficult to infer much regarding the nature of the Anglo-Saxon economy at Oulton. Plant remains from Phase 5.1 are only representative of low level cereal use, while the animal bone assemblage is small, albeit the second largest recovered. Despite its size, the faunal remains include the greatest diversity of identified taxa, dominated by cattle; sheep/ goat, pig and horse are also present. Animal and plant remains are also scarce from middle to late Anglo-Saxon deposits. Nonetheless, as previously mentioned, a sedentary farming economy is typical for the period in East Anglia and it is not unreasonable to suggest that this was also the case at Oulton.

The Weights

4.41 Dispersed Phase 5.2 Pit F2162 yielded a highly significant collection eight cylindrical pan weights and three spherical hanging weights (see *The Small Finds*). Four of the pan weights have embedded coins in their upper surfaces (x2 Roman and x2 Carolingian; *ibid.*). These finds are considered to have been in use during the Viking Age, with several comparative collections known (*ibid.*). The occurrence of Carolingian coinage – possibly deriving from Viking incursions into Frankia – is of particular significance and is not paralleled elsewhere (*ibid*.). These coins might suggest a continental origin for the weights themselves.

4.42 The system of measurement in use may well be Viking. The two larger hanging weights are close to 24g each, equating to one *eyrir* (1 ounce), while the smallest weight is equivalent to one *ertog* (one third of an ounce) (*ibid.*). None of the weights conforms to medieval systems of measurement.

4.43 Although the character of the weights appears relatively clear, the context of their discovery can add little to their overall interpretation. Pit F2162 was small and contained just a single fill (L2163), perhaps indicating that it had been dig specifically to receive the weights. Other finds from L2163 include a single sherd (4g) of Early Medieval sandy ware and a corroded piece of iron (62g); the latter may have been the remains of a set of scales. Beyond the Danelaw, similar groups of weights are known from the Isle of Purbeck and Cirencester; the latter perhaps relating to late 9th century activity (*ibid.*). This date would fall well within the early part of Phase 5.2 at Oulton.

The Post-Anglo-Saxon Evidence

4.44 Post-Anglo-Saxon activity was relatively scarce within the excavated area. Twenty-four Saxo-Norman/ medieval (Phase 6) features were present, 23 of which

formed an informally distributed cluster in the northern area of the site (Fig. 10). Thirteen of the clustered features yielded smelting or undiagnostic slag (totalling 1487g), while one (F2180) contained a single metal fragment (30g). Although no smelting furnace was present within the confines of the site, the recovered slag assemblage indicated the probable occurrence of metallurgical industry somewhere in the near vicinity. Similar evidence of medieval iron working was excavated at Nowhere House, Thornington (SHER TNG 026), while a medieval (15th to 16th) lead working site and other remains have been reported from the Angel Site in Halesworth; both sites are located close to the Suffolk coast, within 24km of Oulton. Diagnostic pottery from the Phase 6 features was scarce, however, and the majority were only tentatively dated.

4.45 The post-medieval to early modern/ modern (Phase 7) site appeared wholly agricultural in nature, defined by two substantial, linear boundary alignments. This 'opening up' of the landscape (compared to earlier phases of enclosure) is reminiscent of similar reorganisation elsewhere, e.g. Wheatcroft Farm, Bradwell (Mustchin *et al.* in preparation) and reflects the current land use. The remaining Phase 7 features comprised a mix of linear and discrete features and a possible fenceline. None yielded finds of note. The agricultural nature of the site at this time is reflected by the cartographic evidence, with no encroachment of modern Oulton until the early 20th century

5 CONCLUSIONS

5.1 The encountered Romano-British and Anglo-Saxon archaeology at Oulton adds significantly to our understanding of these periods in this part of Suffolk. Both are relatively poorly represented in the north-eastern area of the county, although the recently published Anglo-Saxon settlement and cemetery at Bloodmoor Hill, Carlton Colville conforms to patterns of settlement elsewhere, being confined to light, easily worked soils. Economic evidence from both periods at Oulton suggests the practice of mixed agriculture, although only low levels of cereal use are represented in Phase 5 and the animal bone assemblage is relatively poor across all phases. Some evidence of malting activity is represented in the Romano-British period – in keeping with evidence from across East Anglia – although the scale of this industry is uncertain.

5.2 The early to middle Anglo-Saxon site contained the only evidence of domestic occupation within the excavated area, including five sunken-featured buildings and five burnt flint pits. Although few, the Phase 5.1 structures are notable, being the only domestic buildings of this period known from the immediate area. Good comparisons in terms of building form, configuration and settlement layout are known from other regional sites, however. The topographical and geographical setting of the early to middle Anglo-Saxon settlement is also mirrored elsewhere. The study of Anglo-Saxon settlement and social organisation has been identified as a regional research priority (Medlycott 2011, 56) and the current site makes a valuable contribution to this field.

5.3 The Anglo-Saxon burnt flint pits are more difficult to interpret. Although regional comparisons are relatively numerous, there is no firm consensus regarding

the use/ purpose of this feature type. Interpretations range from cooking pits to industrial features. In this instance, however, it is thought unlikely that they held a domestic/ cooking function, owing to the propensity of flint to explode when heated or cooled rapidly.

5.4 One find of particular significance from the site is the collection of 11 weights from Phase 5.2 Pit F2162. Pan weights in this group include two with embedded Roman coins in their upper surfaces and two with Carolingian coins. The latter are particularly notable as they are not paralleled elsewhere and suggest a possible European origin for the weights. Alternatively the coins may have derived from Viking incursions into Frankia. The system of measurement in use appears to be Viking and the collection as a whole has parallels with other groups both within and beyond the boundaries of the Danelaw. One group from Cirencester may relate to activity in the latter part of the 9th century, well within the early part of Phase 5.2 at Oulton. However, the context of the Oulton weights adds little to their overall interpretation; the site at this time was dominated by a large agricultural enclosure and trackways, with only tentative structural evidence and no domestic buildings.

5.5 The Romano-British and Anglo-Saxon phases were indirectly preceded by prehistoric activity, with the earliest material from the site comprising sparsely distributed struck flint of Neolithic character. The earliest sedentary activity at the site spanned the late Bronze Age to early Iron Age (Phase 2) and was characteristic of regional settlements of this period, largely comprising enclosure boundaries – thought to be agricultural in nature – and clustered refuse pits. The Phase 2 economy is difficult to interpret, however, as only trace animal bone was present and much of the environmental assemblage consists of taxa that are not typical of the period. Later in the Iron Age, the focus of activity appears to have shifted away from the site, with very few features of middle to late Iron Age date encountered. The post-Anglo-Saxon phases were only poorly represented, with a possible metallurgical waste area being dated to the Saxo-Norman/ medieval period, while the character of the post-medieval and later landscape was agricultural; in character with the current land use.

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APPENDIX 1 CONCORDANCE OF FINDS

Trial Trench Evaluation

Feature	Context	Segment	Trench	Description	Spot Date (Pottery)	Pottery	CBM (g)	Animal Bone (g)	Other
1003	1004		62	Ditch fill	Mid 5th-9th C	(1) 4g			
1005	1006		62	Pit fill				1	
1013	1014		67	Posthole fill					Struck flint (2) - 8g
1023	1024		82	Ditch fill					Struck flint (1) - 13g
1033	1034		85	Posthole fill	EIA	(3) 96g			
1035	1036		85	Ditch fill	Modern	(3) 157g			
1039	1040		52	Ditch fill				184	Struck flint (3) - 17g
1041	1042		59	Ditch fill	10th-12th C	(2) 6g			
1043	1044		116	Ditch fill	10th-12th C	(7) 67g			
1045	1046		163	Ditch fill					Struck flint (2) - 11g
1047	1048		84	Pit fill	10th-12th C	(3) 95g		13	Struck flint (1) - 15g
1053	1054		163	Ditch fill	12th-13th C	(1) 23g			
1055	1056		114	Pit fill					Struck flint (2) - 4g
1067	1068		64	Pit fill			554	4	Cu. Alloy (2) - 1g
1069	1070		64	Pit fill	Mid 5th-9th C	(1) 6g	58		Struck flint (2) - 77g
1081	1071		108	Hearth fill	10th-12th C	(1) 17g	497	20	
1084	1085		105	Ditch fill	10th-12th C	(1) 14g			
1088	1089		105	Pit fill	EBA	(5) 13g			
1106	1107		83	Ditch fill				41	
1110	1111		83	Pit fill	Mid 5th-9th C	(1) 18g			Struck flint (1) - 5g
1114	1115		83	Pit fill	Mid 5th-7th C	(34) 434g	284	60	?Rubbing Stone - 38g Struck flint (2) 63g
1120	1121		113	Ditch fill				16	
1122	1123		113	Ditch fill				7	
1126	1127		109	Pit fill	Mid 5th-9th C	(2) 30g			Struck flint (1) - 35g
	1139		109	Pit fill				1	
1147	1148		110	Gully fill				231	
1159	1160		117	Pit fill					Struck flint (2) - 19g

-	-		108	Possible SFB	Saxon (one med sherd)	(12) 99g			
	1221					(1) 2g	28		Glass (30 - 20g
	1223	B				(3) 52g	52		

Excavation

Feature	Context	Segment	Description	Spot Date (Pottery Only)	Pottery (Quantity)	Pottery (g)	CBM (g)	Animal Bone (g)	Other Material	Other (Quantity)	Other (g)
	2000		Topsoil	modern	7	89	219		Glass	2	48
									Slag		2
									Struck flint	2	17
									Fe	3	239
2005	2006		Pit fill					23			
	2009		Colluvium	Late Roman	1	77					
2011	2012		Pit fill				180				
	2016								Burnt stone	2	108
2019	2020	B	Ditch fill	mid 5th to mid 9th	1	3					
		D		6th-7th	1	19					
		F					2				
2025	2026		Pit fill	prehistoric	1	4					
2027	2028		Ditch fill	prehistoric	1	3					
		C		prehistoric	2	12					
		D		prehstoric?	2	2					
		E		prehistoric	1	3					
		F		prehistoric	2	13					
2033	2035		Lower Fill of SFB	prehistoric	1	4		5	Slag		457
		C						8			
		D		mid 5th-mid 9th	3	27					
2036	2037		Pit fill	Roman	7	265		93	Struck flint	1	2
									Burnt flint		202
2040	2041		Pit fill	mid to late Iron Age	15	150			Burnt flint		37
2042	2043		Ditch fill	mid 9th-mid 12th	5	43					
2056	2057		Pit fill	prehistori	3	40	1				

2064	2065		Pit fill						Burnt stone	1	184
2068	2069		Ditch fill	17th-18th	1	26					
2060	2071	B	Pit fill				3				
2072	2073		Gully fill	prehistoric	2	13					
2078	2079		Pit fill	Roman	1	40					
	2086		Tree bowl fill	prehistoric	2	25					
2091	2092		Pit fill	mid 9th-12th	5	34					
		A					32	28			
		B						7			
2093	2094		Pit fill	mid 5th-mid 9th	19	344	101	6	Slag		82
									Struck flint	1	3
2091	2097	A	Pit fill	Roman	1	28	12				
2091	2100	A	Pit fill					2			
2091	2102	A	Pit fill	Roman	3	76					
2091	2104	A	Pit fill	mid 9th-mid 12th	1	14					
2105	2106		Posthole fill	Iron Age	5	85			Burnt flint		4
									Fired clay		11
2115	2116		Pit fill	LBA-IA	1	6					
2123	2124		Ditch fill	19th-20th	2	5					
2131	2132		Pit fill	mid 5th-7th	38	682	90	39	Struck flint	1	75
									Worked stone	2	36
2135	2136	B	Ditch fill	prehistoric	3	4	3				
2143	2144	A	Ditch fill	19th-20th	16	439			Glass	1	65
									Roof slate	1	25
2148	2149		Ditch fill				598				
		G					700				
2148	2149	A	Ditch fill	mid 5th-mid 9th	1	1	495				
2154	2155		Ditch fill	prehistoric	1	8			Slag		119
		B		mid 5th-mid 9th	2	1			Baked clay		1
2156	2157	B	Ditch fill	LBA-IA	1	15		4			
2162	2163		Pit fill	mid 7th-mid 12th?	1	4			Fe crusted weights		62
									SF1 (weights)		869
		B							Fired clay		84
2164	2165		Pit fill	mid 5th-mid 9th	51	826	77		Slag		70

									Struck flint	12	82
2168	2169		Posthole fill	prehistoric	1	2					
2174	2175		Posthole fill					3	Slag		188
2176	2177		Pit fill						Slag		50
2178	2179		Pit fill								105
2180	2181		Pit fill						Metal	1	30
2182	2183		Pit fill						Slag		34
2184	2185		Posthole fill						Slag		258
2186	2187		Pit fill						Slag		11
2190	2191	A	Gully fill	11th-14th	1	5			Slag		6
2192	2193	 A	Pit fill	Roman?	1	7			Slag Slag		420 39
2200	2201		Pit fill						Slag		165
2164	2204		Pit fill	mid 5th-mid 9th	1	2					
2205	2206		Posthole fill								43
2213	2214		Posthole fill						Slag		63
2215	2216		Posthole fill						Slag		56
2217	2218		Pit fill								
2217	2219		Pit fill				1				
2221	2222		Pit fill	mid 5th-mid 9th	6	30					
2241	2243		Pit fill						Baked Clay Burnt flint	 8	42 294
2241	2244		Pit fill	prehistoric	6	131			Fired clay Burnt flint		313 167
2245	2246		Posthole fill				8				
2247	2248		Posthole fill	12th-15th	2	4			Baked Clay		3
2249	2250		Posthole fill				59				
2251	2252		Posthole fill				147				
2253	2254		Posthole fill	Roman	2	20	37		Fired clay		9
2255	2256		Posthole fill	Roman?	1	2	49	24			
2259	2260		Posthole fill				104				
2265	2266		Posthole fill				82				
2269	2270		Posthole fill	LBA-Iron Age	2	21					
2271	2272		Posthole fill	LIA - Roman	1	7	7		Baked Clay		42

2273	2274		Posthole fill				37	10			
2275	2276		Posthole fill				94				
2277	2278		Posthole fill	LBA-IA	1	18					
2274	2280		Posthole fill	mid 5th-mid 9th?	1	3					
2281	2282	A	Ditch fill				10	106 2			
2283	2284		Posthole fill				200				
2287	2288	F	Posthole fill	late medieval/early post-medieval	1	5			Fired clay		64
2291	2292		Posthole fill				374				
2293	2294	A	Gully fill								
2295	2296		Pit fill								
2299	2300		Posthole fill				1				
2301	2305		Pit fill				168				
2306	2307		Pit fill	modern	2	7					
2310	2311	A	Pit fill	prehistoric	1	79	17 39	7 6			
2312	2313	A	Pit fill	prehistoric	4	8					
2314	2316		Pit fill				49				
2317	2318		Pit fill								
2328	2329		Pit fill				5				
2338	2340		Pit fill	prehistoric	1	2					
2341	2342		Pit fill	prehistoric	1	5					
2347	2348		Ditch fill						SF2 (metal)	1	17
2349	2350		Pit fill	LBA to Iron Age	1	14	7				
2351	2352		Pit fill				8				
2353	2354	A	Gully fill	mid 5th-mid 9th?	2	4					
2357	2358		Pit fill	late 18th-mid 20th	1	4	80				
2362	2364		Pit fill	prehistoric	1	5			Slag		8
2365	2366	A B	Pit fill	mid 5th-mid 9th (all but one sherd Roman)	9	151	12 <1	11			
2359	2360		Pit fill	mid to late Iron Age	2	24					
2367	2368		Pit fill	prehistoric	3	6					
2370	2371		Pit fill	mid 5th-mid 9th?	1	2					

2374	2375		Pit fill				89				
?	2398		Cut of Pit				63	52			
2402	2403	A	Pit fill	Roman	1	42					
2404	2405		Pit fill						Burnt flint		18
2407	2408	B	Gully fill	prehistoric	1	16					
		C		mid 5th-mid 9th	5	16					
		D						13			
2418	2419		Pit fill						?clinker		
2420	2421		Pit fill					293	Slag		172
	2429		Tree bowl fill	Roman	1	4	21				
2342	2433		Posthole fill				67				
2459	2460		Pit fill	mid 5th-mid 9th	1	5	441				
2461	2462		Ditch fill	LBA-EIA	17	471					
2466	2467		Pit fill	mid to late Iron Age	9	129					
2468	2469		Pit fill	mid 5th-mid 9th (but mainly prehistoric sherds)	5	19					
2470	2471	B	Ditch fill	prehistoric?	3	12	3				
2480	2481		Pit fill	prehistoric	1	10					
2482	2483		Pit fill	Roman	1	3					
2484	2485		Pit fill	prehistoric	48	442			Struck flint	2	6
2502	2503		Posthole fill				8				
2510	2511	D	Gully fill	6th-12th	2	105		105			
2536	2537		Pit fill						Slag		152
2540	2541		Posthole fill				13		Slag		113
2546	2547		Pit fill	Roman	1	7	133				
2554	2555		Posthole fill	LBA-IA	13	210					
2501	2560		?Hearth fill						Metal	7	11
2567	2568		Posthole fill								13
2569	2570		Pit fill		18	296					
2612	2613		Pit fill	mid 5th-mid 9th	1	7					
2633	2634		Fill of SFB	mid 5th-mid 9th	30	547	482	9	SF3 (Fe blade)	2	20
									Burnt flint		140
									Burnt clay	8	3
		A		mid 5th-mid 9th	35	272	10	39			
		B		mid 5th-mid 9th	20	397	222				

		C		mid 5th-mid 9th	21	220	294				
2633	2635		Fill of SFB	mid 5th-mid 9th	3	39					
		C		mid 5th-mid 9th	6	48	279				
2639	2640		Pit fill	Mid 5th-mid 9th	1	4	113	10			
2641	2642		Pit fill	11th-13th	3	19	113				
2643	2645		Pit fill	mid 5th-mid 9th	1	3	4		Struck flint	1	5
2646	2647		Pit fill				16				
2660	2661		Posthole fill	mid 5th-mid 9th	1	24	5				
2664	2665		?Hearth fill					19			
2669	2670		Pit fill	Roman?	1	9					
2671	2672		Posthole fill	mid 5th-mid 9th	1	4			Baked Clay		20
2687	2688		Pit fill	mid 5th-mid 9th	10	60			Burnt flint		1
2689	2690		Pit fill	mid 5th-mid 9th	3	18					
2697	2698	C	Gully fill				15				
2723	2724		Pit fill	mid 5th-mid 9th	9	98	14				
2729	2730		Pit fill	mid 9th-mid 12th	4	35		2	Slag		151
2731	2732		Pit fill	LBA-IA	8	83					
2740	2741	A	Ditch fill	mid 5th-mid 9th	2	52					
2742	2743		Pit fill		6	39					
2744	2745		Pit fill	mid 5th-mid 9th	10	102					
2746	2747		Pit fill	mid 9th-12th/13th	1	19			Slag		307
2750	2751		Fill of SFB	mid 5th-mid 9th	3	37	25				
		A		prehistoric	2	54					
		B		mid 5th-mid 9th	5	74		31			
		C		12th-16th	5	110		21			
2754	2756	A	Upper fill of SFB	mid 5th-mid 9th	9	31		4			
		D		mid 5th-mid 9th	3	57		24	Fired clay		22
2759	2760		Pit fill	mid 5th-mid 9th	3	26			Clay		48
2761	2762		Pit fill	mid 5th-mid 9th	2	11		12			
U/S	U/S		Unstratified		1	14	28				

APPENDIX 2 WRITTEN SCHEME OF INVESTIGATION

LAND OFF LIME AVENUE, OULTON, SUFFOLK

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION

23rd January 2015

LAND OFF LIME AVENUE, OULTON, SUFFOLK
ARCHAEOLOGICAL EXCAVATION
SPECIFICATION FOR ARCHAEOLOGICAL EXCAVATION

1 INTRODUCTION

1.1 This Written Scheme of Investigation has been prepared in response to a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (Matthew Brudenell, dated 22nd January 2015). It provides for a programme of archaeological excavation on land at Lime Avenue, Oulton, Suffolk (NGR TM 518 941). The investigation is required to be undertaken to comply with a planning condition attached to planning permission for the construction of a new residential development. The requirement follows a trial trench evaluation of the site (Orzechowski & Thompson 2015).

2 COMPLIANCE

2.1 The terms and conditions contained in the SCC AS-CT brief have been read, understood and are accepted. The project will adhere also to the *Code of Conduct* of the Institute for Archaeologists. The investigation will adhere to the IfA's *Standard and Guidance for Archaeological Excavation (revised 2008);* the SCC AS-CT document *Requirements for Archaeological Excavation 2012 Ver 1.1* and *Standards for Field Archaeology in the East of England* (Gurney 2003).

3 SITE DESCRIPTION
NATURE OF THE DEVELOPMENT & ARCHAEOLOGICAL REQUIREMENTS

3.1 The site lies in an area of archaeological potential on the northern side of Lime Avenue, Oulton. It is largely greenfield/agricultural, and extends to some 35.ha.
3.2 The underlying geology is Crag Group - Sand (British Geological Survey website). The drift geology is Happisburgh Glacigenic Formation – Sand across the majority of the surveyed area, with an area of Head – Clay, Silt, Sand and Gravel in the east (British Geological Survey website).

3.3 It is proposed to construct new residential development on the site.

3.4 There has been little in the way of previous investigation in the area to characterise its archaeological potential, but it is a large greenfield site in a topographic location favourable to early activity, overlooking the River Lothing to the south and the Oulton Marshes to the north. A small area of land adjacent to Mobbs Way has been subject to an archaeological evaluation in 2010 (HER OUL 11), revealing evidence of prehistoric and medieval occupation.

3.5 This is an area that has undergone very little systematic archaeological field investigation and there are just 16 HER points within an approximate 1km radius of the site. Prehistoric stone tools have been found in the area between 500m and 1km of the site including a Palaeolithic worked implement (OUL Misc), a Neolithic

polished axe head, a late Neolithic flint artifact scatter including an adze and barbed-and-tanged arrowhead from Pound Lane to the north-east (LWT 015), and a Bronze Age hornblende granulite battleaxe from Lothingland to the south (SUF Misc). Cropmarks of at least one, and possibly three ring ditches, have been identified in Oulton parish between 500m and 1km south/south-west of the site (OUL 005). The only Roman finds are two bronze coins found during metal detecting (OUL 001).

3.6 There is only one HER point recorded within 500m of the site where an archaeological evaluation was carried out on 1.7ha of arable land off Mobbs Way between approximately 200 and 500m east of the site (OUL 011). A small assemblage of prehistoric material was recovered and two undated ditches and three possible pits were identified. A medieval or post-medieval ditch was also recorded, and the isolated post-medieval finds recovered indicated that the area had probably remained as open arable land since the medieval period.

3.7 St Michael's Church located 1km to the south-west is thought to date back to Norman times although it is not mentioned in the Domesday Survey. It was rebuilt in the 14th and 15th centuries and was restored in the 19th (OUL 004). A market is recorded at Oulton in the year 1307 (Oulton Misc). Oulton Broad is the most southerly of the manmade Norfolk Broads. A 14th century jetton and medieval finger ring were found in a garden at Oulton Broad village (LWT Misc). The cropmark of a sub-oval enclosure or moat is located over 500m west/north-west of the site (FTN 013). Post-medieval tile and other finds were made within the area of the enclosure/moat (FTN 011).

3.8 A geophysical survey recorded linear anomalies of possible archaeological origin (Egan 2014). In summary:

West Field

The survey of the western field identified four possible archaeological anomalies; however these could equally be related to modern agricultural activity.

Middle Field

The principal recorded anomaly forms a curve or an enclosure which may be of archaeological origin. The enclosure contains four anomalies possibly indicative of in filled discrete pits. In the same southern area of the field five anomalies may be pits of archaeological origin. A linear feature is located in the north east area of site and is oriented east-west. It may represent a former field boundary and may be of archaeological origin.

East Field

A linear ditch runs NE/SW across the north-eastern section of the site and may be of archaeological origin. It is close to a second ditch which may also be of archaeological origin.

The conducive geology and presence of possible archaeological anomalies suggests that the survey has been successful. The remaining anomalies are of modern origin, relating to agricultural activity and ferrous objects.

3.9 An archaeological evaluation of the first phases of the site was carried out by AS (Orzechowski & Thompson 2015).

In summary:
The dating of features is tentative due to the occurrence of small quantities of pottery and other finds. Seventy eight features were recorded. The majority of features were linears (ditches, ditch terminals and gullies). Discrete features (pits) were common and structural remains (post and stake holes) were also recorded. A possible sunken featured building was recorded in Trench 108.

The earliest features were prehistoric. Early Bronze Age pottery was present in Pit F1088 (Trench 105), and Late Bronze Age / Early Iron Age pottery occurred within Post Hole F1033 (Trench 85). Sparse struck flint numbering 1 – 3 pieces were found in several features (Trenches 52, 67, 82, 114, 117 and 163).

Five features contained Early – Middle Saxon (mid 5th – 9th century) pottery, and five features contained Saxo-Norman (10th – 12th century) pottery. A possible sunken featured building (SFB) was recorded in Trench 108. Many of the Saxon features were discrete features (pits) as opposed to linears, and they included a possible hearth (F1081 Trench 108) and a sunken featured building (SFB, Trench 108). Trenches 64, 83 – 84 and 108 - 109 which contained the discrete Saxon features were located in close proximity. Pit F1114, and from the surface of the SFB, produced the largest number of sherds (34 and 12 sherds respectively). CBM, animal bone and a ?rubbing stone were also found within Pit F1114. The Saxon features were recorded in the southern sector of the site and were located within the semi-circular `enclosure' identified during the geophysical survey.

F1053 (Trench 163) contained a sherd of medieval (12th – 13th century) pottery.

4 REQUIREMENTS MITIGATION STRATEGY COMPRISING EXCAVATION

4.1 All stages of the excavation will be carried out in accordance with the procedures and guidance contained within *Management of Archaeological Projects 2,* English Heritage (1991) and MoRPHE (2006).

5 MITIGATION STRATEGY DETAILS

5.1 Aims and Objectives

5.1.1 The primary objective is to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site.

5.2 Research Priorities

5.2.1 Principally:

- Place the activity in context with the known activity of these dates in the surrounding area
- Characterise the activity present within the site
- Identify topographical/geological/geographical influences on the layout and development of the activity present within the current site and in the surrounding area.
- Environmental reconstruction

6 PROGRAMME OF WORKS

Archaeological Excavation

6.1 The brief requires:

Controlled strip, map and excavation of part of the Phase development area (Area A on the attached plan - extending to c.3.2ha)

6.2 The strip will be carried out under archaeological supervision.

6.3 Details of proposed work are presented below.

6.4 All of the above stages and operations will be carried out in accordance with MAP2 (EH 1991), MORPHE and the IFA *Standard and Guidance for Archaeological Watching Briefs* and *Excavations* (revised 2008), as well as the documents listed in Section 2 (above). A Method Statement for dealing with archaeological remains, if present, is presented below (Appendix B).

7 EXCAVATION METHODOLOGY

7.1 As set out in the brief. A Method Statement is presented (Appendix A).

7.2 The research design and details of proposed work amplify the methodology.

8 SPECIFIC REQUIREMENTS

8.1 As set out in the brief.

8.2 The SCC AS attaches considerable importance to the public archaeology associated with the work. AS also has a commitment to educational work, and will arrange for outreach as required as part of the project. If practical, an Open Day will be arranged. Visits to local schools and a parish-based presentation of the archaeological remains may also be undertaken.

8.3 A programme of environmental sampling will be undertaken according to guidelines of the document *Environmental Archaeology; A guide to the theory and practice of methods, from sampling and recovery to post-excavation,* Centre for Archaeology Guidelines, English Heritage, 2011. The results of the project will be made known to the English Heritage Regional Advisor in Archaeological Science. A method statement for sampling and scientific analysis is presented (Appendix A).

9 GENERAL REQUIREMENTS

9.1 STAFF

9.1.1 Archaeological Team

As to be set out in the brief. Details, including the name, qualifications and experience of the site director and all other key project personnel are provided (as required) (Appendix B).

Senior Project Manager	Claire Halpin MIfA
Project Manager	Jon Murray MIfA
Project Officer	TBC

All have extensive experience of the archaeology of the local area.

All senior AS Field Staff have experience of the use of metal detectors during excavation projects.

AS is recognised as an Investor in People, a Registered Organisation of the Institute of Field Archaeologists and is certified to BSI ISO: 9001 & 14001.

9.2 RESEARCH DESIGN

9.2.1 The previous archaeological evaluation of the site has revealed features of prehistoric and Saxon date.

9.2.2 The research priorities for the region are set out in Glazebrook (1997) and Brown & Glazebrook (2000) and updated by Medlycott and Brown (2008) and Medlycott (2011). The key issues for the Neolithic and Bronze Age (as set out by Brown & Murphy in Brown & Glazebrook 2000, 9-13) centre on the theme of the development of farming and the attendant development and integration of monuments, fields and settlements. Medlycott & Brown (2008) and Medlycott (2011, 13) suggest that future research on the Neolithic should include synthetic and regional studies for the region; an examination of the Mesolithic/Neolithic transition through radiocarbon dates; the establishment of a chronology for Neolithic ring-ditches; improved understanding of the chronological development of pottery; the excavation and study of cropmark complexes; greater understanding of burial practices; a study of the inter-relationships of settlements; greater use of scientific methods of dating and modelling of the environmental conditions during this period; targeted programmes of sedimentological, palynological and macrofossil analyses of

sediment sequences in valley bottoms, lakes or the intertidal zone; and the human impact on the natural landscape during this period. The nature of Neolithic burial in the region and the pattern of burial practice, including the relationship between settlement sites and burial, require further research. Settlement sites themselves also form part of an important research subject as there is a requirement to identify if a consensus exists on the subject of non-permanent settlement in the Neolithic (Medlycott 2011, 13). Further work on understanding the effects of plough damage on Neolithic sites is considered to be an important research subject for the region (Medlycott 2011, 13).

9.2.3 Inter-relationships between settlements and greater understanding of patterns of burial practice are important areas of research for the Bronze Age (Medlycott & Brown 2008). Medlycott (2011, 21) identifies artefact studies as of particular importance for the study of the Bronze Age in the region; the typological identification of later Bronze Age pottery linked to close radiocarbon dating, the further study of Bronze Age flintworking and the significance of hoarding and other depositional practices are all identified as being key research subjects. Artefact studies can contribute to the refinement of chronologies for the period and to an assessment of the reasons behind the marked divide in research results between the northern and southern parts of the region, which are identified by Medlycott (2011, 21) as important research areas. Like the Neolithic, sedimentological, palynological and macrofossil analyses of sediment sequences are considered to be important areas of research as are the effects of colluviation and the possibility that colluvial deposits mask some significant sites (Medlycott 2011, 21).

9.2.4 Research topics for the Iron Age set out by Bryant (in Brown & Glazebrook 2000, 14-18) include further research into chronologies, precise dating and ceramic assemblages, further research into the development of the agrarian economy (particularly with regard to field systems), research into settlement chronology and dynamics, research into processes of economic and social change during the late Iron Age and Romano-British transition (particularly with regard to the development of Aylesford/Swarling and Roman culture, and also regional differences and tribal polities in the late Iron Age and further research into *oppida* and ritual sites), further analysis of development of social organisation and settlement form/function in the early and middle Iron Age, further research into artefact production and distribution and the Bronze Age/Iron Age transition. Medlycott & Brown (2008) and Medlycott (2011, 29-32) build on these themes, paying particular attention to chronological and spatial development and variation and adding subjects as the Bronze Age/Iron Age transition and manufacturing and industry.

9.2.5 Research topics for the Iron Age set out by Bryant (in Brown & Glazebrook 2000, 14-18) include further research into chronologies, precise dating and ceramic assemblages, further research into the development of the agrarian economy (particularly with regard to field systems), research into settlement chronology and dynamics, research into processes of economic and social change during the late Iron Age and Romano-British transition (particularly with regard to the development of Aylesford/Swarling and Roman culture, and also regional differences and tribal polities in the late Iron Age and further research into *oppida* and ritual sites), further analysis of development of social organisation and settlement form/function in the early and middle Iron Age, further research into artefact production and distribution

and the Bronze Age/Iron Age transition. Medlycott & Brown (2008) and Medlycott (2011, 29-32) build on these themes, paying particular attention to chronological and spatial development and variation and adding subjects as the Bronze Age/Iron Age transition and manufacturing and industry.

9.2.6 Medlycott (2011, 47) identifies regional variation and tribal distinctions as underlying themes for research in the Roman period. Research topics for the Roman period previously set out by Going & Plouviez (in Brown & Glazebrook 2000, 19-22) include analysis of early and late Roman military developments, further analysis of large and small towns, evidence of food consumption and production, further research into agricultural production, landscape research (in particular further evidence for potential woodland succession/regression and issues of relict landscapes, as well as further research into the road network and bridging points), further research into rural settlements and coastal issues. Medlycott (2011, 47-48) states that these research areas remain valid and presents updated consideration of them. To these themes Medlycott & Brown (2008) and Medlycott (2011, 47-48) add rural settlements and landscapes, the process of Romanisation in the region, the evidence for the Imperial Fen Estate, and the Roman/Saxon transition.

9.2.7 Wade (in Brown & Glazebrook 2000, 23-26) identifies research topics for the rural landscape in the Saxon and medieval periods. These include examination of population during this period (distribution and density, as well as physical structure), settlement (characterisation of form and function, creation and testing of settlement diversity models), specialisation and surplus agricultural production, assessment of craft production, detailed study of changes in land use and the impact of colonists (such as Saxons, Danes and Normans) as well as the impact of the major institutions such as the Church.

9.2.8 Medlycott (2011, 57) states that he study of the Anglo-Saxon period still requires further cooperation between historians and archaeologists. Important research issues for this period comprise: the Roman/Anglo-Saxon transitional period; settlement distribution, which suffers from problems associated with the identification of Saxon settlement sites; population modelling and demographics, which has the potential to be advanced by modern scientific methods; differences within the region in terms of settlement type and economic practice and subjects related to this such as links with the continent, trading practices and cultural influences; rural landscapes and settlements, including detailed study of the changes and developments in such settlements over time and the influence of Saxon landscape organisation and settlements on these issues in the medieval period; towns and their relationships with their hinterland; infrastructure, including river management, the identification of ports and harbours and the role of existing infrastructure in shaping the Saxon period landscape; the economy, based on palaeoenvironmental studies; ritual and religion; the effect of the Danish occupation; and artefact studies (Medlycott 2011, 57-59).

9.2.9 The issues identified by Ayers (in Brown & Glazebrook, 2000) and Wade (in Brown & Glazebrook, 2000) remain valid research subjects (Medlycott 2011, 70) for the medieval period. The study of landscapes is dominated by issues such as water management and land reclamation for large parts of the region, the economic development of the landscape and the region's potential to reveal information regarding field systems, enclosures, roads and trackways. Linked to the study of the

landscape are research issues such as the built environment and infrastructure; the main communication routes through the region need to be identified and synthesis needs to be carried out regarding the significance, economic and social importance of historic buildings in the region (Medlycott 2011, 70-71). Also considered to be important research subjects for the medieval period are rural settlements, towns, industry and the production and processing of food and demographic studies (Medlycott 2011, 70-71).

References

Egan, S., 2014. *Land off Lime Avenue, Oulton, Suffolk. A Geophysical Survey. AS Report No. 4687*

Medlycott, M. (ed.) 2011, *Research and Archaeology revisited: a revised framework for the East of England*, ALGAO East of England Region, East Anglian Archaeology Occasional Papers 24

Orzechowski, K & Thompson, P, 2015, *Land off Lime Avenue, Oulton, Suffolk; Archaeological Trial Trench Evaluation,* AS Report 4743

10 DETAILS OF PROPOSED WORK

10.1 Areas of Excavation

The brief requires formal archaeological excavation of the area shown on the attached plan.

The excavation will address the research priorities listed above

10.2 Excavation Methodology

Methodology for the excavation is contained in Appendix A.

It is understood that the excavation should comprise the following stages:

- Mechanical stripping of topsoil and overburden within the defined area
- Cleaning/base planning of archaeological features
- Review with SCCAS. This will be an ongoing part of management of the project at regular intervals. Monitoring visits will include all phases of the excavation and will be essential at key points e.g. decisions to vary requirements in the brief or this WSI, any proposal for supplementary machine stripping of layers or features, before any area is treated as completed and backfilled or otherwise degraded.
- Full excavation and recording of the archaeological deposits as specified in the brief and Appendix A.

The above will be carried out according the requirements of the document *Management of Research Projects in the Historic Environment. The MoRPHE Project Managers Guide* (English Heritage 2006).

10.4 Arrangements for Access

Access is to be arranged by the client.

10.5 Security

Throughout all site works care will be taken to maintain all existing security arrangements and to minimise disruption to landowners and local residents.

10.6 Reinstatement

No provision has been made for reinstatement of the excavation areas, not even backfilling.

10.7 TIMETABLE FOR THE PROPOSED WORK

10.7.1 As required
Excavation Duration c. 6-8 weeks

Composition of the excavation team:
Project Officer, 9 Archaeological Excavators (to be deployed as necessary after the site has been stripped and planned).

10.8 DETAILS OF ALL SPECIALISTS

10.8.1 Details of all specialists are presented (Appendix B) as required.

10.9 METHOD OF RECORDING

10.9.1 Details of the method of recording are presented (Appendix A) as required.

10.10 LEVELS AND GRADES OF ALL KEY PROJECT STAFF

10.10.1 The levels and grades of all key project staff are presented (Appendix B) as required. AS is a recognised Investor in People.

10.11 POST-EXCAVATION ANALYSIS & PUBLICATION

10.11.1 This specification includes provision for the post-excavation assessment, analysis and final publication of the project results, to the requirements and timescales set out in the SCC AS brief, and to be agreed with SCC AS following the results of the excavation and assessment. An interim report will be prepared immediately on conclusion of the site works, followed by a Post-Excavation Assessment. This will follow the guidelines and format outlined in MAP2 (English Heritage 1991) and MoRPHE (English Heritage 2006). **It is understood that SCC**

AS-CT require the post-excavation work for this part of the site (including the 2014 evaluation results) to be treated separately from the subsequent phases of development.

10.11.2 Publication of the project results will be made in the appropriate county journal or the relevant national period-specific journal, depending on the results of the project.

11 CONSTRAINTS

11.1 All constraints will be identified prior to the start of works.

12 HUMAN REMAINS

12.1 As set out in the brief and also Appendix A.

13 RISK ASSESSMENT & INSURANCES

13.1 A risk assessment will be prepared prior to the commencement of the field work .

13.2 AS is a member of FAME, formerly the Standing Conference of Archaeological Unit Managers (SCAUM) and operates under the 'Health & Safety in Field Archaeology Manual'.

13.3 AS is a member of the Council for British Archaeology and is insured under their policy for members.

14 ARRANGEMENTS FOR THE LONG TERM STORAGE AND DEPOSITION OF ALL ARTEFACTS

14.1 As set out in the brief and Method Statement (Appendix A). Any necessary conservation of items will be carried out by the specialists listed in Appendix B. Long-term storage and deposition of all artefacts will be at the SCC County Store and in accordance with *Deposition of Archaeological Archives in Suffolk.*

15 PROJECT ARCHIVE

15.1 The SCC County Store, Suffolk, will be the depository for the resulting project archive. The deposition of the archive will be agreed prior to the commencement of the fieldwork. A unique reference number will be obtained.

16 MONITORING

16.1 As set out in the brief

17 CHANGES TO THE SPECIFICATION ACKNOWLEDGEMENT OF SCCAS

17.1 As set out in the brief

18 OASIS REPORTING

18.1 The results of the project will be communicated to the OASIS project.

APPENDIX A

METHOD STATEMENT

The archaeological excavations will be conducted in accordance with the project brief, and the code and guidelines of the Institute for Archaeologists.

1 Topsoil Stripping

1.1 A mechanical excavator with a 1.8-2 m wide toothless bucket will be used to remove the topsoil. The machine will be powerful enough for a clean job of work and be able to mound spoil neatly, at a safe distance from the trench edges.

1.3 Removal of overburden will be controlled, under the full-time supervision of an experienced archaeologist.

2 Grid and Bench Marks

2.1 Following the stripping the temporary bench marks (with corrected levels) and an accurate site grid (pegs at 5-10 m intervals) will be surveyed.

3 Site Location Plan

3.1 On conclusion of the site stripping, a `site location plan', based on the current Ordnance Survey 1:1250 map and indicating site north, will be prepared. This will be supplemented by an `area plan' at 1:200 (or 1:100) which will show the location of the area(s) investigated in relationship to the development area, OS grid and site grid. The location of the OS bench marks used and site TBMs will also be indicated.

4 Manual Cleaning & Base Planning of Archaeological Features

4.1 As set out in the brief.

4.2 Ahead of any excavation a complete site plan will be composed. The principal purpose will be to quantify the composition of the site from the outset in order to agree a detailed excavation strategy.

5 Archaeological Excavation

The archaeological features will be excavated according to the requirements of the SCCAS brief

Archaeological Excavation Strategy

Negative features will be half-sectioned and box sections may be excavated through more homogeneous layers as appropriate. These may provide a window into any underlying deposits present on the site.

Where archaeological features are encountered at a 'high' level; e.g. cutting earlier horizons, they will be base planned, cleaned, hand excavated and recorded prior to excavation proceeding to the underlying archaeological horizons.

100% excavation will be undertaken of:

- **structural features;** (including post holes unless clearly not part of a recognisable structure)

- **surviving internal floors;** e.g. within ring gullies, or buildings, will be fully exposed, carefully cleaned, planned (at 1:50 or 1:20) and photographed, prior to being hand excavated to reveal possible underlying features. Where appropriate these surfaces will be excavated in a grid of $1m^2$ test pits, in 5cm spits in order to assess artefact density and distribution.

- **positive features obscuring earlier features;** will be cleaned, photographed and planned (at 1:50 or 1:20) prior to being excavated stratigraphically and in phase. Component deposits or structural elements will be recorded on *pro-forma* recording (Context) sheets and in section if appropriate prior to 100% excavation.

- **hearths;** will be hand cleaned and planned, hand excavation of 50% of the feature will be carried out stratigraphically and in phase in order for a profile to be drawn and a full assessment the component deposits be made. Additional environmental and specialist sampling will be carried out on specialist advice, prior to 100% hand excavation of the feature.

- **graves or animal burials;** each grave cut will be cleaned, fully defined and planned. The grave fill(s) will be hand excavated in phase and any skeletal remains carefully cleaned and exposed; environmental bulk samples will be taken from the grave fill(s) and abdominal cavity (for stomach contents, kidney stones etc) as appropriate. The exposed skeletal remains will be recorded using *pro forma* recording (Skeleton) sheets photographed and planned at 1:20 or 1:10 dependant on size and complexity. Small finds such as grave goods, shroud pins or coffin fittings will be will be three dimensionally recorded.

- **industrial features**; (pottery kilns, furnaces etc) will be excavated stratigraphically and in phase. Sections will be recorded through the length of each feature (large features such as a limekiln may be quadranted) incorporating any surviving flue or stoke hole allowing a full assessment the component deposits be made and any industrial waste, or structural components (e.g. kiln furniture, tuyeres) to be identified. These features will photographed and planned at 1:20. All industrial features will be sampled for appropriate scientific analysis (e.g. archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project. Advice on archaeomagnetic dating will be obtained from the relevant specialists (e.g. Dr Cathy Batt, University of Bradford) as necessary.

- **wells;** will be hand excavated stratigraphically and in phase. The backfills of the well shaft will be 'half-sectioned' to a maximum depth of 1.2m. The deposits revealed will be recorded using *pro-forma* recording (Context) sheets, photographed and drawn at 1:10 or 1:20 as appropriate, any lining or structure will be cleaned and recorded prior to 100% excavation and investigation of any possible construction cut. Excavation will only continue beyond a depth of 1.2m once the area of excavation has been made safe either by 'stepping' or shoring. Specialist advice (such as Maisie Taylor) will be sought if a preserved wooden lining or water-logged remains are encountered.

50% excavation will be undertaken of:

discrete features, pits, post and stake holes (the latter which are clearly not part of a structure). Pits with a suggestion of 'placed' deposits or which contain significant artefactual/ecofactual assemblages will be 100% excavated as required

10% excavation will be undertaken of:

simple linear features not directly associated with core settlement, with more detailed investigation of intersections/terminals/re-cuts/specialised deposits etc

A minimum of 25% excavation will be undertaken of linear features associated with settlement in hand excavated slots up to 2m in length.

Building remains

Building remains may be encountered. These structures are likely to comprise stake holes, post holes, beam slots, gullies and, more rarely masonry foundations or low masonry walls. Associated features may be represented e.g. stone, tile floors, cobbled yard surfaces and hearths.

These features will be fully excavated in plan/phase.

Where encountered the structural remains of early buildings will be hand cleaned to reveal their full extent and then planned at 1:50 or 1:20 as appropriate.

The internal areas will be stratigraphically excavated and recorded by quadrants where appropriate to establish the sequence of post-use deposition and abandonment and to identify any *in situ* occupation or floor surfaces.

Any surviving walls or foundations of structures will be cleaned and recorded using *pro forma* recording (Masonry) sheets. Elevations will be drawn of external and internal wall faces as appropriate. Sections will be excavated and recorded through the fabric of the walls in order to fully understand their construction.

Samples of worked stone, early tile and any bonding or render material will be taken for specialist analysis.

Waterlogged Deposits/Remains

Should deposits such as the above be encountered, provision has been made for controlled hand excavation and sampling. Appropriate specialists will be on hand to advise as necessary.

All industrial features will be sampled for appropriate scientific analysis (eg archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project.

Sieving Strategy

Dry-sieving of onsite deposits will be carried out to enhance finds recovery.

6 Written Record

6.1 All archaeological deposits and artefacts encountered during the course of the excavation will be fully recorded on the appropriate context, finds and sample forms.

6.2 The site will be recorded using AS's excavation manual which is directly comparable to those used by other professional archaeological organisations, including English Heritage's own Central Archaeological Service. Information contained on the site record forms will be entered into a database programme to enable computerised manipulation of the data. The data entry will be undertaken in tandem with the fieldwork.

7 Photographic Record

7.1 An adequate photographic record of the investigations will be made. It will include black and white prints and colour transparencies (on 35mm) illustrating in both detail and general context the principal features and finds discovered. It will also include 'working and promotional shots' to illustrate more generally the nature of the archaeological operations. The black and white negatives and contacts will be filed, and the colour transparencies will be mounted using appropriate cases. All photographs will be listed and indexed.

8 Drawn Record

8.1 A record of the full extent, in plan, of all archaeological deposits encountered will be drawn on A1 permatrace. The plans will be related to the site, or OS, grid and be drawn at a scale of 1:50. Where appropriate, e.g. recording an inhumation, additional plans at 1:10 will be produced. The sections of all archaeological contexts will be drawn at a scale of 1:10 or, where appropriate, 1:20. The OD height of all principal strata and features will be calculated and indicated on the appropriate plans and sections.

9 Recovery of Finds

GENERAL

The principal aim is to ensure that adequate provision is made for the recovery of finds from all archaeological deposits.

The Small Finds, e.g. complete pots or metalwork, from all excavations will be 3-Dimensionally recorded.

A metal detector will be used to enhance finds recovery. The metal detector survey will be conducted on conclusion of the topsoil stripping, and thereafter during the course of the excavation. The spoil tips will also be surveyed. Regular metal detector surveys of the excavation area and spoil tips will reduce the loss of finds to unscrupulous users of metal detectors (treasure hunters). All non-archaeological staff working on the site should be informed that the use of metal detectors is forbidden.

WORKED FLINT

When flint knapping debris is encountered large-scale bulk samples will be taken for sieving.

POTTERY

It is important that the excavators are aware of the importance of pottery studies and therefore the recovery of good ceramic assemblages. A Roman ceramic specialist will visit during the excavations as required, to provide on-site advice.

The pottery assemblages are likely to provide important evidence to be able to date the structural history and development of the site.

The most important assemblages will come from ‘sealed’ deposits which are representative of the nature of the occupation at various dates, and indicate a range of pottery types and forms available at different periods.

‘Primary’ deposits are those which contain sherds contemporary with the soil fill and in simple terms this often means large sherds with unabraded edges. The sherds have usually been deposited shortly after being broken and have remained undisturbed. Such sherds are more reliable in indicating a more precise date at which the feature was ‘in use’. Conversely, ‘secondary’ deposits are those which often have small, heavily abraded sherds lacking obvious conjoins. The sherds are derived from earlier deposits.

The pottery specialist is likely to seek important or key groups which will be studied in detail.

If several sherds from a single pot are found, the other half of the feature will be dug to obtain conjoins and a more complete pottery profile.

METALWORKING

The excavation team will be made fully aware of the potential presence of any early metalworking evidence. It is envisaged that where there is evidence for industrial activity, large technological residues will be collected by hand. Separate smaller samples will be collected for micro-slags, as detailed in the EH/HMS *Archaeometallurgy in Archaeological Projects*, Centre for Archaeology Guidelines 2001. Appropriate specialists (e.g. Jane Cowgill/Oxford University Research Laboratory for Archaeology) will be invited to visit the site if significant deposits (e.g. slag) are encountered.

The requirements of the Treasure Act 1996 (with subsequent amendments) will be adhered to, in the event of significant items of metalwork being recovered.

HUMAN BONE

If human remains are encountered, AS will obtain an exhumation licence for human remains from the Ministry of Justice.

Post-excavation analysis will follow the guidelines outlined in the English Heritage document *Human Bones from Archaeological Sites, Guidelines for producing assessment documents and analytical reports*, Centre for Archaeology Guidelines 2002.

ANIMAL BONE

Animal bone is one of the principal indicators of diet. As with pottery the excavators will be alert to the distinction of primary and secondary deposits. It will also be important that the bone assemblages are derived from dateable contexts.

SAMPLING

Provision will be made for the sampling of appropriate materials for specialist and/or scientific analysis (e.g. radiocarbon dating, environmental analysis). The location of samples will be 3-dimensionally recorded and they will also be shown on an appropriate plan. AS has its own environmental sampling equipment (including a pump and transformer) and, if practical, provision will be made to process the soil samples during the fieldwork stage of the project.

The programme of environmental sampling will adhere to the guidelines, in particular, it will accord with *Model clauses on Archaeological Science for Briefs and Specifications* (EH Advisors for Archaeological Science from all 9 regions), December 2000 and the document *Environmental Archaeology; a guide to the theory and practice of methods, from sampling and recovery to post-excavation*, English Heritage, Centre for Archaeology Guidelines 2011.

If waterlogged remains are found advice on sampling will be obtained on site from Dr Rob Scaife. Dr Rob Scaife and AS will seek advice from the EH Regional Scientific Advisor if significant environmental remains are found.

The study of environmental archaeology seeks to understand the local and near-local environment of the site in relation to phases of human activity and as such is an important and integral part of any archaeological study. The evaluation report notes the potential of deposits within the site for the preservation of charred plant remains.

Environmental remains, both faunal and botanical, along with pedological and sedimentological analyses may be used to understand the environment and the impact of human activity.

There may be a potential for the recovery of a range of environmental remains (ecofacts) from which data pertaining to past environments, land use and agricultural economy should be forthcoming.

To realise the potential of the environmental material encountered, a range of specialists from different disciplines is likely to be required. The ultimate goal will be the production of an interdisciplinary environmental study which can be of value to an understanding of, and integrated with, the archaeology.

Organic remains may allow study of the contemporary landscape (Romano-British occupation/industrial/agricultural impact and land use) and also changes after the abandonment of the site.

The nature of the environmental evidence

Aspects of sampling and analysis may be divided into four broad categories; faunal remains, botanical remains, soils/sediments and radiocarbon dating measurements.

a) Faunal remains: These comprise bones of macro and microfauna, birds, molluscs and insects.

a.i) Bones: The study of the animal bone remains, in particular domestic mammals, domestic birds and marine fish will enhance understanding of the development of the settlement in terms of the local economy and also its wider influence through trade. The study of the small animal bones will provide insight into the immediate habitat of any settlement.

The areas of study covered may include all of the domestic mammal and bird species, wild and harvested mammal, birds, marine and fresh water fish in addition to the small mammals, non-harvest birds, reptiles and amphibia.

Domestic mammalian stock, domestic birds and harvest fish

The domestic animal bone will provide insight into the different phases of development of any occupation and how the population dealt with the everyday aspect of managing and utilising all aspects of the animal resource.

Small animal bones

Archaeological excavation has a wide role in understanding humans' effect on the countryside, the modifications to which have in turn affected and continue to affect

their own existence. Small animals provide information about changing habitats and thereby about human impact on the local environment.

a.ii) Molluscs: Freshwater and terrestrial molluscs may be present in ditch and pit contexts which are encountered. Sampling and examination of molluscan assemblages if found will provide information on the local site environment including environment of deposition.

a.iii) Insects: If suitable waterlogged contexts (pit, pond and ditch fills) are encountered (which can potentially be expected to be encountered on the project), sampling and assessment will be carried out in conjunction with the analysis of waterlogged plant remains (primarily seeds) and molluscs. Insect data may provide information on local site environment (cleanliness etc.) as well as proxies for climate and vegetation communities.

b) Botanical remains: Sampling for seeds, wood, pollen and seeds are the essential elements which will be considered. The former are most likely to be charred but possibly also waterlogged should any wells/ponds be encountered.

b.i) Pollen analysis: Sampling and analysis of the primary fills and any stabilisation horizons in ditch and pit contexts which may provide information on the immediate vegetation environment including aspects of agriculture, food and subsistence. These data will be integrated with seed analysis.

b.ii) Seeds: It is anticipated that evidence of cultivated crops, crop processing debris and associated weed floras will be present in ditches and pits. If waterlogged features/sediments are encountered (for example, wells/ponds) these will be sampled in relation to other environmental elements where appropriate (particularly pollen, molluscs and possibly insects).

c) Soils and Sediments: Characterisation of the range of sediments, soils and the archaeological deposits are regarded as crucial to and an integral part of all other aspects of environmental sampling. This is to afford primary information on the nature and possible origins of the material sampled. It is anticipated that a range of 'on-site' descriptions will be made and subsequent detailed description and analysis of the principal monolith and bulk samples obtained for other aspects of the environmental investigation. Where considered necessary, laboratory analyses such as loss on ignition and particle size may also be undertaken. A geoarchaeologist will be invited to visit the site as necessary to advise on sampling.

d) Radiocarbon dating: Archaeological/artifactual dating may be possible for most of the contexts examined, but radiocarbon dating should not be ruled out

Sampling strategies

Provision will be made by the environmental co-ordinator that suitable material for analysis will be obtained. Samples will be obtained which as far as possible will meet the requirements of the assessment and any subsequent analysis.

a) Soil and Sediments: Samples taken will be examined in detail in the laboratory. An overall assessment of potential will be carried out. Analysis of particle size and loss on ignition, if required would be undertaken as part of full analysis if assessment demonstrates that such studies would be of value.

b) Pollen Analysis: Contexts which require sampling may include stabilisation horizons and the primary fills of the pits and ditches, and possibly organic well/pond fills. It is anticipated that in some cases this will be carried out in conjunction with sampling for other environmental elements, such as plant macrofossils, where these are also felt to be of potential.

c) Plant Macrofossils: Principal contexts will be sampled directly from the excavation for seeds and associated plant remains. It is anticipated that primarily charred remains will be recovered, although provision for any waterlogged sequences will also be made (see below). Sampling for the former will, where possible (that is, avoiding contamination) comprise samples of an average of 40-60 litres which will be floated in the AS facilities for extraction of charred plant remains. Both the flot and residues will be kept for assessment of potential and stored for any subsequent detailed analysis. The residues will also be examined for artifactual remains and also for any faunal remains present (cf. molluscs). Where pit, ditch, well or pond sediments are found to contain waterlogged sediments, principal contexts will be sampled for seeds and insect remains. Standard 5 litre+ samples will be taken which may be sub-sampled in the laboratory for seed remains if the material is found to be especially rich. The full sample will provide sufficient material for insect assessment and analysis. Where wood is found, representative material will be sampled during the excavation and stored wet/moist to facilitate later identification.

d) Bones: Predicting exactly how much of what will be yielded by the excavation is clearly very difficult prior to excavation and it is proposed that in order to efficiently target animal bone recovery there should be a system of direct feedback from the archaeozoologist to the site staff during the excavation, allowing fine tuning of the excavation strategy to concentrate on the recovery of animal bones from features which have the highest potential. This will also allow the faunal remains to materially add to the interpretation as the excavation proceeds. Liaison with other environmental specialists will need to take place in order to produce a complete interdisciplinary study during this phase of activity. In addition, this feedback will aid effective targeting of the post-excavation analysis.

e) Insects: If contexts having potential for insect preservation are found, samples will be taken in conjunction with waterlogged plant macrofossils. Samples of 5 litres will suffice for analysis and will be sampled adjacent to waterlogged seed samples and pollen; or where insufficient context material is available provision will be made for exchange of material between specialists.

f) Molluscs: Terrestrial and freshwater molluscs. Samples will be taken from a column from suitable ditches. Pits may be sampled, based on the advice of the Environmental Consultant and / or English Heritage Regional Advisor. Provision will also be made for molluscs obtained from other sampling aspects (seeds) to be examined and/or kept for future requirements.

g) Archiving: Environmental remains obtained should be stored in conditions appropriate for analysis in the short to medium term, that is giving the ability for full analysis at a later date without any degradation of samples being analysed. The results will be maintained as an archive at AS and supplied to the EH regional co-ordinator as requested.

Waterlogged Deposits/Remains

Should waterlogged deposits (such as wells/deep ditches) be encountered, provision has been made for controlled hand excavation and sampling. Dr Rob Scaife will visit to advise of sampling as required, and AS will take monolith samples as necessary for the recovery of palaeoenvironmental information and dating evidence.

Scientific/Absolute Dating

- Samples will be obtained for potential scientific/absolute dating as appropriate (eg Carbon-14). This will allow 'rangefinder' dates for key strategic units at assessment stage as necessary, with provision for further dating for full analysis, by agreement with SCC AS-CT)

FINDS PROCESSING

The Project Manager (and Project Officer) will have overall responsibility for the finds and will liaise with AS's own finds personnel and the relevant specialists. A person with particular responsibility for finds on site will be appointed for the excavation. The person will ensure that the finds are properly labelled and packaged on site for transportation to AS's field base. The finds processing will take place in tandem with the excavations and will be under the supervision of AS's Finds Officer.

The finds processing will entail first aid conservation, cleaning (if appropriate), marking (if appropriate), categorising, bagging, labelling, boxing and basic cataloguing (the compilation of a Small Finds Catalogue and quantification of bulk finds), i.e., such that the finds are ready to be made available to the specialists.

The Finds Officer, having been advised by the Project Officer and relevant specialists, will select material for conservation. AS's Finds Officer, in conjunction with the Project Officer, will arrange for the specialists to view the finds for the purpose of report writing.

APPENDIX B
ARCHAEOLOGICAL SOLUTIONS:
PROFILES OF KEY STAFF & SPECIALISTS

DIRECTOR
Claire Halpin BA MIfA

Qualifications: Archaeology & History BA Hons (1974-77). Oxford University Dept for External Studies In-Service Course (1979-1980). Member of Institute of Archaeologists since 1985: IFA Council member (1989-1993)
Experience: Claire has 25 years' experience in field archaeology, working with the Oxford Archaeological Unit and English Heritage's Central Excavation Unit (now the Centre for Archaeology). She has directed several major excavations (e.g. Barrow Hills, Oxfordshire, and Irthlingborough Barrow Cemetery, Northants), and is the author of many excavation reports e.g. St Ebbe's, Oxford: *Oxoniensia* 49 (1984) and 54 (1989). Claire moved into the senior management of field archaeological projects with Hertfordshire Archaeological Trust (HAT) in 1990, and she was appointed Manager of HAT in 1996. From the mid 90s HAT has enlarged its staff complement and extended its range of skills. In July 2003 HAT was wound up and Archaeological Solutions was formed. The latter maintains the same staff complement and services as before. AS undertakes the full range of archaeological services nationwide.

DIRECTOR
Tom McDonald MIfA

Qualifications: Member of the IfA
Experience: Tom has twenty years' experience in field archaeology, working for the North-Eastern Archaeological Unit (1984-1985), Buckinghamshire County Museum (1985), English Heritage (Stanwick Roman villa (1985-87) and Irthlingborough barrow excavations, Northamptonshire (1987)), and the Museum of London on the Royal Mint excavations (1986-7)., and as a Senior Archaeologist with the latter (1987-Dec 1990). Tom joined HAT at the start of 1991, directing several major multi-period excavations, including excavations in advance of the A41 Kings Langley and Berkhamsted bypasses, the A414 Cole Green bypass, and a substantial residential development at Thorley, Bishop's Stortford. He is the author of many excavation reports, exhibitions etc. Tom is AS's Health and Safety Officer and is responsible for site management, IT and CAD. He specialises in prehistoric and urban archaeology, and is a Lithics Specialist.

OFFICE MANAGER
Rose Flowers

Experience: Rose has a very wide range of book-keeping skills developed over many years of employment with a range of companies, principally Rosier Distribution Ltd, Harlow (now part of Securicor) where she managed eight accounts staff. She has a good working knowledge of both accounting software and Microsoft Office.

OFFICE ADMINISTRATOR
Sarah Powell

Experience: Sarah is an experienced and efficient administrative assistant with more than ten years' experience of working in a variety of office environments. She is IT literate and proficient in the use of Microsoft Word, particularly Microsoft Excel. She has completed NVQ 2 & 3 in Administration and Office Skills. She recently attended and completed a course in Microsoft Excel – Advanced Level.

SENIOR PROJECTS MANAGER
Jon Murray BA MIfA

Qualifications: History with Landscape Archaeology BA Hons (1985-1988).
Experience: Jon has been employed by HAT (now AS) continually since 1989, attaining the position of Senior Projects Manager. Jon has conducted numerous archaeological investigations in a variety of situations, dealing with remains from all periods, throughout London and the South East, East Anglia, the South and Midlands. He is fluent in the execution of (and now projectmanaes) desk-based assessments/EIAs, historic building surveys (for instance the recording of the Royal Gunpowder Mills at Waltham Abbey prior to its rebirth as a visitor facility), earthwork and landscape surveys, all types of evaluations/excavations (urban and rural) and environmental archaeological investigation (working closely with Dr Rob Scaife), preparing many hundreds of archaeological reports dating back to 1992. Jon has also prepared numerous publications; in particular the nationally-important Saxon site at Gamlingay, Cambridgeshire (*Anglo-Saxon Studies in Archaeology & History*). Other projects published include Dean's Yard, Westminster (*Medieval Archaeology*), Brackley (*Northamptonshire Archaeology*), and a medieval cemetery in Haverhill he excavated in 1997 (*Proceedings of the Suffolk Institute of Archaeology).* Jon is a member of the senior management team, principally preparing specifications/tenders, co-ordinating and managing the field teams. He also has extensive experience in preparing and supporting applications for Scheduled Monument Consent/Listed Building Consent

PROJECT OFFICER
Zbigniew Pozorski MA

Qualifications: University of Wroclaw, Poland, Archaeology (1995-2000, MA 2003)
Experience: Zbigniew has archaeological experience dating from 1995 when as a student he joined an academic group of excavators. He was involved in numerous archaeological projects throughout the Lower Silesia region in southwest Poland and a number of projects in old town of Wroclaw. During his university years he specialized in medieval urban archaeology. He had his own research project working on an early/high medieval stronghold in Pietrzykow. He was a member of a University team which located and Excavated an unknown high medieval castle in Wierzbna, Poland. Zbigniew has worked for archaeological contractors in Poland on several projects as a supervisor where he gained experience in all types of evaluations and excavations in urban and rural areas. Recently he worked in Ireland where he completed two large long-term projects for Headland Archaeology Ltd. He joined AS in January 2008 as a Project Officer. Zbigniew is qualified in the Construction Skills Certification Scheme (CSCS) and is a qualified in First Aid at Work (St Johns Ambulance).

SUPERVISOR
Gareth Barlow MSc

Qualifications: University of Sheffield, MSc Environmental Archaeology & Palaeoeconomy (2002-2003)
King Alfred's College, Winchester, Archaeology BA (Hons) (1999-2002)
Experience: Gareth worked on a number of excavations in Cambridgeshire before pursuing his degree studies, and worked on many archaeological projects across the UK during his university days. Gareth joined AS in 2003 and has worked on numerous archaeological projects throughout the South East and East Anglia with AS. Gareth was promoted to Supervisor in the Summer 2007. Gareth is qualified in the Construction Skills Certification Scheme (CSCS) and is a qualified in First Aid at Work (St Johns Ambulance).

SUPERVISOR
Kamil Orzechowski BA, MA

Experience: Kamil Orzechowski joined AS in 2012, as an experienced field archaeologist after spending five years in various commercial archaeology units working on large-scale construction projects including railways and pipelines. Before becoming a field archaeologist, Kamil graduated from the Institute of Ethnology and Cultural Anthropology, Adam Mickiewicz University, Poznan, Poland. Kamil is qualified in the Construction Skills Certification Scheme (CSCS).

SUPERVISOR
James Earley

Experience: James' site experience dates from 2002 – 2006 when he was a Project Assistant with Suffolk County Council Archaeological Service. From Suffolk he was an Archaeological Officer with Thames Valley Archaeological Service (2006 – 2013), and more recently the University of Leicester Archaeological Service. James has over 10 years' field experience on both urban and rural sites. He has supervised staff, supervised topsoil and subsoil stripping for evaluations and excavations, and has surveyed sites using both GPS and Total Station.

SUPERVISOR
Julie Walker BSc MA PIfA

Qualifications: Queens University Belfast: BSc Archaeology (2007-2010)
University of Southampton: MA Osteoarchaeology (2010-2011)
Experience: Julie is a member of the Institute for Archaeologists (PIfA grade) and the British Association for Biological Anthropology and Osteoarchaeology. Professionally, Julie has worked for organisations including Albion Archaeology (2014) and Oxford Archaeology East (2014). Julie has a thorough knowledge and experience of archaeological fieldwork and post-excavation practice. Julie's personal research interests include congenital and developmental defects in the Romano-British and Anglo-Saxon periods and she has made several conference presentations on this subject.

SUPERVISOR
Matthew Baker BA MA

Qualifications: Cardiff University: BA Archaeology (2008-2011)
Cardiff University: MA Archaeology (2012-2013)
Experience: Since concluding his higher education, Matthew has worked for a number of archaeological projects and organisations including GeoArch (Cardiff), the Damerham Archaeology Project and Cambridge University. He has a gained a varied experience of archaeological fieldwork and post-excavation practice including geophysical survey/ interpretation and isotopic analysis.

SUPERVISOR
Kerrie Bull BSc

Qualifications: University of Reading: BSc Archaeology (2008-2011)
Experience: During her undergraduate degree at the University of Reading Kerrie worked on the Lyminge Archaeological Project (2008), the Silchester 'Town Life' Project (2009) and the Ecology of Crusading Research Programme (2011). Through her academic and professional career, Kerrie has gained good experience of archaeological fieldwork and post-excavation techniques.

SUPERVISOR
Thomas Muir BA MSc
Qualifications: University of Edinburgh: BA Archaeology (2007-2011)
University of Edinburgh: MSc Mediterranean Archaeology (2011-2012)
Experience: Thomas is an affiliate member of the Institute for Archaeologists. Throughout his higher education, Thomas volunteered on research excavations at sites including Port Sec Sud, Bourges (France; 2008), the Hill of Barra (the Hillforts of Strathdon Project; 2010) and Prastio Mesorotsos, Cyprus (2010-2012). In 2013 Thomas returned to Prastio Mesorotsos – a research project run by the Cyprus American Archaeological Institute – in a supervisory capacity. Professionally, Thomas has worked for CFA Archaeology (2013) and thereafter AS Ltd. Through his academic and professional career, Thomas has gained a broad working knowledge of archaeological fieldwork and post-excavation techniques including environmental sampling, on-site recording and digital archiving.

SUPERVISOR
Vincent Monahan BA

Qualifications: University College Dublin: BA Archaeology (2007-2012)
Experience: Professionally, Vincent has worked for various archaeological groups and projects including the Stonehenge Riverside Project (Site Assistant/ Supervisor; 2008), University College Dublin Archaeological Society (Auditor; 2009-2010) and the Castanheiro do Vento Research Project (Site Assistant/ Supervisor; 2009-2010 (seasonal)). Vincent has gained good experience of archaeological fieldwork including excavation, various sampling techniques and on-site recording. He also gained experience of museum-grade curatorial practice during his undergraduate degree.

PROJECT OFFICER
(DESK-BASED ASSESSMENTS) Kate Higgs MA (Oxon)

Qualifications: University of Oxford, St Hilda's College Archaeology & Anthropology MA (Oxon) (2001-2004)
Experience: Kate has archaeological experience dating from 1999, having taken part in clearance, surveying and recording of stone circles in the Penwith area of Cornwall. During the same period, she also assisted in compiling a database of archaeological and anthropological artefacts from Papua New Guinea, which were held in Scottish museums. Kate has varied archaeological experience from her years at Oxford University, including participating in excavations at a Roman amphitheatre and an early church at Marcham/ Frilford in Oxfordshire, with the Bamburgh Castle Research Project in Northumberland, which also entailed the excavation of human remains at a Saxon cemetery, and also excavating, recording and drawing a Neolithic chambered tomb at Prissé, France. Kate has also worked in the environmental laboratory at the Museum of Natural History in Oxford, and as a finds processor for Oxford's Institute of Archaeology. Since joining AS in November 2004, Kate has researched and authored a variety of reports, concentrating on desk-based assessments in advance of archaeological work and historic building recording.

ASSISTANT PROJECTS MANAGER (POST-EXCAVATION)
Andrew Newton MPhil PIFA

Qualifications: University of Bradford, MPhil (2002-04)
University of Bradford, BSc (Hons) Archaeology (1998-2002)
University of Bradford, Dip Professional Archaeological Studies (2002)
Experience: Andrew has carried out geophysical surveys for GeoQuest Associates on sites throughout the UK and has worked as a site assistant with BUFAU. During 2001 he worked as a researcher for the Yorkshire Dales Hunter-Gatherer Research Project, a University of Bradford and Michigan State University joint research programme, and has

carried out voluntary work with the curatorial staff at Beamish Museum in County Durham. Andrew is a member of the Society of Antiquaries of Newcastle-upon-Tyne and a Practitioner Member of the Institute for Archaeologists. Since joining AS in early Summer 2005, as a Project Officer writing desk-based assessments, Andrew has gained considerable experience in post-excavation work. His principal role with AS is conducting post-excavation research and authoring site reports for publication. Significant post-excavation projects Andrew has been responsible for include the Ingham Quarry Extension, Fornham St. Genevieve, Suffolk – a site with large Iron Age pit clusters arranged around a possible wetland area; the late Bronze Age to early Iron Age enclosure and early Saxon cremation cemetery at the Chalet Site, Heybridge, Essex; and, Church Street, St Neots, Cambridgeshire, an excavation which identified the continuation of the Saxon settlement previously investigated by Peter Addyman in the 1960s. Andrew also writes and co-ordinates EnvironmentalImpact Assessments and has worked on a variety of such projects across southern and eastern England. In addition to his research responsibilities Andrew undertakes outreach and publicity work and carries out some fieldwork.

PROJECT OFFICER (POST-EXCAVATION)
Antony Mustchin BSc MSc DipPAS

Qualifications: University of Bradford BSc (Hons) Bioarchaeology (1999-2003)
University of Bradford MSc Biological Archaeology (2004-2005)
University of Bradford Diploma in Professional Archaeological Studies (2003)
Experience: Antony has over 14 years' experience in field archaeology, gained during his higher education and in the professional sector. Commercially in the UK, Antony has worked for Archaeology South East (2003), York Archaeological Trust (2004) and Special Archaeological Services (2003). He has also undertaken a six-month professional placement as Assistant SMR Officer/ Development Control Officer with Kent County Council (2001-2002). Antony's academic interests have led to his gaining considerable research excavation experience across the North Atlantic region. He has worked for projects and organisations including the Old Scatness & Jarlshof Environs Project, Shetland (2000-2003), the Viking Unst Project, Shetland (2006-2007), the Heart of the Atlantic Project Føroys Fornminnissavn, Faroe Islands (2006-2008) and City University New York/ National Museum of Denmark/ Greenland National Museum and Archives, Greenland (2006 & 2010). Shortly before Joining Archaeological Solutions in November 2011, Antony spent three years working for the Independent Commission for the Location of Victims Remains, assisting in the search for and forensic recovery of 'the remains of victims of paramilitary violence ("The Disappeared") who were murdered and buried in secret arising from the conflict in Northern Ireland'. Antony has a broad experience of fieldwork and post-excavation practice including specialist (archaeofauna), teaching, supervisory and directing-level posts.

POTTERY, LITHICS AND CBM RESEARCHER
Andrew Peachey BA MIfA

Qualifications: University of Reading BA Hons, Archaeology and History (1998-2001)
Experience: Andrew joined AS (formerly HAT) in 2002 as a pottery researcher, and rapidly expanded into researching CBM and lithics. Andrew specialises in prehistoric and Roman pottery and has worked on numerous substantial assemblages, principally from across East Anglia but also from southern England. Recent projects have included a Neolithic site at Coxford, Norfolk, an early Bronze Age domestic site at Shropham, Norfolk, late Bronze Age material from Panshanger, Hertfordshire, middle Iron Age pit clusters at Ingham, Suffolk and an Iron Age and early Roman riverside site at Dernford, Cambridgshire. Andrew has worked on important Roman kiln assemblages, including a Nar Valley ware production site at East Winch Norfolk, a face-pot producing kiln at Hadham, Hertfordshire and is currently researching early Roman Horningsea ware kilns at Waterbeach, Cambridgeshire. Andrew is an enthusiastic member of the Study Group for Roman Pottery, and also undertakes pottery

and lithics analysis as an 'external' specialist for a range of archaeological units and local societies in the south of England.

POTTERY RESEARCHER
Peter Thompson MA

Qualifications: University of Bristol BA (Hons), Archaeology (1995-1998)
University of Bristol MA; Landscape Archaeology (1998-1999)
Experience: As a student, Peter participated in a number of projects, including the excavation of a Cistercian monastery cemetery in Gascony and surveying an Iron Age promontory hillfort in Somerset. Peter has two years excavation experience with the Bath Archaeological Trust and Bristol and Region Archaeological Services which includes working on a medieval manor house and a post-medieval glass furnace site of national importance. Peter joined HAT (now AS) in 2002 to specialise in Iron Age, Saxon and medieval pottery research and has also produced desk-based assessments. Pottery reports include an early Iron pit assemblage and three complete Early Anglo-Saxon accessory vessels from a cemetery in Dartford, Kent.

PROJECT OFFICER (OSTEOARCHAEOLOGY)
Dr Julia Cussans

Qualifications: University of Bradford, PhD (2002-2010)
University of Bradford, BSc (Hons) Bioarchaeology (1997-2001)
University of Bradford, Dip. Professional Archaeological Studies (2001)
Experience: Julia has over 14 years of archaeozoological experience. Whilst undertaking her part time PhD she also worked as a specialist on a variety of projects in northern Britain including Old Scatness (Shetland), Broxmouth Iron Age Hillfort and Binchester Roman Fort. Additionally Julia has extensive field experience and has held lead roles in excavations in Shetland and the Faroe Islands including, Old Scatness, a large multi-period settlement centred on an Iron Age Broch; the Viking Unst Project, an examination of Viking and Norse houses on Britain's most northerly isle; the Laggan Tormore Pipeline (Firths Voe), a Neolithic house site in Shetland; the Heart of the Atlantic Project, an examination of Viking settlement in the Faroes and Við Kirkjugarð, an early Viking site on Sanday, Faroe Islands. Early on in her career Julia also excavated at Sedgeford, Norfolk as part of SHARP and in Pompeii, Italy as part of the Anglo-American Project in Pompeii. Since joining AS in October 2011 Julia has worked on animal bone assemblages from Beck Row, a Roman agricultural site at Mildenhall, Suffolk and Sawtry, an Iron Age, fen edge site in Cambridgeshire. Julia is a full and active member of the International Council for Archaeozoology, the Professional Zooarchaeology Group and the Association for Environmental Archaeology.

ENVIRONMENTAL ARCHAEOLOGIST
Dr John Summers

Qualifications: 2006-2010: PhD "The Architecture of Food" (University of Bradford)
2005-2006: MSc Biological Archaeology (University of Bradford)
2001-2005: BSc Hons. Bioarchaeology (University of Bradford)
Experience: John is an archaeobotanist with a primary specialism in the analysis of carbonised plant macrofossils and charcoal. Prior to joining Archaeological Solutions, John worked primarily in Atlantic Scotland. His research interests involve using archaeobotanical data in combination with other archaeological and palaeoeconomic information to address cultural and economic research questions. John has made contributions to a number of large research projects in Atlantic Scotland, including the Old Scatness and Jarlshof Environs Project (University of Bradford), the Viking Unst Project (University of Bradford) and publication work for Bornais Mound 1 and Mound 2 (Cardiff University). He has also worked with plant remains from Thruxton Roman Villa, Hampshire, as part of the Danebury Roman

Environs Project (Oxford University/ English Heritage). John's role at AS is to analyse and report on assemblages of plant macro-remains from environmental samples and provide support and advice regarding environmental sampling regimes and sample processing. John is a member of the Association for Environmental Archaeology.

SENIOR GRAPHICS OFFICER
Kathren Henry

Experience: Kathren has over twenty-five years' experience in archaeology, working as a planning supervisor on sites from prehistoric to late medieval date, including urban sites in London and rural sites in France/ Italy, working for the Greater Manchester Archaeological Unit, Passmore Edwards Museum, DGLA and Central Excavation Unit of English Heritage (at Stanwick and Irthlingborough, Northamptonshire). She has worked with AS (formerly HAT) since 1992, becoming Senior Graphics Officer. Kathren is AS's principal photographer, specializing in historic building survey, and she manages AS's photographic equipment and dark room. She is in charge of AS's Graphics Department, managing computerised artwork and report production. Kathren is also the principal historic building surveyor/illustrator, producing on-site and off-site plans, elevations and sections.

HISTORIC BUILDING RECORDING
Tansy Collins BSc
Qualifications: University of Sheffield, Archaeological Sciences BSc (Hons) (1999-2002)
Experience: Tansy's archaeological experience has been gained on diverse sites throughout England, Ireland, Scotland and Wales. Tansy joined AS in 2004 where she developed skills in graphics, backed by her grasp of archaeological interpretation and on-site experience, to produce hand drawn illustrations of pottery, and digital illustrations using a variety of packages such as AutoCAD, Corel Draw and Adobe Illustrator. She joined the historic buildings team in 2005 in order to carry out both drawn and photographic surveys of historic buildings before combining these skills with authoring historic building reports in 2006. Since then Tansy has authored numerous such reports for a wide range of building types; from vernacular to domestic architecture, both timber-framed and brick built with date ranges varying from the medieval period to the 20th century. These projects include a number of regionally and nationally significant buildings, for example a previously unrecognised medieval aisled barn belonging to a small group of nationally important agricultural buildings, one of the earliest surviving domestic timber framed houses in Hertfordshire, and a Cambridgeshire house retaining formerly hidden 17th century decorative paint schemes. Larger projects include The King Edward VII Sanatorium in Sussex, RAF Bentley Priory in London as well as the Grade I Listed Balls Park mansion in Hertfordshire.

FINDS AND ARCHIVE ASSISTANT
Adam Leigh

Experience: Adam joined AS in January 2012. In his time with the company he has helped process hundreds of finds from a variety of sites going on to concord them. Adam has helped prepare a large number of sites for deposition with museums making sure that the finds are prepared in strict accordance with the guidelines and requirements laid out by the receiving museum.

ASSISTANT ARCHIVES OFFICER
Karen Cleary

Experience: Karen started her administrative career as Youth Training Administrator for a training company (TSMA Ltd) in 1993, where she provided administrative support for NVQ Assessors' of trainees and apprentices on the youth training scheme and in work

placements they'd helped set up. Amongst her administrative duties she was principally in charge of preparing the Training Credits Claims and sending off for government funding. She gained NVQ's Level's 2 and 3 in Administration whilst working in this role. Karen started out with AS as Office Assistant in February 2009 and within a few months was promoted to Archives Assistant. Principally her role involves the preparation of Archaeological archives for long term deposition with museums. She has developed a good understanding of the preparation process and follows each individual museum's guidelines closely. She has a good working knowledge of Microsoft Office and is competent with *FileZilla*- Digital File Transfer software and *Fastsum*-Checksum Creation software.

ARCHAEOLOGICAL SOLUTIONS: PRINCIPAL SPECIALISTS

GEOPHYSICAL SURVEYS	Sam Egan Dr John Summers
AIR PHOTOGRAPHIC ASSESSMENTS	Air Photo Services
PHOTOGRAPHIC SURVEYS	Ms K Henry
PREHISTORIC POTTERY	Mr A Peachey
ROMAN POTTERY	Mr A Peachey
SAXON & MEDIEVAL POTTERY	Mr P Thompson
POST-MEDIEVAL POTTERY	Mr P Thompson
FLINT	Mr A Peachey
GLASS	H Cool
COINS	British Museum, Dept of Coins & Medals
METALWORK & LEATHER	Ms Q Mould, Ms N Crummy
SLAG	Ms J Cowgill
ANIMAL BONE	Dr J Cussans
HUMAN BONE:	Ms S Anderson
ENVIRONMENTAL CO-ORDINATOR	Dr R Scaife
POLLEN AND SEEDS:	Dr R Scaife
CHARCOAL/WOOD	Dr J Summers
SOIL MICROMORPHOLOGY	Dr R MacPhail, Dr C French
CARBON-14 DATING:	English Heritage Ancient Monuments Laboratory (for advice).
CONSERVATION	University of Leicester

APPENDIX 3 OASIS DATA COLLECTION FORM

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: archaeol7-270276

Project details

Project name	Land off Lime Avenue, Oulton, Suffolk
Short description of the project	Between February and April 2015 Archaeological Solutions Ltd (AS) conducted an archaeological excavation on land off Lime Avenue, Oulton, Suffolk. The excavation was commissioned by Persimmons Homes Ltd and was undertaken in advance of the proposed residential development of the site. The excavation was preceded by a geophysical survey and trial trench evaluation, also conducted by AS. As was suggested by the forerunning evaluation, the excavation revealed abundant evidence of activity dating to the late Bronze Age/ early Iron Age and early to middle Anglo-Saxon period. Evidence of Romano-British, middle to late Anglo-Saxon and Saxo-Norman/ medieval occupation/ activity was also encountered. Other periods were more sparsely represented. Of particular significance were a late Bronze Age/ early Iron Age enclosure system, a Romano-British enclosure, hearths and a post-built structure, five Anglo-Saxon sunken-featured buildings and five burn flint pits, also of Anglo-Saxon date. A middle to late Anglo-Saxon enclosure, a post and beam slot structure and a Saxo-Norman/ medieval metal working area were also recorded. Notable small finds comprise eight late Anglo-Saxon/ Viking Age scale weights with embedded silver coins.
Project dates	Start: 01-02-2015 End: 30-04-2015
Previous/future work	Yes / Yes
Any associated project reference codes	P5758 - Contracting Unit No.
Any associated project reference codes	OUL037 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Other 15 - Other
Monument type	ENCLOSURE SYSTEM; PIT CLUSTER; CLAY-LINED PITS Late Bronze Age
Monument type	ENCLOSURE, POSTHOLE STRUCTURE; QUARRY PIT; HEARTHS; PIT CLUSTERS Roman
Monument type	DITCHES; SFBS; BURNT FLINT PITS Early Medieval
Monument type	ENCLOSURE; POSTHOLE AND BEAM SLOT STRUCTURE Early Medieval
Monument type	METALWORKING AREA Medieval
Significant Finds	POTTERY; STRUCK FLINT Early Prehistoric
Significant Finds	POTTERY Roman

Significant Finds	BLADE; POTTERY Early Medieval
Significant Finds	LEAD COIN WEIGHTS Early Medieval
Significant Finds	POTTERY; SLAG Medieval
Investigation type	"Full excavation"
Prompt	Planning condition

Project location

Country	England
Site location	SUFFOLK WAVENEY OULTON Land off Lime Avenue, Oulton, Suffolk
Study area	35 Hectares
Site coordinates	TM 518 941 52.48599838666 1.709190562785 52 29 09 N 001 42 33 E Point
Height OD / Depth	Min: 10m Max: 20m

Project creators

Name of Organisation	Archaeological Solutions Ltd
Project brief originator	Suffolk County Council Archaeological Service Conservation Team
Project design originator	Jon Murray
Project director/manager	Jon Murray
Project supervisor	Julie Walker
Project supervisor	Antony Mustchin

Project archives

Physical Archive recipient	Suffolk County Archaeological Store
Physical Contents	"Ceramics","Metal","Worked stone/lithics"
Digital Archive recipient	Suffolk County Archaeological Store
Digital Contents	"Survey"
Digital Media available	"Images raster / digital photography","Survey","Text"
Paper Archive recipient	Suffolk County Archaeological Store
Paper Contents	"Survey"
Paper Media available	"Drawing","Photograph","Plan","Report","Survey "

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land off Lime Avenue, Oulton, Suffolk
Author(s)/Editor(s)	Mustchin, A

Author(s)/Editor(s)	Walker, J
Other bibliographic details	Archaeological Solutions Report No. 5069
Date	2016
Issuer or publisher	Archaeological Solutions Ltd
Place of issue or publication	Bury St Edmunds

Entered by	Sarah Powell (sarah.powell@ascontracts.co.uk)
Entered on	2 December 2016

OASIS:

Please e-mail Historic England for OASIS help and advice

PLATES

1: section through Phase 2 Pit F2569, looking south

2: Section through Phase 2 clay-lined Pit F2241, looking west

3: Eastern end of Structure 1 (post-excavation), looking north

4: Section through Phase 4 Pits F2420 (left) and F2427 (right), looking south

5: section through Phase 4 ?Hearth F2572, looking south

6: Section through Phase 4 ?Hearth F2664, looking south

7: SFB 1, looking east

8: SFB 2, looking west

9: SFB 3, looking north

10: SFB 4 (Quadrant C), looking north-west

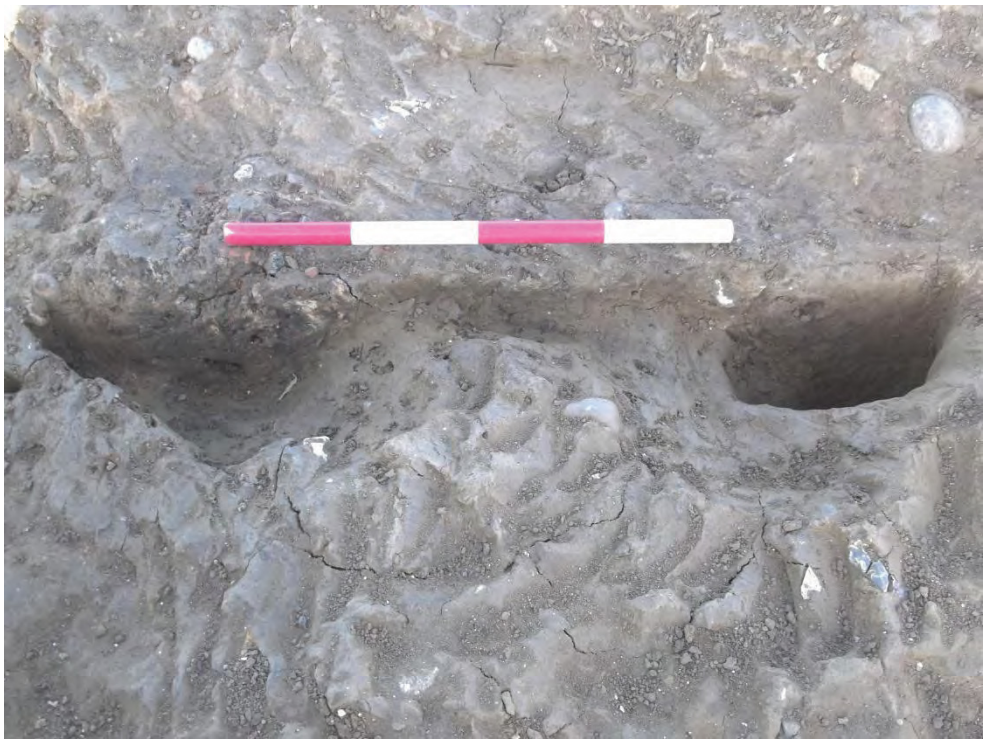
11: SFB 5, looking north-west

12: Section through Phase 5.1 Burnt Flint Pit F2331, looking north

13: Section through Phase 5.1 Burnt Flint Pit F2683, looking north

14: Section through Phase 5.1 Burnt Flint Pit F2717, looking north

15: Section through Phase 5.1 Burnt Flint Pit F2731, looking north



16: Section through Phase 6 Postholes F2184 (left), F2188 (right) and Pit F2186 (centre), looking north-east

17: Section through Phase 6 Pit F2178, looking west

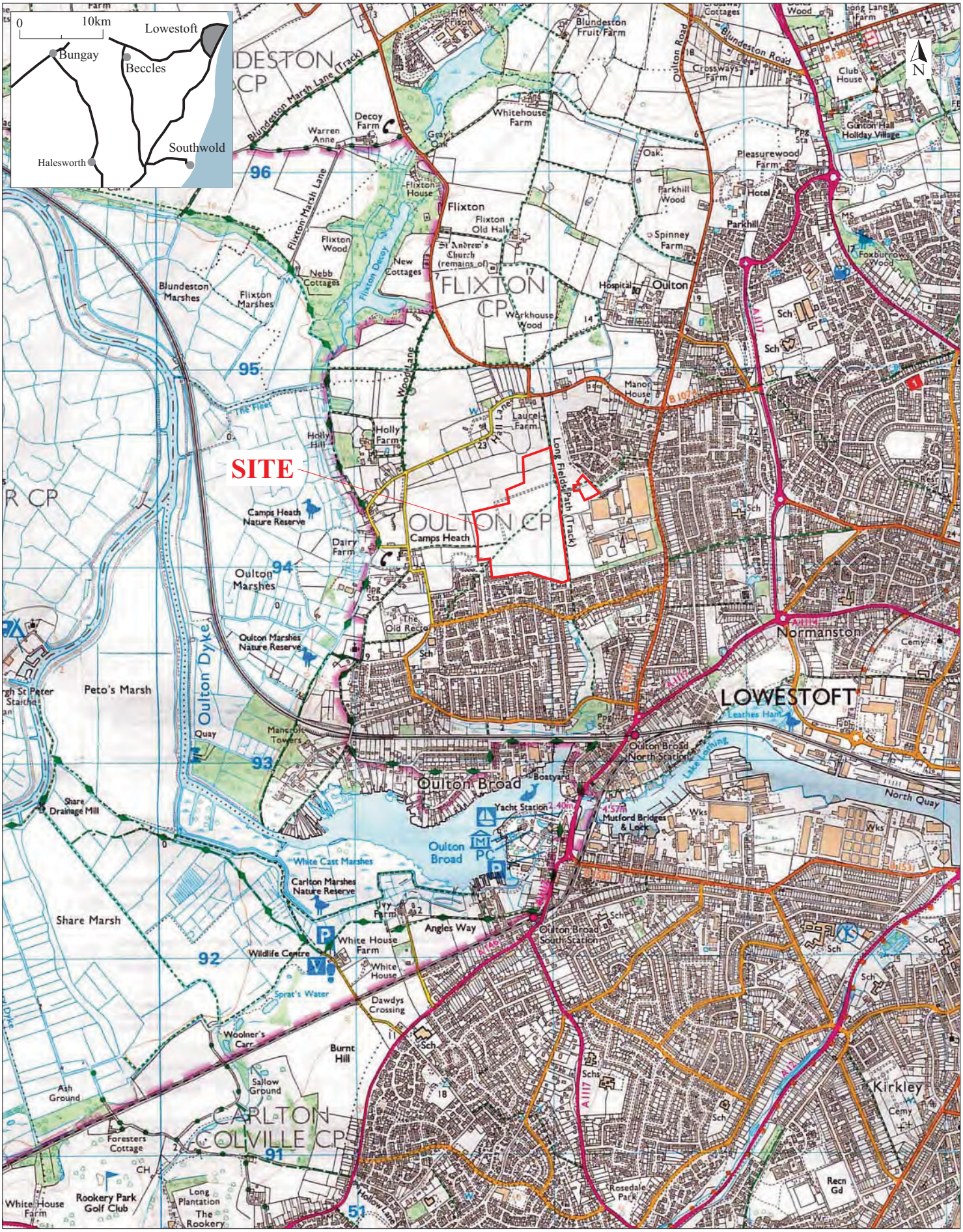


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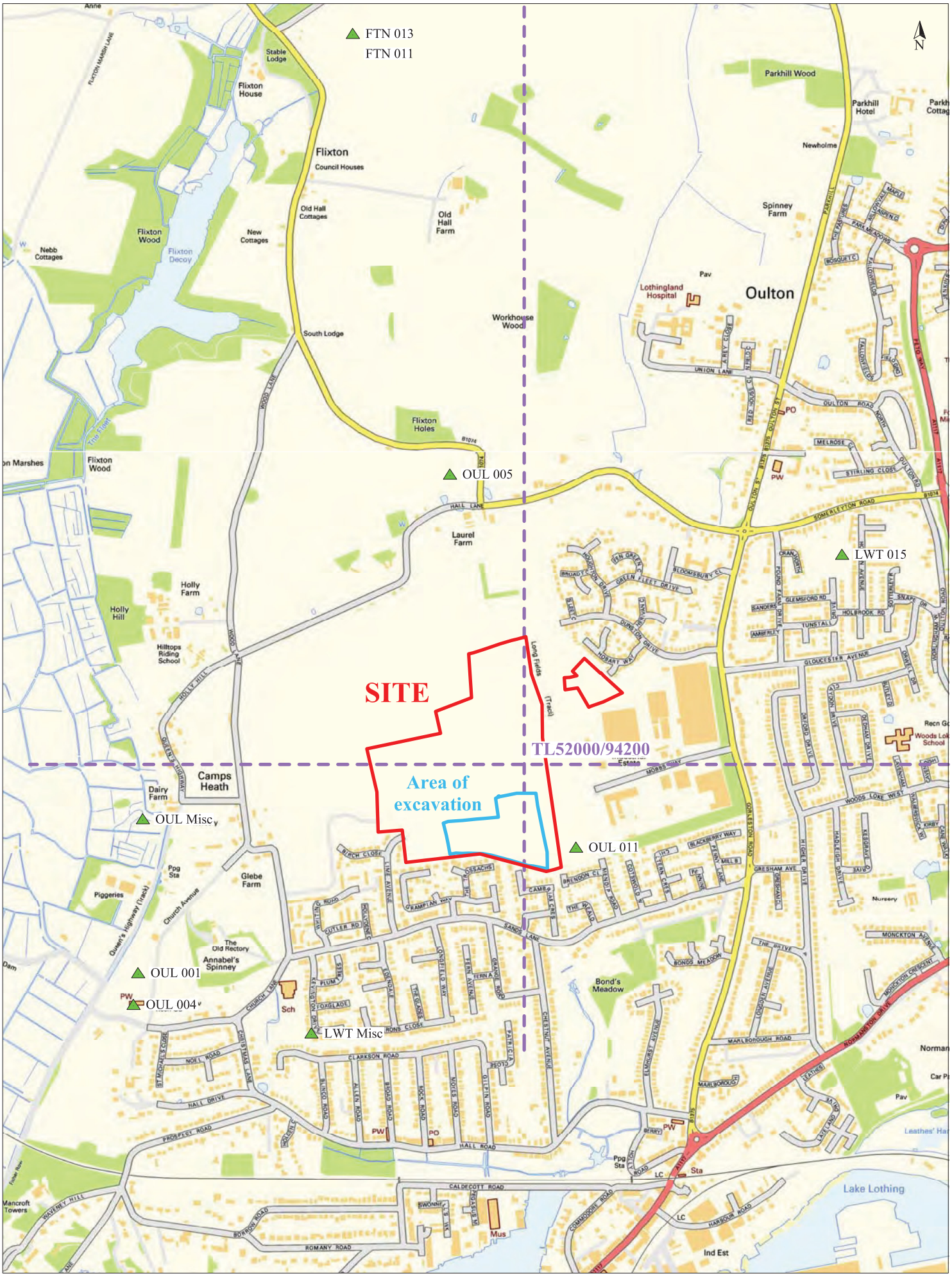
Fig. 1 Site location plan

Scale 1:25,000 at A4

Oulton (P5758)



0 750m

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▲ SHER point

Archaeological Solutions Ltd

Fig. 2 Detailed site location plan

Scale 1:12,500 at A4

Oulton, Lowestoft, Suffolk (P5758)

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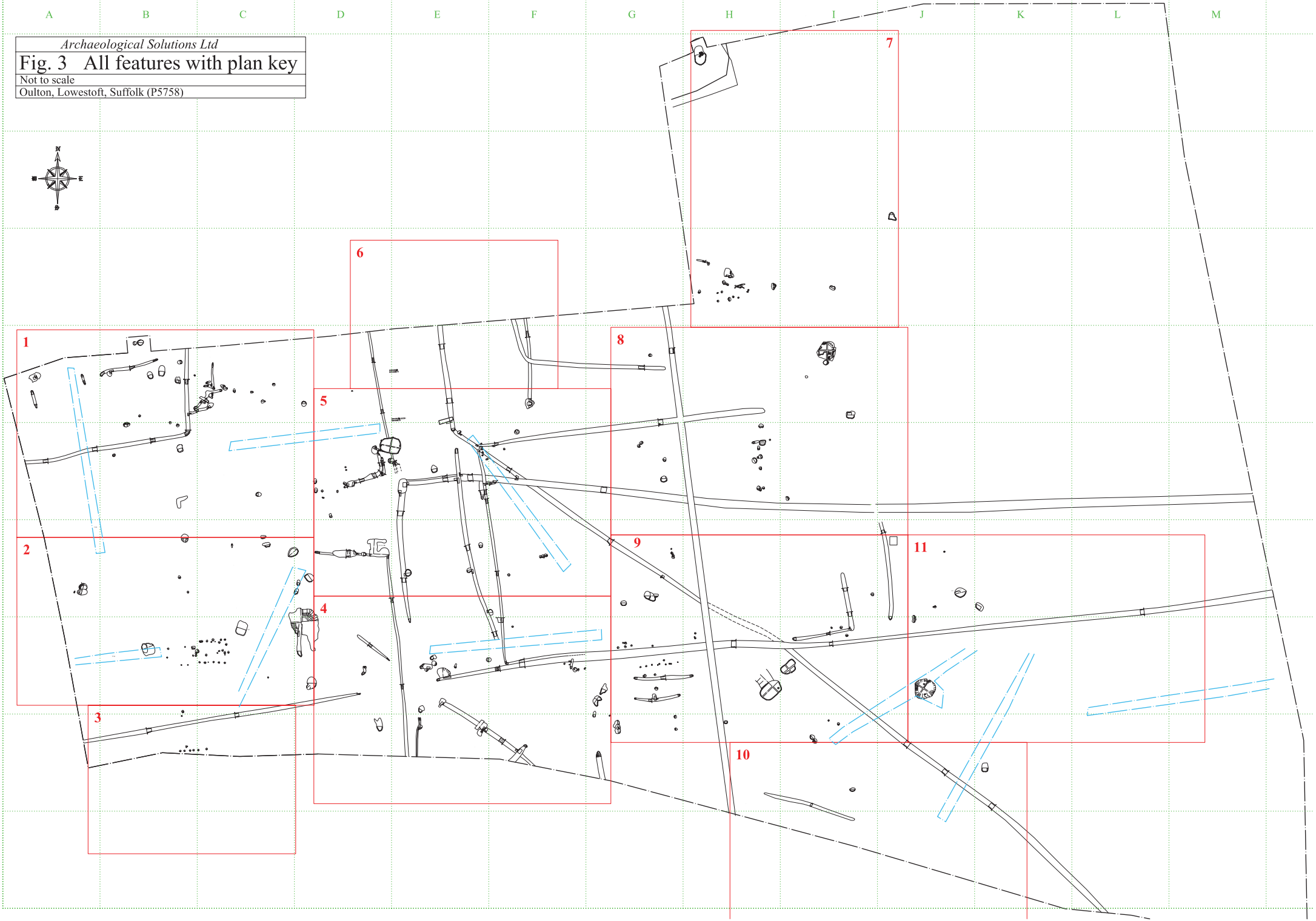
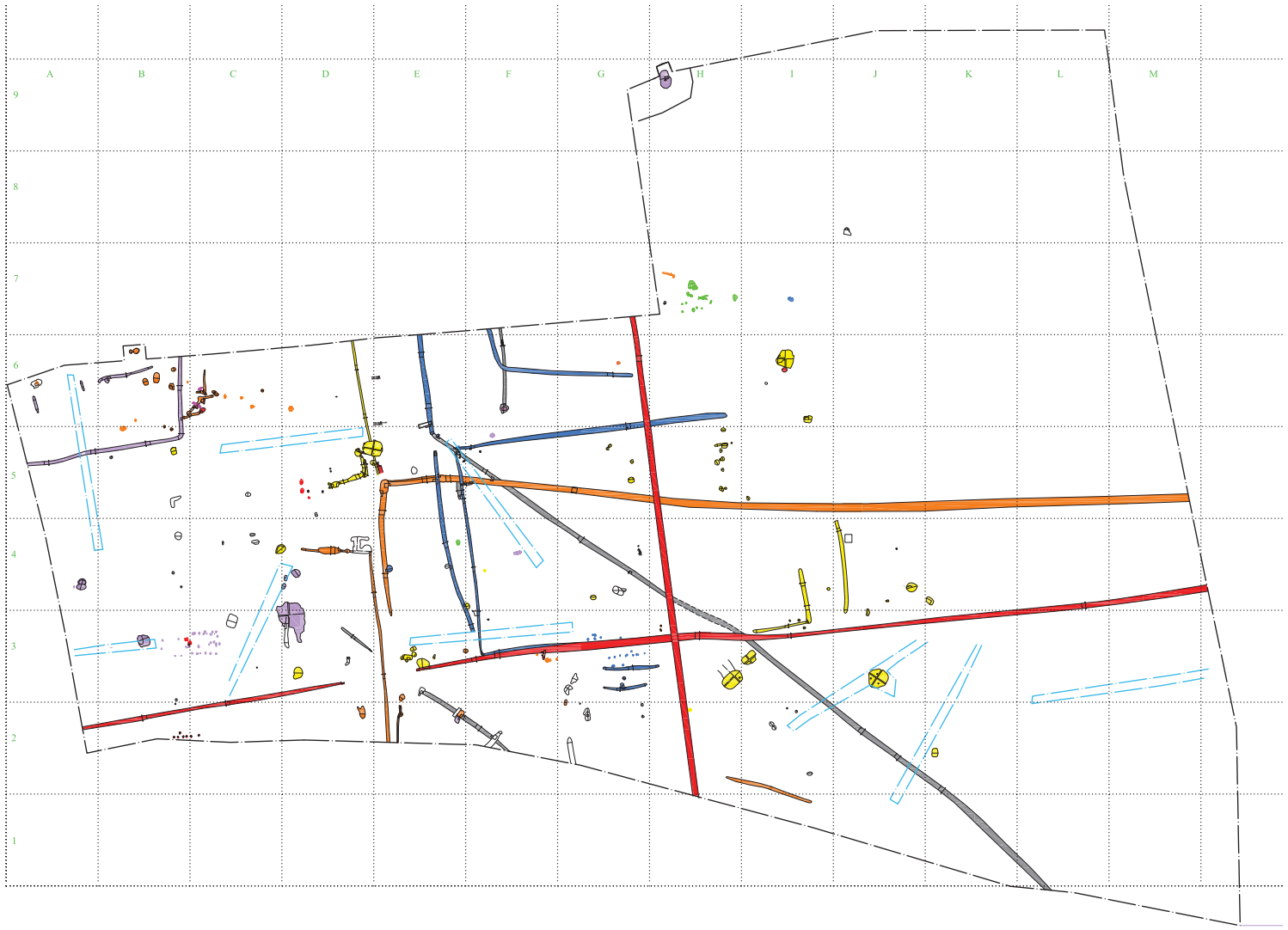
Fig. 3 All features with plan key

Not to scale

Oulton, Lowestoft, Suffolk (P5758)





- : Phase 1 Earlier prehistoric (pre-400 BC)
- : Phase 2 Late Bronze Age/ early Iron Age (c. 1300 to400 BC)
- : Phase 3 Middle to late Iron Age (400 BC to AD 43)
- : Phase 4 Romano-British (AD 43 to 410)
- : Phase 5.1 Early to middle Anglo-Saxon (5th to 9th century AD)
- : Phase 5.2 Middle to late Anglo-Saxon 99th to mid 12th century AD)
- : Phase 6 Saxo-Norman/ Medieval (11th to 14th century AD)
- : Phase 7 Post-medieval to early modern/modern AD 1500-1900+)
- : Undated

0 50m

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Fig. 4 Phase plan

1:1000 at A3

Oulton, Lowestoft, Suffolk (P5758)

Phase 1 Earlier prehistoric (pre-400 BC)

0 75m

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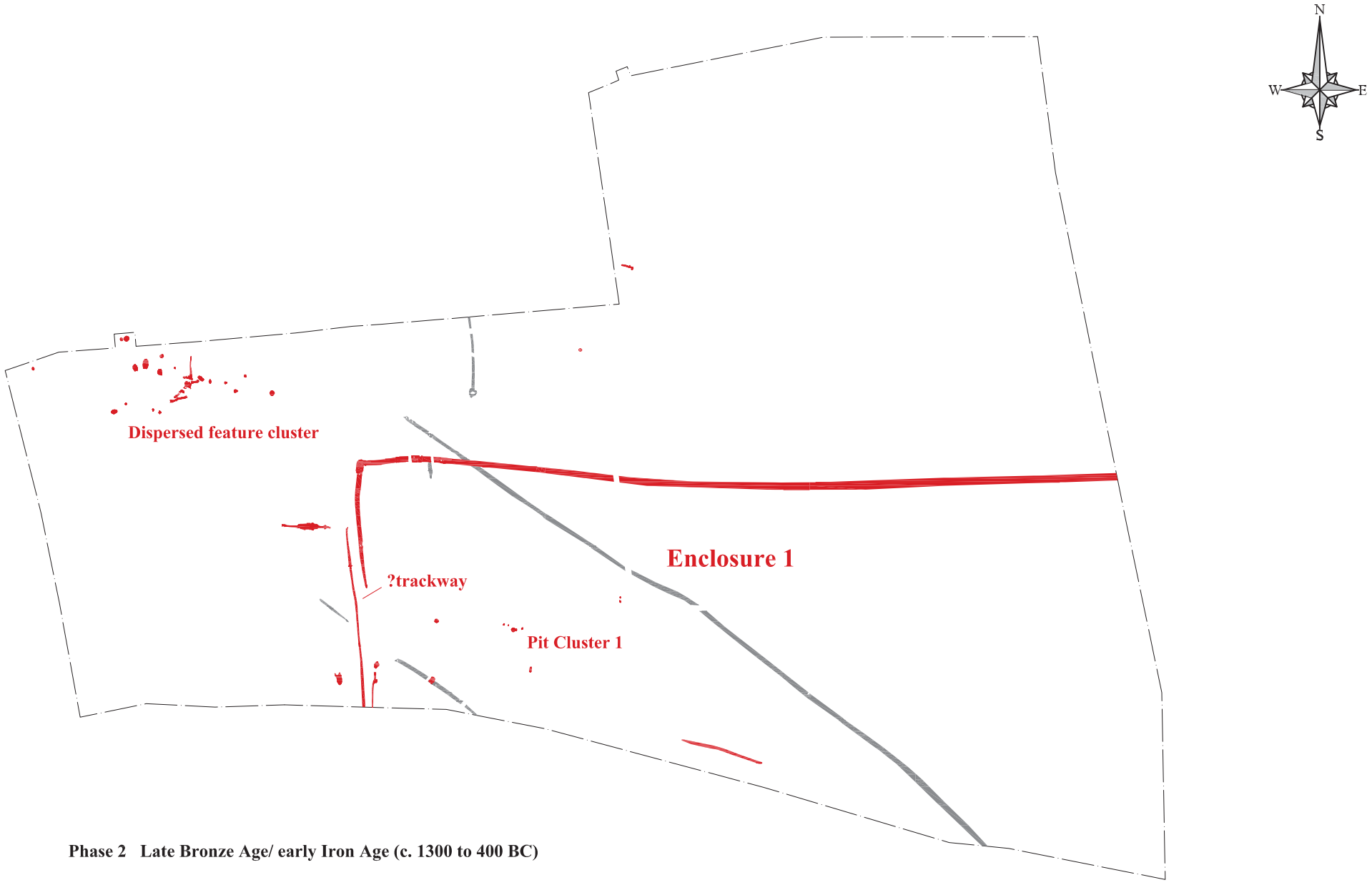
Fig. 5 Phase 1
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)



Phase 2 Late Bronze Age/ early Iron Age (c. 1300 to 400 BC)

0 75m

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Fig. 6 Phase 2
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)

Phase 3 Middle to late Iron Age (c.400 BC to AD 43)

0 75m

Archaeological Solutions Ltd
Fig. 7 Phase 3
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)

Phase 4 Romano-British (AD 43 to 410)

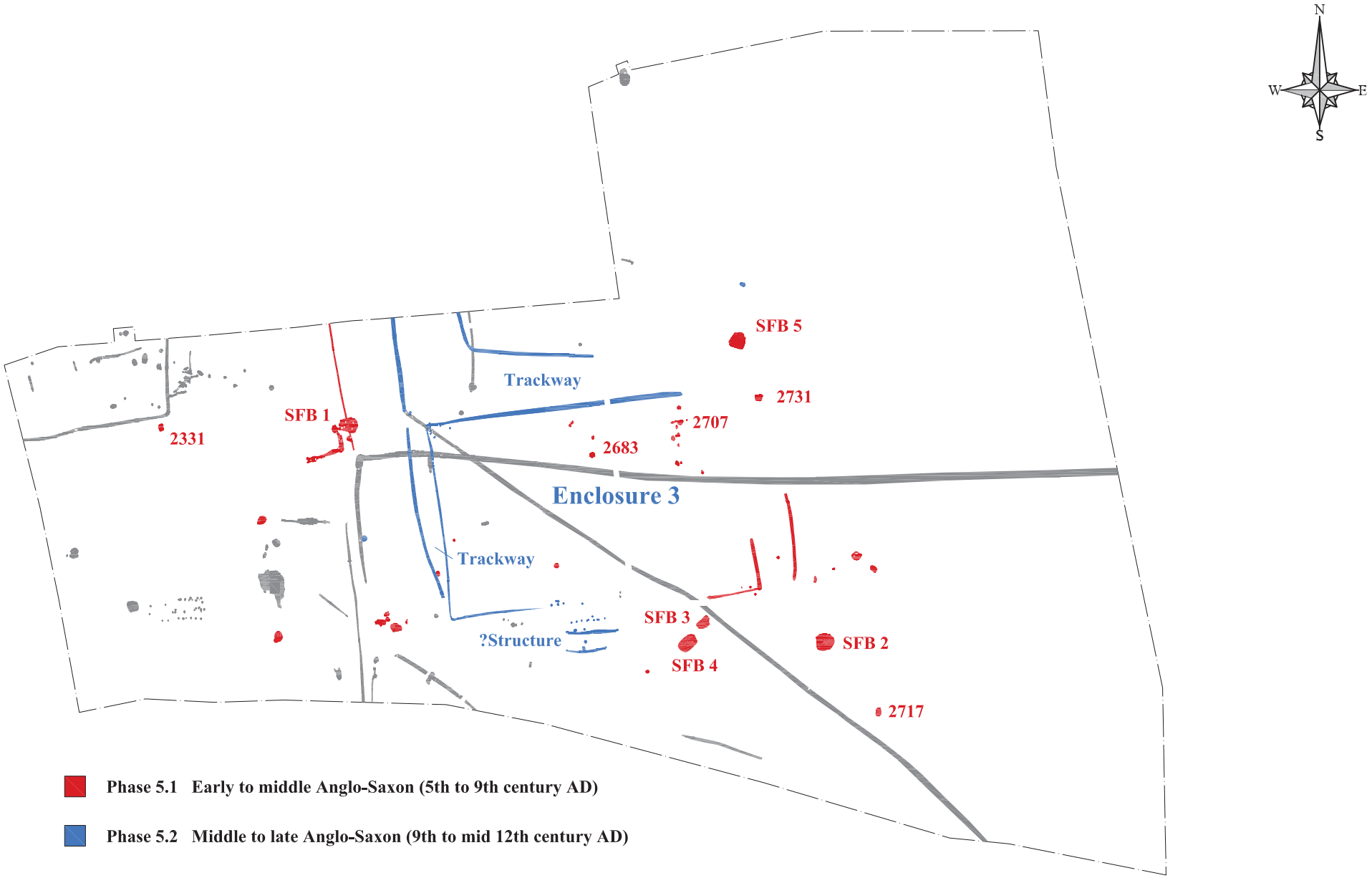
0 75m

Archaeological Solutions Ltd

Fig. 8 Phase 4

Scale 1:1250 at A4

Oulton, Lowestoft, Suffolk (P5758)



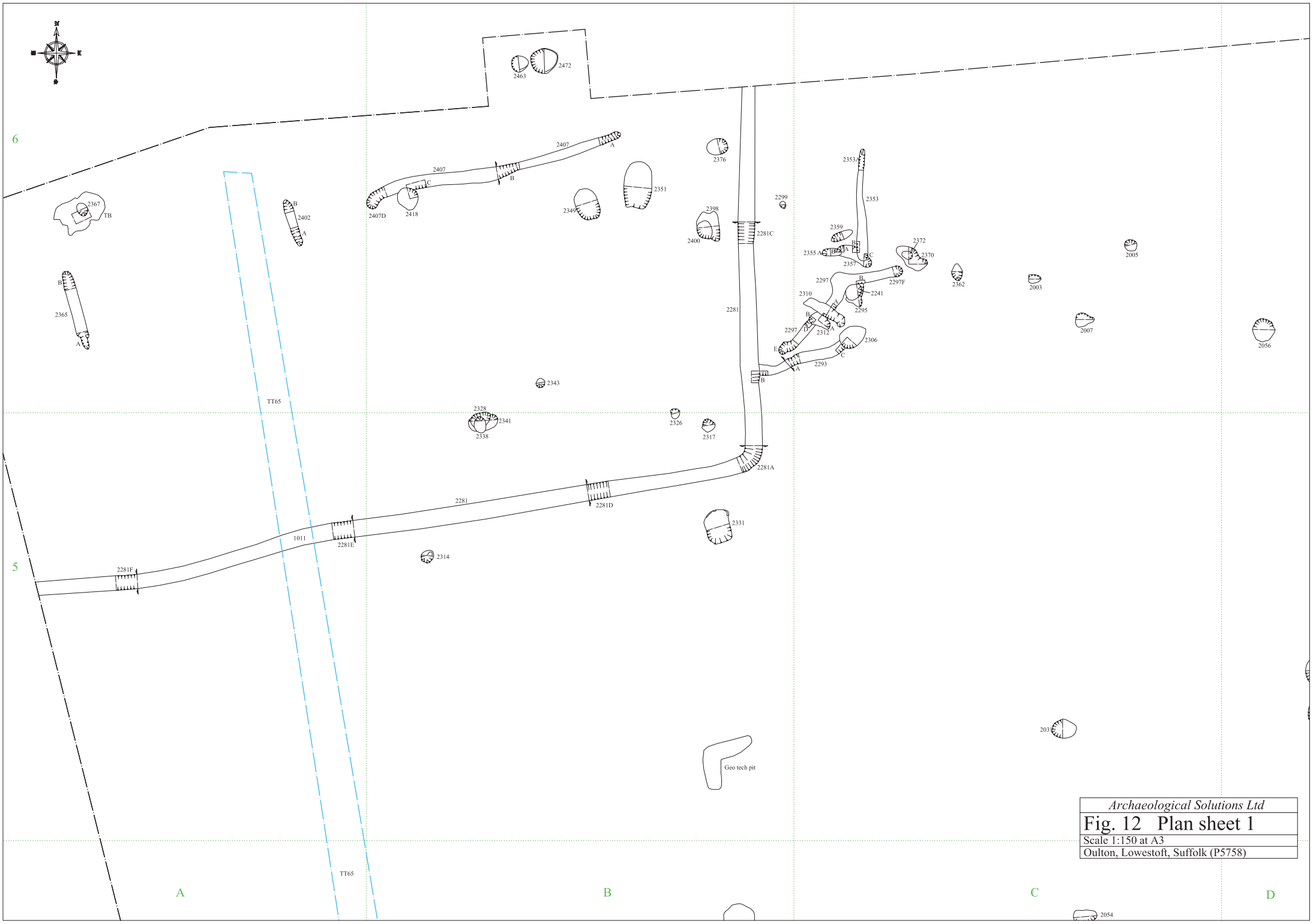
Archaeological Solutions Ltd
Fig. 9 Phase 5
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)

Phase 6 Saxo-Norman/ Medieval (11th to 14th century AD)

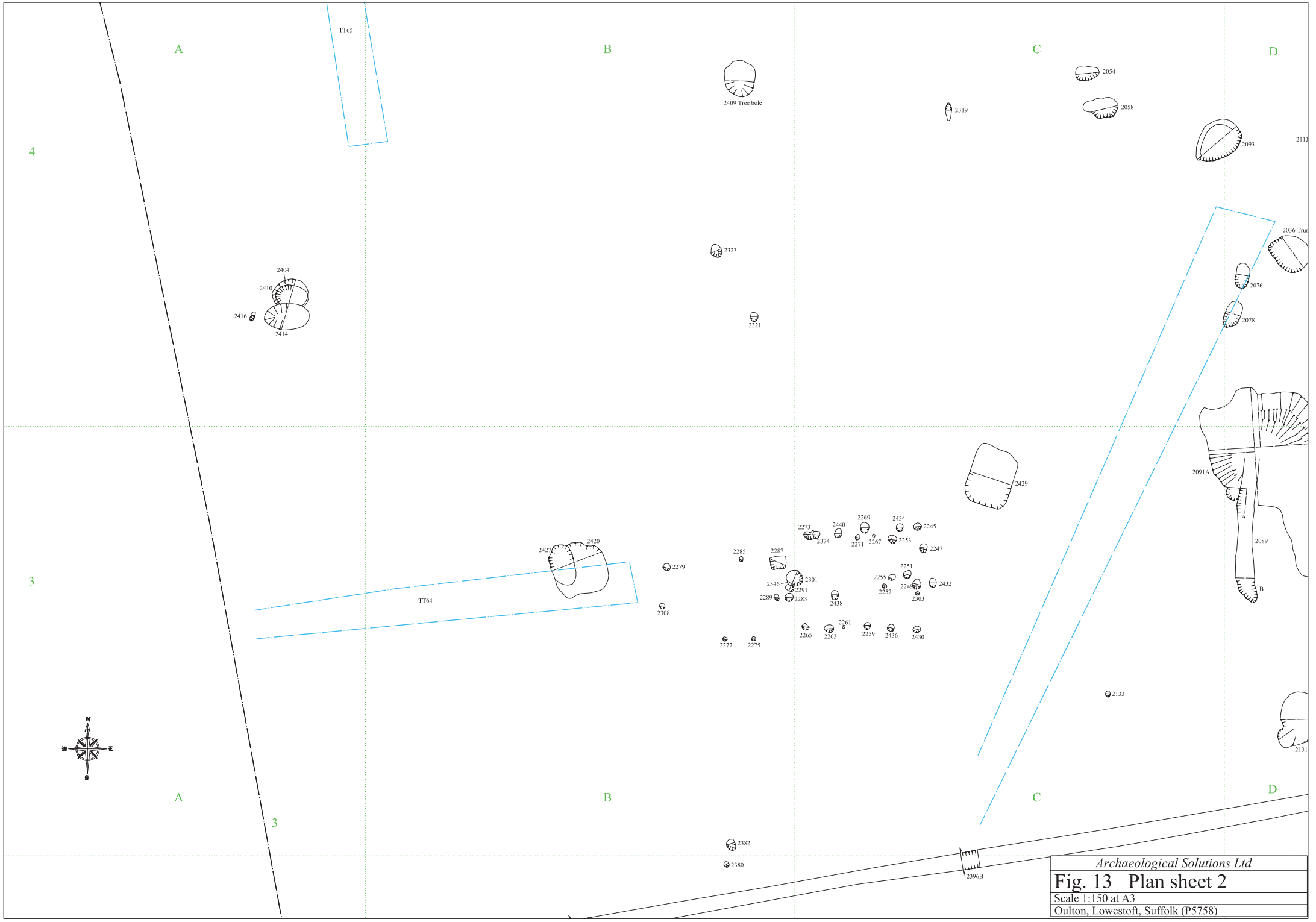
0 75m

Archaeological Solutions Ltd
Fig. 10 Phase 6
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)

Archaeological Solutions Ltd
Fig. 11 Phase 7
Scale 1:1250 at A4
Oulton, Lowestoft, Suffolk (P5758)



Archaeological Solutions Ltd
Fig. 12 Plan sheet 1
Scale 1:150 at A3
Oulton, Lowestoft, Suffolk (P5758)

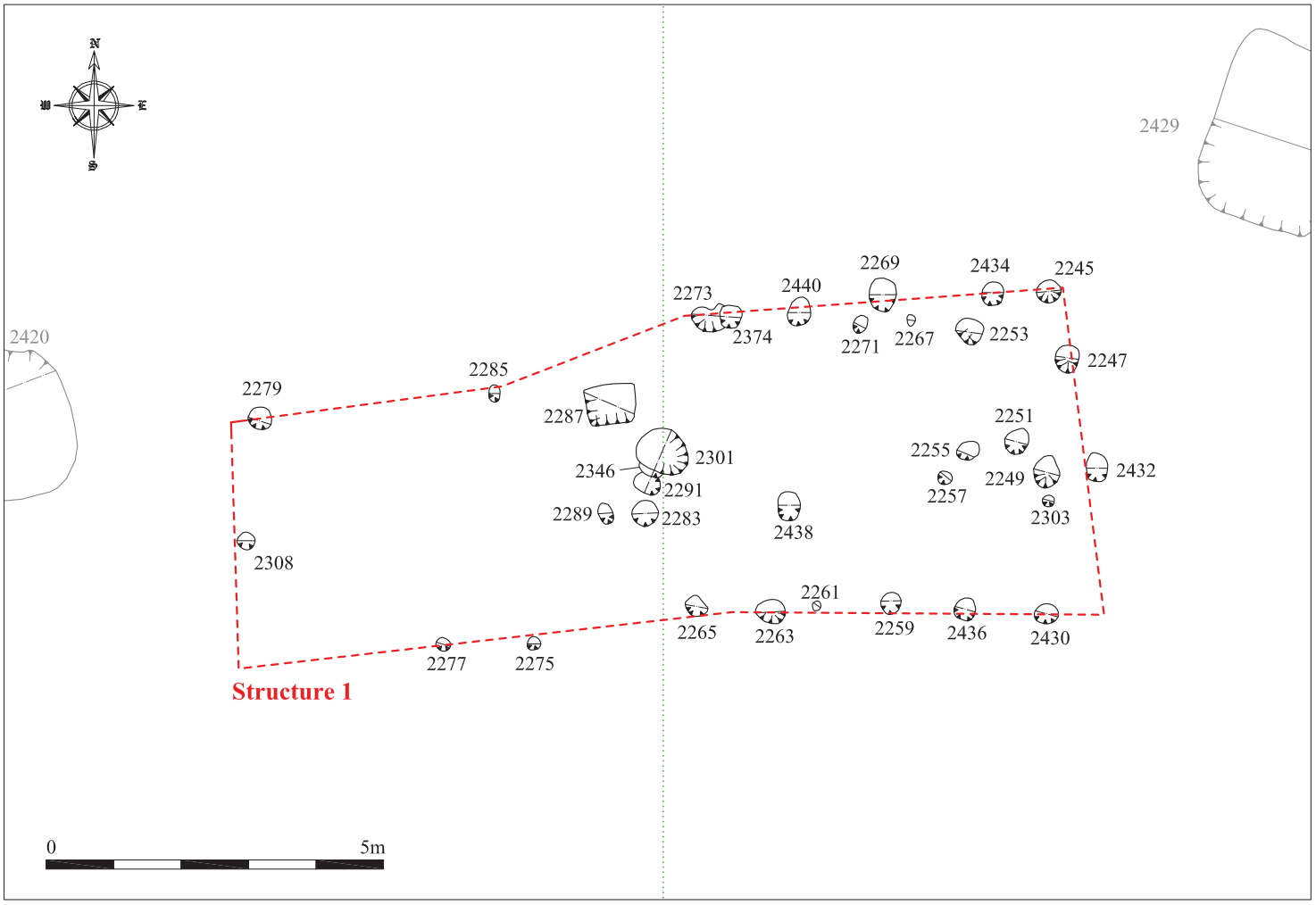


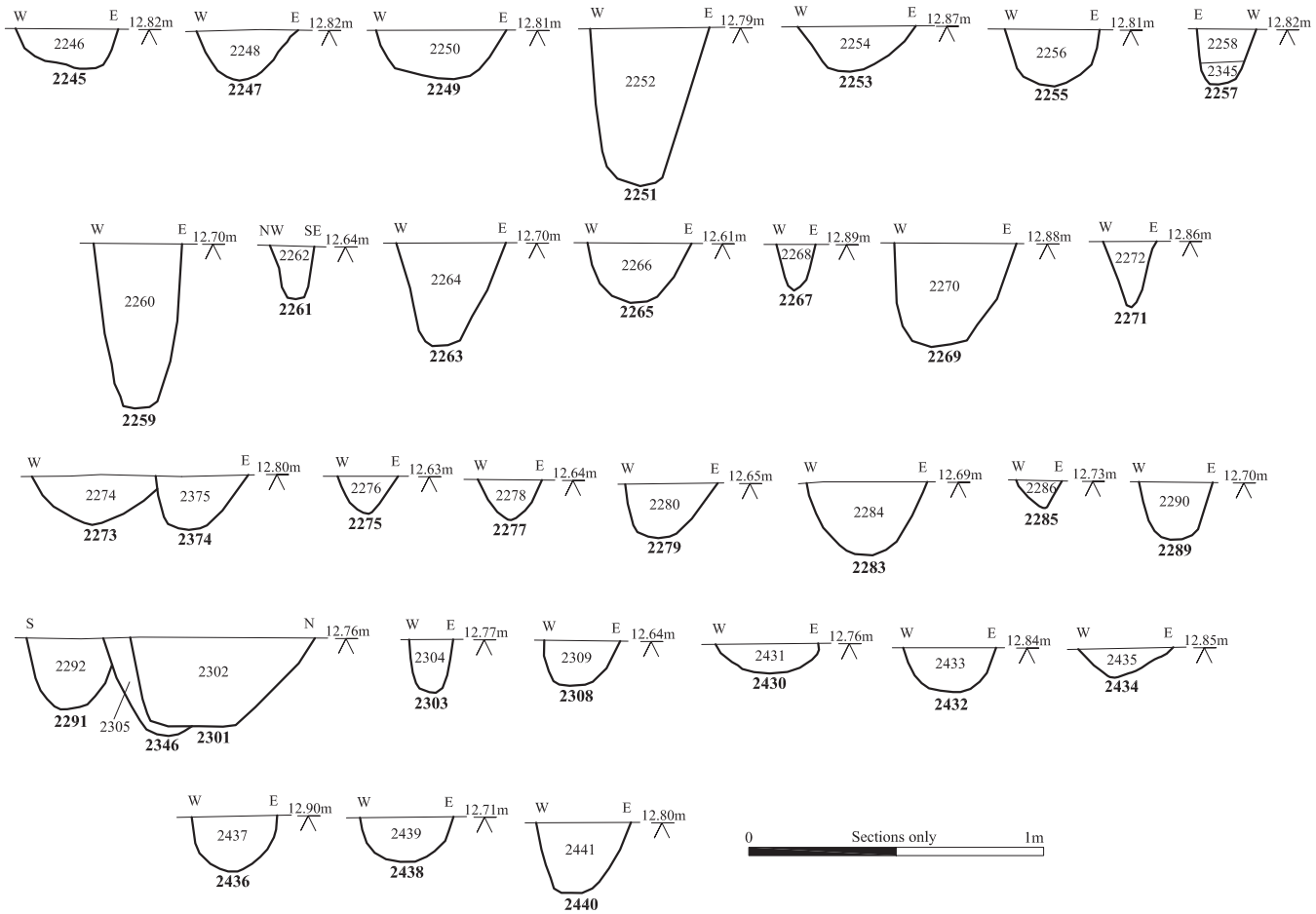
Archaeological Solutions Ltd

Fig. 13 Plan sheet 2

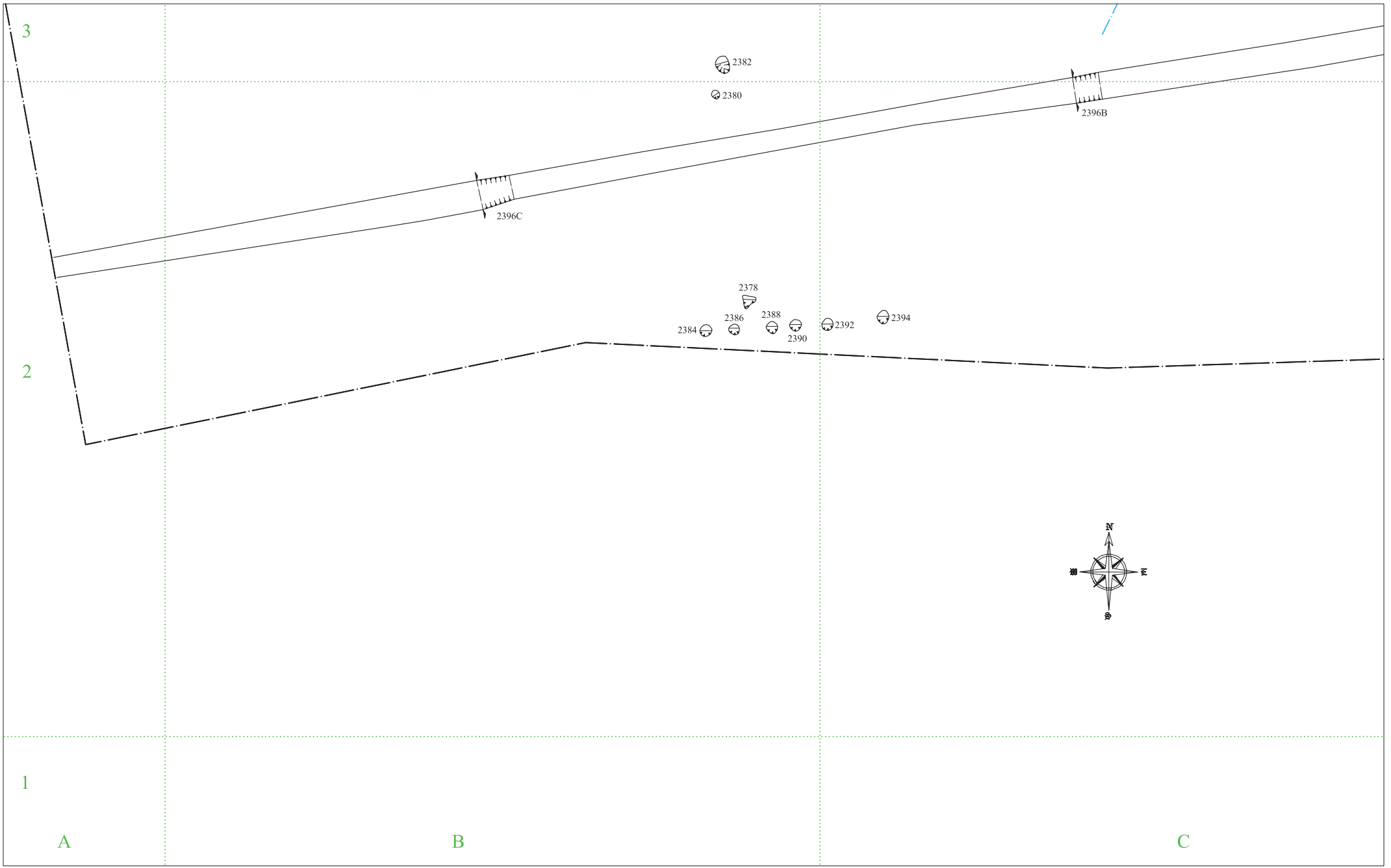
Scale 1:150 at A3

Oulton, Lowestoft, Suffolk (P5758)





Archaeological Solutions Ltd
Fig. 14 Structure 1
Scale 1:100 and 1:25 at A4
Oulton, Lowestoft, Suffolk (P5758)

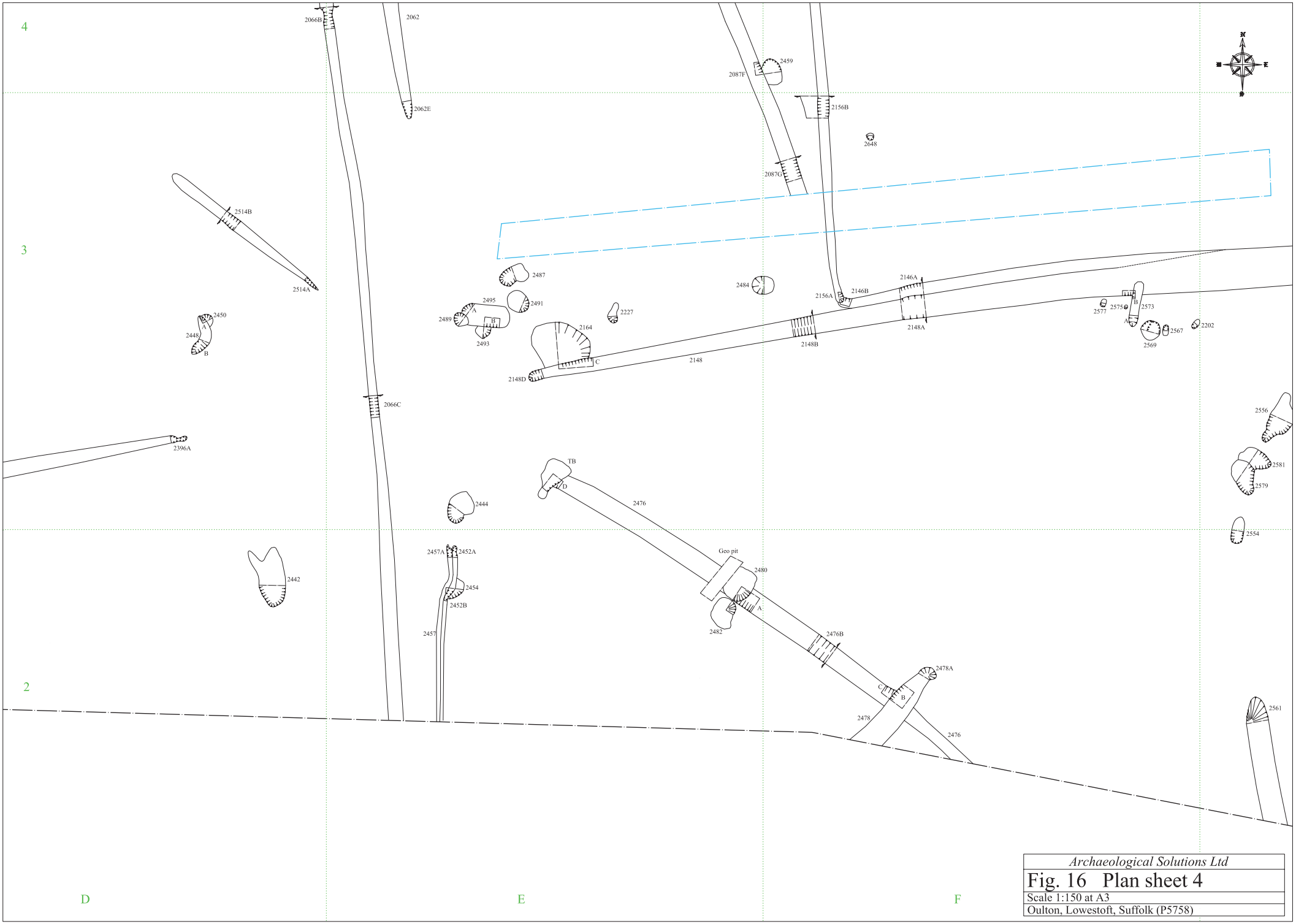


Archaeological Solutions Ltd

Fig. 15 Plan sheet 3

Scale 1:150 at A4

Oulton, Lowestoft, Suffolk (P5758)

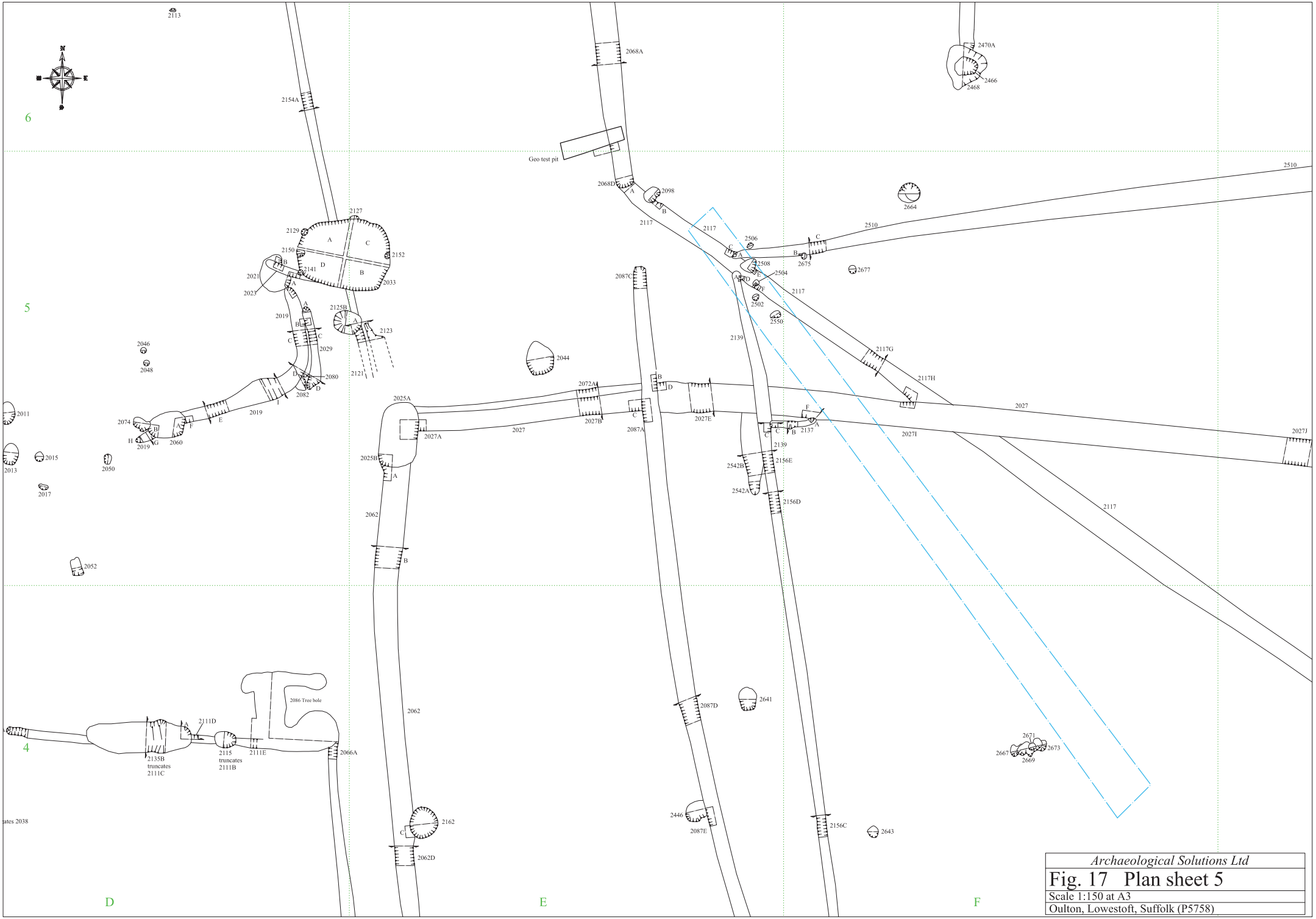


Archaeological Solutions Ltd

Fig. 16 Plan sheet 4

Scale 1:150 at A3

Oulton, Lowestoft, Suffolk (P5758)

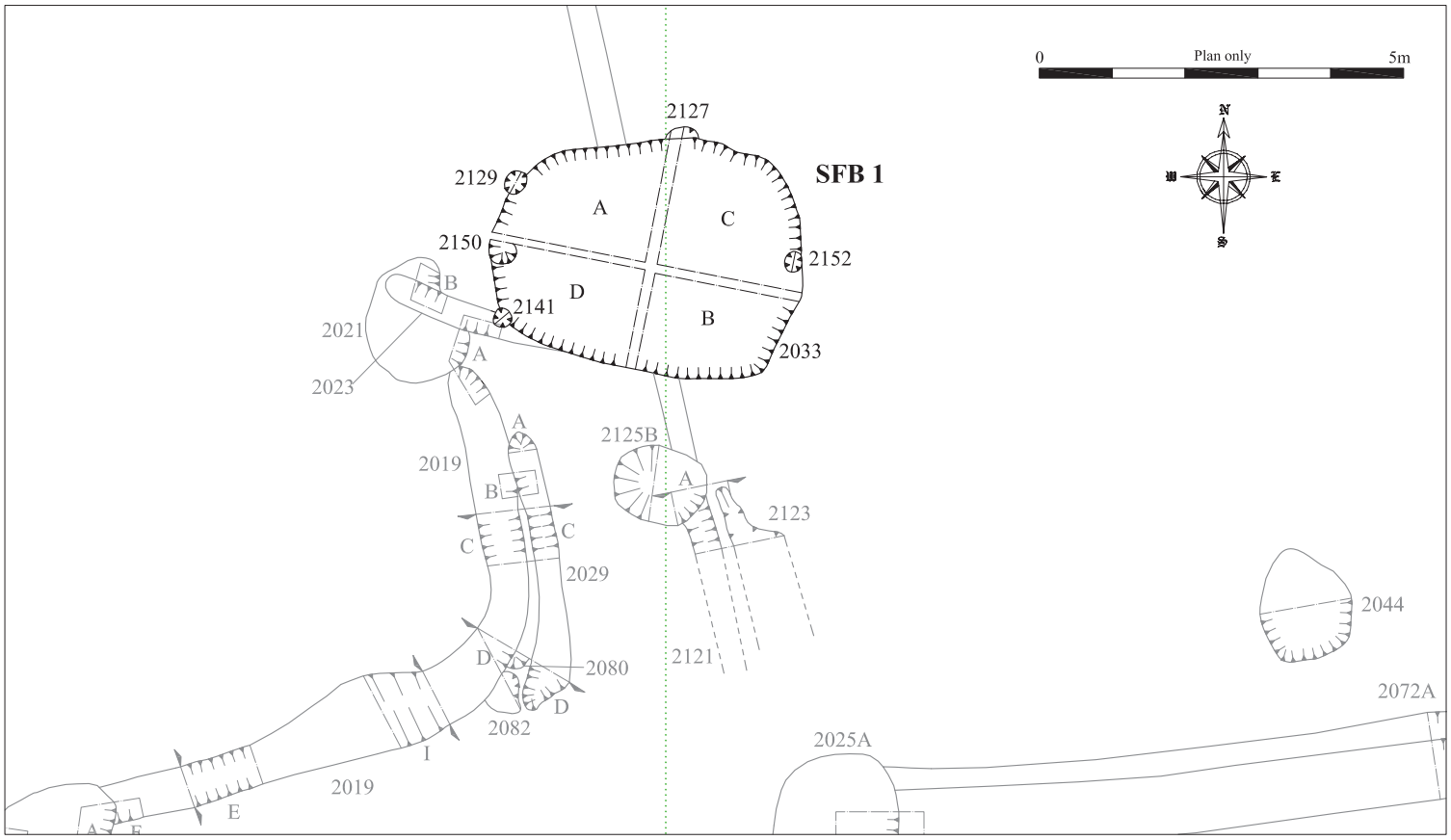


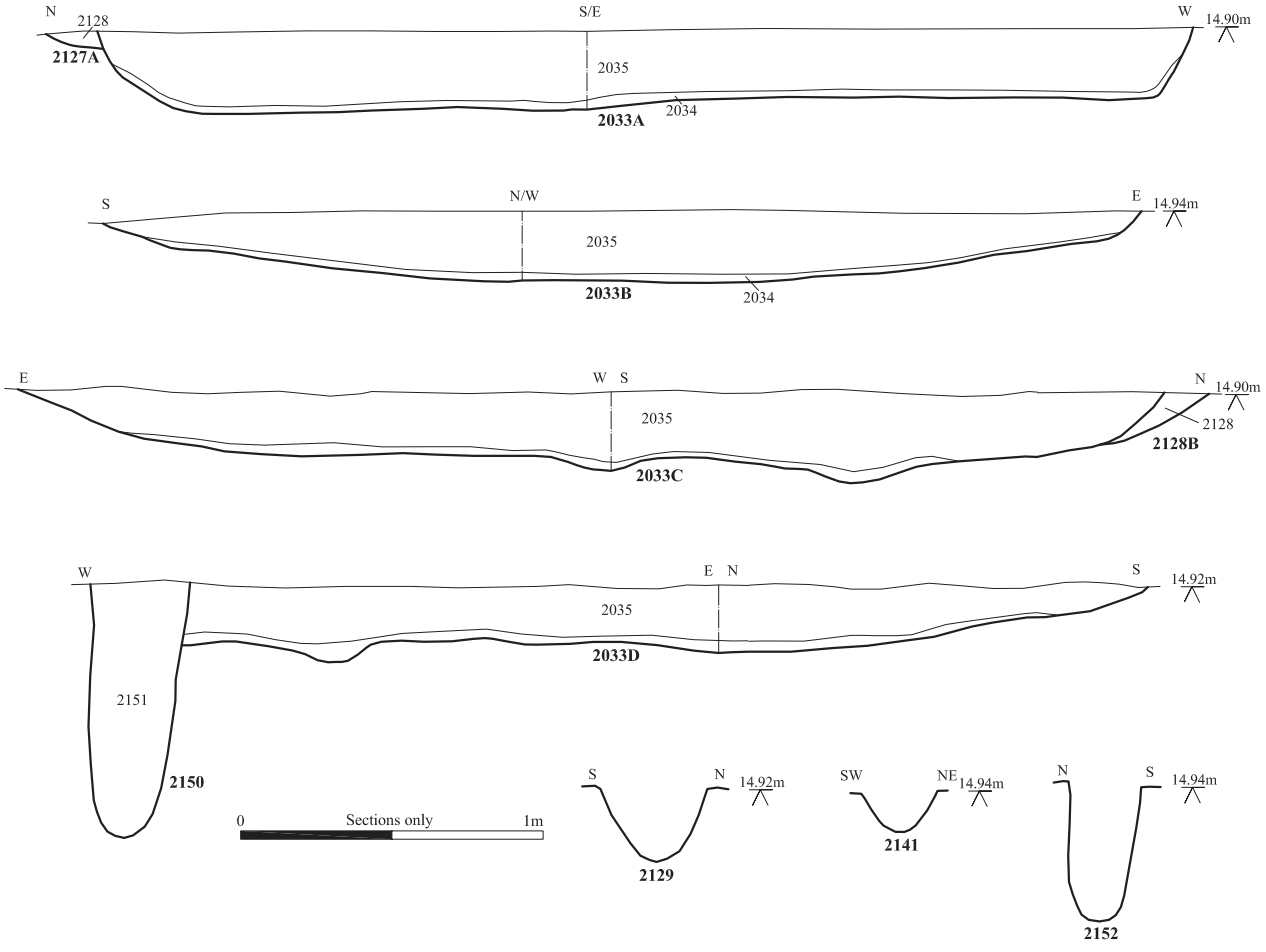
Archaeological Solutions Ltd

Fig. 17 Plan sheet 5

Scale 1:150 at A3

Oulton, Lowestoft, Suffolk (P5758)





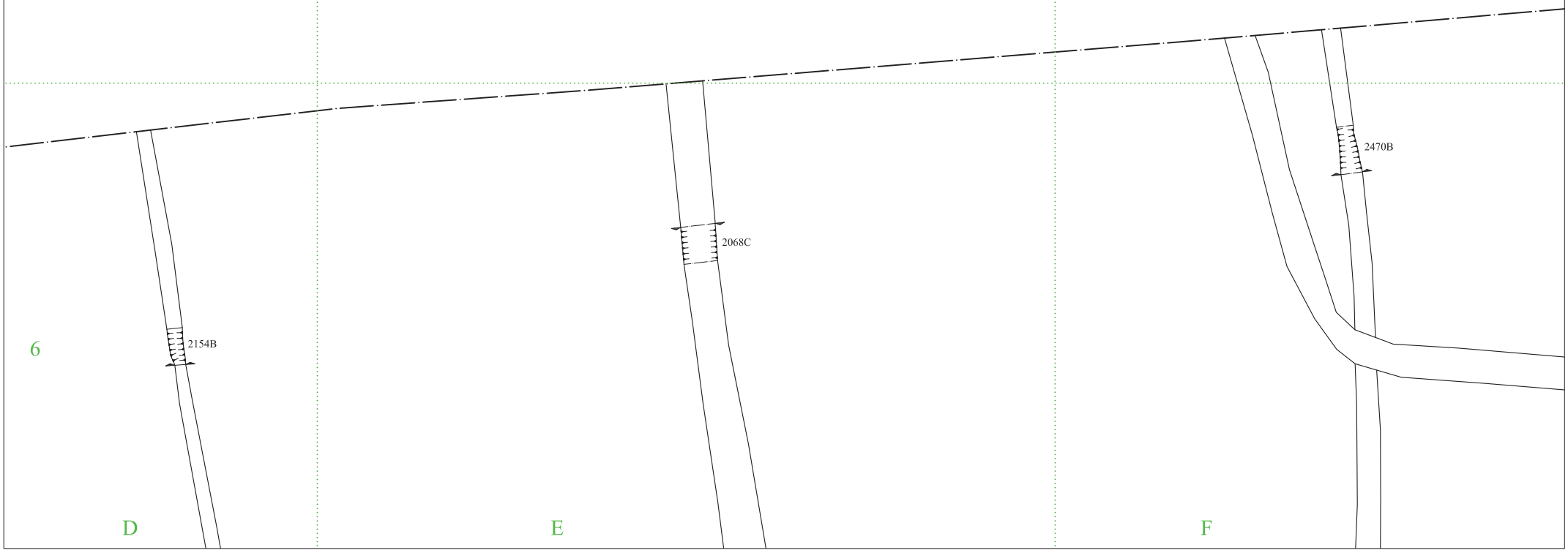
Archaeological Solutions Ltd
Fig. 18 SFB 1
Scale 1:100 and 1:25 at A4
Oulton, Lowestoft, Suffolk (P5758)

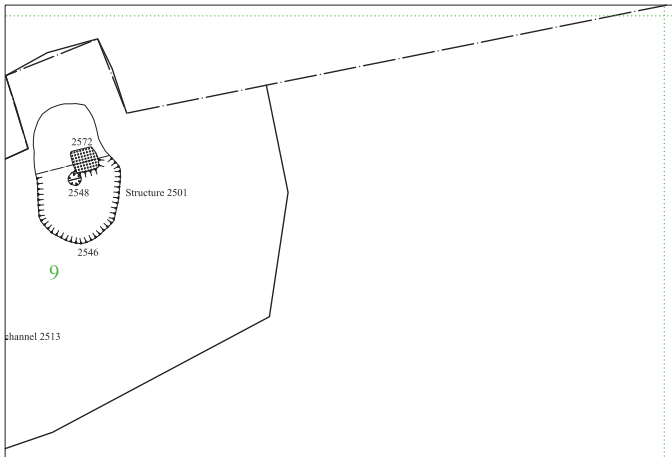
Archaeological Solutions Ltd

Fig. 19 Plan sheet 6

Scale 1:150 at A4

Oulton, Lowestoft, Suffolk (P5758)

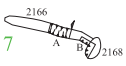


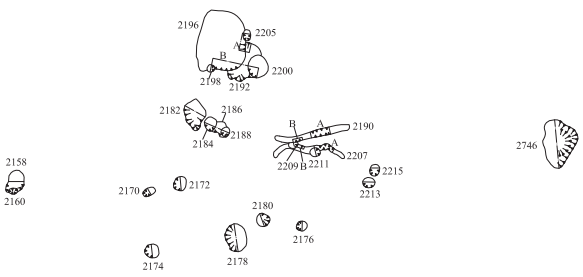


9

8

7





H

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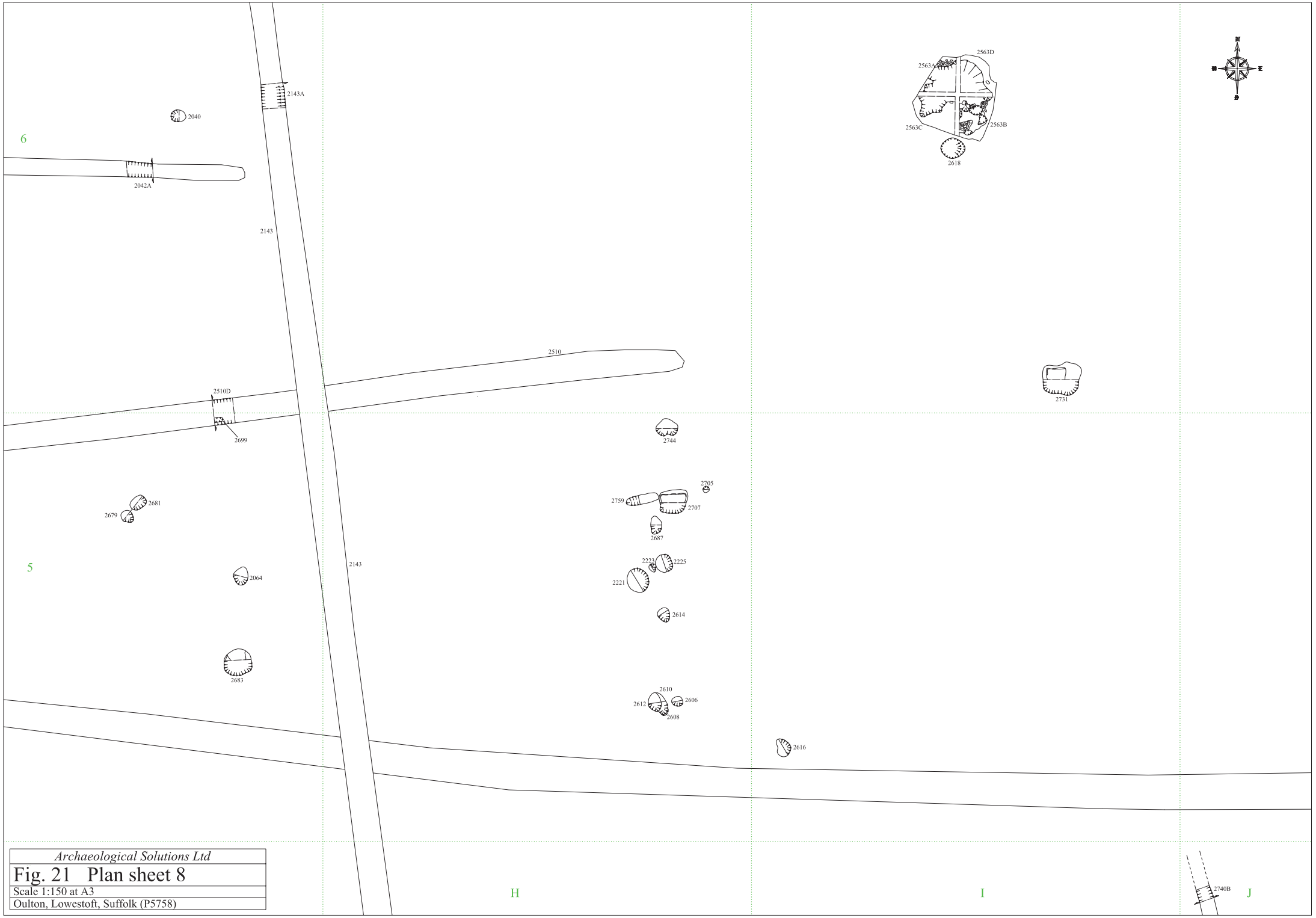
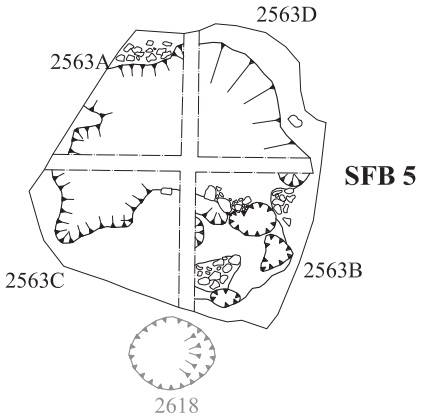
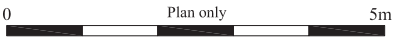
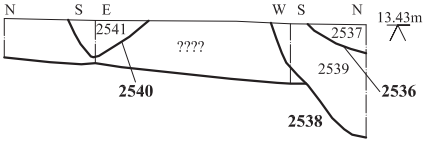
Archaeological Solutions Ltd
Fig. 20 Plan sheet 7
Scale 1:150 at A3
Oulton, Lowestoft, Suffolk (P5758)

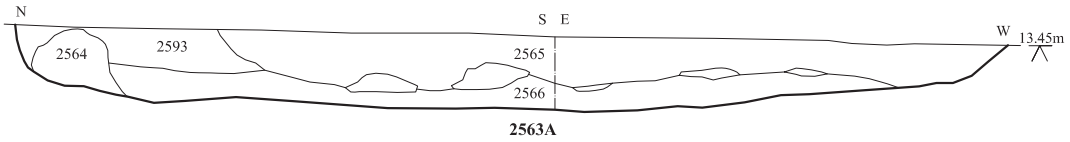


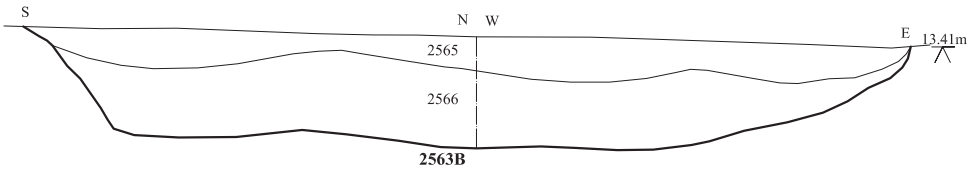
Archaeological Solutions Ltd
Fig. 21 Plan sheet 8
Scale 1:150 at A3
Oulton, Lowestoft, Suffolk (P5758)

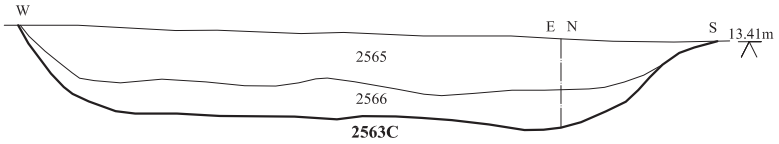


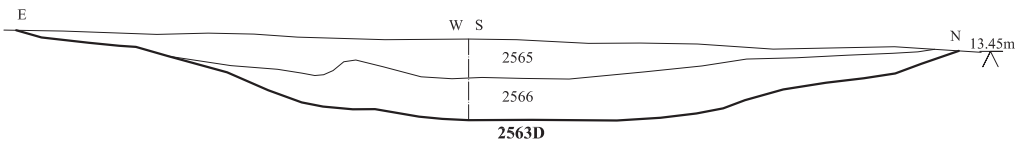




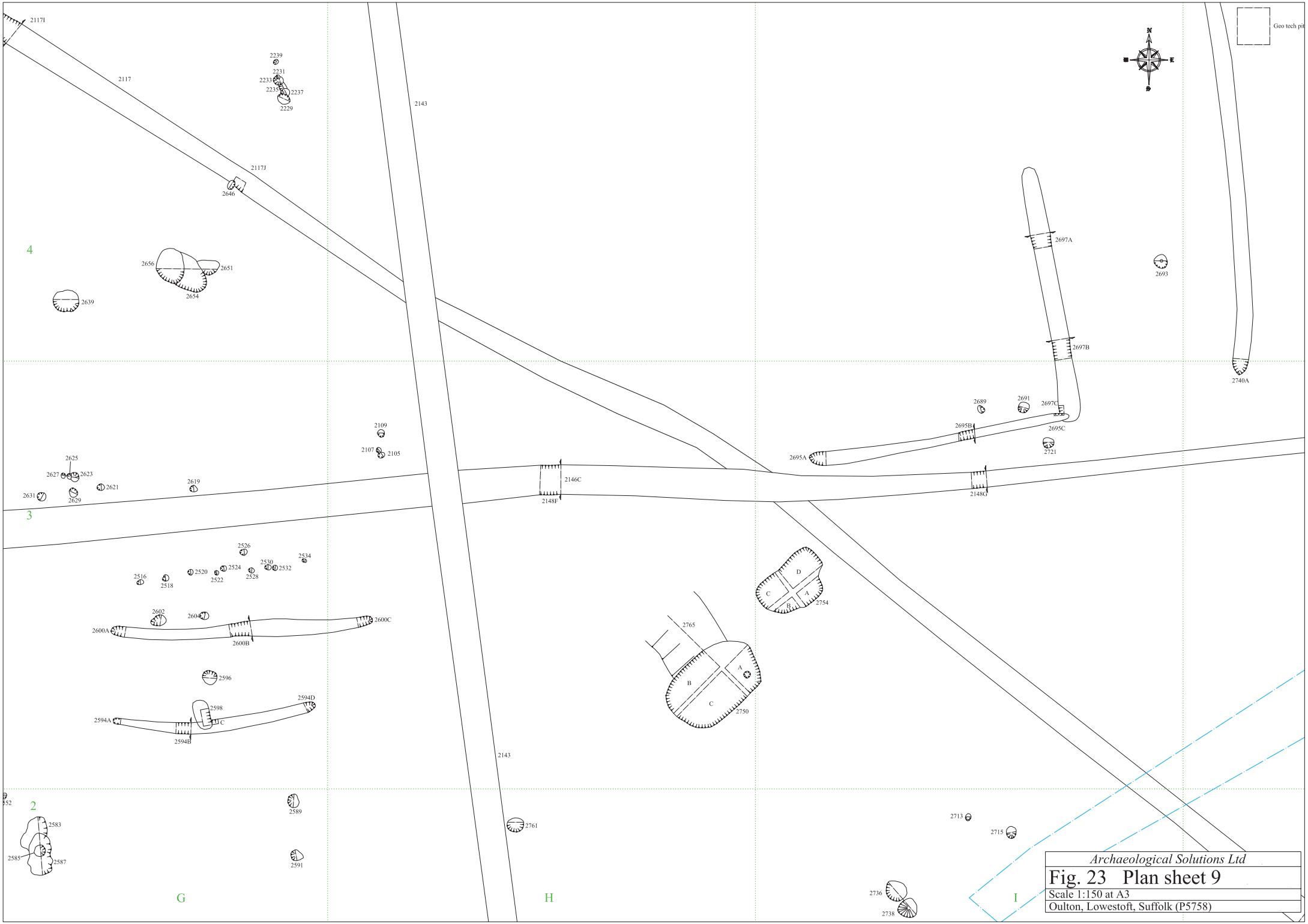








Archaeological Solutions Ltd
Fig. 22 SFB 5
Scale 1:100 and 1:25 at A4
Oulton, Lowestoft, Suffolk (P5758)

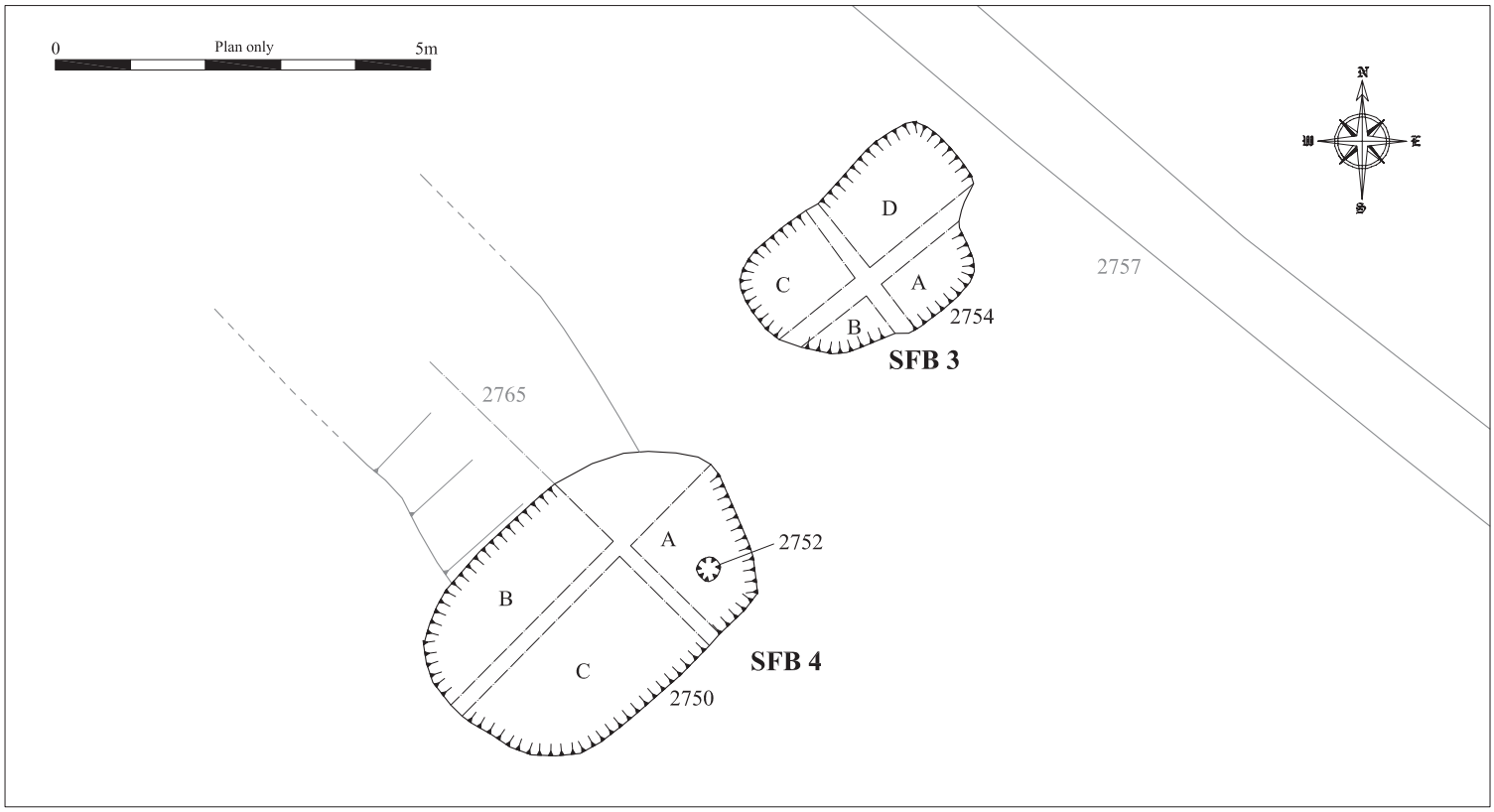


Archaeological Solutions Ltd

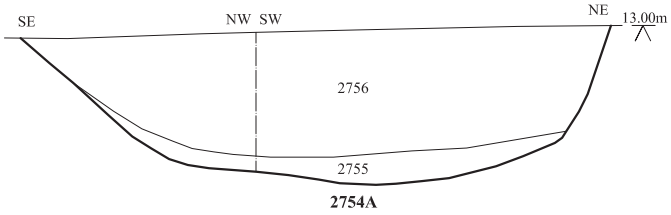
Fig. 23 Plan sheet 9

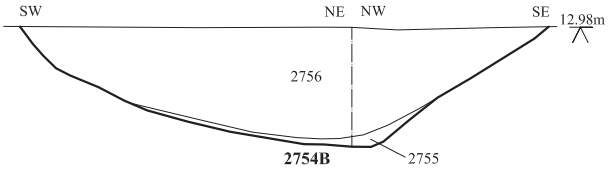
Scale 1:150 at A3

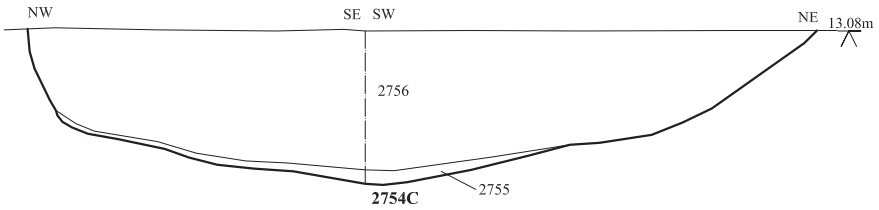
Oulton, Lowestoft, Suffolk (P5758)

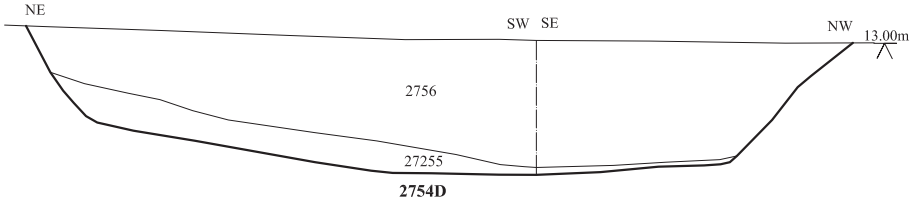


SFB 3

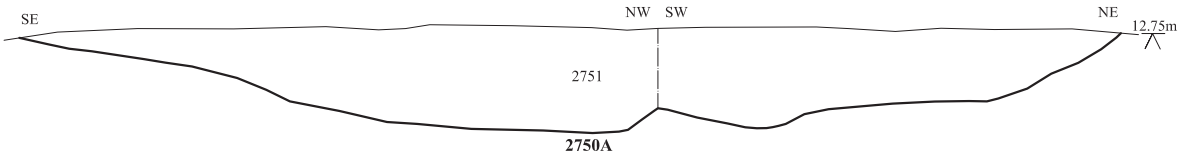


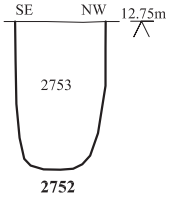


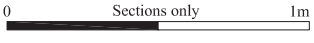




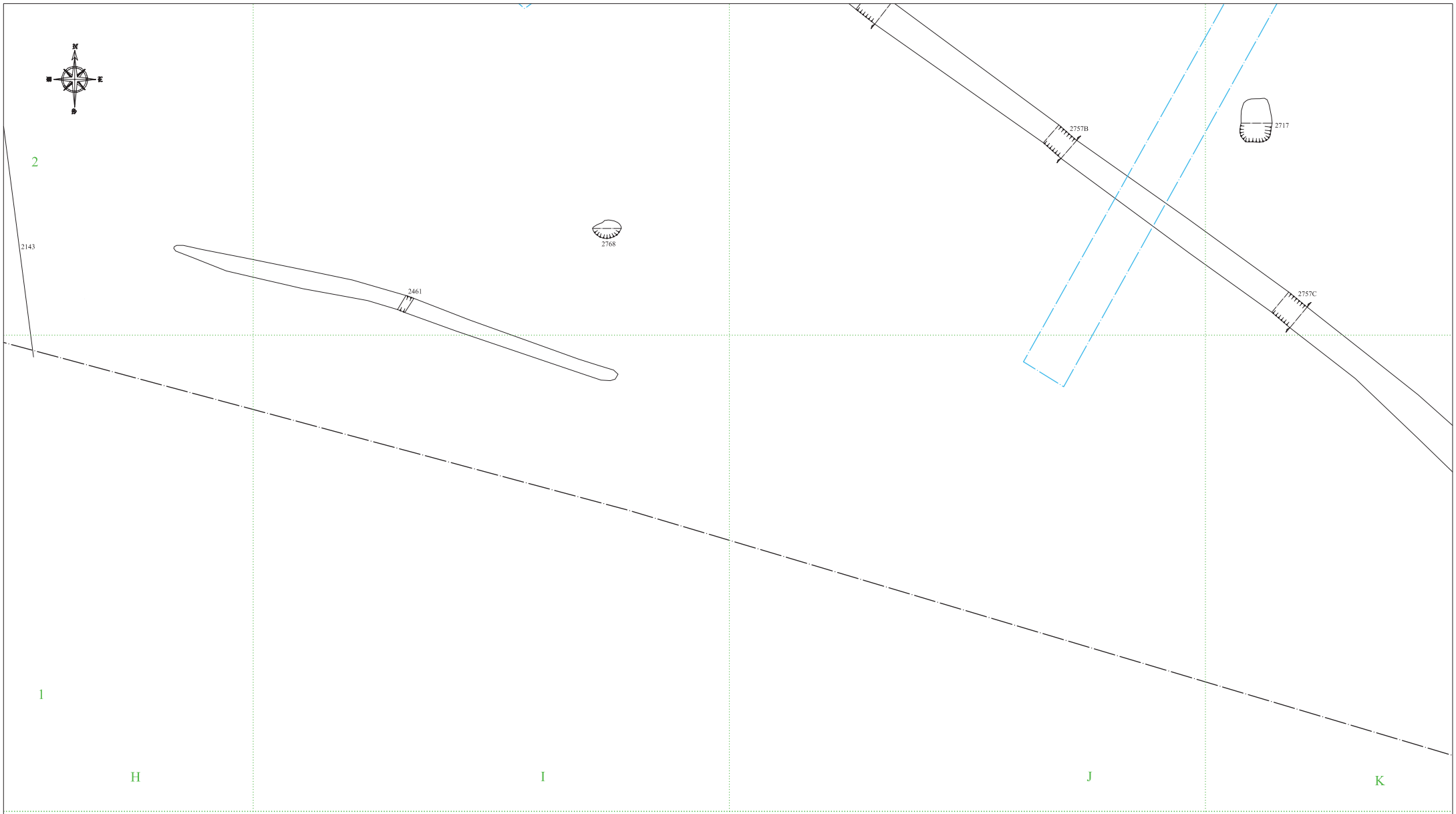
SFB 4



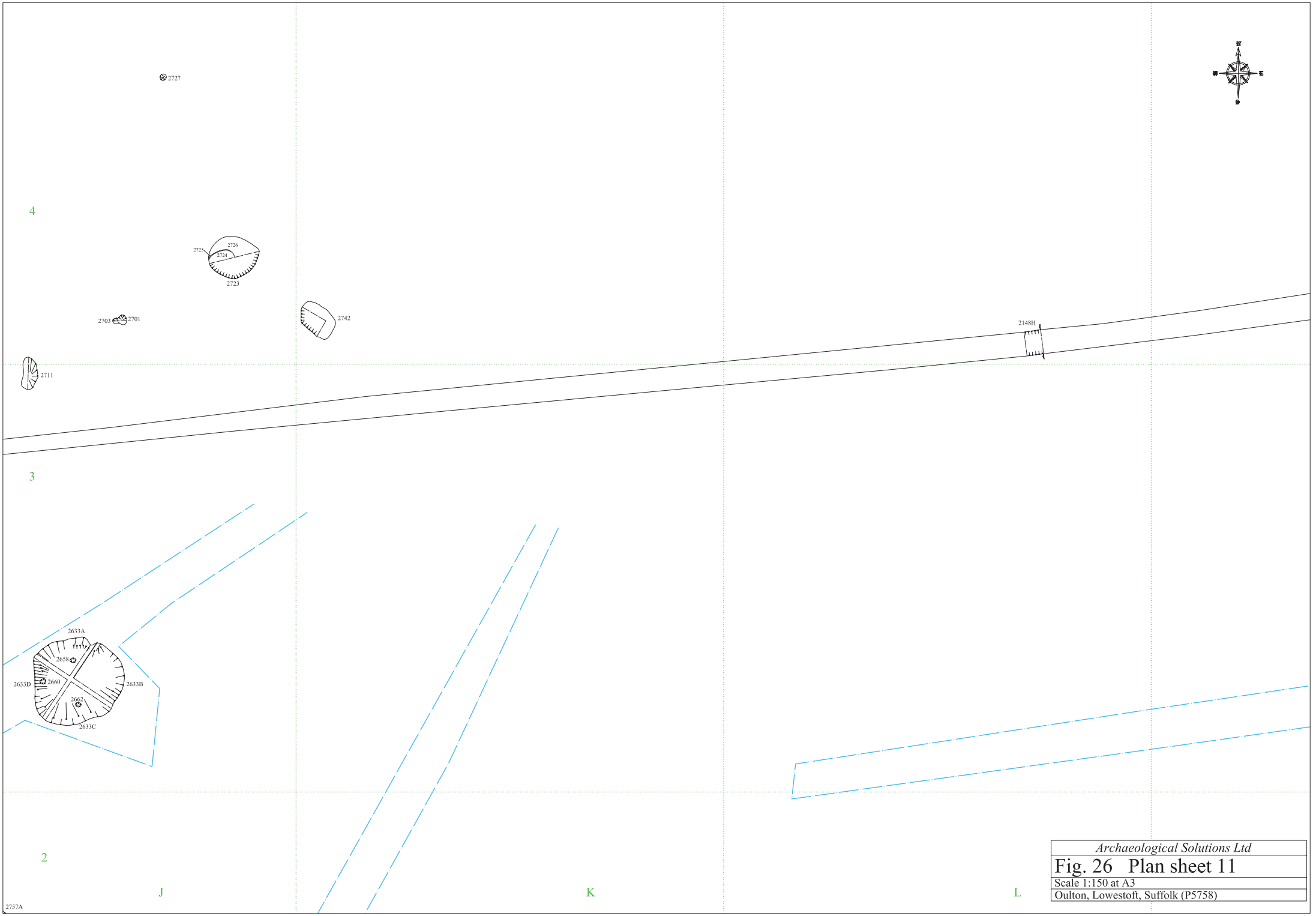




Archaeological Solutions Ltd
Fig. 24 SFBs 3 and 4
Scale 1:100 and 1:25 at A4
Oulton, Lowestoft, Suffolk (P5758)

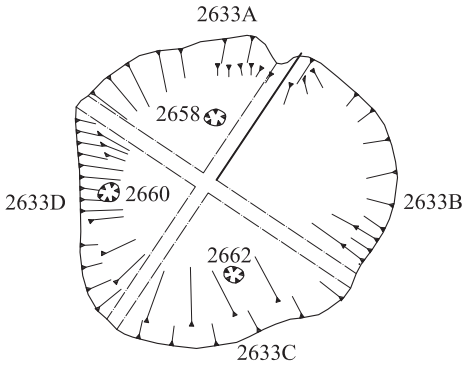


Archaeological Solutions Ltd
Fig. 25 Plan sheet 10
Scale 1:150 at A3
Oulton, Lowestoft, Suffolk (P5758)

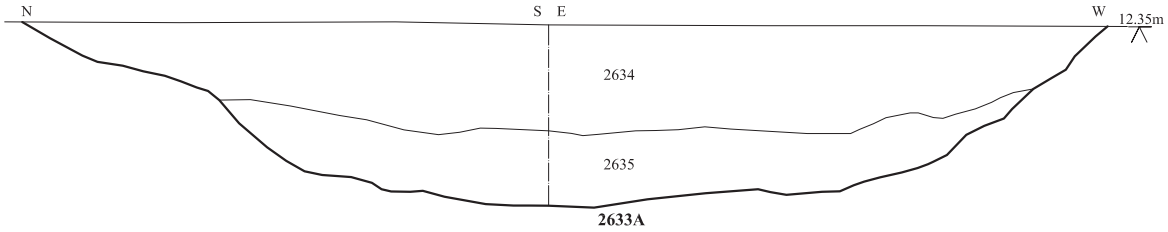


Archaeological Solutions Ltd	
Fig. 26 Plan sheet 11	
Scale 1:150 at A3	
Oulton, Lowestoft, Suffolk (P5758)	

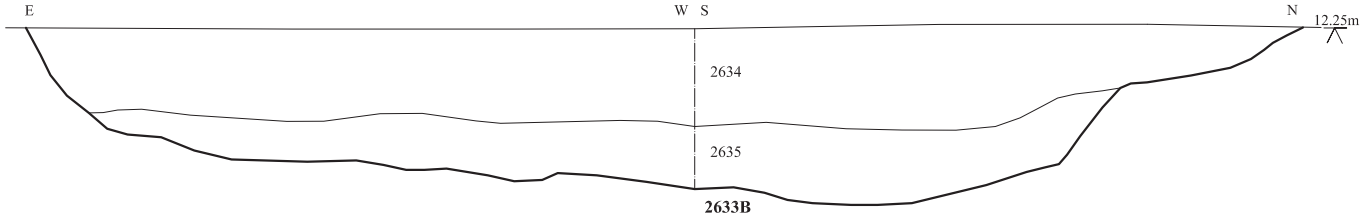
2757A



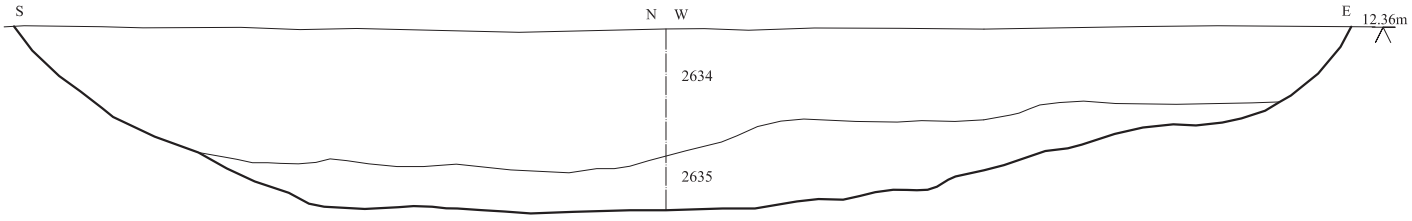
0 Plan only 5m



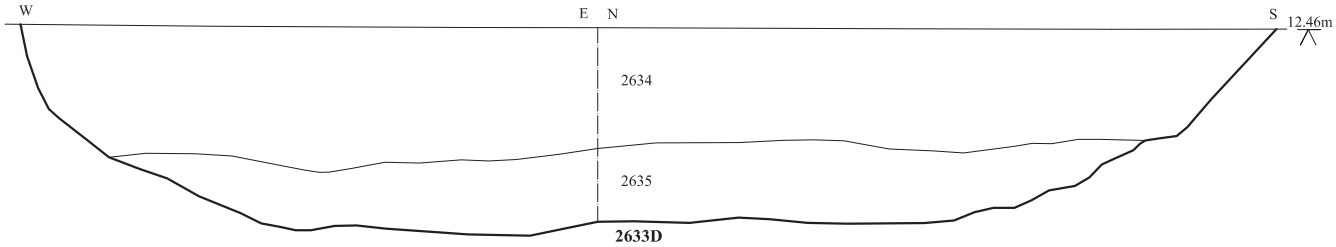
2633A



2633B

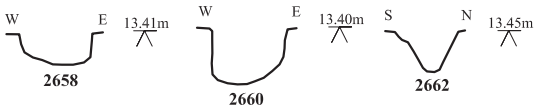


2633C



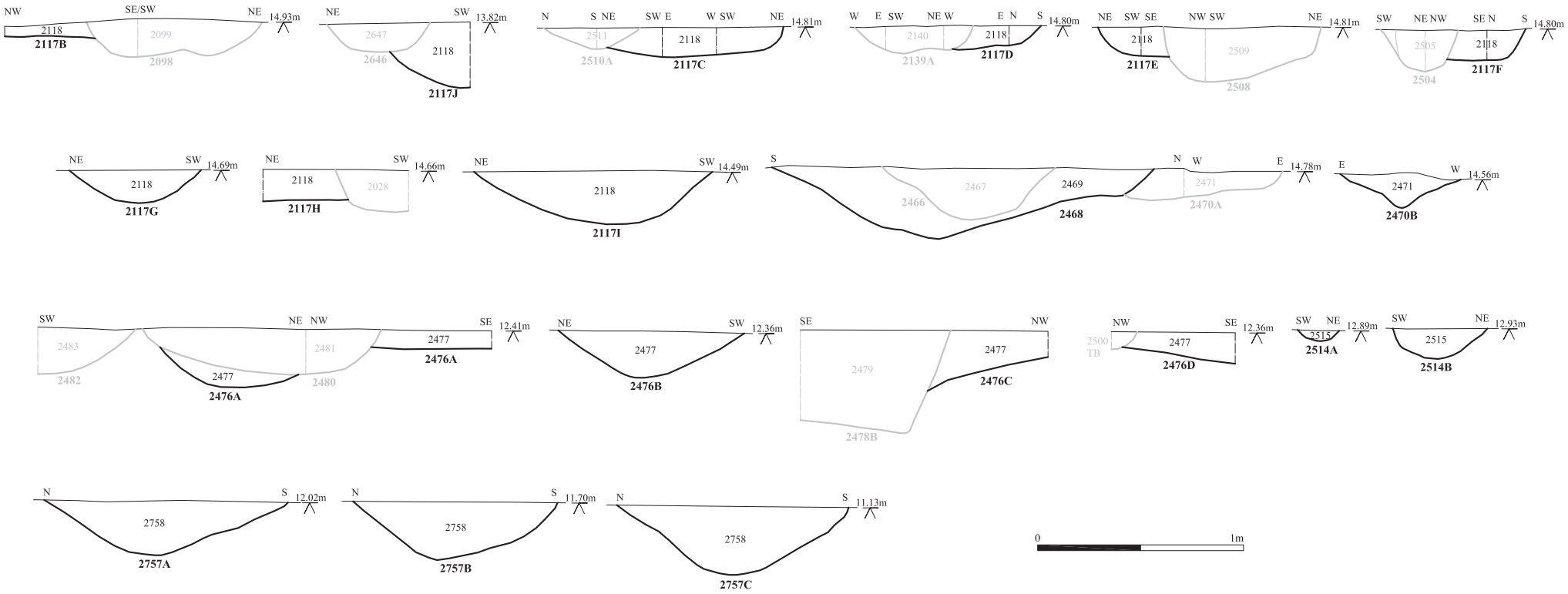
2633D

0 Sections only 1m

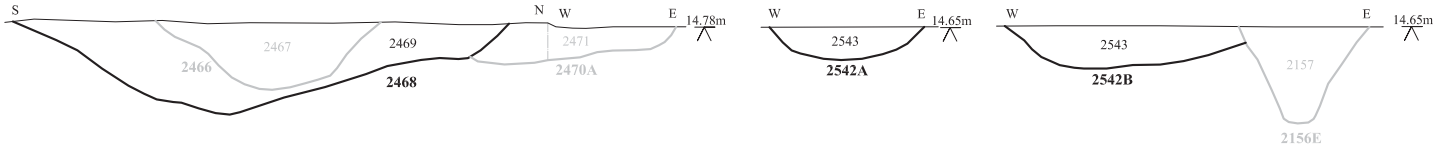


Archaeological Solutions Ltd
Fig. 27 SFB2
Scale 1:100 and 1:25 at A4
Oulton, Lowestoft, Suffolk (P5758)

Phase 1: Ditches

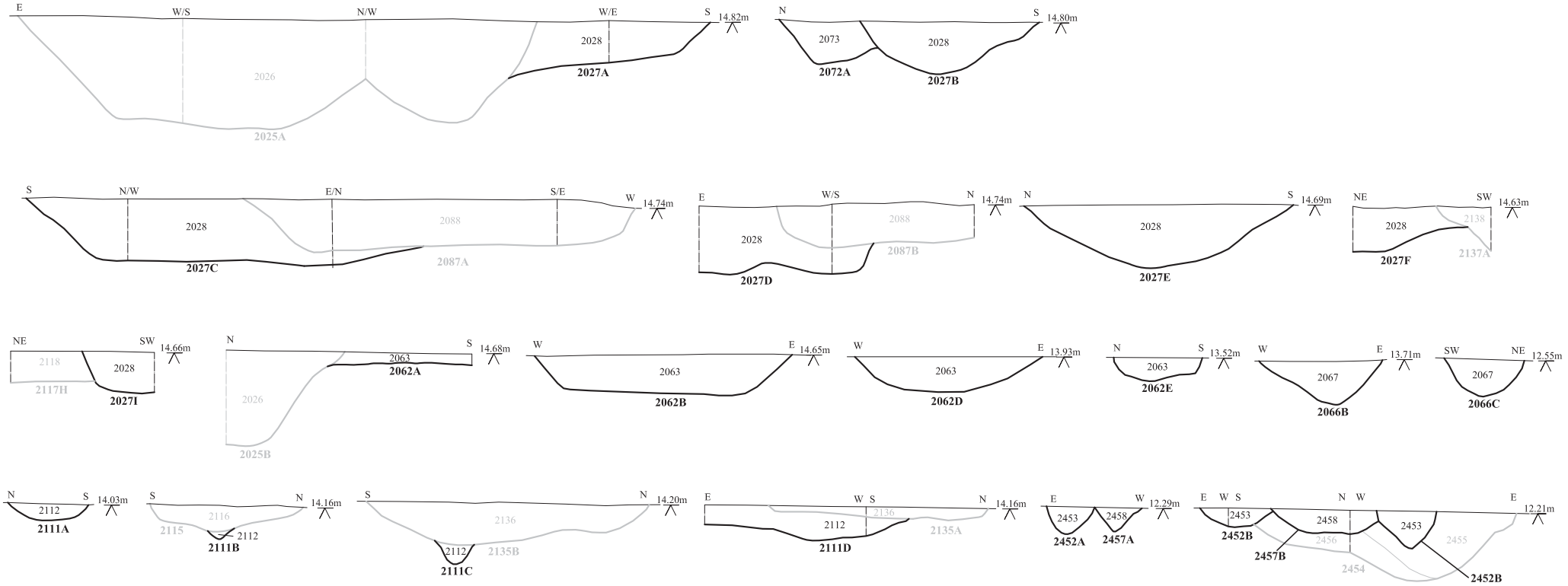


Phase 1: Pits

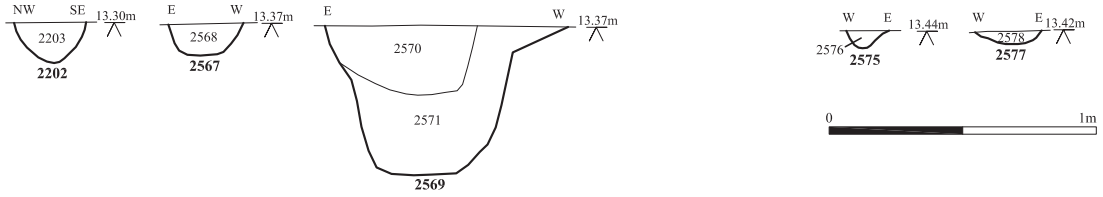


Archaeological Solutions Ltd
Fig. 28 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

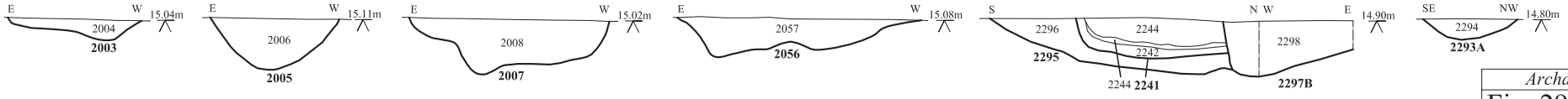
Phase 2: Enclosure 1 and associated boundaries



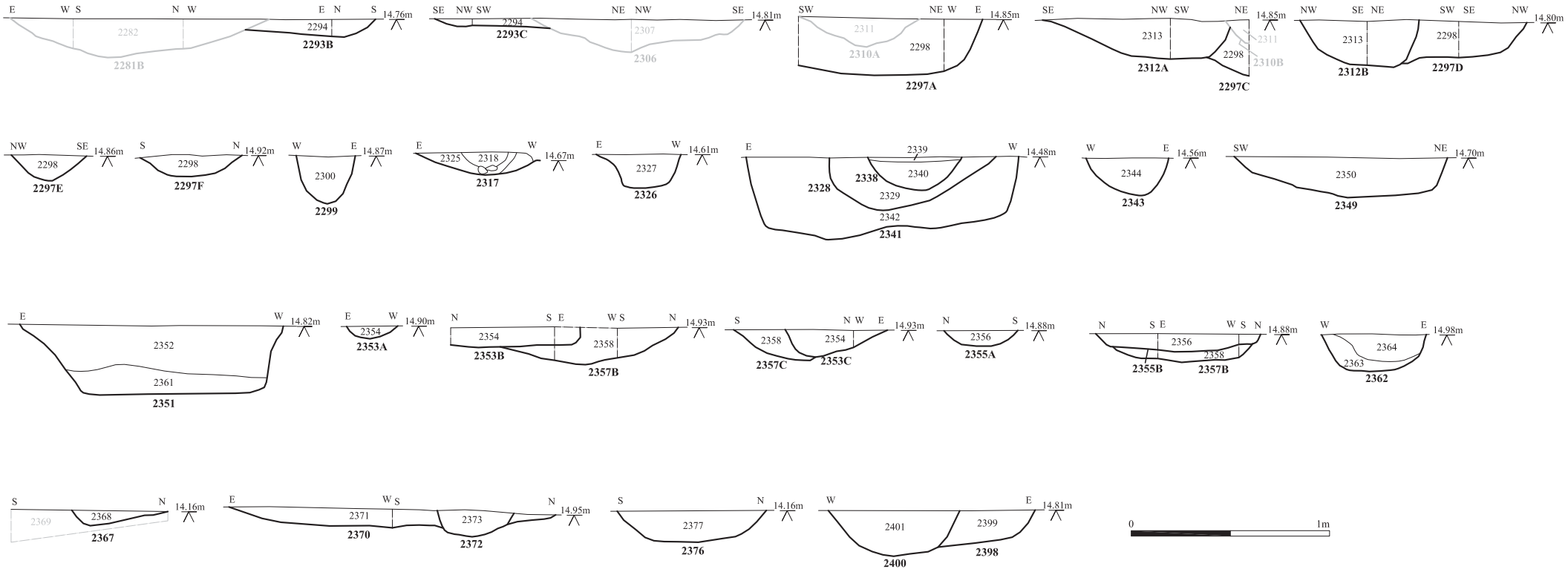
Phase 2: Pit Cluster 1



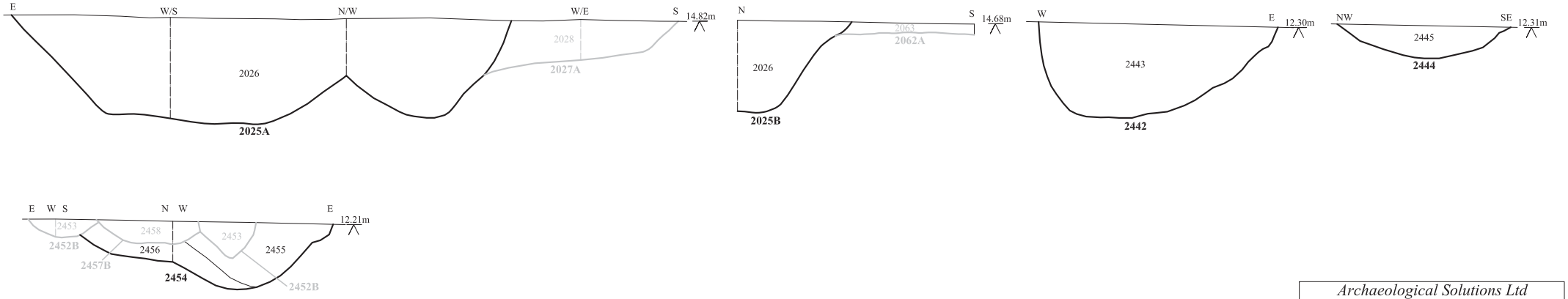
Phase 2: Dispersed feature cluster



Archaeological Solutions Ltd
Fig. 29 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

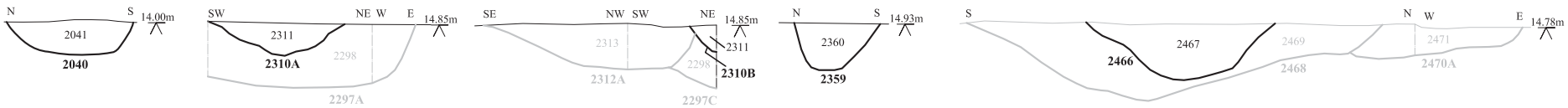


Phase 2: Dispersed pits

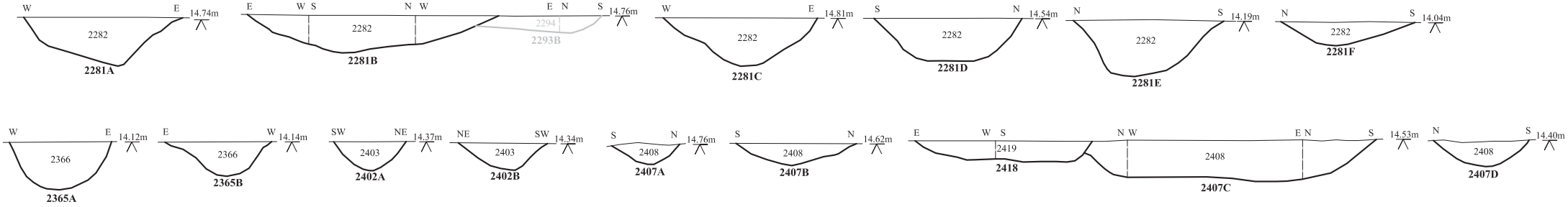


Archaeological Solutions Ltd
Fig. 30 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

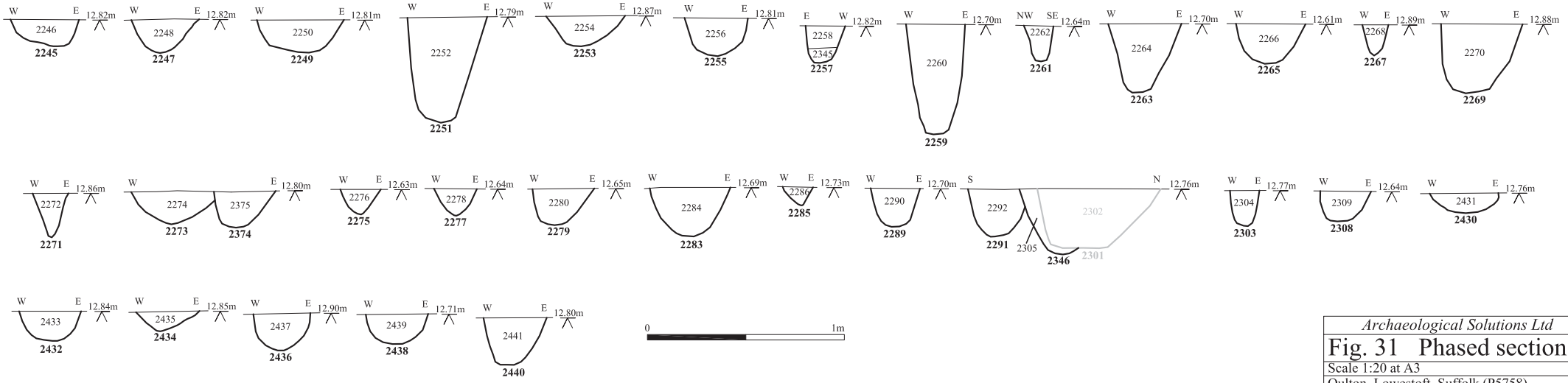
Phase 3: Pits



Phase 4: Enclosure 2 and associated features

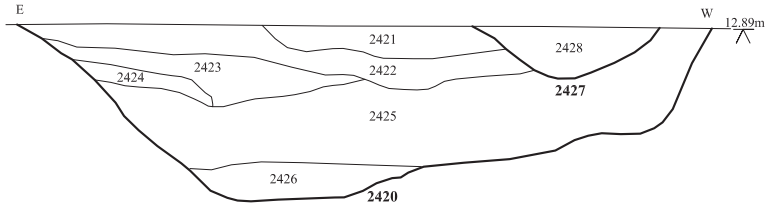


Phase 4: Structure 1

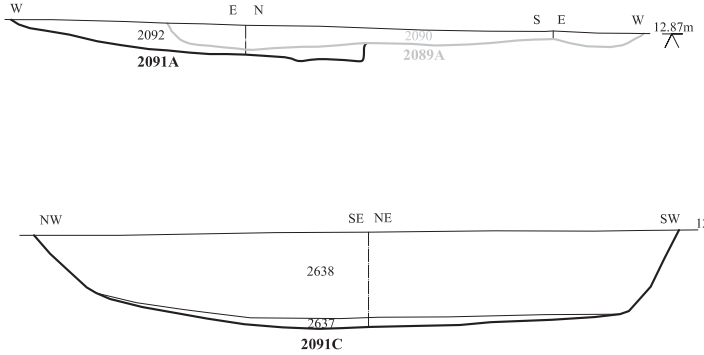


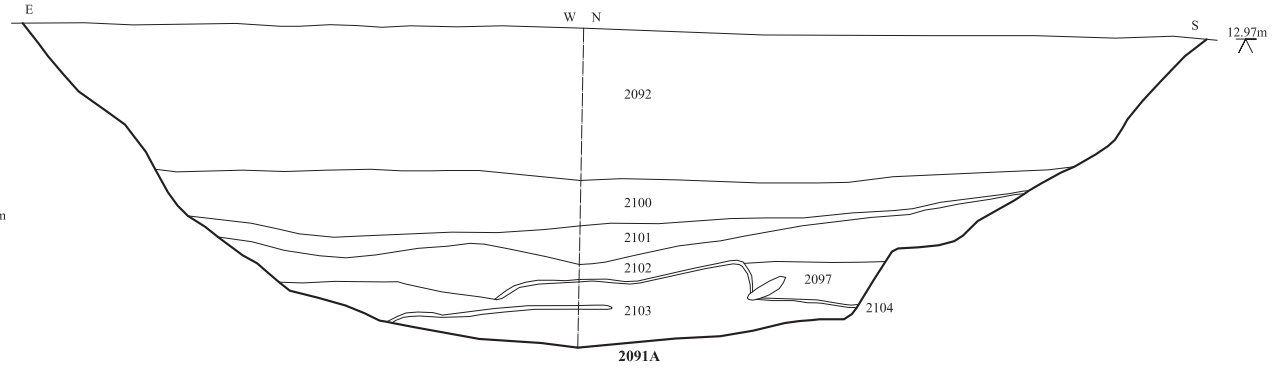
Archaeological Solutions Ltd
Fig. 31 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

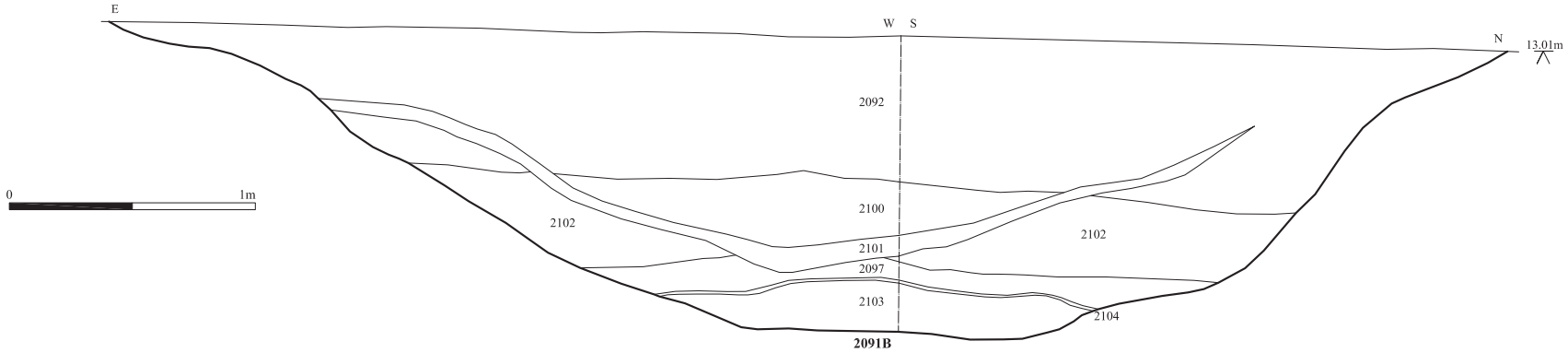
Phase 4: Pits F2420 and 2427



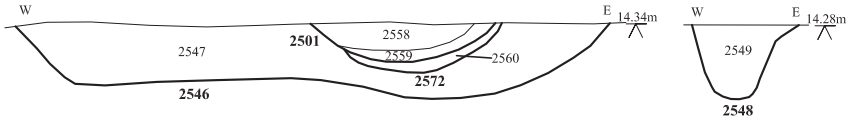
Phase 4: Quarry Pit F2091



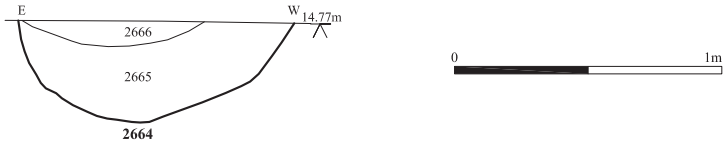




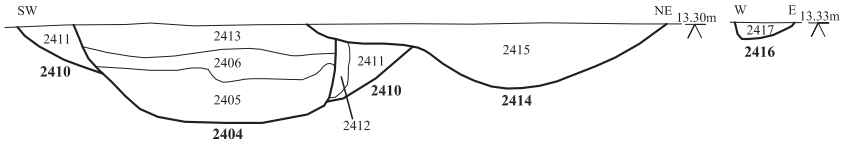
Archaeological Solutions Ltd
Fig. 32 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)



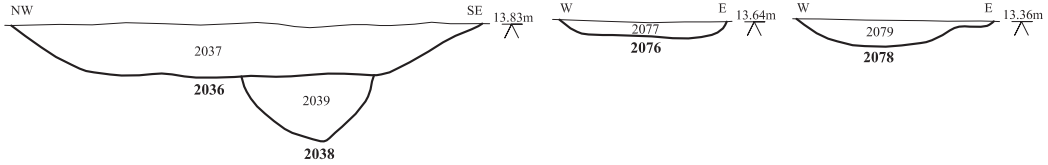
Phase 4: ?Hearth F2664



Phase 4: Pit Cluster 2

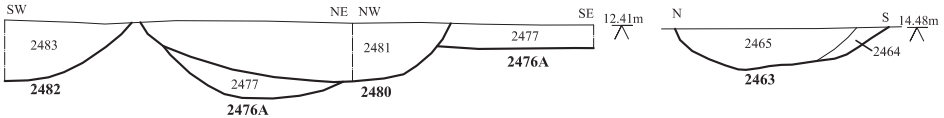


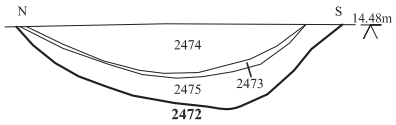
Phase 4: Pit Cluster 3



Phase 4: Pit Cluster 4

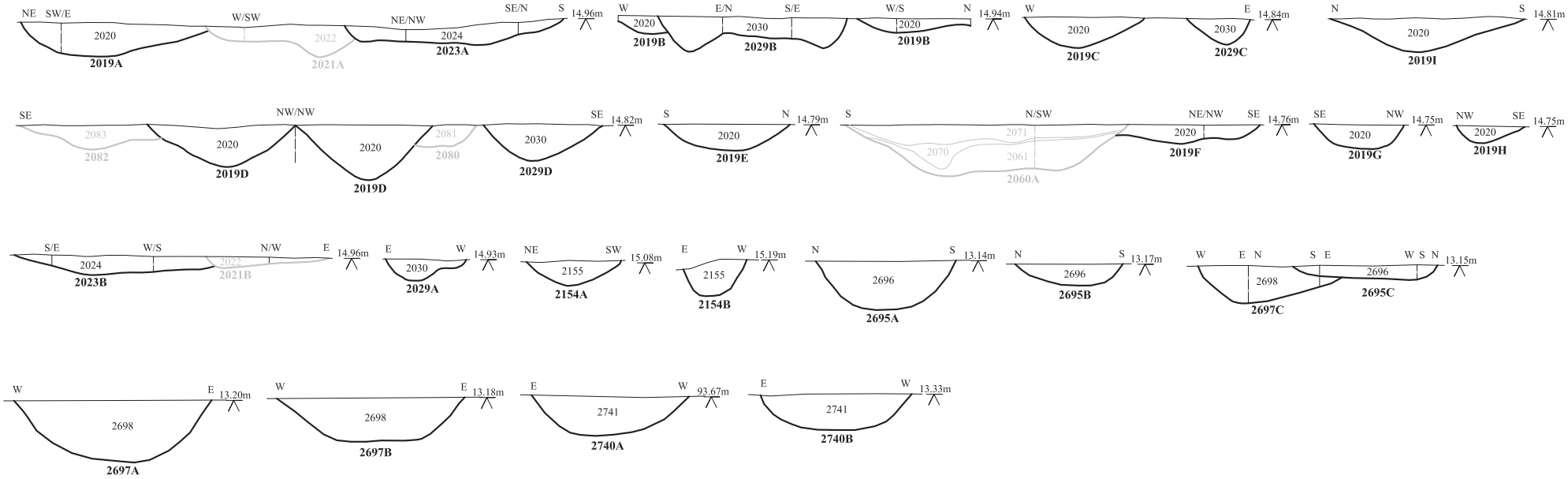
Phase 4: Dispersed pits



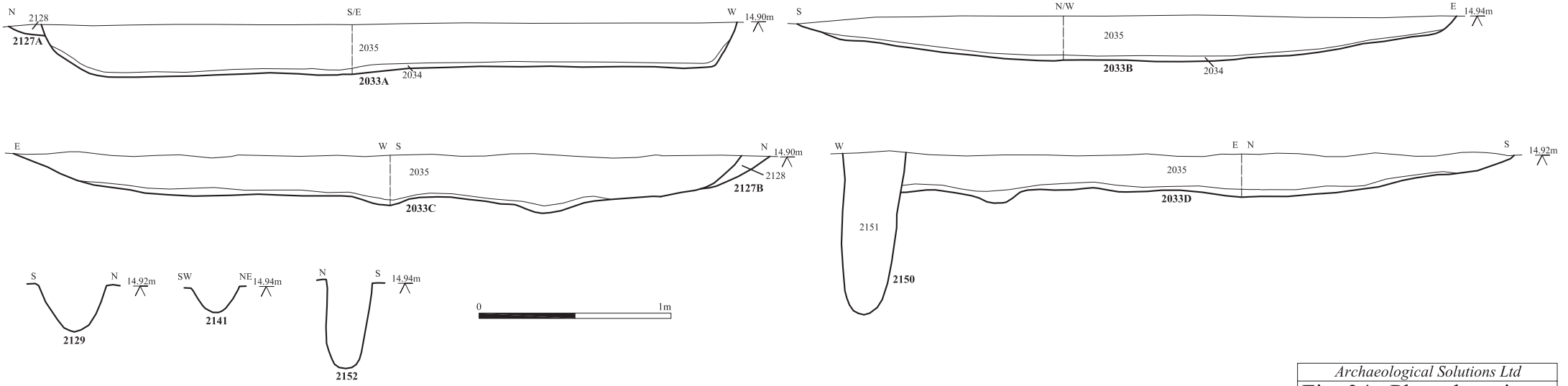


Archaeological Solutions Ltd
Fig. 33 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 5.1: Boundaries



Phase 5.1: SFB 1



Archaeological Solutions Ltd
Fig. 34 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 5.1: SFB 2

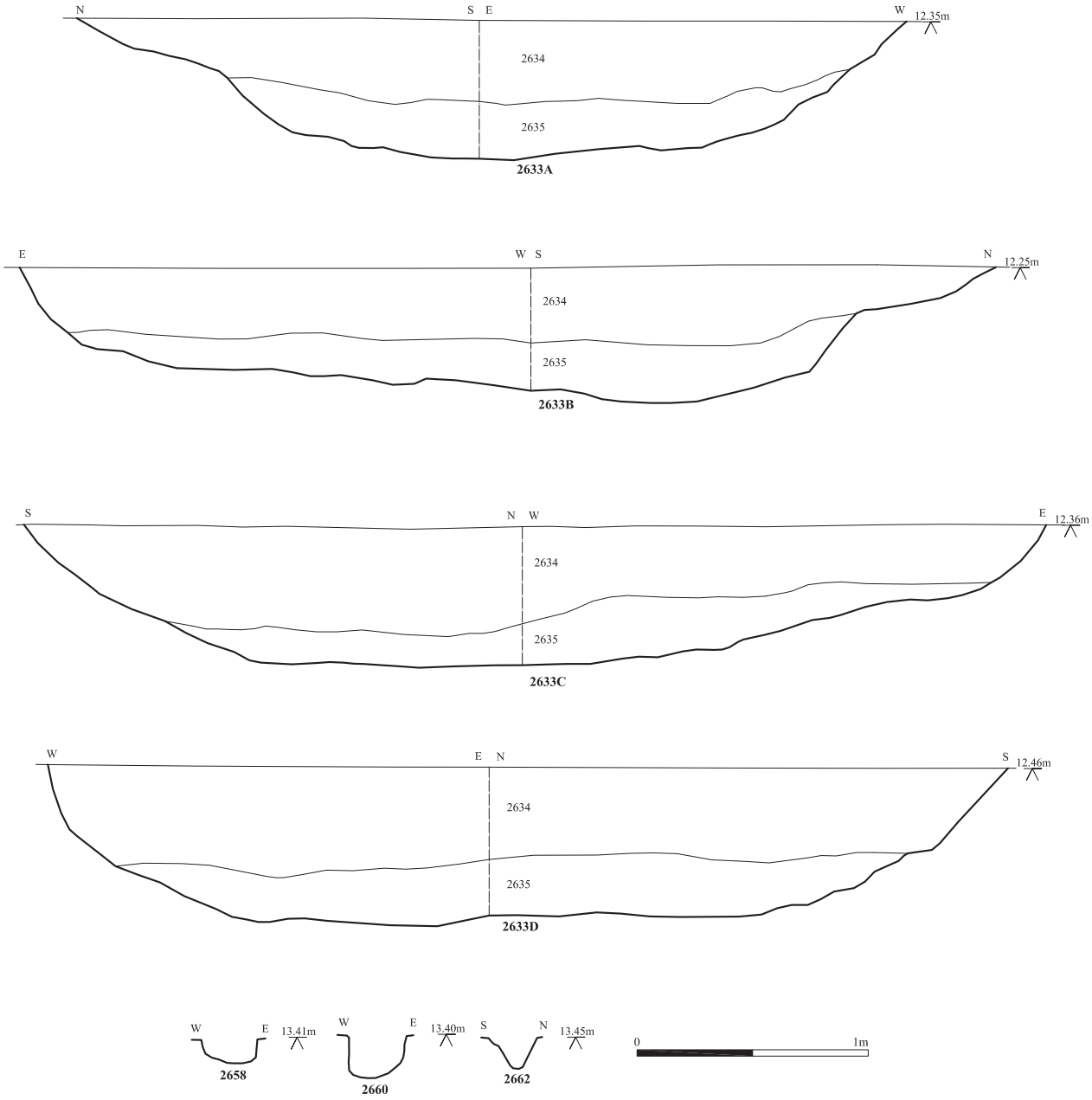


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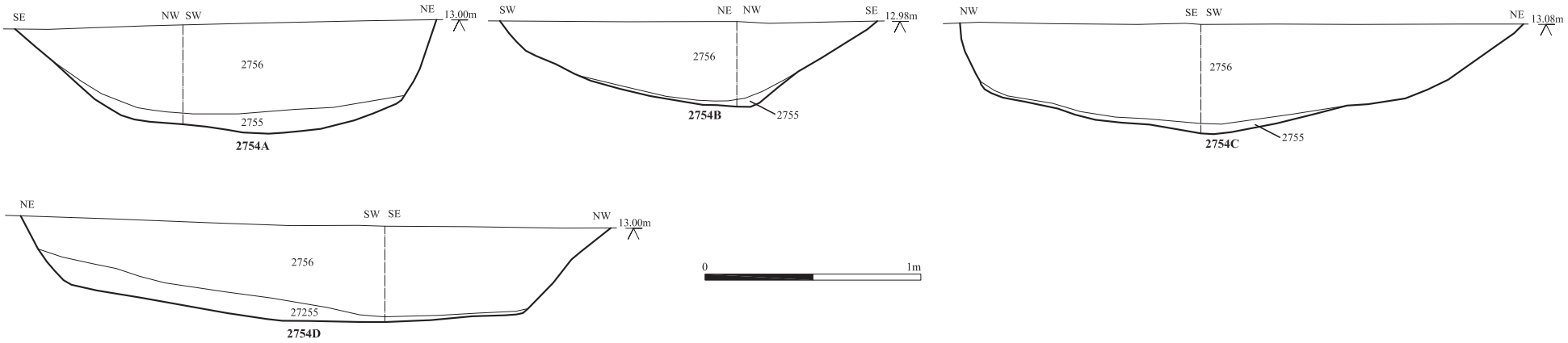
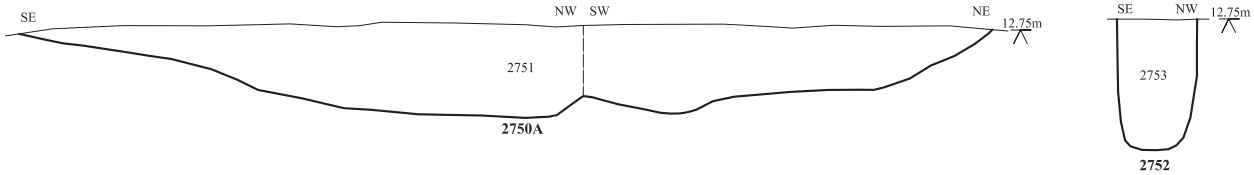
Fig. 35 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 5.1: SFB 3



Phase 5.1: SFB 4



Phase 5.1: SFB 5

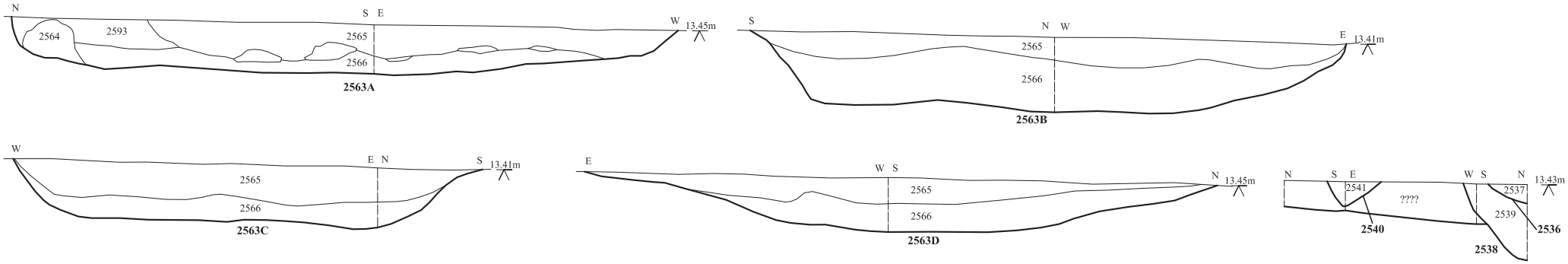


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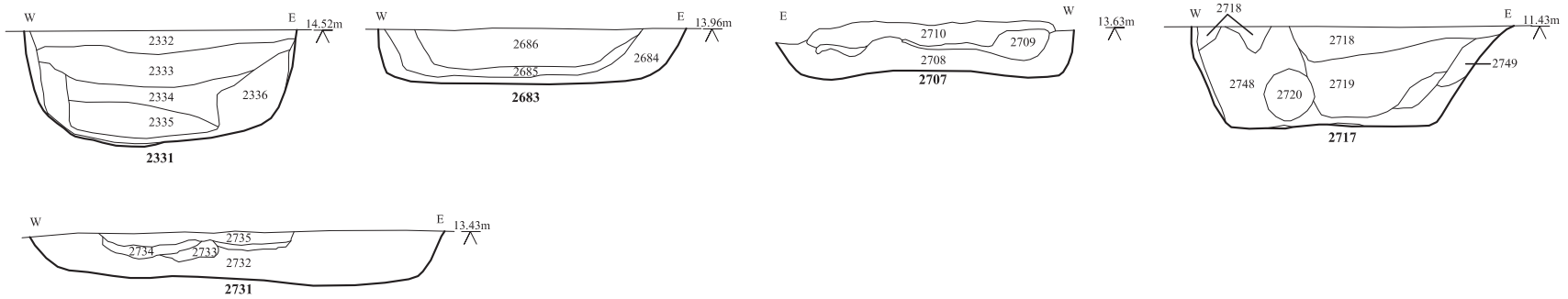
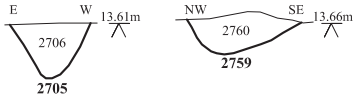
Fig. 36 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

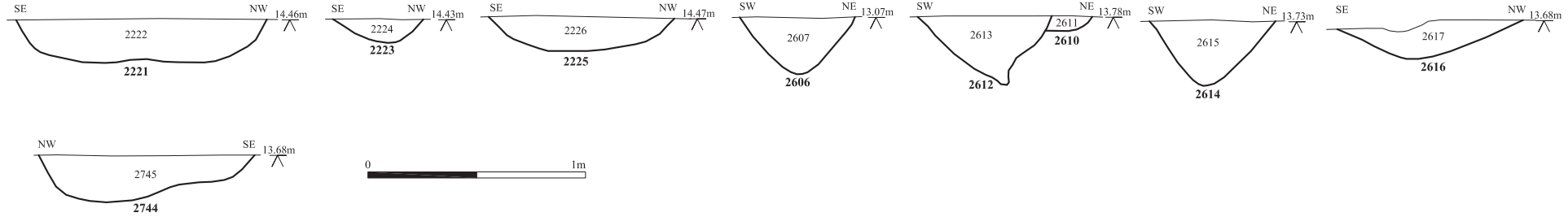
Phase 5.1: Burnt flint pits



Phase 5.1: Possible structural remains



Phase 5.1: Pit Cluster 5



Phase 5.1: Pit Cluster 6

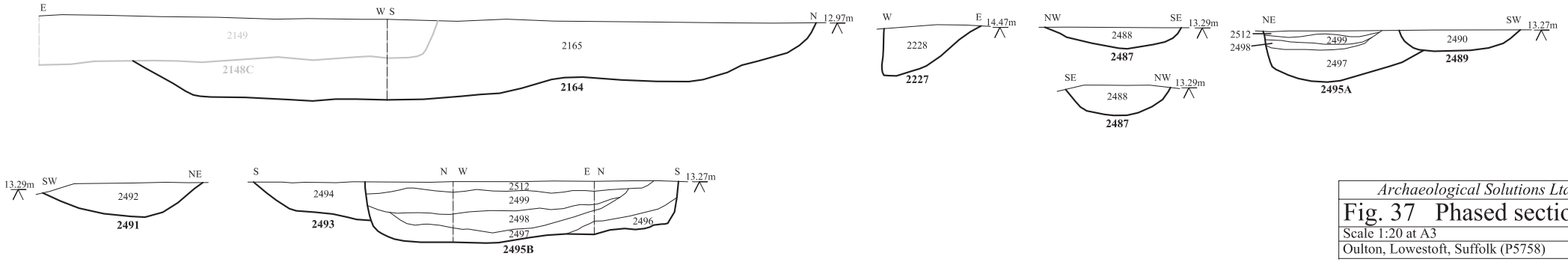


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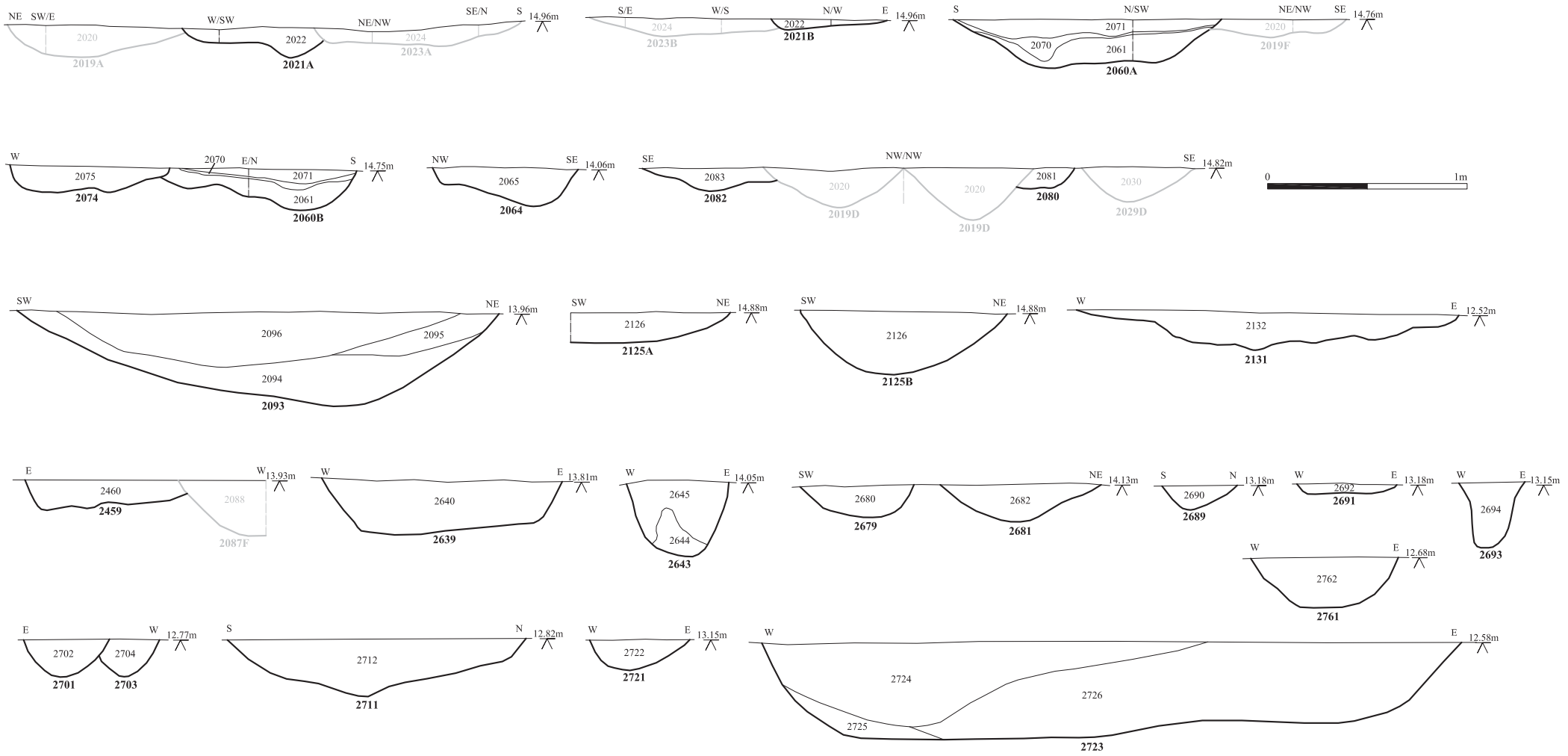
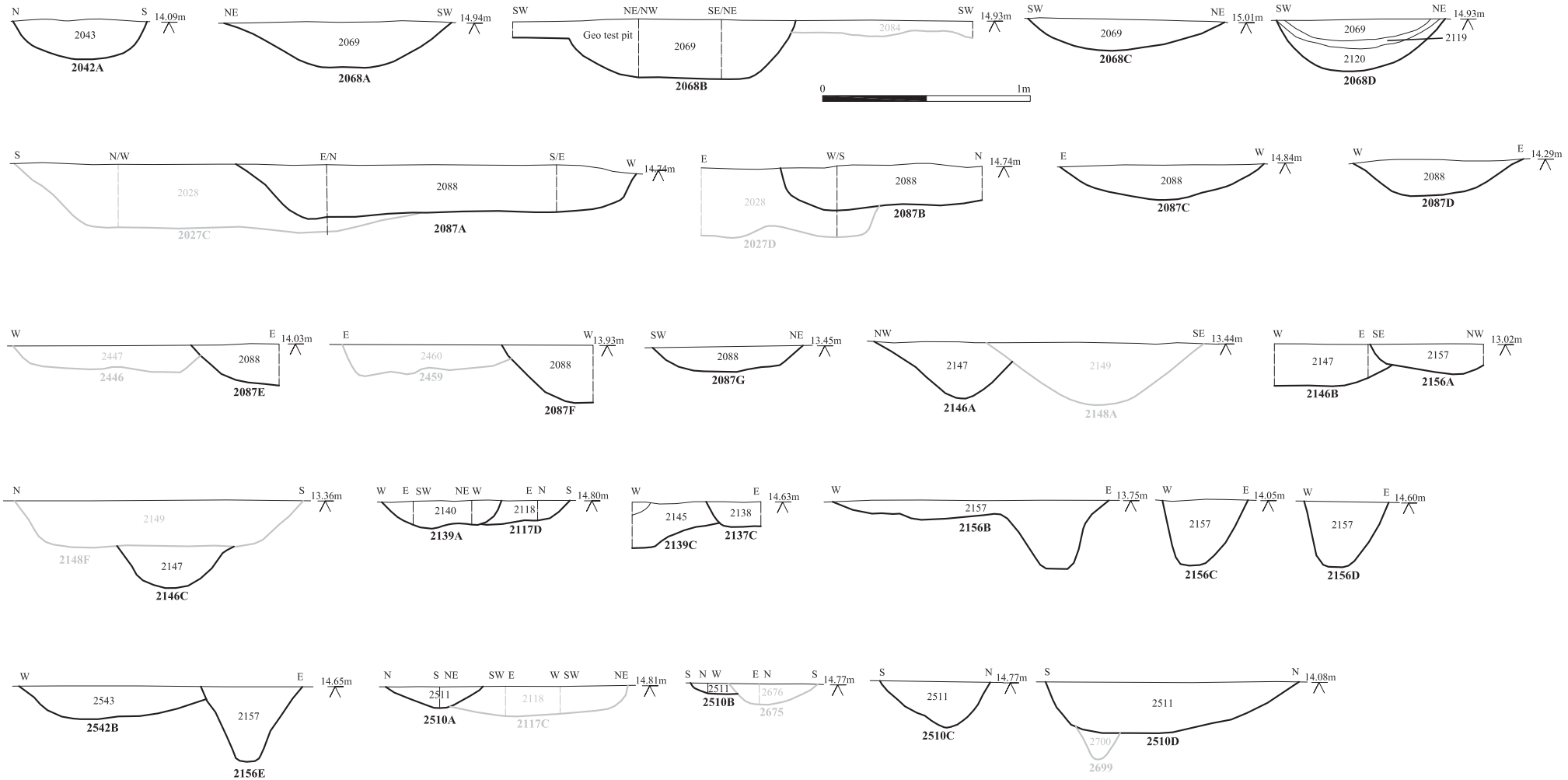
Fig. 37 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 5.1: Dispersed features



Archaeological Solutions Ltd
Fig. 38 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 5.2: Boundaires



Phase 5.2: Pit Cluster 7

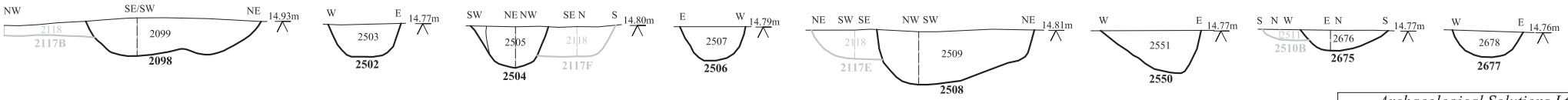


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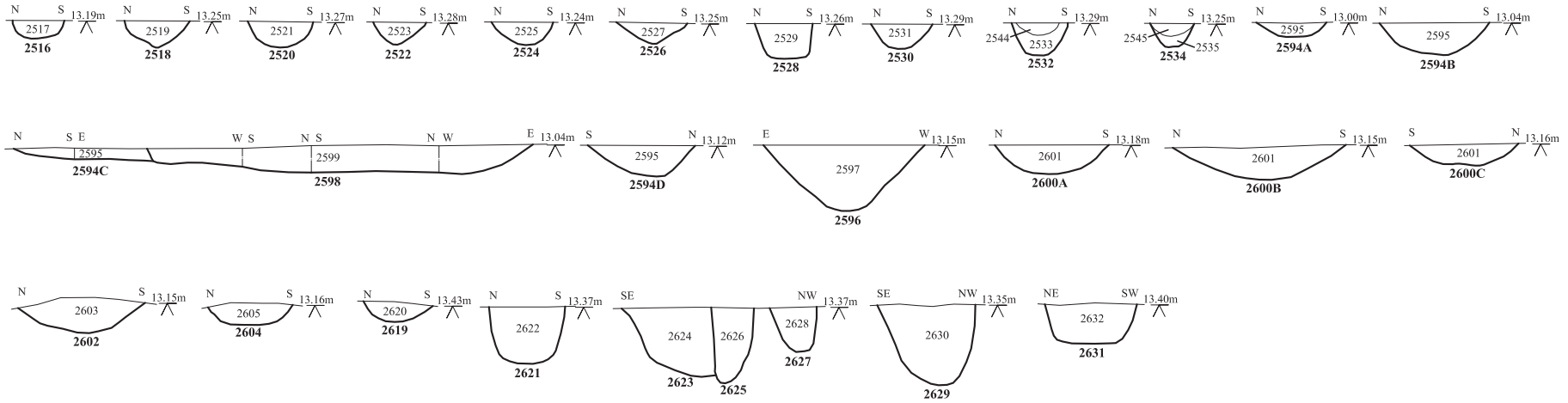
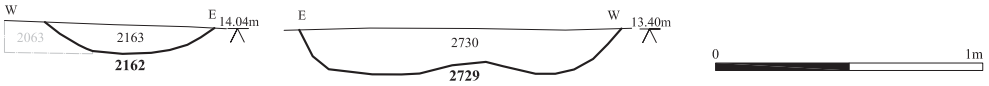
Fig. 39 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

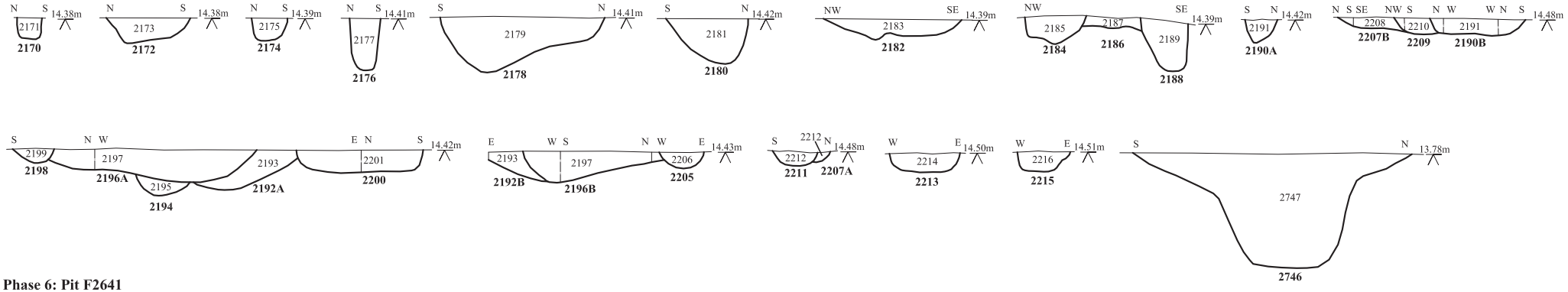
Phase 5.2: Possible structural features



Phase 5.2: Dispersed pits



Phase 6: Features forming the Phase 6 metallurgical waste area



Phase 6: Pit F2641

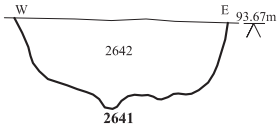


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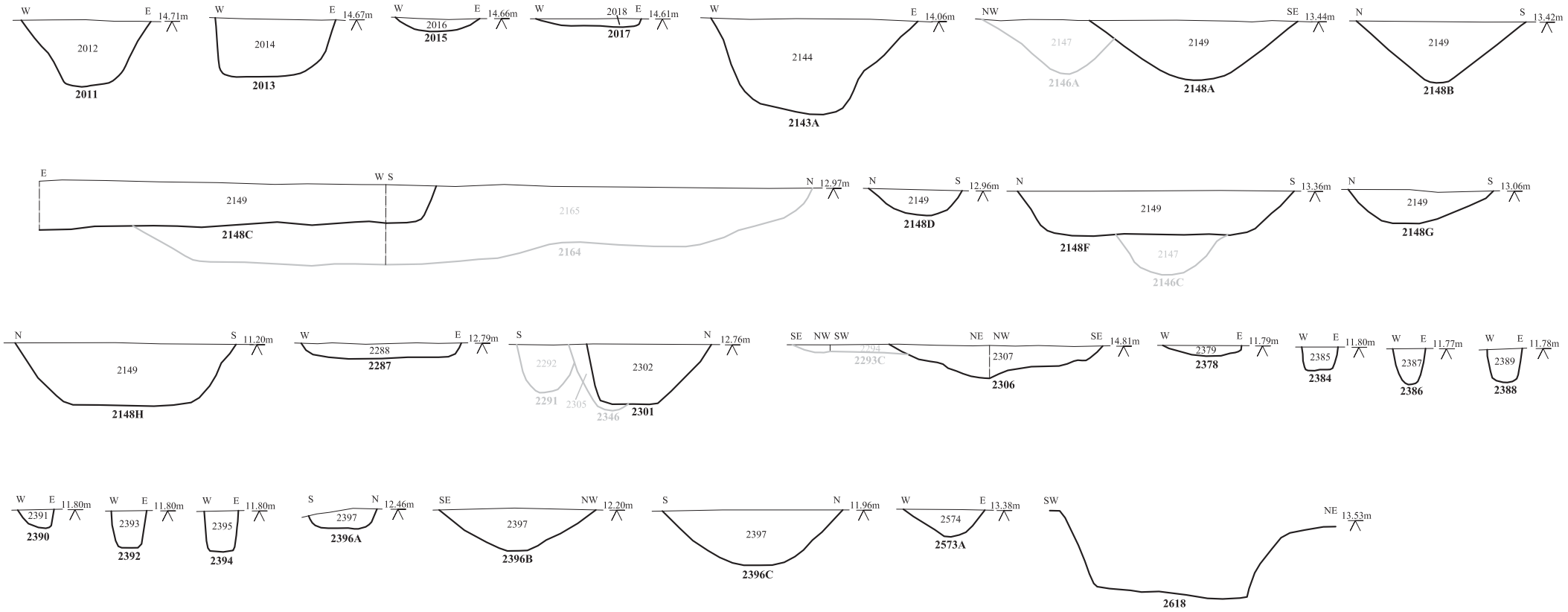
Fig. 40 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Phase 7: Features



Undated

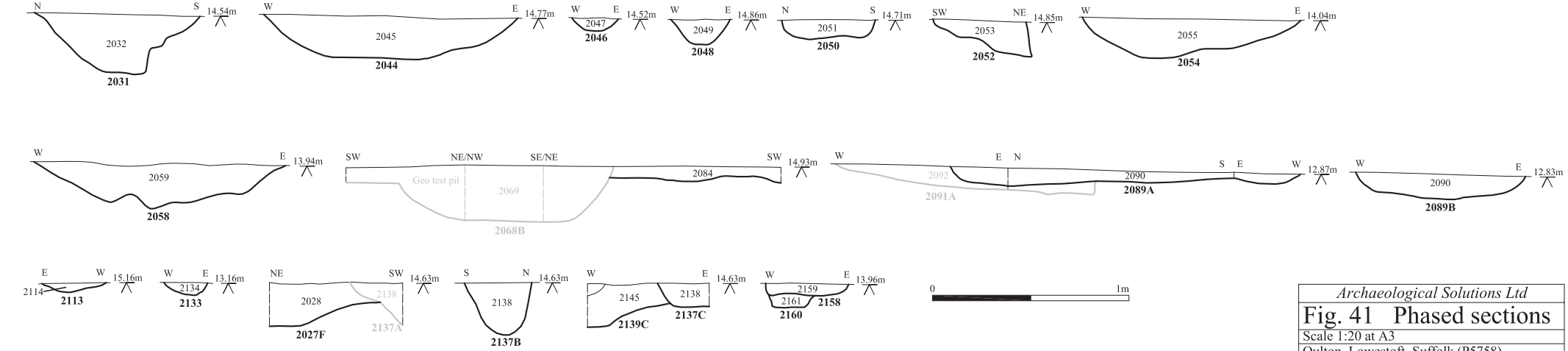


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Fig. 41 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

Archaeological Solutions Ltd
Fig. 42 Phased sections
Scale 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)

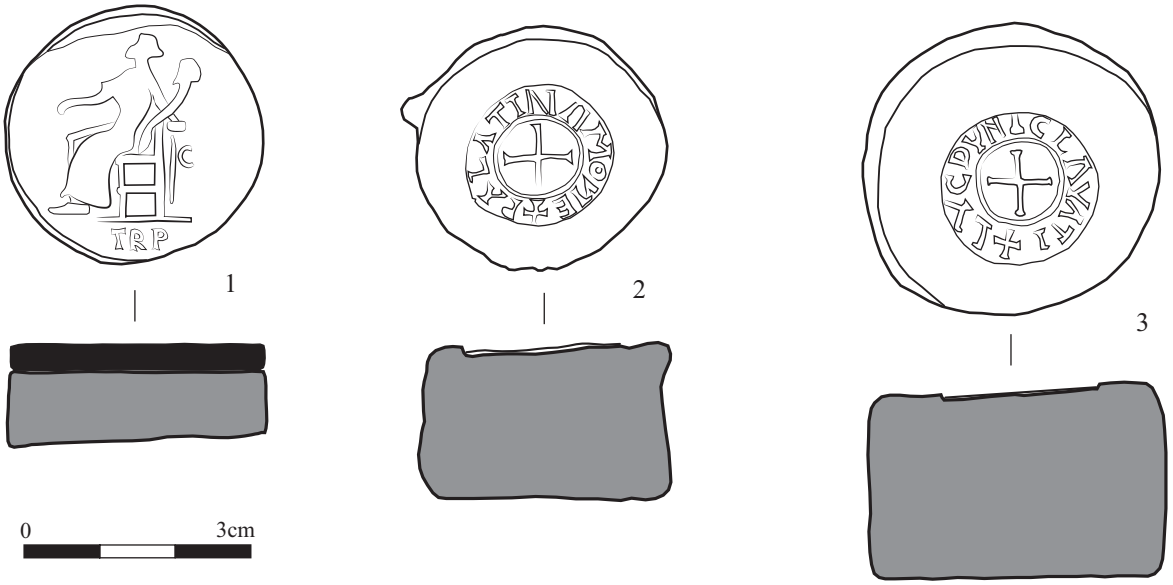

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Fig. 43 Lead weights
Scale 1:1 at A4
Oulton, Lowestoft, Suffolk (P5758)

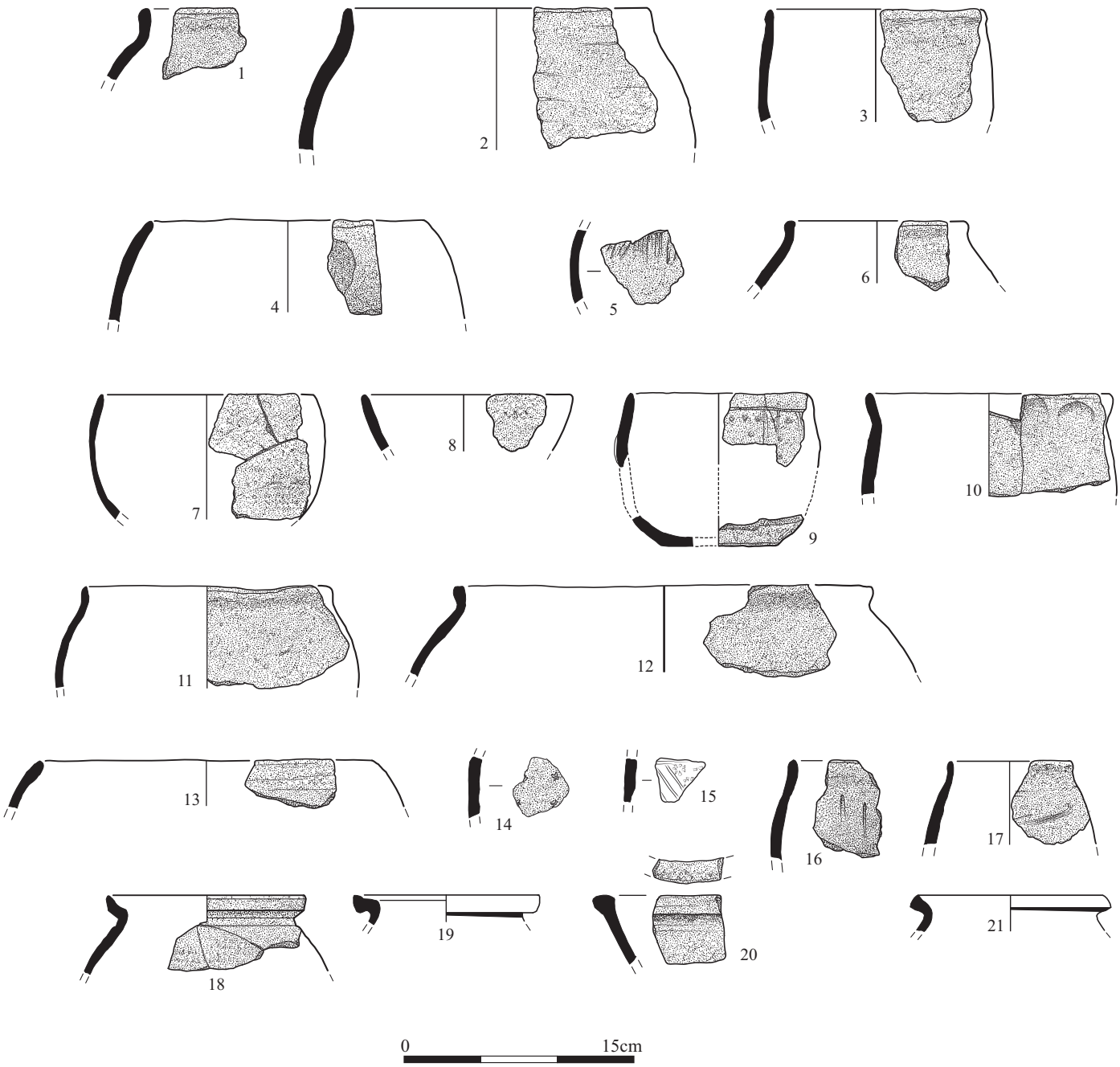

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Fig. 44 Pottery illustrations

Scale 1:4 at A4