

Flixton Park Quarry (FLN 091)
Flixton, Suffolk
(Assessment 4a; Volume I; Text,
Figures and Plates)

Client:

Cemex (UK) Materials Ltd.

Date:

January 2019

FLN 091

Archaeological Assessment Report

(Vol. I, Text, Figures and Plates)

SACIC Report No. 2017/112

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Flixton Park Quarry, Flixton

Post-Excavation Assessment Report

SACIC Report No. 2017/112

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Report Date: January/2019

HER Information

Site Code:	FLN 091
Site Name:	Flixton Park Quarry, Flixton, Suffolk
Report Number	2017/112
Planning Application No:	W/10999/10
Date of Fieldwork:	2016 and 2017
Grid Reference:	TM 3060 8630
Oasis Reference:	suffolka1_304226
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Digital report submitted to Archaeological Data Service:
<http://ads.ahds.ac.uk/catalogue/library/greylit>

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

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Summary

This document covers the assessment of the archaeology excavated by Suffolk Archaeology CIC within a c.1.5 hectares area of Flixton Park Quarry under the HER code FLN 091. Two phases of fieldwork were undertaken; the first in 2016 and the second in 2017. The area represents a small extension to that previously excavated under the same HER code between 2012 and 2015 which has already been presented in Assessment 4 (Boulter 2017).

The principle periods represented within the overall FLN 091 area were as follows:

Neolithic and Bronze Age: long enclosure, formal pit group, pit circle and other pits.

Late Bronze Age and Iron Age: limited occupation deposits.

Late Iron Age and Roman: occupation deposits indicating sustained activity during these periods.

Post-medieval: predominantly boundary ditches relating to Flixton Hall and its surrounding parklands, along with features associated with 20th century, probably WW II military activity, including the vestiges of buildings.

The information presented in the assessment will be used to inform a programme of analysis and publication to include the results of Assessments 3b, 4 and 4a.

1 Introduction

1.1 Site location

Flixton Park Quarry is located on an island of river terrace gravels on the south side of the River Waveney some 4km to the south-west of Bungay (Fig. 1). The c.1.5 hectares area covered by this assessment, allocated the Historic Environment Record (hereafter HER) code FLN 091, is centred at TM 3060 8630 and adjoins immediately to the north and north-east the area previously excavated under the same HER code and presented as Assessment Report 4 (Boulter 2017). To the south-west lay the area previously excavated as FLN 062 which forms part of the forthcoming Volume II in the Flixton EAA monograph series (Boulter *in prep.*). The location of all of the excavated areas in the main quarry and the projected publication sequence is shown in Figure 1.

Assessment 4a (this document) is effectively an addendum to the earlier assessment and will be combined, along with Assessment 3b, into a single phase of analysis and publication.

1.2 The scope of the project

Suffolk Archaeology Community Interest Company (hereafter SACIC) who, prior to their divestment from Suffolk County Council, operated as their Archaeological Service Field Projects Team, have been commissioned on an ongoing basis by Adrian Havercroft (The Guildhouse Consultancy) on behalf of the client (Cemex (UK) Materials Ltd.) to undertake archaeological work associated with the continuing expansion of the working area at Flixton Park Quarry.

This archaeological assessment covers the archaeological deposits revealed in the areas of the quarry stripped in 2016 and 2017, excavated under the HER code FLN 091. The area was not owned by Cemex, although it had been included in their original planning application (part of New Quarry Phase 20). The decision to include the area was not made until after the completion of the archaeological excavation works to the north and north-east and, for programming purposes, it was agreed that it would be treated as a separate phase of works.

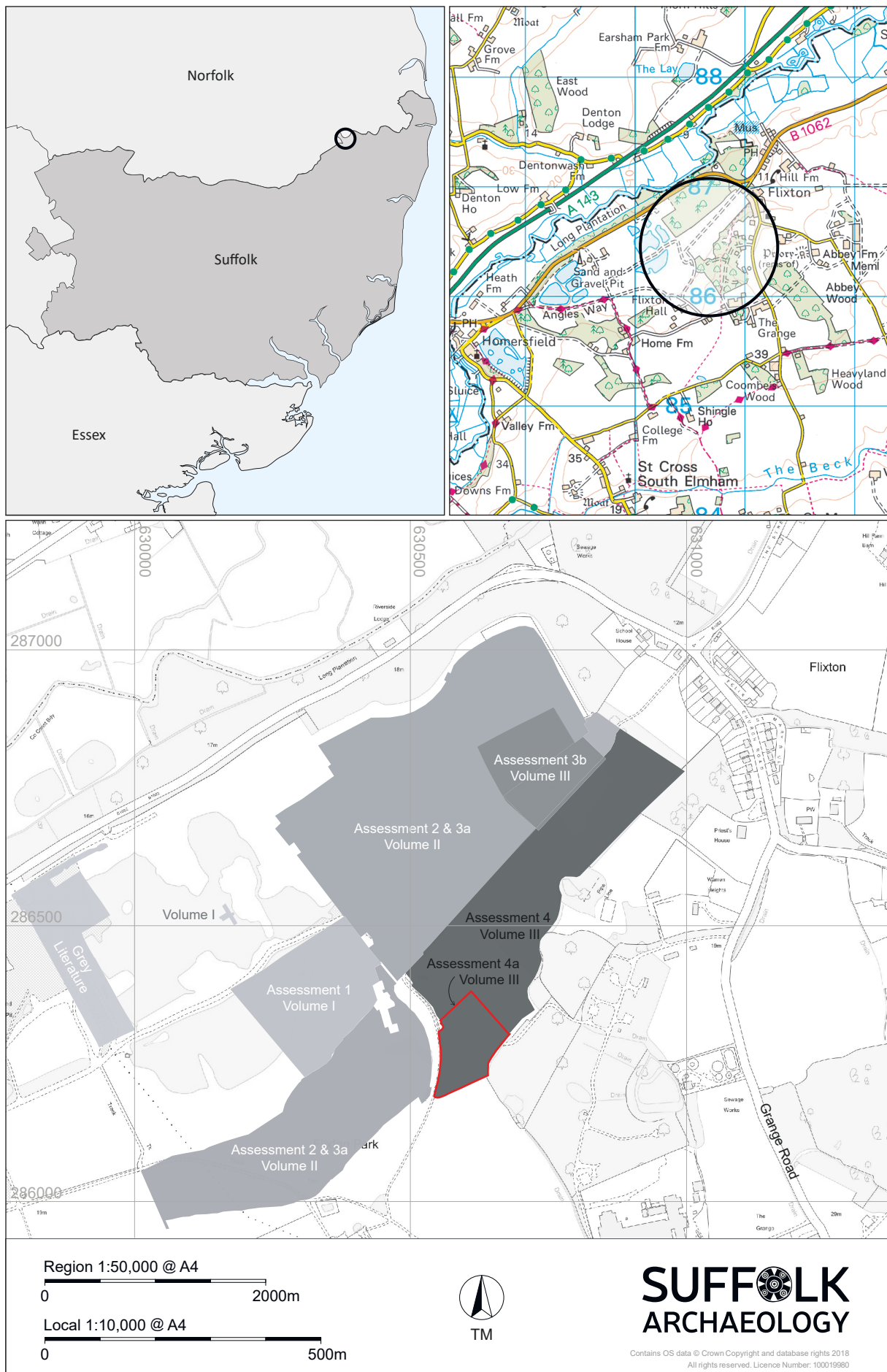


Figure 1. Site location (red) amongst other Assessment areas

The principal aims of the assessment are as follows:

- Summarise the results of the archaeological fieldwork.
- Quantify the site archive and review the post-excavation work that has already been undertaken.
- Assess the potential of the site archive to answer the original research aims as defined in the Brief and Specification document.
- Assess the significance of the data-set in relation to the relevant Regional Research Framework (Glazebrook 1997; Brown and Glazebrook 2000) and the revised Research Framework (Medlycott Ed. 2011).
- Present recommendations covering any required analysis, publication/dissemination and archiving.
- Define and quantify analysis/publication/archiving tasks in order to calculate resources and costs to complete the project to the level required by the Mineral Planning Authority (MPA). **N.B. Analysis for this project will be combined with that already defined for Assessment 3b and the area excavated between 2012 - 15, also as FLN 091, which was the subject of Assessment 4, with a view to jointly disseminating the results from these areas.**

1.3 Circumstances and dates of fieldwork

The archaeological excavation works were the result of a condition placed on planning application W/10999/10 covering the ongoing expansion of the working area of Flixton Park Quarry. The works themselves were initiated in the summer of 2016 and completed in early 2017, effectively working from north-east to south-west.

The entire area was covered by a Brief and Specification document prepared by Suffolk County Council's Archaeological Service, Conservation Team (formerly SCCAS/CT, now SCCAS) Archaeologist Edward Martin and dated 18th February 2011 (Vol. II,

Appendix I.a). The excavation methodology was based on this document and was also detailed in a Project Design/Written Scheme of Investigation document prepared by the then Suffolk County Council's Archaeological Service Field Projects Team in February 2011 (Vol. II, Appendix I.b). While this document was effectively area specific to the Assessment 3 sites 088 and 090, it was agreed that it could run on to include the rest of the main quarry permission (Assessments 4 and 4a).

2 Geological, topographic and archaeological background

2.1 Geology, topography and recent land use

Topographically, the site occupied part of a gently undulating, generally north-east to south-west orientated, sand and gravel ridge on the south side of the Waveney Valley, lying between the river flood plain to the north and the Lowestoft Till plateau to the south. The British Geological Survey describe these deposits as river terrace deposits over chalk (BGS 2016).

On a more local basis, the area covered by Assessment 4a generally slopes down from south-east to north west from a high of c.25.00mOD, at the easternmost extremity of the site, to c.16.50mOD to the north-west (measurements taken from a pre-stripping surface survey commissioned by RMC aggregates and dated 1996).

The depositional environment and date of the gravels are still a source of study and debate. In a recent post-graduate study undertaken at Flixton, the recognised geology included Early Pleistocene marine sediments overlain by Anglian and post-Anglian material including tills, fluvial sediments and outwash deposits (Heirman 2006).

Maps dating back to the mid-18th century suggest that since that time, the area had remained as a series of fields peripheral to the more open parklands surrounding Flixton Hall. Over time, many of the field boundaries were removed until the subject area became part of one large agricultural field. During World War II there were a series of military buildings and their associated services known to have been present, the concrete bases for which were cleared in the second half of the 20th century.

2.2 Archaeology

Prior to soil-stripping, the only known archaeology within the Assessment 4a area were features identified on aerial photographs which, in this instance were the military buildings of World War II date.

However, extensive excavations undertaken by SCCAS/FPT, and in their subsequent

reincarnation as SACIC, within the quarry to the north-east, north and west between 1995 and 2015 (Fig. 1), revealed significant multi-period archaeology. These deposits were expected to continue into the new area. A summary of the more significant features and finds made during the protracted excavations at Flixton Park Quarry are presented by period below:

Palaeolithic: handaxes and Levallois flakes from the quarry gravels and overlying clay till. Another handaxe was recovered from an Early Anglo-Saxon Sunken Featured Building (SFB).

Mesolithic: small number of flint tools, mostly unstratified.

Neolithic: Early Neolithic monuments/features included a long barrow, a long-enclosure and pits.

Late Neolithic monuments/features included a post-hole circle and pits, the latter including significant quantities of Grooved Ware pottery and worked flints in their fills. The post-hole circle was published as part of East Anglian Archaeology Monograph No. 147 (Boulter and Walton Rogers 2012).

Bronze Age: Early Bronze Age features included a series of ring-ditches that would originally have surrounded round barrows which have since been ploughed flat. These monuments, are considered to be funerary monuments, although burials were not recorded with every ring-ditch. The most significant of the burials was located c.500m to the north-east of the Assessment 4a site where a crouched burial was found with an accompanying stone wrist bracer, two amber toggles and a funerary beaker with the grave central to a complex, multi-phased monument comprising a series of ditches and post-holes (Boulter 2015). Immediately to the west was a second monument, a post-hole circle surrounding a central cremation pit that is assumed to be broadly contemporary but awaits C14 dating. Another of the ring-ditches was published as part of East Anglian Archaeology Monograph No. 147 (Boulter and Walton Rogers 2012), while a further nine will be covered in Volume II (Boulter forthcoming). Other Early Bronze Age features included an isolated burial with an associated Beaker pot as a grave good and a significant number of pits and pit groups producing domestic type

Beaker pottery.

Late Bronze Age deposits were entirely domestic in character with a series of hut circles with associated four and six post storage structures and pits. These were recorded throughout a c.4 hectares area in the quarry phases excavated as FLN 064, 065, 068. 088 and 090 and centred some 200m to the north of the Assessment 4 area of FLN 091 (Boulter 2015 and forthcoming).

Iron Age: Earlier Iron Age occupation deposits, mainly represented by pitting and four and six post storage structures, were identified along with a ditched field system tentatively considered to have become redundant in the later Iron Age/earlier Roman period. A scatter of earlier Iron Age features and some Middle Iron Age occupation deposits were recorded in the Assessment 4 area of FLN 091. A palisaded circle of later Iron Age or earlier Roman date was published as part of East Anglian Archaeology Monograph No. 147 (Boulter and Walton Rogers 2012).

Roman: An area of Roman occupation in the adjoining FLN 062 area to the west included two pottery kilns, two aisled buildings and an enigmatic multi-posted structure, tentatively identified as a large raised granary, with small finds hinting at a possible military presence. A multiple stacked burial (four bodies) exhibited evidence of foul play.

Early Anglo-Saxon: Four areas of Early Anglo-Saxon archaeology have previously been recorded at Flixton: two cemeteries and two areas of settlement. The two cemeteries were published as part of East Anglian Archaeology Monograph No. 147 (Boulter and Walton Rogers 2012). A group of pits in the adjacent Tarmac Quarry (previously Hill Pit and now worked by Cemex) was clearly domestic in character (Boulter 2011a), while an extensive area of occupation with Hall-type buildings and Sunken Featured Buildings (SFB's) was recorded at the north end of the overall quarry (Boulter forthcoming).

Medieval: deposits of medieval date have rarely been encountered in the main quarry at Flixton, although some of the undated field boundaries almost certainly originated at this time, before becoming redundant when the park associated with Flixton Hall was

imposed on the landscape. Other medieval features include the line of the original Homersfield to Flixton road while the recent analysis of a rectilinear enclosure located to the north of the FLN 088 site in areas FLN 061 and FLN 068 revealed a medieval rather than the previously supposed Early Anglo-Saxon date (Boulter forthcoming). In addition, localised medieval deposits have been found in the two quarry extensions to the south-west (HER SEY 035 and SEY 038). In Cartwrights Covert (SEY 035), a rectangular feature with associated post-holes was interpreted as a building terraced in to the natural slope, while the evaluation and subsequent ongoing excavations of a second area further to the south-west (SEY 038) revealed a series of intercutting ditches and associated structural evidence.

Post-medieval: significant deposits relating to Flixton Hall and its surrounding parklands included brick-built drains running down slope from the hall, a brick-built barn and associated wells, a dew-pond and a possible folly. Other ditched boundary features relate to the agricultural landscape closely associated with the park.

World War II training trenches and associated latrine pits were recorded in the School Wood plot clearly showing that the trees were not planted until after that time.

3 Original research aims

A Brief and Specification was prepared by Edward Martin and dated 18th February 2011 (Vol. II, Appendix I.a) which effectively updated an earlier document written by him in 1999. The revised document covered the area excavated as FLN 090 that formed part of Assessment 3b (Boulter 2013) and all remaining archaeological monitoring works until the end of the present permission (Assessment 4 and Assessment 4a).

The research aims presented in the revised Brief and Specification were as follows:

RA1: To undertake archaeological monitoring where there will be disturbance at subsoil level and prior to extraction of mineral or other development works.

RA2: To enable the identification and evaluation of potentially significant archaeological features or deposits.

RA3: To identify, excavate and record features and deposits of lesser archaeological significance.

RA4: The principal academic objective revolves around the potential of the site to produce evidence for multi-period settlement and funerary activity.

4 Site sequence: results of the fieldwork

4.1 Introduction

While this report deals with an area allocated a single HER code (FLN 091), the earlier excavations were carried out under a number of different site codes which, on occasion, may need to be included in the text. Each of these codes has its hierarchy of OP/context numbers. In order to reduce confusion, from this point on, the following conventions have been employed. When context numbers are included in the text they are always italicised, regardless of whether they relate to a feature cut, fill or artefact, and are prefixed with the number element of their HER code (e.g. 091:0001). It was not considered necessary to always prefix the site code number with the Flixton code letters FLN as all of the excavated areas were within that parish. This system is also employed in the publication text for the Flixton sites.

A total of 2,205 Observed Phenomena (hereafter OP) numbers had been allocated to 778 discrete features, layers, multiple feature structures or monuments and their stratigraphic elements for the Assessment 4 091 area, including 156 numbers allocated to small finds. For Assessment 4a, a further 1,108 OP numbers were allocated, including 243 numbers attributed to small finds.

A provisional chronological phasing of the site is presented as Tables 1 - 7. The period/phase framework has been developed and modified to accommodate all of the archaeological deposits encountered at Flixton. The inclusion of a feature in a particular phase is based on examining all the available strands of evidence including artefactual, stratigraphic and purely spatial: i.e. the juxtaposition of a feature to other more securely dated features in the immediate vicinity, or those forming part of a discrete structure. Many of the features included artefactual material relating to more than one archaeological period, suggesting widespread residuality and intrusivity; as a consequence, the allocated phase may not reflect the actual date of the feature. However, a general pattern of activity/occupation emerges, both on a temporal and spatial basis, which reflects the continually changing use of the landscape over time.

Features described in the text are also numbered on the phase plans (Figs. 3 - 10)



Figure 2. All features plan

4.2 Period I; Prehistoric

4.2.1 Neolithic and Bronze Age

Nine features, all pit-like, were attributed Neolithic or Bronze dates; one Late Neolithic, five Early Bronze Age and three indeterminate later Neolithic/earlier Bronze Age (Table 1 and Fig. 3).

Period	Site phase	Date range	Features
Late Neolithic Total 1 feature	Phase I.d.	c.2900 – 2100 BC	Pits: 2992 (Total 1)
Ind. L. Neo/EBA Total 3 features	Phase I.d/e.	c.2900 – 1500 BC	Pits: 2539, 2998, 3001 (Total 3)
Early Bronze Age Total 5 features	Phase I.e.	c.2100 – 1500 BC	Pits: 2740, 2743, 2745, 2753, 2818 (Total 5)

Table 1. Prehistoric: Bronze Age and Neolithic features

Late Neolithic feature 091:2992 and two of the indeterminate later Neolithic/earlier Bronze Age features (091:2998 and 3001) formed a discrete group located towards the western edge of the site (Fig. 3) and despite the uncertainty in the dating of the latter, they were almost certainly contemporary. The remaining indeterminate later Neolithic/earlier Bronze Age feature (091:2539) was isolated towards the northern end of the site (Fig. 3). The five Early Bronze Age features formed a discrete cluster just to the north of the centre of the site (Fig. 3). All of these features were effectively located at the base of the slope where the better-drained river terrace deposits begin to give way to the heavier glaciogenic clays upslope to the south.

Immediately after soil-stripping, the features subsequently numbered as 091:2992, 091:2998, 091:3001 and 091:3003 were considered to possibly represent a four-post structure that presumably would be of Bronze Age/Iron age date, and were collectively allocated group number 091:3000. However, on excavation, this interpretation was thought to be less likely, later confirmed by the finds dating from 091:2992, 091:2998 and 091:3001 suggesting that their juxtaposition was not due to them being part of a discrete formal structure. The three dated features were all small, circular/sub-circular in shape with diameters of between 0.40m (091:3001) and 0.58m (091:2992) and depths of between 0.24m (091:3001) and 0.28m (091:2992) and relatively rounded profiles.

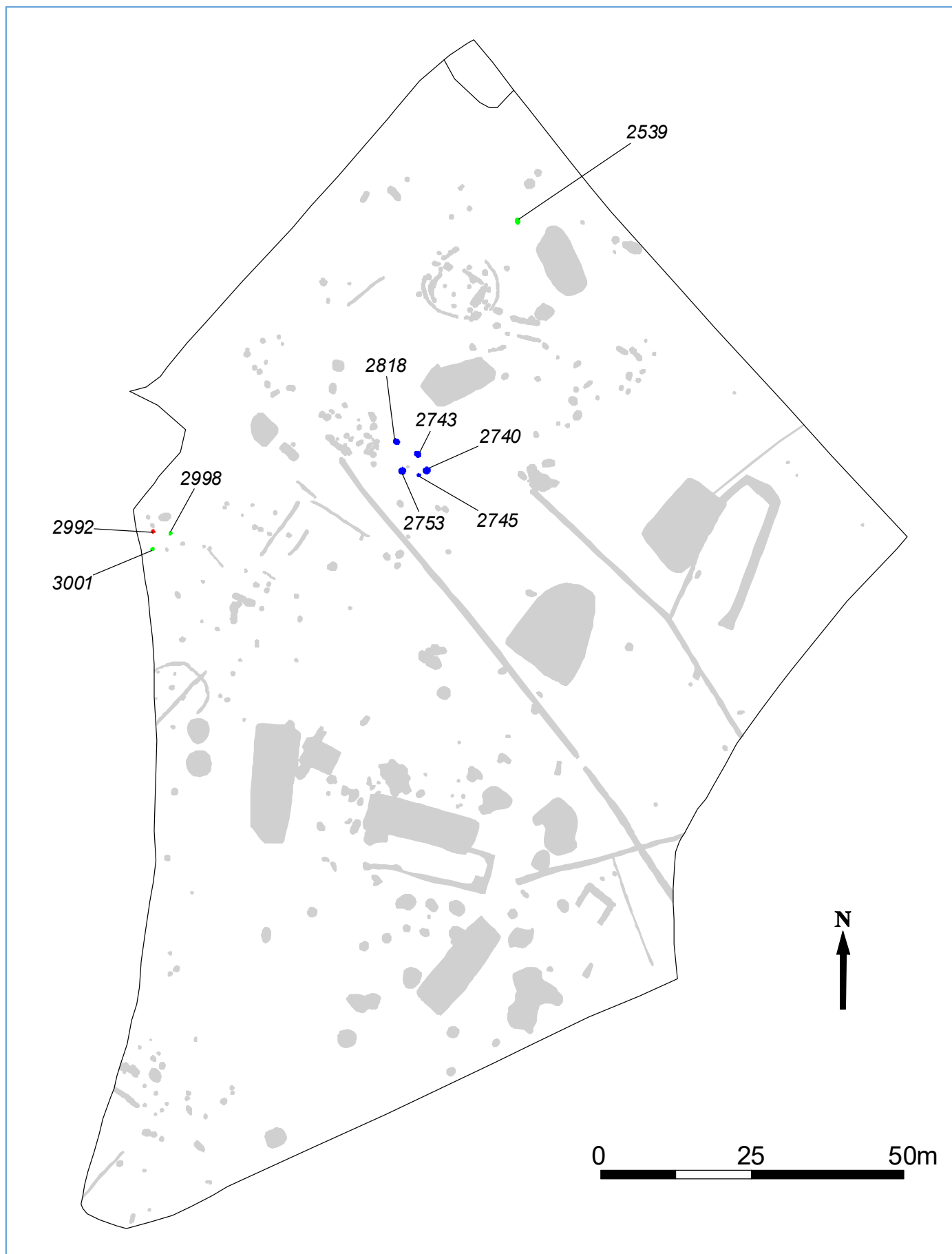


Figure 3. Prehistoric features: Late Neolithic (red), Indeterminate later Neolithic/earlier Bronze Age (green) and Early Bronze Age (blue)



Plate 1. Indeterminate later Neolithic/earlier Bronze Age pit 091:2539;
0.50m scale, taken from the SE



Plate 2. Early Bronze Age pit 091:2740; 1.00m scale, taken from S

The single fills (091:2993, 2999 and 3002 respectively) comprised relatively homogenous grey/brown silty sand, although both 091:2993 and 091:2999 exhibited a central darkening that was originally considered to be a post-pipe. Dating was provided by six sherds of pottery; two identified as Grooved Ware in fill 091:2993, with two indeterminate Beaker or Grooved Ware sherds in fills 091:2999 and 091:3002. Other finds included worked flints, of which there were four each in fills 091:2993 and 091:3002 and five in 091:2999. There were single pieces of fired clay in fills 091:2993 and 091:3002 and small numbers of heat-altered flints in all three fills. A single small piece of slag in 091:2999 may have been intrusive.

The other indeterminate later Neolithic/earlier Bronze Age feature (091:2539) was slightly larger, oval in shape, measuring 1.10m by 0.80m, had a depth of 0.24m with a rounded profile (Plate 1). Single fill 091:2540 comprised relatively homogenous mid brown silty sand, that graded slightly lighter and sandier towards edges, with moderate small stones, very occasional larger pieces, one large cobble (Plate 1). Artefactual evidence was limited to twenty-one sherds of indeterminate Beaker or Grooved Ware pottery along with fifteen struck flints and a few heat-altered flints.

Five features, all pits were attributed an Early Bronze Age date (Table 1, Fig. 3 and Plates 2 - 6) based primarily on the presence of Beaker pottery, although broadly diagnostic worked flint was also present. They formed a tight cluster towards the centre of the site, close to where it started to slope up markedly towards the south (Fig. 3).

There was considerable variation in the size and morphology of the features. The smallest, 091:2745, was oval in shape, measuring 0.54m by 0.44m, with a depth of 0.24m and a rounded profile, while the largest, 091:2753, was sub-circular, 1.06m in diameter, 0.60m deep with steeply sloping sides to an angled base. Three of the pits (091:2743, 2745, 2818) had single fills, while 091:2740 and 091:2753 had two components. Generally, the fills comprised light to dark grey/brown silty sand with variable concentrations of small to medium-sized stones and charcoal flecks. Dating was based primarily on the presence of a significant quantity of Beaker pottery with a number of cross-fits noted between the different contexts: seventy-two sherds from the fills of pit 091:2740, fifty-five from pit 091:2743, fifty-three from pit 091:2753, twenty-six from pit 091:2818 and one from pit 091:2745.



Plate 3. Early Bronze Age pit 091:2743; 1.00m scale, taken from SE



Plate 4. Early Bronze Age pit 091:2745; 1.00m scale, taken from S



Plate 5. Early Bronze Age pit 091:2753; 1.00m scale, taken from SE



Plate 6. Early Bronze Age pit 091:2818; 1.00m scale, taken from NNE

Other finds recovered from the five pit fills included a significant quantity of worked flint, a combined total of 294 pieces from the various fills of which 132 were in the dark basal fill 091:2755 of pit 091:2753. The flint assemblage included a number of small ‘thumbnail’ scrapers which are frequently found in conjunction with Beaker pottery and can be considered to be a type common in the earlier Bronze Age.

In addition, two pieces of fired clay were recovered from fill 091:2744 in pit 091:2743.

As has been often found to be the case at Flixton and on other sites with similar pits of this date, the artefactual evidence was concentrated in the darker coloured fill components.

4.2.2 Iron Age

Four features were attributed an indeterminate later Bronze Age/earlier Iron Age date, another four to the Early Iron Age and seven indeterminate Iron Age (Table 2 and Fig. 4). Not included here are the later Iron Age features which are considered with the transitional Iron Age/Roman and Roman deposits in section 4.2.4.

Period	Site phase	Date range	Features
Indet. later Bronze Age/earlier Iron Age Total 4 features	Phase I.g./h.	c.1000 – 400 BC	Pits: 2607, 2646, 3044, 3117 (Total 4)
Early Iron Age Total 4 features	Phase I.h.	c.650 – 400 BC	Pits: 2639, 2648, 3030, 3081 (Total 4)
Indet. Iron Age Total 7 features	Phase I.h./i.	c.650 BC – 50 BC	Pits: 2641, 3007, 3040, 3135, 3137, 3139, 3142 (Total 7)

Table 2. Prehistoric: Iron Age features

The four indeterminate later Bronze Age/earlier Iron Age features (091:2607, 2646, 3044, 3177; Table 2 and red on Fig. 4) were all described as pits, although 091:2607 was more slot-like. They were all located within the swathe of features concentrated close to the junction between the sandier soils to the north and the heavier clays upslope to the south (Fig. 4).

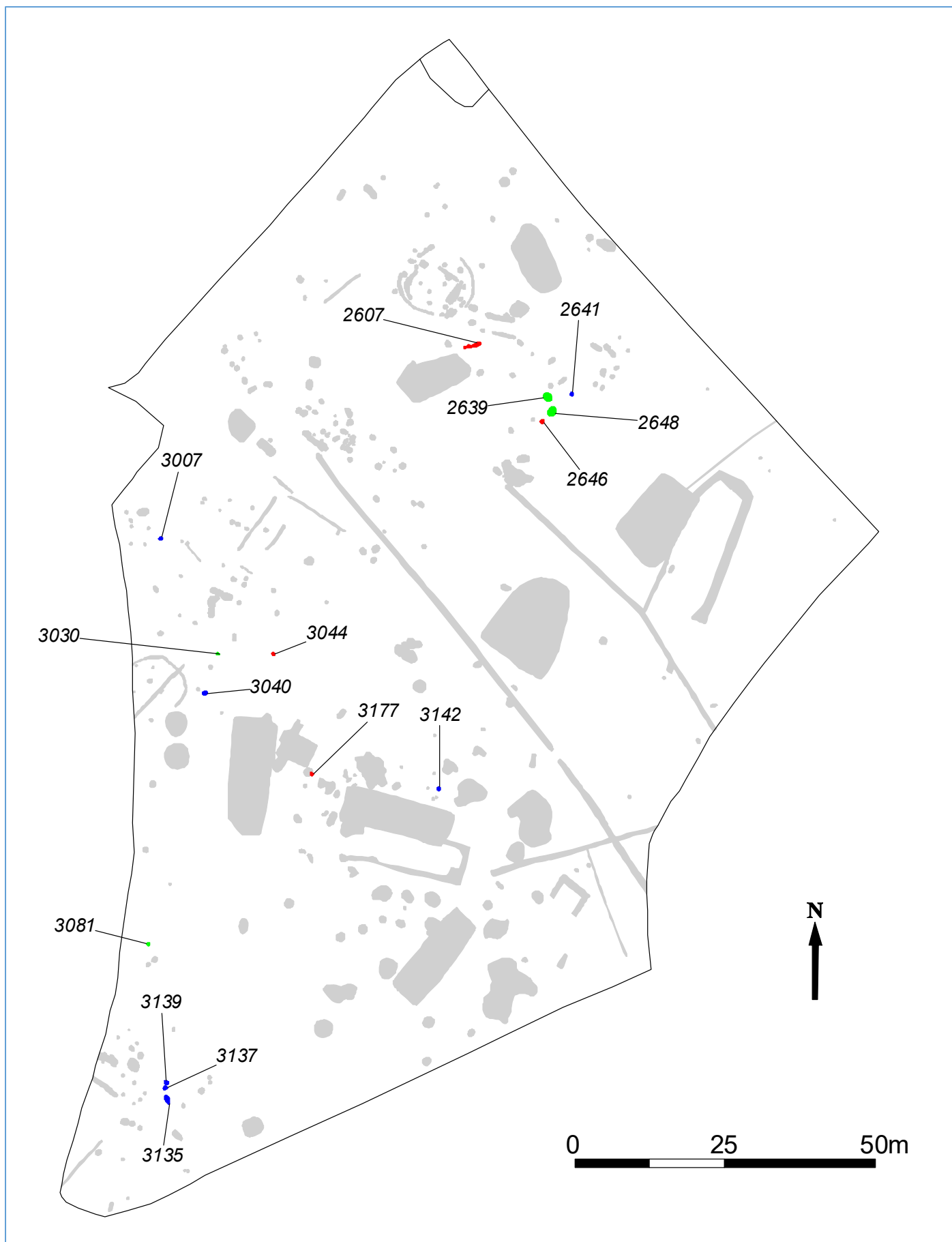


Figure 4. Prehistoric features: Indeterminate later Bronze Age/earlier Iron Age (red), Early Iron Age (green) and indeterminate Iron Age (blue)

Pit 091:2607 was 2.83m long with a maximum width of 0.60m towards its eastern end. It was shallow with a depth not exceeding 0.10m and had an irregular base. The single fill (091:2608) comprised dark greyish brown soft silty sand with occasional charcoal flecks and very occasional fired clay flecks. Dating was provided by three small sherds of indeterminate later Bronze Age or earlier Iron Age pottery, although it was stated that it more likely to be from the later end of this range. Other finds were limited to three small pieces of fired clay.

Pit 091:2646 was near circular in shape, c.0.60m in diameter, 0.30m deep with a rounded profile. The single fill (091:2647) comprised dark greyish brown soft silty sand with occasional stones and very occasional charcoal flecks. Dating was provided again by three small sherds of indeterminate later Bronze Age or earlier Iron Age pottery that were also more likely to be from the later end of this range. There were no other finds.

Pit 091:3044 was oval in shape, measuring 0.58m by 0.40m, 0.10m deep with gently sloping sides and a flat base. The single fill (091:3045) comprised dark greyish brown silty sand with occasional charcoal flecks. Dating evidence was limited to two conjoining sherds of pottery considered to be of indeterminate later Bronze Age or earlier Iron Age date, although an Early Neolithic date was not completely ruled out. There were no other finds.

Pit 091:3177 was circular, 0.50m in diameter, had a depth of 0.21m with steeply sloping sides to a flat base. The fill, 091:3178, comprised relatively homogenous mid grey/brown silty sand with occasional charcoal flecks. While recorded as having an indeterminate relationship with adjacent pit 091:3175, the finds dating suggests that it was cut by the larger feature which was considered to be Roman. Dating evidence from fill 091:3178 was limited to two body sherds of pottery that were identified as indeterminate later Bronze Age or earlier Iron Age in date, although an Early Neolithic date was not completely ruled out. Heat-altered flint was also present.



Plate 7. Early Iron Age pit 091:2639; 1.00m scale, taken from ESE



Plate 8. Early Iron Age pit 091:2648; 1.00m scale, taken from the SE

Of the four pits positively assigned an Early Iron Age date (Table 2 and green on Fig. 4), two (091:2639 and 2648) were located together in the north-eastern side of the site within a cluster of features including others that may be Iron Age in date. The other two features (091:3030, 3081) were widely spaced close to the western edge of the site. Of these, 091:2639 and 091:2648 merit further description.

Pit 091:2639 was sub-circular in shape, measuring c.1.50m in diameter, had a depth of 0.38m with moderately steeply sloping sides to a flat base (Plate 7). Single fill 091:2640 comprised relatively homogenous mid/dark grey brown silty sand at the top grading to light/mid brown very silty sand towards the base with occasional small stones. Dating was provided by twenty sherds of pottery, nineteen of which were diagnostically Early Iron Age, with one small almost certainly intrusive Roman sherd. Other finds included fifteen fragments of fired clay, four worked flints, a single piece of animal bone and a few heat-altered flints.

Pit 091:2648 was oval in shape, measuring 1.80m by 1.10m, had a depth of 0.46m with moderately steeply sloping sides to a flat base (Plate 8). Single fill 091:2649 comprised relatively homogenous mid grey brown silty sand with occasional to moderate small to medium sized stones and occasional charcoal flecks; grades lighter towards base. Dating was provided by twenty-one sherds of pottery of which nineteen were diagnostically Early Iron Age with two small, presumably intrusive later sherds. Other finds included six fragments of fired clay, six worked flints, two pieces of animal bone and a number of heat-altered flints.

A further seven pits were attributed an unspecific Iron Age date (Table 2 and blue on Fig. 4). Four (091:2641, 3007, 3040, 3142) were isolated features located within the wider area of the site, while three (091:3135, 3137, 3139) formed a small cluster at the southern end of the site. All of the pits were relatively small; the largest (091:3135) was oval in shape and measuring 1.54m by 0.64m (Plate 9) while the rest were circular or sub-circular in shape with diameters/widths measuring between 0.54m (091:3007) and 0.86m (091:3040). Depths varied between 0.20m (091:3135, 3139) and 0.26m (091:2641) with a range of profiles from rounded to flat-bottomed. Fills generally comprised of light – dark silty sand with occasional small stones and charcoal flecks; fill 091:3143 in pit 091:3142 was described as almost clayey.

Dating for the four isolated pits was provided by a limited ceramic assemblage, three sherds each in 091:2641, 091:3007 and 091:3142, with a single sherd in 091:3040, all in an indeterminate handmade Iron Age fabric that, at Flixton, was found pretty much throughout the Iron Age, possibly even extending into the earlier Roman period. Other finds included small quantities of fired clay, worked flints and heat-altered flints.

Similarly, the three small pits forming the southern cluster (091:3135, 3137, 3139), produced only limited artefactual evidence and again, the broadly assigned Iron Age date could even be extended into the early Roman period, as the currency of the pottery type providing the dating was not sufficiently diagnostic to narrow it down further. Other finds included small quantities of fired clay, worked flints and heat-altered flints.

4.2.3 Prehistoric; unspecified date

Four features, all described as pits (Table 3; Fig. 5) were attributed an indeterminate prehistoric date. Their inclusion was based on the presence of artefactual material such as heat-altered flint, undiagnostic worked flint and pottery, but nothing that was intrinsically datable.

Period	Site phase	Date range	Features
Prehistoric	Phase I.O.	unspecified date	Pits: 2531, 2723, 2851, 2986 (Total 4)
Total 4 features			

Table 3. Prehistoric: Unspecified date features

The features were circular or sub-circular; the smallest (091:2851) measuring 0.54m in diameter, while the largest (091:2723), probably a tree-throw, was 1.75m in diameter. Depths varied between 0.10m (091:2531) and 0.25m (091:2723). Fills generally comprised of grey/brown silty sand with occasional small stones with the exception of fill 091:2852 in 091:2851 which consisted of dark grey silty clay with a high concentration of heat-altered flint, 50 % of which was retained. Other than heat-altered flint, artefactual evidence included undiagnostic worked flint in 091:2723, 091:2851 and 091:2986 and fired clay in 091:2851. Two small pottery sherds in 091:2851 could be Neolithic, Bronze Age, Iron Age or even Early Roman, although if the small iron nail that was also recovered was contemporary rather than intrusive, then the feature clearly must be Iron Age or later in date.

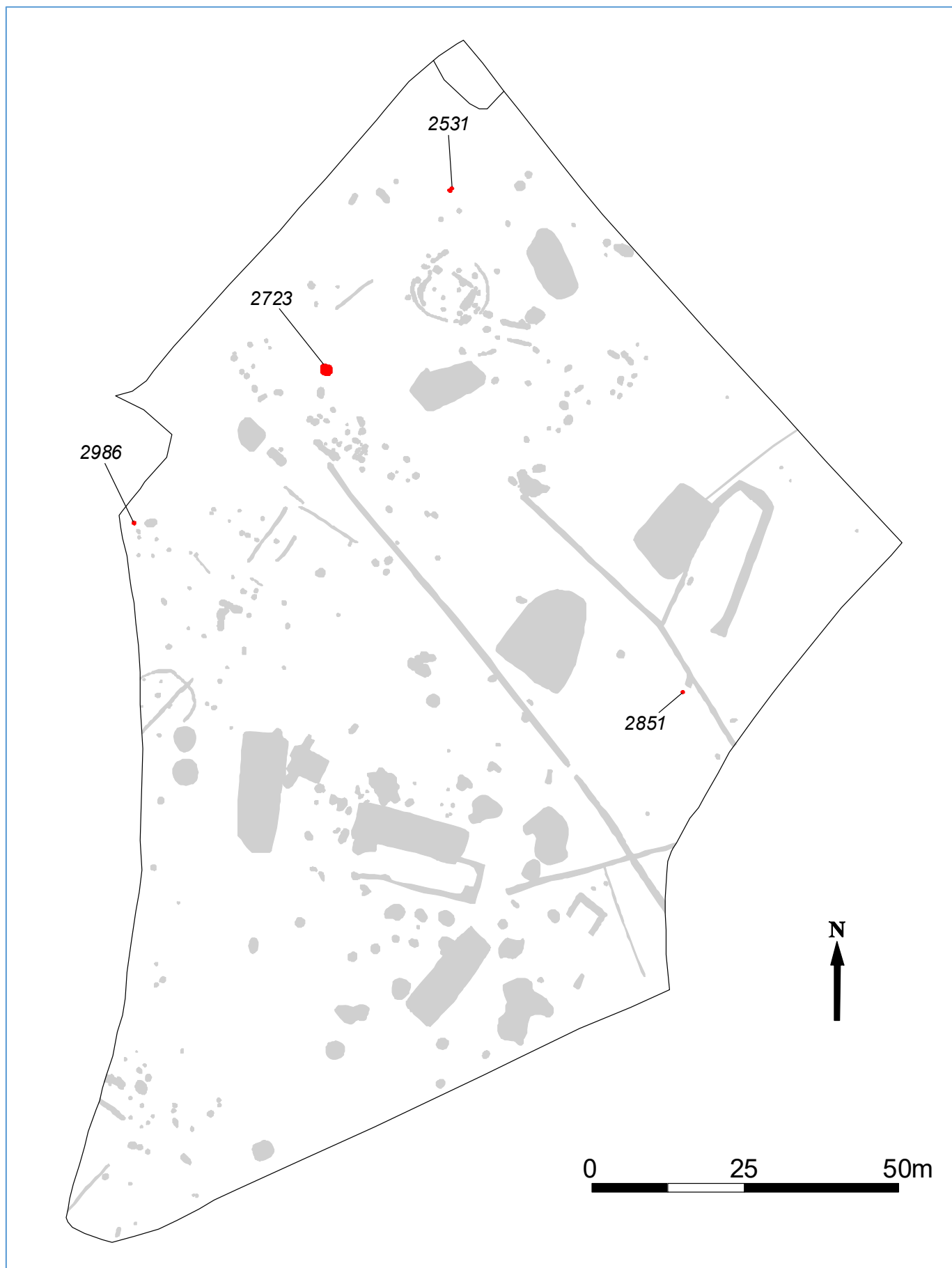


Figure 5. Prehistoric features of unspecified date (red)

4.3 Period II; Late Iron Age and Roman

4.3.1 Late Iron Age and Early Roman

Dating for the period covering the Late Iron Age/Roman transition has proved problematic regarding the attribution of a pre- or post-conquest date; in this instance, the features attributed to the broader phase that effectively spans the second half of the 1st century BC and the 1st century AD, has been divided into those which are almost certainly early Roman, or at least 1st century AD in date, and those which could be earlier and possibly belong in the Iron Age. However, given the amount of residuality and potentially intrusive material that was present, then some of the dates are speculative at best.

A total of forty-three features were attributed a Late Iron Age/Early Roman date, of which thirty-nine were considered likely to err towards being post-conquest with four which could have been earlier (Table 4; Fig. 6).

Forty were described as pits, although this category covered a very wide and diverse range of features in terms of their size, morphology and character.

Spatially, these pits were often found within feature clusters which included diagnostically later elements and, particularly where only small assemblages of finds were available for dating, the degree of residuality, and to a lesser extent intrusivity, means that their attribution to this phase remains debatable.

Period	Site phase	Date range	Features
Late Iron Age/E Rom	Phase II.a.	c.50 BC – mid 1 st century AD	Pits: 2521, 2533, 2538, 2847 (Total 4)
Total 4 features			
Early Roman	Phase II.a.	c.mid 1 st century AD – E. 2 nd century	Pits: 2524, 2557, 2559, 2582, 2584, 2586, 2602, 2605, 2609, 2612, 2614, 2619, 2652, 2667, 2702, 2721, 2770, 2816, 2820, 2824, 2872, 2898, 2915, 2923, 2937, 2944, 2950, 2954, 2961, 2963, 2979, 2982, 3011, 3098, 3164, 3206 (Total 36)
Total 39 features			Ditches/gullies: 2555, 2592, 2634 (Total 3)

Table 4. Late Iron Age and Early Roman features

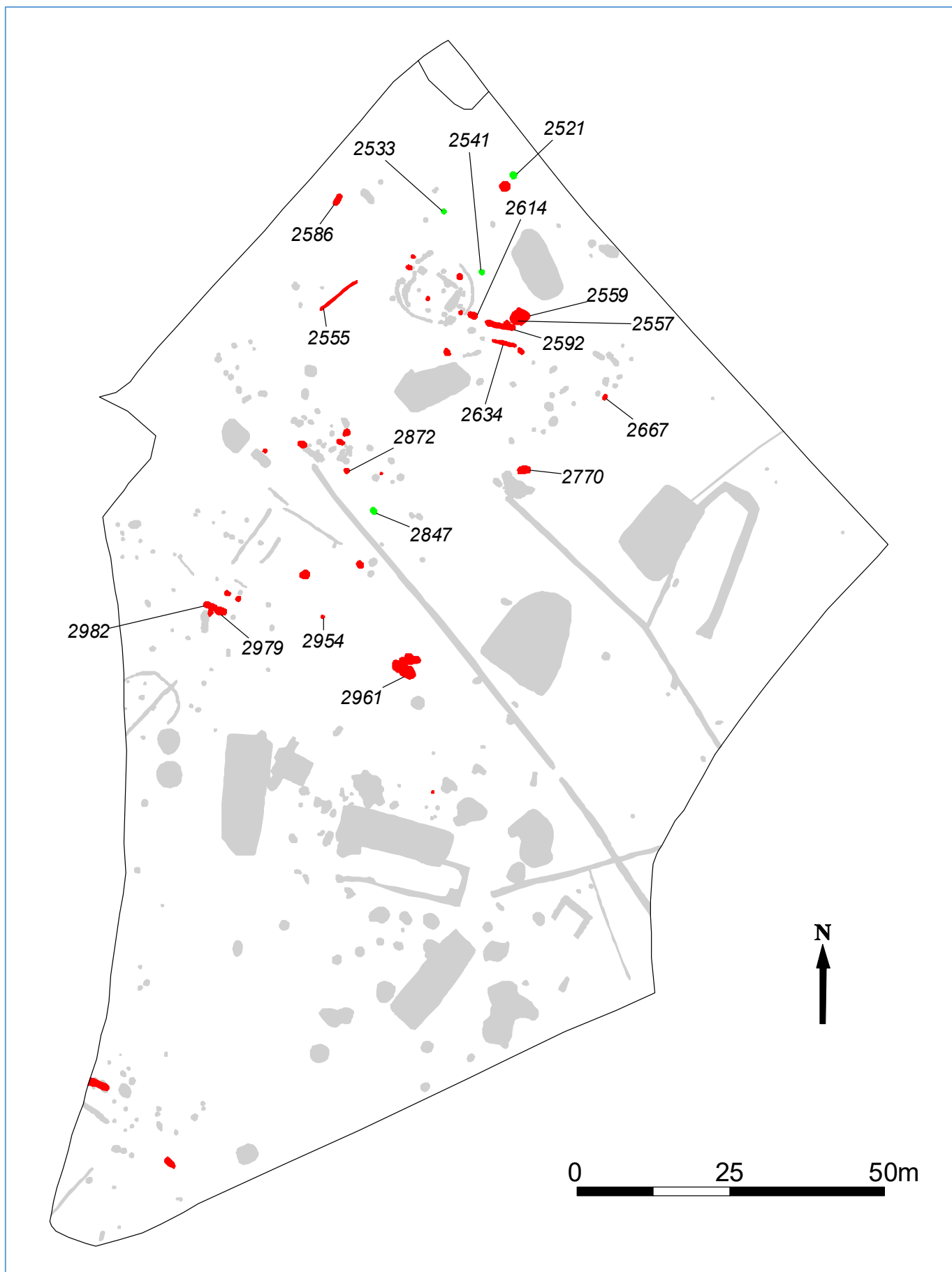


Figure 6. Late Iron Age/Early Roman features; later Iron Age (green), early Roman (red)

Four pit-like features (091:2521, 2533, 2538 and 2847) were considered possibly to be later Iron Age in date, based mainly on the character of their, albeit limited, ceramic assemblages. Essentially, the material present was in a handmade sandy fabric in a style commonly found in well-dated later Iron Age/earlier Roman assemblages at Flixton, but the absence of more Romanised fabrics in these contexts meant that a true, probably later Iron Age date cannot be ruled out.

Three of the pits were located towards the northern end of the site, while the fourth was more centrally placed, all within the swathe of features recorded along the base of the north-west facing slope (Fig. 6).

The largest of the four pits was 091:2847 which was oval in shape, measuring 1.10m by 0.90m, while the smallest was 091:2533 which was circular, with a diameter of 0.70m. Depths varied between 0.18m, 091:2541 and 091:2847, and 0.60m, 091:2521. All exhibited rounded profiles. With the exception of 091:2533 which is discussed in more detail below, the fills, generally comprised of grey/brown silty sand with varying concentrations of small to large stones and charcoal flecks. Some stratification was present in 091:2521 and 091:2533 while 091:2541 and 091:2847 had single fills. Dating was based on single sherds of pottery in 091:2521 and 091:2541, two in 091:2847 and ten in 091:2533, the latter mostly from a single vessel dating to the first half of the 1st century AD. Other finds included small quantities of fired clay, worked flints, animal bone and heat-altered flints.

Of these, 091:2533 merits further description. The circular, 0.70m in diameter feature was found to have three distinct fills (091:2534, 2535 and 2538), the middle of which, - 091:2535 appeared to represent a formal lining of stiff green clay, although it was not directly on the base of the feature (Plate 10). The fill sequence comprised an upper component (091:2534) of dark grey brown very silty sand with occasional small stones, charcoal flecks and locally becoming stiff brown clay, overlying lining 091:2535, which itself overlay a basal layer (091:2538) of mixed dark grey silty sand and charcoal flecks with some clayier areas and occasional small stones, particularly on the east side of the feature. All of the finds were recovered from the upper fill which, unusually for features of this general type, did not include large quantities of heat-altered flints or stones.



Plate 9. Iron Age pit 091:3135; 1.00m scale, taken from ENE



Plate 10. Late Iron Age/Early Roman pit 091:2533; 0.50m scale, taken from the SE

The thirty-nine features considered to be of earlier Roman date, or at least broadly 1st century – early 2nd century AD included three ditches/gullies and thirty-seven pits (Table 4 and Fig. 6). These formed relatively evenly distributed elements within the swathe of features concentrated along the base of the north-west facing slope where the sandier subsoil gave way to the heavier glaciogenic clays.

The three linear features (091:2555, 2592, 2634) were not laterally persistent and not considered to be part of a wider field system, probably representing minor boundaries/divisions within the local occupation area.

Ditch/gully 091:2555 was an isolated, c.7.70m long, c.0.30m wide, feature located towards northern end of the site. However, its north-east to south-west orientation is not inconsistent with other slot-like features to the south-west which were attributed a less specific Roman date, but could be contemporary. The fill comprised relatively homogenous dark grey/brown soft silty sand with occasional small to medium-sized stones and very occasional charcoal flecks. Dating was provided by twelve sherds of pottery, ten of which were earlier Roman with one residual prehistoric sherd and a single undiagnostic Roman sherd. Other finds were limited to a few fragments of lava quern.

Ditches/gullies 091:2592 and 091:2634 were located immediately to the south-east of a significant group, including structural elements, of predominantly middle Roman features (Fig. 6). The two ditches shared a similar west-north-west to east-south-east alignment and were separated by an interval of c.2.50m.

Ditch/gully 091:2592 was c.4.30m long, c.0.70m wide, with a depth not exceeding 0.30m. The fill, variously 091:2593, 091:2604 and 091:2611, comprised grey/brown silty sand with occasional small to medium-sized stones. Stratigraphically, the ditch was recorded as cut by pits 091:2602 and 091:2609, both of which were attributed a similar earlier Roman date. Dating evidence for the ditch was itself limited to four sherds of pottery; one Iron Age/Early Roman and three undiagnostic Roman and the inclusion in this phase was based more on the stratigraphic relationships with the cutting features, particularly pit 091:2610 which produced a small, but also convincing, earlier Roman assemblage. Other finds were limited to a small quantity of fired clay and

a single worked flint.

Ditch/gully 091:2634, the more southerly of the two, was c.4.00m long, c.0.60m wide with a depth not exceeding 0.15m. The fill, variously 091:2635, 091:2636 and 091:2645, comprised dark greyish brown silty sand with occasional small stones and very occasional charcoal flecks. Dating evidence was limited to twenty-one sherds of predominantly later Iron Age/earlier Roman pottery along with small quantities of fired clay, worked flints and a single heat-altered flint.

The thirty-six features described as pits varied enormously in their size, character and morphology and across the site were found in close association with features of Iron Age and later Roman date. Some of these features may have been naturally derived, representing no more than areas of discoloured subsoil caused by processes such as burrowing and root disturbance; the less certain features were often characterised by indistinct edges and irregularity in shape. Dating was almost universally provided by ceramic evidence with other categories of find dominated by fired clay with some worked flints, heat-altered flint/stone, animal bone and, less frequently, metalworking waste, iron nails and CBM.

The smallest, 091:2954, was oval in shape, measuring only 0.45m by 0.40m, with a depth of 0.21m and a single fill (091:2955) characterised by the presence of closely packed flint cobbles set in a matrix of mid greyish brown silty sand with charcoal flecks (Plate 11). Finds were limited to two sherds of broadly earlier Roman pottery.

In contrast, the largest feature, 091:2961, was also oval in shape, but measured 2.60m by 2.00m with a depth of 0.46m (Plate 12). Single fill, 091:2962, comprised mid greyish brown silty sand with occasional small to medium-sized stones. Dating was based on the recovery of nineteen sherds of predominantly earlier Roman pottery along with five worked flints and two small pieces of animal bone. Adjacent feature 091:2963 was actually larger than 091:2961, but was irregular in shape, very shallow with an undulating base and may have been naturally derived.



Plate 11. Early Roman pit 091:2954; 0.30m scale, taken from SW



Plate 12. Early Roman pit 091:2961; 2 x 1.00m scales, taken from the NE

Other pits which merit further description due to their unusual character or the presence of an exceptional finds assemblage are presented in context order below.

Pits 091:2557 and 091:2559 demonstrated the difficulty encountered at Flixton where some of the archaeological features cut through the base of the natural subsoil which, at that juncture, represented a buried soil (Plate 13).

While darker areas would be apparent during machining, on excavation their edges were hard to identify as the fills graded indiscernibly into the soil layer and it was not always possible to ascertain if the excavator was dealing with a genuinely incised feature. However, machining to the clean natural would often remove the features entirely; on that basis the machined level from which manual excavation was initiated was governed by the point at which features, or occasionally concentrations of finds, first became visible. In some areas of the site this resulted in a second phase of machining undertaken when the features identified as cutting the layer had been dealt with.

Pit 091:2557 was recorded as near circular, c.2.10m in diameter, a maximum of 0.43m deep within a discrete deepening of the otherwise undulating base, with relatively gently sloping sides. The single homogenous fill, 091:2558, comprised mid greyish brown silty sand with occasional small stones which graded imperceptibly into the similar, but lighter coloured fill of pit 091:2559 which it cut. Dating was provided by twenty-four sherds of pottery which included early Roman material. Other finds were limited to twenty-two pieces of fired clay, eight worked flints and a small quantity of heat-altered flint.

Pit 091:2559 was difficult to define, only identified when the edge of cutting feature 091:2557 became visible in the excavated section. It remains entirely possible that 091:2559 represents no more than a localized variation in the subsoil/buried soil which was recorded as covering a roughly rectangular area of c.2.70m by c.2.40m with moderately sloping sides to a flat base at a depth of 0.30m. The finds included a mixed ceramic assemblage totaling twenty-five sherds, the latest of which were of earlier Roman types. Other finds included twenty-nine pieces of fired clay, six worked flints and heat-altered flint.



Plate 13. Early Roman pits 091:2557 and 091:2559; 1.00m scales, taken from SE



Plate 14. Early Roman pit 091:2586; 2 x 0.50m scale, taken from the NE

Pit 091:2586 was distinctive in character, sub-rectangular in shape, with somewhat rounded ends, measuring c.1.70m by c.0.80m, 0.50m deep with a steep, near vertically sloping side to the south-east, less so to the north-west, and a flat base (Plate 14). The single fill, 091:2587, consisted of relatively homogenous dark greyish brown silty sand with frequent flint cobbles and occasional smaller stones and charcoal flecks. Thirty sherds of pottery were recovered, the majority of which were diagnostically Early Roman in date. Other finds included six pieces of fired clay, one worked flint and one fragment of animal bone.

Pit 091:2614 was oval in shape, measuring 1.40m by 0.96m, 0.46m deep with steeply sloping sides to a flattish base (Plate 15). Single fill 091:2615 comprised dark greyish brown silty sand with occasional small to medium-sized stones and charcoal flecks. A relatively large pottery assemblage was recovered, a total of eighty-two sherds, the majority of which were Early Roman in date with occasional earlier, residual items. The wider finds assemblage included thirty-five pieces of fired clay, six worked flints, fifty-three fragments of animal bone, a single piece of slag and heat-altered flint.

Pit 091:2667 was relatively small, but produced a reasonably sized artefactual assemblage. The feature was oval in shape, measuring 0.96m by 0.56m, a depth of 0.39m with steep, near vertically sloping sides to an angled base (Plate 16). Forty sherds of pottery were recovered, the majority of which were diagnostically Early Roman; two later Roman sherds were dismissed as intrusive, although one was considered to be part of the same vessel identified in slot 091:2671 located some thirty metres to the north-west and forming part of a possible structural complex of c.2nd to 3rd century date. Other finds included thirty-two pieces of fired clay, three worked flints and heat-altered flint.

Pit 091:2770 was oval in shape, measuring 2.18m by 1.30m, 0.44m deep with moderately sloping sides to a stepped base (Plate 17). The single fill, 091:2771, comprised mid to dark greyish brown silty sand with occasional flint pebbles and very occasional charcoal flecks. Sixty-eight sherds of pottery were recovered, the vast majority of which were earlier Roman types with the rest residual prehistoric. Other finds included twenty fragments of fired clay, three worked flints and a piece of slag.



Plate 15. Early Roman pit 091:2614; 1.00m scale, taken from NNE



Plate 16. Early Roman pit 091:2667; 0.50m scale, taken from the SW



Plate 17. Early Roman pit 091:2770; 2.00m scale, taken from SSE



Plate 18. Early Roman pit 091:2872; 1.00m scale, taken from the SW

Pit 091:2872 was small, but produced a disproportionately large finds assemblage. The feature was circular, with a diameter of 0.85m, a depth of 0.30m and moderately sloping sides to a flat base (Plate 18). Two fills were recorded; an upper component (091:2873) comprising predominantly of stiff yellow and heat-reddened clay in a matrix of mid grey/brown silty sand with occasional stones which, in turn, overlay 091:2874. Fill 091:2874 comprising very dark brownish grey/black silty sandy clay with occasional small stones and charcoal flecks. In addition to fifteen sherds of Early Roman pottery, fourteen from the lower fill and one from the upper fill, there was a combined total of 130 pieces of fired clay, 125 of slag, twenty-five fragments of animal bone, an iron nail, a single worked flint and two small finds, both from lower fill 091:2874 (Plate 18). The first, SF 091:2242, was a c.three quarters complete top-stone from a Hertfordshire Pudding Stone rotary quern and the second, SF 091:2243, a triangular loomweight.

Pit 091:2979 was oval in shape, measuring 2.00m by 1.26m, had a depth of 0.62m with a shouldered profile (Plate 19) and was cut by the similar date feature 091:2982 to the west. Two fills were recorded; an upper component, 091:2981, comprising mid greyish brown silty sand with occasional small stones with a clear interface between it and the underlying layer 091:2980, that consisted of dark grey, almost black, silty sand with occasional stones and charcoal flecks. Dating was provided by a large, diagnostically secure Early Roman pottery assemblage, a total of 239 sherds; 126 from upper fill 091:2981 and 113 from lower fill 091:2980. Other finds included combined totals of 205 pieces of fired clay, twenty-two pieces of slag, ten worked flints, 473 fragments of animal bone and heat-altered flint. In addition, there were four iron small finds; two nails/staples (SF's 091:2287, 2288), a strap fitting (SF 091:4092) and another nail.

Pit 091:2982 was recorded as cutting pit 091:2979 (Plate 20) and while this interpretation could be open to debate, it was not contradicted by the artefactual evidence. The feature was oval in shape, measuring c.2.00m by c.1.20m, had a maximum depth of 0.44m with relatively gently sloping sides to a stepped base. Single fill 091:2983 comprised pale to mid greyish brown silty sand with occasional small to medium-sized stones. Sixty-nine sherds of predominantly Early Roman pottery were recovered along with twenty fragments of fired clay, seventeen pieces of slag, 13 fragments of animal bone, a single worked flint and heat-altered flint.



Plate 19. Early Roman pit 091:2979; 1.00m scale, taken from NE



Plate 20. Early Roman pit 091:2982; 1.00m scale, taken from the NE

4.3.2 Roman

A total of 140 features were attributed specifically to the wider Roman period; forty-two dating from the early 2nd century to late 3rd centuries AD, sixteen from the later 3rd to 4th centuries AD and eighty-three of indeterminate Roman date (Table 5; Fig. 7).

Period	Site phase	Date range	Features
Roman	Phase II.b.	Middle Roman c.E.2nd – L.3rd century AD	Pits: 2526, 2529, 2545, 2547, 2569, 2573, 2588, 2663, 2686, 2688, 2690, 2697, 2699, 2710, 2733, 2747, 2772, 2775, 2777, 2786, 2801, 2807, 2822, 2826, 2828, 2833, 2841, 2861, 2865, 2996, 3050, 3092, 3175 (Total 33) Ditches/slots/gullies: 2561, 2565, 2575, 2594, 2671, 2681, 2684, 3104 (Total 8) Hearth: 2669 (Total 1)
Total 42 features			
Roman	Phase II.c.	Late Roman c.L.3rd – 4th century AD	Pits: 2678, 2735, 2737, 2756, 2780, 2855, 2888, 3133, 3150, 3179, 3183, 3188, 3192, 3201, 3204 (Total 15) Ditches/slots/gullies: 3148 (Total 1)
Total 16 features			
Roman	Phase II.0	Roman; unspecified date	Pits: 2519, 2580, 2590, 2598, 2621, 2623, 2625, 2627, 2629, 2632, 2637, 2655, 2661, 2665, 2675, 2695, 2704, 2708, 2717, 2719, 2749, 2765, 2788, 2790, 2793, 2795, 2797, 2799, 2803, 2805, 2809, 2811, 2831, 2836, 2843, 2845, 2886, 2894, 2896, 2909, 2919, 2925, 2935, 2939, 2941, 2952, 2974, 2988, 2990, 2994, 3005, 3009, 3015, 3026, 3028, 3034, 3036, 3042, 3063, 3067, 3073, 3077, 3079, 3083, 3108, 3110, 3116, 3118, 3120, 3158, 3181, 3190, 3194, 3196 (Total 74) Ditches/slots/gullies: 2835, 2876, 2900, 2911, 2929, 3017, 3058 (Total 7) Layer: 3198 (Total 1)
Total 82 features			

Table 5. Roman features

Middle Roman; E.2nd – L.3rd century

Of the forty-two features attributed to this phase, thirty-three were described as pits, eight as ditches/slots and gullies and one hearth (Table 5; Fig. 6). While generally forming part of the extensive swathe of features running across the site at the base of the north-east facing slope, there were clear concentrations. Other than a short length of south-east to north-west orientated ditch (091:3104) located towards the southern end of the site, all of the linear features formed part of a discrete feature cluster, possibly with structural elements, at the northern end of the site (Fig. 7).

Isolated ditch 091:3104 ran from the western edge of the site before butt-ending c.5.00m to the south-east. Another ditch (091:3148) that, at this juncture, has been assigned a Period II.c, later Roman date, butt-ended c.8.00m to the south before running to the south-west and on under the western edge of the site.

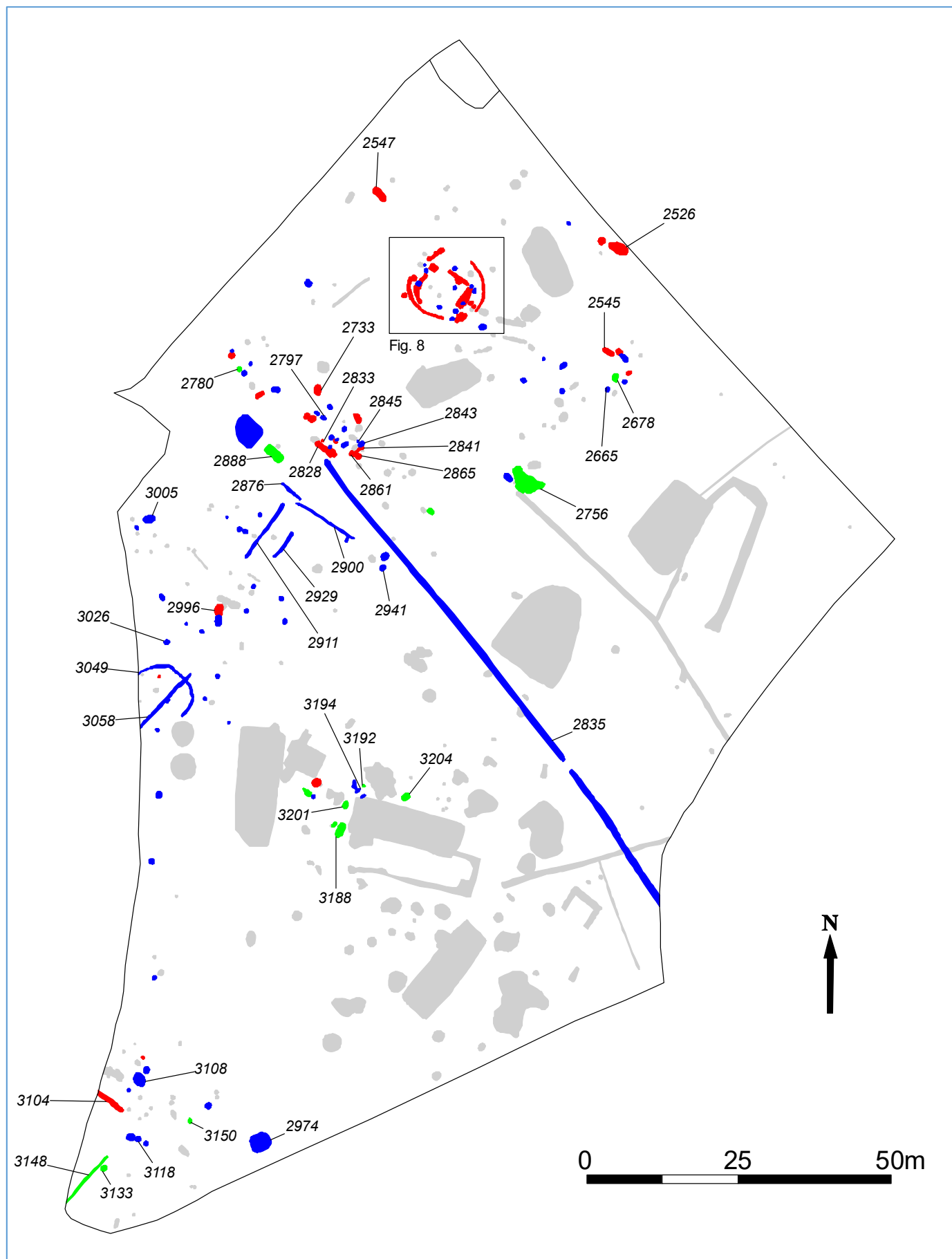


Figure 7. Roman Features; E.2nd – L.3rd century AD (red), L.3rd – 4th century AD (green), Unspecified Roman (blue)

It is possible that these two features were contemporary and given that the dating for 091:3104 was based entirely on a small mixed ceramic finds assemblage, while that from 091:3148 included diagnostic later Roman material, then it could be argued that the former should be moved to the later phase. Ditch 091:3104 had not previously been identified in the area 062 excavation to the north-west.

Ditch 091:3104 was c.0.65m wide with a maximum depth of 0.25m and a variable, but generally rounded profile. The fill, variously 091:3105, 091:3106 and 091:3107, comprised homogenous dark grey, almost black silty sand with occasional stones. The combined finds assemblage included fifty-four sherds of mixed, but generally middle Roman types along with seven pieces of fired clay, five worked flints, six fragments of animal bone and heat-altered flint.

The remaining seven slot and gully-like features were those forming part of the discrete complex of features located towards the northern edge of the site (Figs. 7 and 8). The majority of the features were contained within roughly circular area, measuring 11.50m by 13.00m, effectively demarked by two curving slots/gullies (091:2561 and 2565).

Gully/slot 091:2561 formed the eastern side of complex, running for a distance of c.10.00m from a formal south-west facing butt-end before petering out to the north where it had possibly been truncated during machining (Fig. 8). The slot had a maximum width of 0.40m and maximum depth of 0.15m, with a rounded profile. The fill, (091:2562 – 2564, 2692, 2701) comprised mid to dark grey/brown mottled silty sand with moderate mixed stones and occasional cobbles.

Gully/slot 091:2565 demarked the western side of the complex, running for a distance of c.10.00m between south-east facing and north-north-east facing butt-ends. The slot had a maximum width of 0.66m and maximum depth of 0.22m, with a profile that varied between open V-shaped to rounded. The fill (091:2566 – 2568, 2571, 2572 and 2792) comprised relatively homogenous brown grey silty sand with moderate small and occasional larger stones.

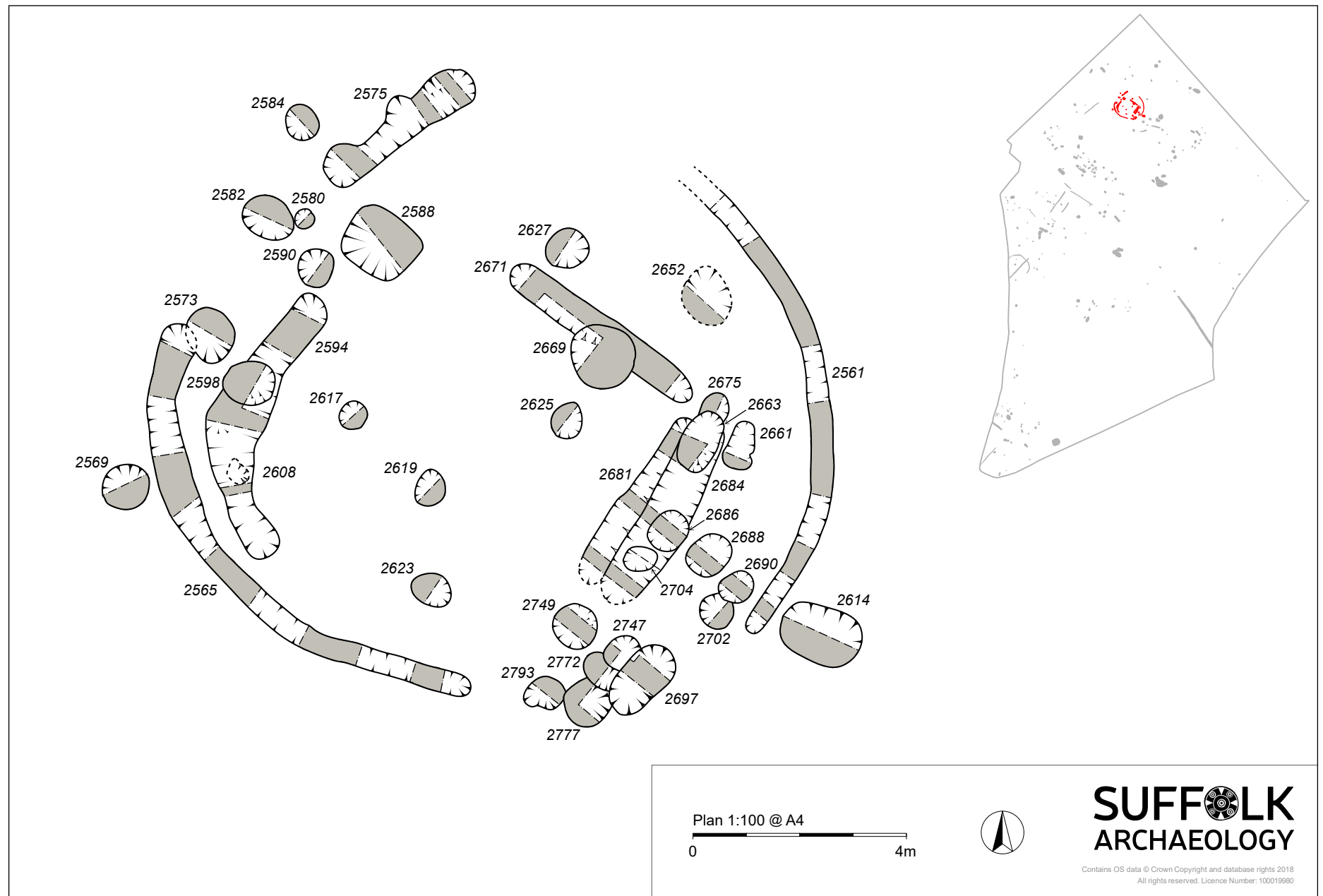


Figure 8. Detailed plan of Roman feature complex/structure

When the datable elements of the artefactual assemblage recovered from these slots is looked at in isolation, a total of forty-three sherds of pottery, a good proportion are either later Iron Age/earlier Roman or unspecified Roman. However, there was one diagnostic middle Roman rim from fill 091:2567 in 091:2565 and their spatial arrangement and juxtaposition with more securely dated middle Roman contexts was considered to provide enough evidence for them to be included in this phase. Other finds, all of which were recovered from slot/gully 091:2561, included six pieces of fired clay, two pieces of slag and a single worked flint.

Also on the periphery of the northern side of the feature complex was slot/gully 091:2575 (Fig. 8). Slightly irregular in shape, measuring 3.25m, up to 0.75m wide with a maximum depth of 0.18m, it was unclear if it represented another feature genuinely forming part of the outer edge of the complex or whether its juxtaposition was no more than fortuitous. The single fill, variously numbered 091:2576 – 2579, comprised homogenous light to mid grey brown silty sand with occasional small stones. Dating evidence was limited to a small mixed group of pottery, fifteen sherds, two of which were middle Roman in date. A single piece of Roman CBM was also recovered.

Internal to the western peripheral slot/gully 091:2565, was a second curving feature (091:2594), c.5.00m long, with a maximum width of 1.00m and maximum depth of 0.24m, that ran internal to the outer element with a separation of c.0.50m (Fig. 8). The single fill, variously 091:2595 – 2597 and 091:2616, comprised relatively homogenous brown grey silty sand with moderate small and occasional larger stones. The ceramic dating evidence was limited to eight undiagnostic sherds of Roman pottery; other finds included twenty-one pieces of fired clay and heat-altered flint. The inclusion in this phase was based entirely on its spatial relationship with more securely dated features.

The remaining three slots/gullies, 091:2671, 091:2681 and 091:2684 were located within the area enclosed by 091:2561 and 091:2565 (Fig. 8). Slot/gully 091:2671 was orientated north-west to south-east, the others north-east to south-west with 091:2684 recorded as cutting 091:2681. All were c.4.00m in length, with a maximum width of 0.75m and depths not exceeding 0.20m.



Plate 21. Middle Roman hearth 091:2669/2657; 1.00m scale, taken from SE



Plate 22. Middle Roman pit 091:2588; 1.00m scale, taken from the SW

The fills, variously 091:2672 – 2674 in 091:2671, 091:2682, 091:2683, 091:2706 and 091:2751 in 091:2681 and 091:2685, 091:2707 and 091:2752 in 091:2684 comprised predominantly mid to dark greyish brown friable silty sand with occasional mixed stones. The combined ceramic assemblage from the three features totaled ninety-nine sherds, approximately two thirds of which were from 091:2684. While the assemblage was mixed as regards to date, middle Roman sherds were the latest material present. Other finds included thirty pieces of fired clay, four worked flints, a single fragment of Roman CBM and heat-altered flint. The function of these features remains unclear, but a structural use cannot be ruled out.

During machining, a circular, c.1.20m in diameter pad of stiff yellow clay (091:2669) was seen stratigraphically to overlie slot/gully 091:2671 (Fig. 8 and Plate 21). It seems likely that this was intended to have functioned as a hearth, although there was no evidence for it ever having been used as such. The clay itself (091:2657) was set in a very shallow cut with an underlying fill (091:2670) comprising mixed sandy gravelly silt with some clay locally. The only finds recovered from the feature were two pieces of fired clay and a small quantity of heat-altered flint. Its inclusion in this phase was based on its juxtaposition with more securely dated features.

The remaining thirty-three features attributed to this phase were all described as pits (Table 5 and Fig. 7). Of these, eleven, were found in close association with the slot/gully complex described above and a structural function, such as their use as post-settings cannot entirely be ruled out. They were generally quite small; the largest (091:2588) was sub-rectangular with sides measuring 1.20m by 1.35m, a depth of 0.38m, exhibiting a rounded profile and a single fill, 091:2588, comprising mid grey/brown silty sand with occasional small stones, moderate large stones and charcoal flecks (Fig. 8 and Plate 22). The smallest (091:2690) was sub-circular, 0.65m in diameter, 0.33m deep with a rounded profile and a single fill, 091:2691, of mid greyish brown silty sand with occasional small stones (Fig. 8 and Plate 23).

The combined finds assemblage from the eleven pits associated with the feature complex included 912 sherds of pottery. While many of the ceramic assemblages were mixed, all included Middle Roman pieces, with some particularly diagnostic groups. Over half of the pottery assemblage was recovered from fill 091:2698 in pit 091:2697.



Plate 23. Middle Roman pit 091:2690(L); 1.00m scale, taken from SW



Plate 24. Middle Roman pit 091:2697; 0.50m scale, taken from the SW

Other finds included 490 pieces of fired clay, 389 of which were from productive pit 091:2697, nine worked flints, 136 fragments of animal bone, 121 of which were from pit 091:2697, two iron nails (SF's 091:2194 and 2195) and heat-altered flint.

Productive pit 091:2697 was part of a small cluster located in the intervening gap between the southmost butt-ends of slots/gullies 091:2561 and 091:2565 (Fig. 8). The pit was oval in shape, measuring 1.50m by 0.75m, 0.30m deep with a rounded profile (Plate 24). Single fill 091:2698 comprised greyish brown silty sand with occasional stones and charcoal flecks.

The remaining twenty-two pits were scattered within the swathe of features located towards the west and north of the site; in some instances, forming parts of discrete concentrations/clusters (Fig. 7). Some of these were more convincing as genuinely incised features than others, but all included datable ceramic evidence.

The largest of these, 091:2526, was an irregular oval in shape, measuring 3.40m by 1.80m, had a depth of 0.50m, variably sloping sides to flat base and two fill components (Plate 25). Upper fill 091:2527 comprised mid greyish brown silty sand with occasional stones and a lower element, 091:2528, of mid to light grey, mottled with orange, very silty sand with occasional stones. The combined finds assemblage included 132 sherds of mixed pottery, although securely spot-dating to the Middle Roman period. In addition, there were twenty-five pieces of fired clay, nine worked flints, a single fragment of animal bone and heat-altered flint.

In contrast, the smallest feature, 091:2833, was circular, 0.40m in diameter, 0.16m deep with steeply sloping sides to a gently rounded base (Plate 26). Single fill 091:2834 comprised mid to dark brownish grey soft silty sand with occasional small stones and charcoal flecks. In this instance, dating was provided by three sherds of pottery, the only finds recovered, the latest of which was Middle Roman.

Of the remaining twenty pits, six are considered worthy of more detailed description due to their unusual character or significant finds assemblages recovered from their fills.



Plate 25. Middle Roman pit 091:2526; 2.00m scale, taken from SW



Plate 26. Middle Roman pit 091:2833; 0.50m scale, taken from NW

Pit 091:2545 was trough-like, measuring 2.10m by 0.80m, had a depth of 0.30m and asymmetrically sloping sides to an undulating base (Plate 27). Single fill 091:2546 comprised relatively homogenous mid grey/brown silty sand, grading slightly lighter towards the edges, with moderate small stones and charcoal flecks. The finds assemblage included thirty sherds of pottery which, although mixed in terms of date, had diagnostic elements with a secure '*terminus post quem*' of 170 AD provided by a samian mortarium sherd. Also present were two pieces of fired clay, four worked flints, three fragments of animal bone and heat-altered flint.

Pit 091:2547 was an irregular oval, almost kidney-shaped, measuring 2.80m by 1.10m, had a depth of 0.90m with variably sloping, sometimes vertical sides (Plate 28). There were three major fill components (091:2548, 2549, 2550), the middle of which, 091:2549, represented the clearly *in-situ* structural clay remains of the base of an oven (Plate 27). The fill above the clay oven lining, 091:2548, comprised homogenous dark greyish brown silty sand with occasional stones, frequent charcoal flecks/lumps and occasional fired clay fragments. The clay itself was up to 0.10m thick, generally yellow/grey in colour with only moderate heat-reddening and clearly only represented part of what would once have been a more extensive structure. Included in the clay matrix were occasional small stones, charcoal flecks and chalk nodules. Underlying fill 091:2550 was similar in character to the upper fill, comprising dark greyish brown silty sand with frequent charcoal flecks/lumps, occasional stones and chalk flecks/nodules.

Significant finds assemblages were recovered from both the upper and basal fills; 469 sherds of pottery, eighty-three pieces of fired clay, twelve worked flints, nine fragments of animal bone, a single piece of Roman CBM and heat-altered flint from upper fill 091:2548 and seventy-seven sherds of pottery, twenty-nine pieces of fired clay, two worked flints, seventy-six fragments of animal bone, a single piece of Roman CBM and heat-altered flint.

Unusually for a feature of this type, the clay oven base was not on the bottom of the feature with c.0.30m of fill underlying the clay. It is possible that the oven was constructed within an already existing feature, an interpretation enhanced by the ceramic finds assemblages; that from below the clay suggesting an earlier Roman date with that above indicative of a middle Roman date, albeit earlier in that phase.



Plate 27. Middle Roman pit 091:2545; 0.40m and 0.50m, taken from N



Plate 28. Middle Roman pit 091:2547; 2.00m and 1.00m scales, taken from SW



Plate 29. Middle Roman pit 091:2733; 1.00m scale, taken from S



Plate 30. Middle Roman pit 091:2828; 1.00m scale, taken from N

Pit 091:2733 was oval in shape, measuring 1.80m by 1.20m, had a depth of 0.70m with a rounded, shouldered to the east, profile (Plate 29). Single fill 091:2744 comprised dark greyish brown silty sand with occasional small stones, a single flint cobble, charcoal flecks, fired clay flecks and very occasional lumps of light greyish yellow clay. A significant finds assemblage was recovered which included 263 sherds of pottery, the majority of which was diagnostically attributable to the first half of the 2nd century, along with twenty-four pieces of fired clay, ten worked flints, nineteen fragments of animal bone, a single piece of slag, two iron nails (SF's 091:2245 and 2246) and heat-altered flint.

It could be argued that pit 091:2828 was the largest Middle Roman feature recorded as it measured 4.00m by 1.20m (Plate 30). However, it was irregular in shape and shallow, with a maximum depth of 0.18m, and exhibited indistinct edges, possibly representing no more than an area of disturbed subsoil. The single fill, numbered 091:2829 and 091:2830, comprised relatively homogenous grey/brown silty sand with occasional to moderate stones. The combined finds assemblage included 180 sherds of predominantly diagnostic Middle Roman pottery along with twenty-six pieces of fired clay, fourteen pieces of Roman CBM, and three worked flints.

Pits 091:2841, 091:2861 and 091:2865 demonstrate well the difficulties of dating that were encountered on the site. The three features formed a small intercutting group that was part of a wider concentration of Roman features (Fig. 7). Oval shaped pit 091:2861, measuring 1.00m by 0.59m and 0.46m deep, had an indeterminate relationship with the adjacent trough-like feature 091:2841 which measured 2.44m by 0.50m with a depth of 0.20m, which was itself clearly cut by the circular, 0.95m in diameter, 0.20m deep pit 091:2865 (Plate 31). The fills of both 091:2841 and 091:2861 comprised light-dark brown silty sand with occasional stones while 091:2865 had two distinct fill components; an upper fill (091:2866) was characterised by the presence of mid greyish brown plastic silty clay with frequent semi fired and fired clay fragments, with basal fill of dark greyish brown silty sand. Both 091:2841 and 091:2861 produced ceramic finds assemblages, twenty-nine and forty sherds respectively, which were diagnostically Middle Roman in date. However, the three conjoining sherds from the definitely cutting feature 091:2865 were all earlier Roman and without a secure stratigraphic relationship, this feature would have been attributed to the earlier phase.



Plate 31. Middle Roman pits 091:2841, 2861 and 2865; 1.00m scale, taken from SW



Plate 32. Middle Roman pit 091:2996(R); 2.00m scale, taken from E

Other finds from these features included eighty-eight fragments of fired clay, fourteen pieces of slag, five worked flints and heat-altered flint.

Pit 091:2996 was oval in shape, measuring 2.00m by 1.30m, had a depth of 0.26m with a rounded profile and was recorded as cutting adjacent pit 091:2994 which was, itself, attributed an unspecified Roman date. The single fill, 091:2997, comprised dark greyish brown silty sand with occasional charcoal flecks. Dating was provided by a moderate pottery assemblage of eighty-nine sherds, the majority of which was diagnostically Middle Roman in date. Other finds included twenty-seven pieces of fired clay, four worked flints, two fragments of animal bone, an iron nail and heat-altered flint.

Late Roman; L.3rd – 4th century

A total of sixteen features, a ditch and fifteen pits were attributed a later Roman date based almost exclusively on the ceramic evidence recovered from their fills (Table 5; Fig. 7). The features were distributed within a similar area of the site as the later Iron Age and other Roman deposits with one small central concentration (Fig. 7). A number of later Roman small finds (see below) were also recovered from the basal subsoil deposit indicating that activity during this phase was more prominent than the number of discrete features would suggest.

As previously stated, ditch/gully/slot 091:3148 was located at the southern end of the site, running for c.10.00m in a south-westerly direction, from a north-east facing butt-end, before continuing under the western edge of the site. The feature was a maximum of 0.40m wide with a depth of c.0.10m and a rounded profile. The fill, variously 091:3149 and 091:3170 – 3172, comprised mid greyish brown silty sand with occasional small stones. Dating was provided by seven sherds of pottery, that from fill 091:3170 being diagnostically later Roman in date. Other finds were limited to seventeen fragments of fired clay and five worked flints.

The remaining fifteen features were all described as pits, but exhibited wide variations in size and character. The largest, 091:2756, was irregular in shape, measuring approximately 3.00m by 5.00m, had a maximum depth of 0.26m and moderately sloping sides to a flat base (Plate 33).



Plate 33. Late Roman pit 091:2756; 1.00m scale, taken from W



Plate 34. Middle Roman pit 091:3192; 0.50m scale, taken from N

The fill, numbered 091:2757 and 091:2762, comprised relatively homogenous dark grey/brown silty sand, mottled with mid grey brown sandy silt and contained occasional to moderate small and medium sized stones with occasional charcoal flecks throughout. This feature was another of those which it was difficult to determine if it had been deliberately excavated, or was naturally derived. However, there was a significant assemblage of finds recovered, including 192 sherds of essentially later Roman pottery. Other finds included four pieces of Roman CBM, eight pieces of fired clay, thirty-three worked flints and heat-altered flint.

The smallest, 091:3192, was located within an extended area of darker subsoil that was subjected to linear sondages (091:3069) in order to assess its character. The feature was circular, c.0.50m in diameter, 0.44m deep with a single fill, 091:3193, comprising mid greyish brown silty sand with occasional small to large stones with an indistinct horizon with the surrounding subsoil (Plate 34). Seven sherds of pottery were recovered which included some later Roman material. Other finds were limited to a single worked flint.

Other pits later Roman pits considered worthy of further description due to their unusual character or significant finds assemblages are as follows.

Pit 091:2678 was an eccentric oval in shape, measuring c.1.56 by c.1.10m, was 0.30m deep with moderately sloping sides to a flat base (Plate 35). Three fill components were recognised; an upper element, 091:2679, comprising dark greyish brown silty sand with occasional small stones and charcoal flecks, a middle fill, 091:2680, predominantly of dark orange, almost red, firm clay with some light to mid yellowish grey clay and occasional charcoal flecks and a basal fill, 091:2693, of mid brownish grey silty sand with occasional small stones. A combined total of sixty-nine sherds of pottery was recovered from the three fills and although of mixed date, the forty-nine sherds in upper fill 091:2679 included a high proportion of diagnostically later Roman material. Other finds included 159 pieces of fired clay, two thirds of which were retained from the central clay fill 091:2680, four worked flints, a single fragment of animal bone and heat-altered flint.



Plate 35. Late Roman pit 091:2678; 1.00m scale, taken from SSW



Plate 36. Late Roman pit 091:2780; 0.50m scale, taken from NW



Plate 37. Late Roman pit 091:2888; 1.00m scale, taken from SE



Plate 38. Late Roman pit 091:3133; 1.00m scale, taken from SW

Pit 091:2780 was seen at the surface as a spread of heat-altered clay. However, on excavation, this was found to represent the upper fill of an oval-shaped pit, measuring 0.70m by 0.80m, 0.40m deep, with a rounded profile (Plate 36). The heat-altered clay upper fill, 091:2782, was only 0.08m thick, overlying a basal component, 091:2781, comprising mid to dark brown silty sand with occasional to moderate small to medium-sized stones and occasional charcoal flecks. While a combined total of only seven sherds of pottery were recovered from the two fills, diagnostically later Roman material was included within the clay layer. Other finds included eight pieces of fired clay, all retained from the upper clay layer 091:2782, three worked flints, three fragments of animal bone and a single heat-altered flint.

Pit 091:2888 was rectangular in shape, measuring 3.20m by 1.55m, had a depth of 0.70m, with moderately steeply sloping sides to flattish, but slightly angled base (Plate 37). The stratified fill had three principal fill components, although there was considerable variation/subdivision within each element. Upper fill 091:2889 comprised predominantly of very dark grey loamy sand which, in turn, overlay 091:2890 consisting of light to mid brown very silty sand with a central component of orange gravelly sand. Basal fill 091:2891 comprised mid brown, very silty sand with some slumping. Considering the size of the feature, the combined finds assemblage was small, comprising fourteen sherds of pottery, including a single diagnostic later Roman sherd, along with a single piece of Roman CBM, two pieces of fired clay, four worked flints and heat-altered flint.

Pit 091:3133 was circular, 1.00m in diameter, with a depth of 0.26m and exhibited a rounded profile (Plate 38). Single fill 091:3134 comprised mid greyish brown silty sand with occasional small stones. While relatively small, a relatively large finds assemblage was recovered from its fill. The 275 sherds of pottery were largely diagnostic to the later Roman period with the wider finds assemblage including one fragment of fired clay, two worked flints and, more significantly from a dating point of view, three copper alloy coins of 3rd or 4th century date (SF's 091:4044 - 4046). In addition, there were thirty-nine iron small-finds (SF's 091:4055 – 4081, 4089, 4090, 4093), some of which may have been associated with a larger composite object, possibly a box or chest (see below).



Plate 39. Late Roman pit 091:3150; 0.50m scale, taken from E



Plate 40. Late Roman pit 091:3188; 1.00m scale, taken from ESE



Plate 41. Late Roman pit 091:3201; 1.00m scale, taken from W



Plate 42. Late Roman pit 091:3204; 1.00m scale, taken from SE

Pit 091:3150 was oval in shape, measuring 0.72m by 0.62m, had a depth of 0.18m and a generally rounded profile (Plate 39). Single fill, 091:3151, comprised dark greyish brown silty sand with occasional charcoal flecks. The finds assemblage included seventy-nine sherds of predominantly diagnostic later Roman pottery along with two pieces of fired clay, fourteen fragments of animal bone and six worked flints.

Pit 091:3188 was oval in shape, measuring 2.49m by 1.20m, had a depth of 0.30m with moderately sloping sides to a gently undulating base (Plate 40). Single fill 091:3189 comprised homogenous dark grey/brown silty sand with occasional stones and charcoal flecks. Dating was provided by a largely diagnostically later Roman pottery assemblage totaling 116 sherds. Other finds included eight pieces of Roman CBM, three fragments of fired clay, two pieces of slag, fifty-one fragments of animal bone and a single struck flint.

Pit 091:3201 was oval in shape, measuring 1.20m by 1.00m, had a depth of 0.28m, a rounded profile and was recorded in the edge of sondage 091:3065 cut into the base of the subsoil. Two fill components were recorded; 091:3202, comprising mid to dark greyish brown silty sand with occasional stones and charcoal flecks and a large deposit of stiff yellow, locally heat-reddened, clay (091:3203). The finds assemblage comprised sixteen sherds of generally diagnostic later Roman pottery along with twenty-seven pieces of Roman CBM, nine fragments of fired clay, two worked flints and forty-one fragments of animal bone.

Pit 091:3204 was oval in shape, measuring 1.35m by 1.00m, had a maximum depth of 0.30m with steeply sloping sides to an irregular base (Plate 42). Single fill 091:3205 comprised relatively homogenous dark grey/brown very silty, almost clayey, sand with charcoal flecks, lighter and browner in colour towards the west. The finds assemblage included fifty-five sherds of pottery, a mixed assemblage, the majority of which more middle Roman, but did include one diagnostic 4th century piece. Other finds included thirteen pieces of fired clay, one worked flint and heat-altered flint.

Roman; unspecified date

Eighty-two features were attributed an indeterminate Roman date; seventy-four were described as pits, seven as ditches/slots/gullies and one layer (Table 5; Fig. 7). These

were features which on either stratigraphic or artefactual grounds could not securely be placed within the more tightly defined Roman phases, but provided sufficient evidence to suggest a wider Roman date, albeit sometimes with an early to middle bias. They were concentrated within the same general area occupied by other Roman deposits, sometimes in close association with more securely dated feature clusters; indeed, those found in conjunction with the Roman feature complex/structure presented as Figure 8, arguably could be assigned a similar middle Roman date (see below).

The seven ditches/slots/gullies included one laterally persistent ditch-like boundary feature along with six smaller discrete features. Ditch 091:2835 orientated north-north-west to south-south-east, running from the southern edge of the site for a distance of 98.00m before terminating in a shallow butt-end. Two opposed butt-ends located approximately 28.00m from the southern edge of the site marked a possible entrance. The ditch was at its most prominent towards the south where it was 1.00m wide and 0.32m deep with a generally rounded profile with a single fill, 091:2956, comprising dark greyish brown silty sand with occasional chalk and frequent flints (Plate 43). Further to the south, the feature became shallower and more difficult to follow. Dating was based on the presence of eight sherds of Roman pottery; seven were undiagnostic, the other was earlier Roman. Other finds included five pieces of Roman CBM, five fragments of fired clay and a single fragment of animal bone. The veracity of the attributed date is debatable as the orientation of the feature was one repeated in the landscape by boundaries of various dates. However, when looked at in the wider landscape, it was parallel to a ditch excavated some 145.00m to the south-west in the 062 site which then turned at a right-angle towards the north-east forming a right-angled corner; together, these three ditches could demark the northern end of a rectangular field. Dating for the 062 ditches was similarly based on only a small finds assemblage, although in that instance a tighter middle Roman date was indicated.

Four of the smaller gullies/slots formed a small, presumably related, group located towards the north-west of the site (Fig. 6). Two, 091:2876 and 091:2900, were orientated approximately north-west to south-east with the others, 091:2911 and 091:2929, approximately south-west to north-east with lengths of 4.10m (091:2876), 5.16m (091:2929), 10.90m (091:2911) and 11.20m (2900), all 0.50m – 0.60m wide with maximum depths of 0.15m and generally exhibiting rounded profiles.



Plate 43. Roman ditch 091:2835; 1.00m scale, taken from NNW



Plate 44. Roman slots 091:3049 and 091:3058; 2.00m and 1.00m scales, taken from W

The single fills comprised mid greyish brown silty sand with occasional small stones. Three undated north-west to south-east orientated slot-like features 091:2931, 091:2933 and 091:2968 immediately to the south-west may have been contemporary. The function of these slots remains unclear but they do seem to form part of a wider group of slot-like features that continued into area 062 and a structural use cannot completely be discounted. Dating was essentially provided by small assemblages of ceramic finds; a combined total of fourteen sherds, the majority of which broadly Roman in date with occasional residual prehistoric and earlier Roman material. Other finds were limited to six worked flints and a single piece of fired clay.

The remaining two slots/gullies, 091:3049 and 091:3058, were located central to and continuing under the western edge of the site (Fig. 7). Both may be related to features previously recorded in area 062 to the west. Their functions remain unclear, but a structural use again cannot be discounted.

The first, 091:3049, consisted of a curving slot/gully describing half of circle with a diameter of approximately 10.00m (Plate 44). Two components were recorded; a 2.00m long element, 091:3023, that continued under the edge of the site and a c.13.50m long section, 091:3017, the two separated by closely opposed butt-ends. Slot 091:3017 was generally 0.40m – 0.50m wide and a maximum of 0.12m deep with a rounded profile. Slot 091:3023 was 0.25m – 0.30m wide, a maximum of 0.07m deep with a rounded profile. The fills comprised pale to mid greyish brown silty sand with occasional small stones. Dating was provided by a combined total of thirty-seven sherds of pottery, largely undiagnostic, broadly, Roman material with occasional residual prehistoric and earlier Roman pieces. Other finds included two pieces of Roman CBM, seven worked flints, a single piece of fired clay and heat-altered flint.

Stratigraphically, slot 091:3049, was recorded as cutting ditch/slot 091:3058, the latter running from the western edge of the site for c.2.00m in a north-easterly direction before terminating in a butt-end (Plate 44). Ditch/slot 091:3058 was 0.50m – 0.60m wide with a maximum depth of 0.19m and a rounded profile. The single fill comprised mid greyish brown silty sand with occasional small stones. Dating evidence was sparse, limited to just five sherds of pottery, one of which was Roman in date. Other finds included a single piece of Roman CBM, a single worked flint and heat-altered flint.



Plate 45. Roman pit 091:2845; 0.30m scale, taken from SSW



Plate 46. Roman 091:2974; 2.00m and 1.00m scales, NE quadrant taken from NNW

Seventy-four unspecified Roman features were described as pits (Table 5, Fig. 6). They varied greatly in character and morphology, some possibly even naturally derived.

The smallest, 091:2845, was circular, 0.30m in diameter with a depth of 0.12m and a rounded profile (Plate 45). The single fill, 091:2845, mid to dark greyish brown silty sand with occasional small stones. Dating was based on the recovery of four sherds of undiagnostic Roman pottery; there were no other finds.

The largest pit, 091:2974, was oval in shape, measuring 3.50m by 2.92m, had a depth of 1.65m with steeply sloping sides to a flat base (Plate 46). The stratified fill had four distinct components (091:2975 - 2978), with additional peripheral slumping from the edge. All four fill components comprised various combinations of light – dark grey/brown silty sand with small to medium-sized stones and charcoal flecks. Dating was provided by a combined ceramic assemblage of twenty-five sherds of predominantly undiagnostic Roman sherds with occasional earlier, presumably residual, pieces. Other finds included fifteen fragments of fired clay, sixteen worked flints and sixty-seven fragments of animal bone.

Eleven of the pits (091:2580, 2590, 2598, 2623, 2625, 2627, 2661, 2675, 2704, 2749, 2793) were located within the area confined by the middle Roman slots/gullies 091:2564 and 091:2565 (Figs. 7 and 8). They were generally small, either circular or oval in shape and while it could be argued that some may have functioned as post-holes, there was no recognisable formal arrangement. The fills generally comprised mid to dark grey/brown silty sand with varying quantities of small to medium-sized stones and charcoal flecks. A combined assemblage of thirty sherds of pottery were recovered and while the majority of these were described as undiagnostically Roman in date, it was also stated that an earlier or middle Roman date was more likely and would correspond well with the securely dated elements of the feature complex.

Of the remaining sixty-one pits, those with ceramic assemblages of ten or more sherds are further described below.



Plate 47. Roman pit 091:2665; 0.50m scale, taken from SW



Plate 48. Roman pit 091:2797; 1.00m scale, taken from NNE

Pit 091:2665 was oval in shape, measuring 0.96m by 0.56m, had a depth of 0.35m and steeply sloping sides to an angled base (Plate 47). Two fills were recorded; a central component, 091:2666, comprising dark greyish brown silty sand with localised light to mid yellowish grey firm clay with occasional charcoal and fired clay flecks and an outer fill of light to mid greyish brown silty sand with occasional small stones. The junction between the two fills was vertical, possibly indicating a central post-pipe. However, its interpretation as a post-hole remains conjectural as it did not seem to be part of a formal structure and the cluster of features within which it was situated included contexts of both middle, later and unspecified Roman date. Dating was provided by the presence of ten sherds of Roman pottery tending towards early/middle rather than late. Other finds included six pieces of fired clay and heat-altered flint.

Pit 091:2797 was oval in shape, measuring 1.10m by 0.52m, had a depth of 0.24m with a rounded profile (Plate 48). Single fill 091:2798 comprised mid greyish brown silty sand with occasional stones. The finds assemblage included twelve sherds of pottery; eight of which were broadly Roman, with four residual pieces. Also present was a large fragment of lava quern (Plate 48).

Pit 091:2843 was oval in shape, measuring 1.50m by 1.00m, had a depth of 0.50m with a slightly irregular rounded profile (Plate 49; wrongly numbered as 091:2841). Single fill 091:2844 comprised mid to dark greyish brown silty sand with occasional stones. The ceramic assemblage totaled fourteen undiagnostic Roman sherds, again with an early to middle bias. Other finds were limited to four pieces of fired clay and four worked flints.

Pit 091:2941 was oval in shape, measuring 0.88m by 0.24m, had a depth of 0.24m with a rounded profile (Plate 50). Single fill 091:2942 comprised dark greyish brown silty sand with frequent small stones occasional charcoal flecks. Eleven sherds of pottery were recovered; ten undiagnostic Roman pieces and a single residual Beaker or Grooved Ware sherd. Other finds were limited to five fragments of fired clay, three pieces of slag and three worked flints.

Pit 091:3005 was oval in shape, measuring 1.92m by 1.26m, had a depth of 0.40m with a slightly irregular rounded profile (Plate 51).



Plate 49. Roman pit 091:2843; 0.50m scale, taken from ENE



Plate 50. Roman pit 091:2941; 1.00m scale, taken from SE



Plate 51. Roman pit 091:3005; 1.00m scale, taken from NNW



Plate 52. Roman pit 091:3026; 0.50m scale, taken from NNW

Single fill 091:3006 comprised mid greyish brown silty sand with occasional small stones. A relatively large assemblage of pottery was recovered totaling fifty-one sherds, of which forty-five were Roman, tending towards the earlier or middle, with sixteen residual prehistoric pieces. Also present were thirteen fragments of fired clay, a single piece of Roman CBM, five worked flints and heat-altered flint.

Pit 091:3026 was oval in shape, measuring 0.92m by 0.56m, had a depth of 0.24m with relatively steeply sloping sides to a flattish base (Plate 52). Single fill 091:2017 comprised dark grey, almost black, silty sand with occasional small stones and charcoal flecks. Eleven sherds of pottery were recovered, nine of which were Roman, again tending towards the early/middle, along with two residual earlier sherds. Also present were three worked flints and heat-altered flint.

Pit 091:3108 was oval in shape, measuring 2.40m by 1.80m, had a depth of 0.64m with relatively steeply sloping sides to a flattish, but undulating base (Plate 53). The stratified fill had three distinct components 091:3109, 091:3112 and 091:3114, with a fourth number allocated to a discrete deposit of heat-altered clay (091:3113) within the central layer. Upper fill 091:3109 comprised dark greyish brown silty sand with occasional charcoal flecks and fired clay fragments with an indistinct interface with central fill 091:3112 which consisted of dark grey silty sand with frequent charcoal flecks and occasional clay lumps which, in turn, overlay 091:3114, the basal fill comprising lightish brown/yellow silty sand slumped from the edges of the pit. Twelve sherds of pottery were recovered, all from central fill 091:3112 and associated clay 091:3113. While the majority of the pot was earlier Roman in date, two sherds could have been later with one residual prehistoric piece. Other finds were limited to fired clay, a total of sixty-eight pieces.

Pit 091:3118 was oval in shape, measuring 1.20m by 0.90m, 0.22m deep with moderately sloping sides to a flat base. Stratigraphically, it was recorded as probably cutting adjacent, similarly dated feature 091:3120 (Plate 54). Single fill 091:3119 comprised mid to dark greyish brown silty sand with occasional stones. A broadly Roman date was provided by sixteen sherds of pottery while other finds included one piece of fired clay, nine worked flints and heat-altered flint.



Plate 53. Roman pit 091:3108; 2.00m scale, taken from NE



Plate 54. Roman pit 091:3118 (R) and 091:3120 (L); 1.00m scale, taken from S



Plate 55. Roman pit 091:3194 sealed by layer 091:3198; 1.00m scale, taken from SSE



Plate 56. Undated pit 091:3162; 1.00m scale, taken from W

Pit 091:3194 was oval in shape, measuring 1.10m by 0.65m, 0.24m deep with a rounded profile. Stratigraphically, the pit could be seen to underlie the intermittent but laterally persistent clay layer 091:3198 that was also attributed a broadly Roman date (Plate 55). Single fill 091:3195 comprised dark greyish brown silty sand with occasional charcoal flecks. Dating was provided by ten sherds of undiagnostic Roman pottery, while other finds were limited to two worked flints.

4.4 Period V; Post-medieval

4.4.1 Modern

Features that were clearly modern were identified throughout the site, but were concentrated more to the south-east (Fig. 9). Many of the features were recorded in plan only with no excavation deemed necessary and were not allocated context numbers. Those that were allocated numbers are presented in Table 6.

Period	Site phase	Date range	Features
Post-medieval Total 10 numbered features	Phase V.d.	c.20 th century	Pits/post-holes: 2507, 2509, 2511, 2513, 2515, 2517, 2857, 2870 (Total 8) Linear features: 3100, 3102 (Total 2)

Table 6. Modern features

The features recorded on Figure 9 overwhelmingly related to a series of military buildings and their associated infrastructure/services along with circular disturbances caused by the removal of mature trees, all of which were present on black and white aerial photographs taken in the 1940's and were cleared in the second half of the 20th century. The only exceptions, 091:3100 and 091:3102, were modern wheel ruts.

4.5 Period 0; Undated

The features which remained undated, a total of sixty-five are listed in Table 7 below. These included sixty-two described as pits or post-holes, although evidence for the latter ever functioning as such was sparse, three slots/gullies and a layer. While dispersed throughout all areas of the site, there was a slightly higher concentration to the north and west coinciding generally with that of the more securely dated archaeological phases (Fig. 10). Essentially, their inclusion in this phase was based on the lack of meaningful dating evidence, either artefactual, stratigraphical or spatial.

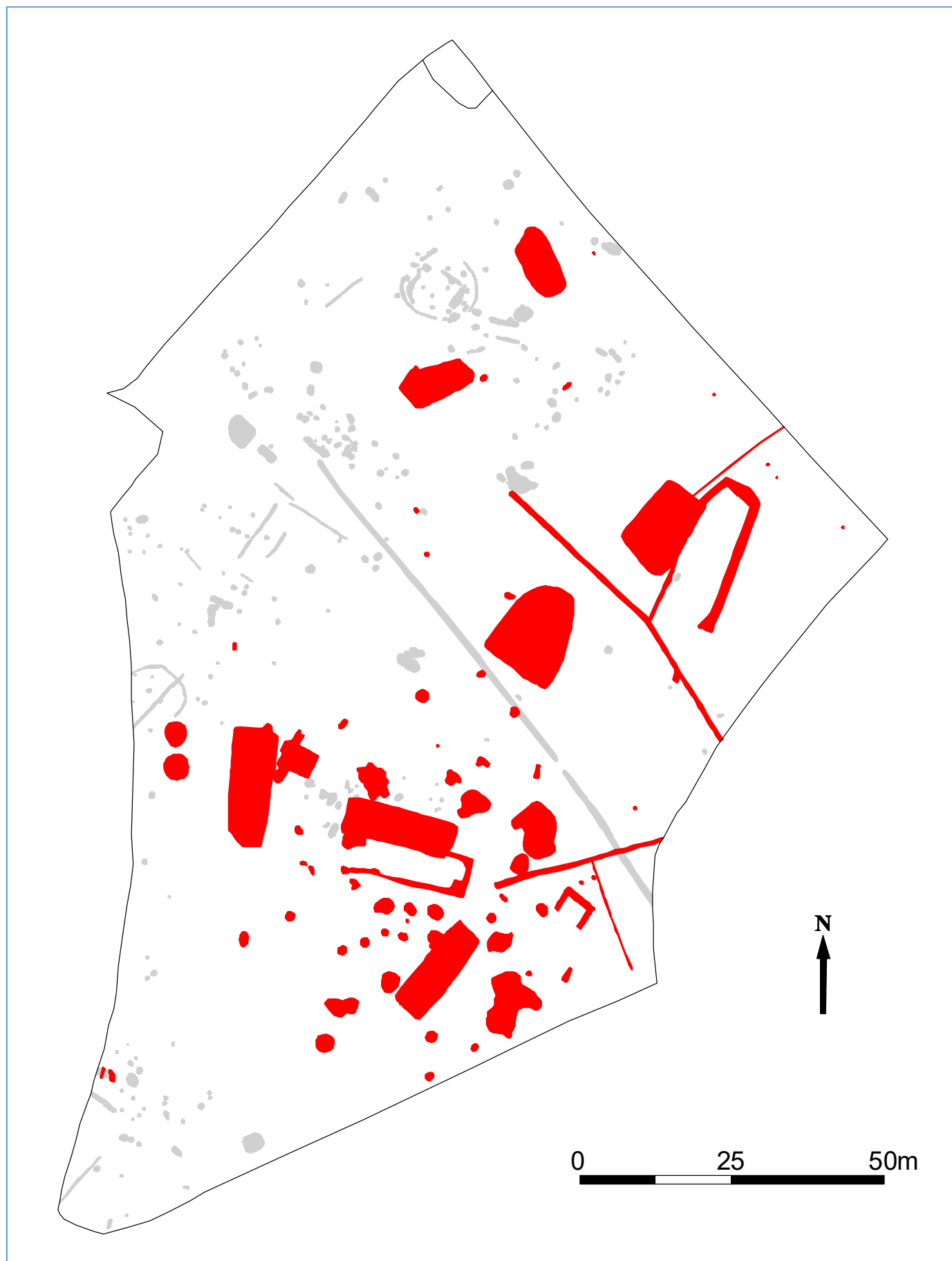


Figure 9. Modern features (red)

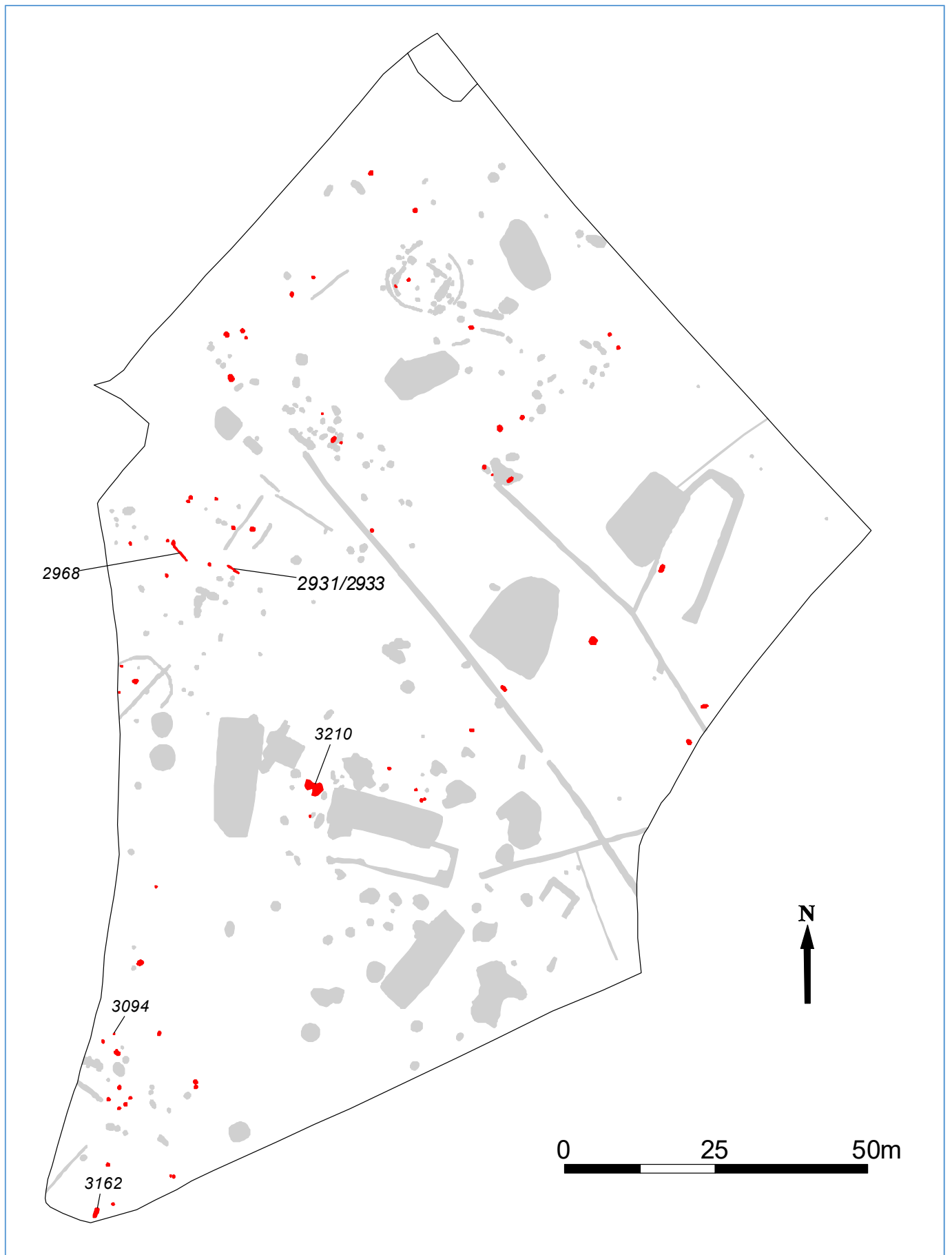


Figure 10. Undated features (red)

Period	Site phase	Date range	Features
Undated	Phase 0	N/A	Pits/post-holes: 2536, 2543, 2551, 2553, 2600, 2617, 2643, 2650, 2658, 2713, 2715, 2725, 2727, 2729, 2731, 2758, 2760, 2763, 2767, 2784, 2813, 2839, 2849, 2853, 2859, 2880, 2883, 2892, 2905, 2907, 2913, 2947, 2958, 2965, 2972, 2984, 3000, 3013, 3052, 3054, 3056, 3075, 3085, 3090, 3094, 3096, 3123, 3125, 3127, 3129, 3131, 3144, 3146, 3152, 3154, 3156, 3160, 3162, 3166, 3168, 3185, 3208 (Total 62) Slots/gullies: 2931, 2933, 2968 (Total 3) Layer: 3210 (Total 1)
Total 66 Features			

Table 7. Undated features

The three slot/gully features have previously been mentioned in conjunction with the cluster of similar features assigned to the unspecified Roman phase. They occupied the same general area of the site and their north-west to south-east alignment was one shared by some of the Roman examples. On that basis it seems reasonable to suggest that it is likely that they also belong in that phase.

Slot/gullies 091:2931 and 091:2933, were adjacent on the same long axis and may originally have been part of one larger feature. The former measured 0.70m long with a maximum width of 0.30m while the latter was 1.66m long with a maximum width of 0.40m; both exhibited rounded profiles with depth not exceeding 0.14m. Their fills, 091:2932 and 091:2934 respectively, comprised homogenous mid grey brown silty sand and very occasional small stones. The finds were limited to two undiagnostic worked flints from 091:2934.

Slot/gully 091:2968 was 3.35m long with a maximum width and depth of 0.30m and exhibited a U-shaped profile. The single fill, variously 091:2969 – 091:2971, comprised pale yellowish grey friable silty sand with occasional small to medium-sized stones. There were no finds.

Layer 091:3210 was effectively an irregular patch of heat-altered natural subsoil with no associated artefactual evidence. Other features in the immediate vicinity were assigned to the middle, late and unspecified Roman phases, while modern features were also present. On balance, it seems that a Roman date is most likely, but remains uncertain.

The remaining sixty-one features were described as pits or post-holes. The majority were small and unconvincing, for example 091:3094 with its 0.25m diameter and 0.05m depth; many were possibly naturally derived. Even the larger features, for example,

091:3162, which was irregular in shape, measuring c.1.50m by c.0.75m, 0.30m deep with gently sloping sides to an angled base, were unconvincing (Plate 56).

Generally, these features tended to have single fills, varying from light to dark grey/brown silty sand with occasional to moderate small to medium-sized stones and occasional charcoal flecks. Artefactual evidence, where present, was sparse and limited to occasional worked flints, fired clay and heat-altered flints with nothing that could result in a more positive dating outcome.

5 Quantification and assessment

5.1 Post-excavation review

The following post-excavation tasks have been completed for the stratigraphic, finds and palaeoenvironmental archive:

- Completion and checking of the primary paper and digital archive
- Preparation of Microsoft Access database of the stratigraphic archive
- Preparation of Microsoft Access database of the finds archive
- Cataloguing and archiving of digital images
- Preparation of provisional phasing (Tables 1 - 7) and plans (Figs. 3 - 10)
- Description/discussion of principal phases and features
- GPS survey data of site grid converted to MapInfo
- Digitisation of 1:100 scale plans and conversion to georeferenced MapInfo tables
- Preparation of scanned security copies of A3 section/plan sheets
- Processing (washing and marking), quantification and assessment of finds
- Processing and assessment of palaeoenvironmental samples
- Assessment of potential for analysis
- Preparation of UPD with table of required resources for analysis for combined Assessments 3b, 4 and 4a (costing provided separately)

5.2 Quantification of the stratigraphic archive

The stratigraphic archive is quantified in Table 8:

Type	Format	Ass. 4	Ass. 4a
Context register sheets	A4 paper	65	23
Context recording sheets	A4 paper	1,149	244
Environmental sample register sheets	A4 paper	10	2
Small finds register	A4 paper	5	7
1:20 scale plan and section sheets	A3 plastic drafting film	119	47
1:50 and 1:100 scale site plans	A1 (Ass. 4) and A3 (Ass. 4a) plastic drafting film	30	23
1:500 and 1:1000 scale site sketch plans and A1 and A3 plan sheet locations	A3 plastic drafting film	4	1
Site photo book	Hardback 155 x 110mm note book	1	1
Digital images	14mp .jpeg	1,719	668
Site survey/level book	Hardback 190 x 120mm note book	2	1

Table 8. Quantification of the stratigraphic archive

5.3 Quantification and assessment of the bulk finds archive

5.3.1 Introduction

The categories of hand-collected bulk finds recovered during the Phase 4a excavation are listed in Table 9 below. It should be noted that this table does not include small quantities of miscellaneous finds (iron nails, charcoal, natural stones and natural iron concretions) which are included in the report text. Finds retrieved during processing bulk soil samples are also not included, but where significant, these are discussed with the other finds of the same category. A full catalogue of the bulk finds from the excavation is presented by context in Appendix III.a.

Finds Type	No.	Wt. (g)
Pottery	5,992	56,800
CBM	151	7,806
Fired clay	2,217	3,328
Worked flint	869	-
Heat-altered stone	-	99,120
Quernstone	173	9,710
Slag (and other related high temperature debris)	-	c.5,000
Animal bone	1517	6,570

Table 9. Bulk finds quantities

5.3.2 Pottery

Introduction

A large assemblage of pottery was recovered from the current phase of excavation; a total of 5,925 sherds, weighing 57.07kg (Appendix III.b). Overall, c.500 sherds of prehistoric pottery were recorded and, as shown in Table 10, only just over half of these were considered well-stratified in deposits assigned to Period I. Included are a few substantial pit groups of Beaker pottery (Phase I.e.) and some much more fragmentary material belonging to the Late Bronze Age/Early Iron Age period (Phase I.g./h.). Occasional sherds of this broad period were also noted fairly regularly as residual elements in Roman pottery groups. The vast majority of the assemblage is of Late Iron Age/Roman date. The pottery spans the 1st to earlier 4th c`enturies AD with an emphasis on deposition from around the late 1st to late 2nd centuries (Phases II.a. and II.b.).

Broad period	Stratigraphic phase	No. Sherds	Wt. (g)	ENV	EVE
Unstratified or residual in post-Roman deposits	-	95	1,620	87	2.09
Uncertain prehistoric	I.0	6	54	5	
Late Neolithic/Early Bronze Age	I.d.	2	11	2	
	I.d./e.	25	58	7	
	I.e.	207	1,913	61	0.05
Late Bronze Age/Iron Age	I.h./i., II.a.	1	5	1	
	I.g./h, II.a.	8	62	7	
	I.g./h.	8	45	7	
	I.h.	52	491	38	0.05
	I.h./l., II.a.	6	24	5	
Late Iron Age/Roman	II.a.	1,165	11,863	823	16.24
	II.b.	2,508	22,407	1,973	21.95
	II.c.	1,204	13,304	839	12.87
	II.0.	635	4,944	540	3.98
Total		5,922	56,801	4,395	57.23

Table 10. Quantification of prehistoric and Roman pottery by stratigraphic phase

Methodolgy

The pottery was examined using a x20 binocular microscope and quantified by sherd count, weight, Estimated Vessel Number (ENV) and, for the Late Iron Age/Roman ceramics, by Estimated Vessel Equivalent (EVE). The prehistoric pottery has been recorded using common fabric codes with those employed in the previous assessment (Doherty 2017) formulated in accordance with the Prehistoric Ceramics Research Group (PCRG 2010). Roman pottery has been recorded using fabric codes from an unpublished type-series developed at Suffolk County Council Archaeological Service and used for the majority of assemblages in the county. Forms were recorded according to form series in use in the neighboring Essex region (Hawkes and Hull 1957; Going 1987).

Site specific fabric type-series

(includes those present in both Assessments 4 and 4a):

FLIN1	Sparse to moderate, ill-sorted flint of 0.5-3mm in a dense slightly silty matrix
FLIN2	Moderate very ill-sorted flint of 1-8mm (or rarely exceeding 10mm); a dense matrix with rare larger quartz grains up to 0.5mm
FLIN3	Sparse ill-sorted flint of 0.2-5mm in a dense silty matrix
FLIN4	Sparse/moderate flint of 0.5-2mm in a dense silty matrix

FLIN5	Moderate/common ill-sorted flint of 0.5-3mm (or very rarely up to 4mm) in a dense quartz-free matrix
FLIN6	Rare flint of 0.5-3mm in a dense quartz-free matrix
FLIN7	Moderate to common fine well-sorted flint of <1mm in a dense quartz-free matrix
FLQU1	Sparse ill-sorted flint of 0.5-3mm or (rarely to 4mm) in a silty matrix with sparse to Moderate larger rounded quartz of 0.2-0.8mm
FLQU2	Rare ill-sorted flint of 0.5-3mm or (rarely to 4mm) in a silty matrix with sparse to moderate Larger rounded quartz of 0.2-0.8mm
FLQU3	Moderate/common moderately-sorted flint 0.2-3mm in a silty matrix with sparse to moderate larger rounded quartz of 0.2-0.8mm
FLQU4	Sparse flint of 0.5-2mm and common rounded quartz mostly of 0.4-0.8mm and ranging from 0.1-1mm
FLQU5	Sparse flint of 0.5-1mm and common rounded quartz mostly of 0.4-0.8mm and ranging from 0.1-1mm
FLQU6	Sparse ill-sorted flint of 0.5-3mm and common rounded quartz mostly of 0.4-0.8mm ranging 0.1-1mm
FLQU7	Common ill-sorted flint 0.2-5mm in a silty matrix with sparse to moderate larger rounded quartz of 0.2-0.8mm
FLQU8	Moderate extremely ill-sorted flint of 1-8mm (or rarely exceeding 10mm) in a dense matrix with rare larger quartz grains of up to 0.5mm
FLQU9	Sparse ill-sorted flint 0.2-3mm in a silty matrix in a silty matrix with sparse to moderate larger rounded quartz 0.2-0.8mm
FLQU10	Very ill-sorted flint of 0.5-5mm in a silty matrix with sparse larger rounded quartz 0.2-0.8mm.
FLQU11	Moderate to common flint; mostly of 1-2mm but some very large examples of 4mm (or even very rarely up to 8mm) in a silty matrix with sparse larger rounded quartz 0.2-0.8mm
FLQU12	Common, moderately sorted flint of 0.5-2.5mm with common rounded quartz mostly of 0.4-0.8mm and ranging from 0.1-1mm
FLQU13	Sparse/moderate flint, mostly of 0.5-3mm (or very rarely up to 5mm); common rounded quartz mostly of 0.4-0.8mm and ranging from 0.1-1mm; often containing rare/sparse voids of up to 5mm from leached material

FLQU14	Moderate, extremely ill-sorted flint of 2-20mm in a silty matrix; sparse larger rounded quartz 0.2-0.8mm
GLQU1	Common fine glauconite of 0.2-0.3mm and rare quartz of 1-3mm
GRFL1	Moderate/common grog mostly of 2-4mm in a silty matrix also containing rare/sparse flint (mostly of 1-2mm, though occasional examples of up to 5mm may occur)
GRFL2	Moderate/common grog mostly of 2-4mm in a silty matrix with moderate/common flint mostly of 1-2mm though occasional example of up to 5mm may occur
GROG1	Moderate/common grog most of 2-4mm in a silty matrix; rare larger quartz grains up to 0.5mm may occur
GROG2	Moderate/common grog of 4-8mm in a non-sandy matrix
GROG3	Sparse to moderate grog of 1-2mm in a non-sandy matrix
GRQF1	Sparse to moderate grog of 2-3mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm and sparse/moderate ill-sorted flint of 0.5-5mm; rare voids may occur
GRQF2	Sparse to moderate grog of 2-3mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm; rare ill-sorted flint of 0.5-5mm; rare voids may occur
GRQF3	Sparse to moderate grog of 1-2mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm; rare voids may occur
GRQF4	Sparse to moderate grog of 1-2mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm; sparse flint of 0.5-2mm (or rarely as large as 4mm); rare voids may occur
GRQF5	Moderate grog of 2-4mm with rare flint of 2-4mm and sparse/moderate quartz of 0.2-0.8mm
GRQU1	Sparse to moderate grog of 1-2mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm; rare voids may occur
GRQU2	Sparse to moderate grog of 2-3mm in a silty matrix with sparse to moderate larger rounded quartz grains of 0.2-0.8mm; rare voids may occur
QUAR1	Common rounded quartz mostly of 0.4-0.8mm and ranging from 0.1-1mm; very rare flint may occur but usually only one or two pieces per sherd.
QUAR2	Very common rounded quartz mostly of 0.4-0.8mm but ranging from 0.1-2mm (larger grains are usually rounded and milky)

QUAR3	A fine micaceous matrix with common quartz mostly of c.0.1mm; rare/sparse larger grains up to 0.4mm may occur
QUAR4	Low fired with common rounded quartz mostly of 0.4-0.8mm but ranging from 0.1-1mm; very rare flint may occur but usually only one or two pieces per sherd.
QUAR5	A very silty matrix with common fine quartz of up to 0.1mm; rare voids of 1-3mm may occur
QUAR6	Common quartz mostly of 0.2-0.3mm with some rare large rounded opaque grains of up to 3mm, possible sparse glauconite of 0.2-0.3mm also occurs
QUGR1	Common quartz mostly of 0.4-0.6mm; rare/sparse grog 1-2mm

The pottery by phase

Neolithic

Compared with other areas of excavation within Flixton Park Quarry, very little Early or Middle Neolithic material was recovered. A single very small rim sherd with a plain neutral profile, in a relatively fine well-sorted flint-tempered fabric (FLQU12), recovered from an Early Bronze Age (Phase I.e.) pit (091:2743), possibly represents a residual sherd from the Early Neolithic Plain Bowl tradition. A few fairly thick-walled sherds in coarse flint-tempered wares (e.g. FLIN3, FLQU7, FLQU8) appear most likely to be of either Early Neolithic or Middle Bronze Age date. These were either demonstrably residual or found without any accompanying material, for example layer 091:3210.

Late Neolithic/Early Bronze Age (Phases I.d. and I.e.)

A small assemblage of 229 sherds of Late Neolithic/Early Bronze Age pottery, weighing 1.85kg, was recovered from well-stratified features assigned to Phases I.d. and I.e. (quantified by fabric type in Table 11).

Fabric	Sherds	Weight (g)	ENV
FLQU12	1	7	1
GMB	1	3	1
GRQF1	57	782	16
GRQF2	1	11	1
GRQF3	33	241	2
GRQF4	76	420	19
GRQU1	30	254	15
GRQU2	26	88	8
QUAR4	5	44	3
Total	229	1,847	65

Table 11. Quantification of pottery fabrics from Phases I.d and I.e

As noted above, a single small rim sherd in a flint-tempered fabric (FLQU12) may represent a residual piece belonging to the Early Neolithic Plain Bowl tradition. Otherwise, the assemblage is dominated by sandy grog-tempered fabrics. One of the most common fabric types (GRQF1) also features quite large, prominent flint inclusions but most other variants only contain rare flint (GRQF2 - 4); others feature only grog and quartz (GRQU1 - 2), while a few sherds in a low-fired sandy fabric were also noted (QUAR4). It is difficult to differentiate Grooved Ware and Beaker from fabric alone, although the vast majority of the current assemblage appears to belong to the latter tradition. While the currency of the Grooved Ware and Beaker traditions are known to overlap, the latter continuing on into the Early Bronze Age period, for phasing purposes, exclusively Grooved Ware features have been attributed a Period I.d., Late Neolithic date, while exclusively Beaker features have been assigned a Period I.e., the Early Bronze Age.

Just one feature, post-hole 091:2992, produced probable Late Neolithic Grooved Ware without any Beaker pottery present. It contained just two small but moderately thick-walled bodysherds in fabrics GRQU1 and QUAR4 with incised linear decoration. Two of the most diagnostic Grooved Ware sherds, one with a lattice/lozenge motif and the other with applied horizontal cordons, were found as residual material in sondage 091:3069 alongside large quantities of Roman pottery. Three other features, pit 091:2539 and post-holes 091:2998 and 091:3001 also contained some possible fragmentary Grooved Ware sherds alongside a few thinner-walled fragments that could belong to the Beaker tradition; however, these are all largely undecorated bodysherds, making it difficult to assign them to either tradition with much certainty.

Moderate-sized groups of predominantly Beaker pottery were recovered from four pits assigned more unambiguously to Phase I.e. (091:2740, 091:2743, 091:2753 and 091:2818). A further single Beaker sherd was noted in pit 091:2745.

The pottery groups from related pits 091:2740, 091:2743 and 091:2753 comprise 177 sherds, weighing 1.58kg. In each case, it was difficult to estimate precisely how many vessels were represented as all three pits contained a number of fragmented sherds, which were similarly decorated with comparable fabric types, firing colours and wall-thicknesses. However, this assemblage seems to include several highly fragmented but

partially complete vessels, several of which appear to be represented in more than one of the three pits. Unfortunately, no Beaker rimsherds are present; however, several larger parts of shoulder/neck profiles survive suggesting that most are from S-profile forms. Two very small rims, which occur in pit 091:2743, appear to be from thicker-walled tub-shaped vessels, one decorated with paired 'crow's feet' fingernail impressions and the other with diagonal tooled lines on the exterior and coarse tooled impressions on the interior. It is likely that these represent Grooved Ware vessels though they are probably the only sherds of this tradition within the larger Beaker pit groups, which are otherwise dominated by thin-walled sherds and decorative traditions which are specific to Beaker. In particular, a huge proportion of the sherds are decorated with horizontal and diagonal linear comb-stabbing. There is also the repeated use of fine crescent shaped impressions, likely made with a simple tool, as well as larger fingernail impressions and incised horizontal lines. The latter two techniques could occur on Beaker or Grooved Ware, though they are predominantly associated with thinner-walled Beaker-like profiles within these pit groups.

Pit 091:2818, contained fragmented sherds from a single, partially complete vessel; an S-profile beaker decorated with horizontal rows of comb-stabbing interspersed with some short diagonal comb-stabbed lines. Elements of the base, body and rim are present.

The most recent assessment of radiocarbon dating associated with Beaker pottery (Parker Pearson *et al.* 2016) places this tradition between 2475-1810 cal.BC (at 95% confidence) and probably 2450-1840 cal.BC (68% confidence). There is limited direct scientific dating evidence for specific Beaker forms or decorative techniques. However, the S-profile forms and comb-stabbed decoration which dominate the current assemblage are generally understood to fall later in the Beaker repertoire, within or after the 'fission horizon' of 2250-2150 cal.BC, defined by Needham (2005) as the period when Beaker culture became more pervasive and less confined to elite groups. On the other hand, there is some tentative evidence for the co-occurrence of Grooved Ware and Beaker which, assuming that the Grooved Ware is not residual in these features, would suggests deposition not much later than 2100BC. No datable carbonised residues are available in the Late Neolithic/Early Bronze Age assemblage, though if any suitable charcoal/charred plant remains have been recovered from the Beaker pits,

radiocarbon dating might help to refine the chronology.

Late Bronze Age and Iron Age (Phases I.g., I.h., and I.i.)

A very small number of broadly later prehistoric sherds were considered *in situ* in fourteen different pits (seventy-three sherds, weighing 0.61 kg, quantified by fabric type in Table 12). Most of these features contained fewer than five sherds each and lacked any diagnostic rims or decorated elements, making close dating difficult. These features may represent a fairly broad span of c.1st millennium BC activity. They include a few sherds in non-sandy flint-tempered wares, which are more typical of Late Bronze Age assemblages (FLIN1, FLIN3, FLIN4, FLIN7). The majority of the assemblage is made up by moderately coarse, sandier flint-tempered wares (FLQU1 - 4, FLQU7 - 8, FLQU12), perhaps suggesting an emphasis on the earliest Iron Age, though hand-made sandy fabrics (QUAR1 - 2, QUAR4) were also represented. Sandy fabrics can occur from the earliest Iron Age but tend to become increasingly more common from c.500BC and usually dominate developed Middle Iron Age assemblages. In previous work at Flixton Park Quarry, it has been noted that these Iron Age tradition hand-made sandy fabrics also remain common into the later Iron Age/early Roman period.

Fabric	Sherds	Weight (g)	ENV
FLIN1	2	19	1
FLIN3	1	2	1
FLIN4	2	4	1
FLIN7	3	17	2
FLQU1	2	24	2
FLQU2	1	8	1
FLQU3	2	7	2
FLQU4	7	47	6
FLQU7	14	157	6
FLQU8	1	20	1
FLQU12	11	57	8
QUAR1	20	102	19
QUAR2	6	145	5
QUAR4	1	2	1
Total	73	611	56

Table 12. Quantification of pottery fabrics from Phases I.g., I.h. and I.i.

The three largest pit groups from 091:2639, 091:2648 and 091:3081 of c.10 - 20 sherds each, were all dominated by sandy flint-tempered fabrics with fairly low quantities of purely sandy wares. The ratio of these two fabric groups could be suggestive of a c.6th-

5th century date range, though in the absence of larger associated groups of sherds, dating evidence is tentative. Each of the pits contained one diagnostic rim sherd, all of which would be in keeping with a date somewhere around the transition from earliest to Early Iron Age. These include two necked jars with finger tipping along the rim top and a jar/bowl with a long flaring neck; also present in pit 091:3081, is a carinated shoulder jar decorated with tooled short diagonal slashes.

In addition to the well-stratified material, pottery of probable Late Bronze Age/Early Iron Age date was commonly noted as residual material in Roman groups. For example, in well-stratified deposits belonging to Period II, there were 149 sherds in probable later prehistoric flint-tempered wares and 140 sherds in hand-made sandy wares. It is probable that some of the latter are actually of Late Iron Age/early Roman date, but many may originate earlier in the Iron Age. The rare diagnostic elements represented in this residual assemblage were generally of similar earlier Iron Age character to material from the better-stratified pits, including a shoulder with a row of fingernail impressions, several necked jars with flattened rim profiles and plain profile, neckless jars.

Late Iron Age and Roman (Period II)

Introduction

A very large assemblage of Late Iron Age and Roman pottery was recovered from the site. Pottery stratified in Period II features is quantified as a whole by fabric type in Table 13. Demonstrably residual prehistoric fabrics have been omitted from the table but hand-made Iron Age tradition sandy wares (QUAR1 - 4, QUAR6) have been included on the basis that fabrics of this type appear to have remained contemporary into the Late Iron Age/early Roman period; however, at least some of the quantified sherds may originate earlier in the Iron Age.

A small proportion of the assemblage comprised undiagnostic material, which could not be closely dated within the Roman period (assigned broadly to Period II as a whole). Datable groups were assigned to one of three phases: II.a., the Late Iron Age/earlier Roman period (50BC - AD120), II.b., the earlier/mid Roman period (AD120 - 270) and II.c., the later Roman period (AD270 - 400). The following text breaks down the assemblage by phase.

Fabric	Description	Sherds	Weight (g)	ENV	EVE
AA	Amphora, unsourced	1	94	1	
ABAET	Amphora, Baetican	7	449	6	0.2
AC189	Amphora, Cam.189	20	74	1	
AGAUL	Amphora, Gaulish	3	84	2	
BB2	Black burnished ware 2	3	57	3	0.49
BSW	Black surfaced wares	870	9,085	685	10.56
BSWM	Black surfaced ware mortaria	3	132	2	0.18
BUF	Miscellaneous buff wares	67	671	42	0.46
COLB	Colchester buff wares	65	599	29	0.12
COLBM	Colchester buff ware mortaria	1	34	1	
COLC	Colchester colour-coated wares	18	45	13	0.44
GRF	Miscellaneous fine grey wares	6	29	6	0.17
GMB	Grey micaceous (black-surfaced) wares	872	7,424	647	8.69
GMG	Grey micaceous wares	701	6,482	509	9.46
GMO	Grey micaceous wares with buff-oxidised surfaces	63	729	35	0.93
GROG	Grog-tempered wares (Belgic)	10	70	11	
GROG/BSW	Grog-tempered black-surfaced wares	20	437	19	0.14
GX	Miscellaneous sandy grey wares	2,149	20,474	1,616	19.32
HAWO	Hadham white-slipped oxidised wares	1	5	1	
HAX	Hadham red wares	7	80	7	0.43
HOG	Horningsea grey wares	2	36	2	0.05
LSH	Late shell-tempered wares	35	187	24	0.3
NGWF	North Gaulish fine white ware	7	109	7	
NGWFS	North Gaulish fine sandy white ware	2	15	2	0.13
NVC	Nene Valley colour-coated wares	8	195	7	0.08
NVG	Nene Valley grey ware	3	35	3	0.07
NVWM	Nene Valley white ware mortaria	1	47	1	
OXRC	Oxfordshire red colour-coated ware	2	30	2	
PKC	Pakenham colour-coated wares	1	4	1	
QUAR1	Iron Age tradition hand-made sandy ware	100	813	85	0.39
QUAR2	Iron Age tradition hand-made sandy ware	35	468	32	
QUAR3	Iron Age tradition hand-made sandy ware	1	10	1	
QUAR4	Iron Age tradition hand-made sandy ware	1	2	1	
QUAR6	Iron Age tradition hand-made sandy ware	3	63	3	
RF	Miscellaneous red fine ware	2	2	2	
RX	Miscellaneous red coarse wares	155	1,086	139	0.64
RXM	Miscellaneous red mortaria	3	344	3	0.13
SACG	Central Gaulish samian (Lezoux)	43	558	34	0.77
SACG/EG	Central/East Gaulish samian	1	2	1	
SAEG	East Gaulish samian	8	71	7	0.13
SAMV	Central Gaulish samian (Les Martres-de-Veyre)	1	3	1	
SASG	South Gaulish samian	17	76	16	0.43
SH	Unspecified shell tempered	2	6	2	
STOR	Storage jar fabrics	10	377	6	0.33
TN	Terra Nigra	1	5	1	0
TN (M)	Terra Nigra (central Gaulish micaceous variant)	1	5	1	
TR	Terra Rubra	2	3	2	
TR4	Romano-British Terra Rubra type fabrics	3	14	2	
UCC	Unspecified colour-coated wares	4	27	3	
WX	Miscellaneous white wares	4	74	4	
WXM	Miscellaneous white ware mortaria	2	69	2	0
Total		5,347	51,790	4,033	55.04

Table 13. Quantification of Late Iron Age and Roman pottery stratified in Period II

Phase II.a. (50BC - AD120)

Stratigraphic context and dating evidence

A moderate-sized assemblage of pottery was assigned to Phase II.a. (1,124 sherds, weighing 11.64kg, 785 ENV, 16.24 EVE). It comes almost entirely from pits, most of which produced relatively small individual pottery groups. One large assemblage of 239 sherds, weighing 3.04kg, from pit 091:2979, includes several fragmented but partially complete vessel profiles, mixed in with more broken material. This suggests that at least some of the material in this group was fairly recently broken at the time the pit was filled. A number of other moderate-sized groups of c.thirty – one hundred sherds were noted in pits 091:2614, 091:2667, 091:2770, 091:2944, 091:2950, 091:2982, 091:3011, 091:3098 and 091:3164. Pits 091:2865, 091:3164 and 091:2824 each contained fragmented but partially complete jars with relatively few sherds from other vessels. Although it is possible that the latter features involved an element of structured deposition, the assemblage as a whole appears more typical of refuse material.

Although the pottery from this phase has been assigned to a broad Late Iron Age/earlier Roman phase, it seems to represent a later focus of activity than the previously assessed assemblage from FLN 091 (Doherty 2017), which appeared to represent a peak in activity around the mid-1st century AD. There, it appeared that most groups could have been deposited in the pre-Boudiccan period and there was very little evidence for activity extending into the late 1st century AD. The single largest assemblage from Phase II.a. in the current assemblage, from pit 091:2979, does appear to be of very early Roman date, but most other well-dated assemblages appear more typical of the later 1st-earlier 2nd centuries.

Fabrics

Iron Age tradition sandy fabrics (QUAR1 - 4, QUAR6) make up a fairly substantial proportion of the Phase II.a. assemblage (c.7% of sherds) but as noted above, there is some uncertainty as to whether some of these represent residual earlier Iron Age material. Grog-tempered fabrics (GROG) and sparsely grog-tempered black-surfaced wares (GROG/BSW) are very uncommon, together accounting for fewer than twenty sherds, while storage jar fabrics (STOR) are represented by just seven sherds.

Nearly half of the assemblage (47% of sherds) is made up by black surfaced wares,

including fairly equal proportions of coarser less micaceous variants (BSW) and finer micaceous ones (GMB). In practice, these two fabrics occurred on a continuum, since most local fabrics are micaceous to some degree and most of the fabrics associated with typical coarse ware jars contain relatively fine grades of quartz. Similarly, many coarse grey ware fabrics (GX), which account for about 17% of sherds, appear related to finer micaceous variants (GMG) which make up a further 12% of the assemblage. The grey micaceous wares are generally of comparable matrix to products of the Wattisfield kiln group (Tomber and Dore 1998, fabric WAT RE), located in an area c.20-30km south-west of Flixton. Wattisfield-type fabrics were considered to make up a large proportion of the assemblage from Scole, for example (Lyons and Tester 2014, 256-87). Since Flixton is a little further from the centre of production, it is certainly possible that some of the grey micaceous wares originate from elsewhere. One vessel of this type, a Gallo-Belgic style platter, probably pre-dating c.AD 60 - 70, was badly warped and may represent a waster or second from a local kiln. Kiln 062:0016, recorded in a previously investigated area of Flixton Park Quarry, did appear to include some grey micaceous wares among its possible kiln products (Tester *in prep.*); however, both the pottery from the kiln and archaeomagnetic dating evidence suggested a c. earlier 2nd century date, significantly later than the possible waster vessel identified here.

Oxidised wares make up the final large fabric grouping in this phase, together accounting for 11% of sherds. Most of these are coarse oxidised red wares (RX) and finer buff/red micaceous fabrics (GMO). There are also two sherds in a fine non-micaceous red ware (RF). Colchester buff wares (COLB) represent the only sourced regionally-traded coarse ware during this period, accounting for 2% of sherds. There are also a number of buff fabrics (BUF) which are macroscopically similar to Colchester wares but which are more micaceous and feature slightly coarser quartz, suggesting that they may come from a more local source.

Imported Gallo-Belgic fine wares are notably less common than in the previously assessed 091 assemblage (Doherty 2017). The few sherds of Terra Nigra, Terra Rubra and north Gaulish white wares account for less than 1% of the stratified assemblage from Phase II.a. Similarly, probable Romano-British Terra Rubra style fabrics (TR4) were only represented by a single sherd. This probably reflects the later emphasis of the activity in the current site area, since importation of these fabrics came to an end

between AD 60 - 80.

Interestingly, given the clearly high-status character of the previously assessed c.mid-1st century 091 assemblage, samian ware and other continental imported fine wares do not appear particularly common. South Gaulish samian ware represents less than 1% of the Phase II.a. assemblage and the only other imported fine wares are two clearly intrusive sherds in later central and east Gaulish samian fabrics. Amphorae are represented by a few bodysherds in Baetican fabrics and the shoulder and handle of a Cam. 189 "carrot" amphora.

Forms

Form data from Phase II.a. seems to confirm suggestions that the pottery is both slightly later than the previous 091 assemblage, and perhaps suggestive of lower status activity. This assemblage is more dominated by jars, making up 76% of ENV and 80% EVE. Hand-made jar forms, associated with Iron Age tradition sandy wares are much less common than in the previous assemblage. Whilst earlier jar forms influenced by the Gallo-Belgic tradition do occur (e.g. Cam. 218, G16, G18), the assemblage is dominated by plainer cordoned jars in the G19-G20 range, with a few examples of more typically 2nd century necked jars (G23). Other coarse ware forms are uncommon, with just three lids and one mortarium recorded. The latter is a hooked flange vessel (D1.1) in an unsourced coarse buff/orange fabric with large flint, quartz and fine-grained red grits. The grits in this fabric are not dissimilar to typical East Anglian mortaria produced around north-east Norfolk, though this form appears somewhat earlier than most known kilns in that industry. The fabric also appears more iron rich than the classic Brampton white ware, although kiln products from this wider industry at Ellingham are said to include pinkish/brownish firing fabrics (Lyons 2003, 14).

A fairly limited range of fine and table ware forms are present. Of these, beakers are most common, making up 6% of both ENV and EVE. These are predominantly globular beakers (H1) and imitations of butt-beakers (H7), with one imported Cam. 119 butt-beaker. Two examples of poppy head forms (H6) were also noted. Platters are represented predominantly by imitations of Gallo-Belgic forms, including a partially complete Cam. 8 derivative in a fine grey micaceous ware (not dissimilar to Wattisfield type fabrics) which appears badly warped and which may therefore represent a waster

or second from a more local kiln source. The vessel features a partial illiterate stamp with repeated “VVVV” numerals, a fairly typical illiterate stamp type, common to many different production centres. The only samian platters represented are Dragendorff 18 forms.

The bowls recorded in this phase are quite a mixed group of forms, including both coarse and fine ware variants. They include two examples of Gallo-Belgic influenced carinated bowls (Cam. 214/215), a large coarse wide-mouth bowl (Cam. 250) and a reeded rim bowl (C16.1). The only imported samian bowl form identified was a tiny fragment from a possible crater similar to Dragendorff 11. Another Romano-British vessel (C12) loosely based on Dragendorff 30/37 was also noted. Similarly, cups were only represented by a single example of Dragendorff 27. Flagons are also uncommon in this phase; they include a ring-necked, cup-mouth form (J3.5) in a buff micaceous fabric (GMO) and a pulley rim vessel (J2.2) in an unsourced buff fabric (BUF).

Phase II.b. (AD120 - 270)

Stratigraphic context and dating evidence

Phase II.b. produced the largest stratified pottery assemblage, totaling 2,508 sherds, weighing 22.41kg (1973 ENV; 21.95 EVE). As in the preceding phase, it is was predominantly concentrated in pits, including some very large assemblages of several hundred sherds each from features 091:2547, 091:2697 and 091:2733, large groups of over a hundred sherds in pits 091:2828, 091:2526, and 091:2772 and moderate sized groups of over thirty sherds from pits 091:2663, 091:2686, 091:2807, 091:2861, 091:2588, 091:2569, 091:2690 and 091:2545. Similar sized moderate pottery groups were also noted in a few non-pit features including ditches 091:2684 and 091:2681, and curvilinear slot 091:2561. As in the previous phase, many of the larger pottery groups contained one or more fragmented but partially complete vessels, but these always appeared to be mixed with other more broken and fragmented sherds.

Contexts assigned to this phase were predominantly spot-dated to around AD 120 - 200/250, often based on the presence of elements like central or east Gaulish samian ware or black-burnished style forms and decoration. Some of these contexts contained a small amount of material that indicated a date of deposition after AD 120 but included many fabrics and forms more typical of the late 1st/early 2nd century. This strongly

suggests continuity of occupation over the course of Phases II.a. - II.b.. Conversely, although some individual contexts were assigned broad spot-dates ending at AD 250, there was a general absence of material, which could be positively assigned to the earlier 3rd century. The latest *terminus post quem* from any Phase II.b. context is AD 170, provided by a single bodysherd from a samian mortarium. Overall, the lack of elements like Nene Valley wares and other typically late samian forms, in such a large stratified assemblage, tends to suggest that this phase of activity had come to an end by the late 2nd century.

Fabrics

There are few dramatic shifts in fabric composition in Phase II.b.. The assemblage remains dominated by unoxidised fabrics likely of relatively local origin although there is a trend for a reduction in black-surfaced fabrics in favour of grey firing ones. By Phase II.b., coarser less micaceous black surfaced fabrics (BSW) make up 12% of sherds and finer more micaceous ones (GMB) account for 19% whereas their equivalent grey firing fabrics (GX, GMG) make up 41% and 18% of sherds respectively. Single sherds of BB2 and Horningsea ware (HOG) represent the only regionally traded reduced coarse wares, appearing for the first time in this period.

Oxidised coarse wares make up a slightly reduced proportion of fabrics in this phase (6% of sherds). These remain a similar mix of Colchester buff wares and other unsourced fabrics, including buff-surfaced micaceous wares (GMO), unsourced buff fabrics (BUF), unsourced white wares (WX) and unsourced coarse red wares (RX).

A slightly expanded range of regionally traded fine wares were encountered in this phase, including sherds of Colchester (COLC) and Pakenham colour-coated wares (PKC) but these are not common, accounting for less than 1% of sherds. With the exception of a few residual Gallo-Belgic fabrics, the only imported fine wares comprise samian fabrics. Although south-Gaulish fabrics are still represented by a few sherds, one of the more noticeable shifts in this period is the appearance of central and east Gaulish fabrics, the former being by far the most common. Overall, samian ware accounts for just under 2% of sherds in this phase. As in Phase II.a., the only other imports are a few sherds of amphora, entirely of Baetican origin, save for one handle sherd of uncertain source. In terms of form, this is similar to Cam. 186. Its clay matrix

is also not dissimilar to the associated Cadiz fabric (Tomber and Dore 1998, CAD AM); however, it lacks the very distinctive large red iron-rich inclusions, which typically occur in amphorae from this source.

Forms

The main shift in form composition, as compared with the preceding phase, is a modest reduction in the proportion of jars (which account for 67% of ENV and 75% of EVE). Looking more closely at jar forms, elaborately cordoned or carinated Gallo-Belgic influenced jars are now absent. Although forms like G19 and G20 remain amongst the more common jar forms, these are typically quite simple versions, often lacking a defined shoulder cordon. Plainer jars in the G23 - 24 range are also a common element, as are everted rim jars (G9) influenced by the black-burnished tradition. Other mid Roman jar forms include a few examples of forms with bifurcated rims (G26, G28) and wide-mouth necked profiles (E5).

By this period, lids appear slightly more common, accounting for 7% of ENV and 4% of EVE. These are mostly plain or conical in form (K1, K3), with one flanged example (K5). Mortaria also increased in frequency slightly, accounting for 2% of ENV, though these were entirely identified from gritted bodysherds and did not produce a measurable EVE figure.

One factor in the slight reduction in the level of jars in the Phase II.b. assemblage is an increase in coarse ware bowls, a trend which is typically seen in Roman assemblages at around AD120, when black burnished style forms started to be widely imitated by local coarse ware industries. In the current assemblage (B3) plain grooved rim and (B4) rounded rim dishes are particularly common, together accounting for 7% of all forms by ENV and 8% by EVE.

Overall, most fine ware form classes are poorly represented, each generally making up less than 5% of the assemblage. Beakers, make up a smaller proportion of the assemblage than in Phase II.a. (4% of ENV, 5% EVE), the forms represented being predominantly poppy head (H6) and bag-shaped forms (H20). Platters are only represented by residual 1st century sherds while flagons were only recognised from two undiagnostic handle sherds.

Fine ware dishes and bowls are marginally more common in this phase than they had been earlier and are mostly made up by samian ware types (Dragendorff 18/31, 31 and 37) as well as local fine ware forms loosely based on samian prototypes (B10, C1.2). Cups are represented by just four vessels including examples of Dragendorff 27, 33 and 35.

Phase II.c. (AD270 - 400)

Stratigraphic context and dating evidence

A moderate assemblage of 1,204 sherds, weighing 13.31kg (839 ENV, 12.87 EVE) was noted in deposits assigned to Phase II.c.. As in earlier phases, it was predominantly recovered from pits and again, there were some large individual stratified groups, including nearly three hundred sherds from pit 091:3133, over a hundred sherds from pits 091:2756 and 091:3188 and medium-sized assemblages of c.30 - 100 sherds in pits 091:3150, 091:2678, 091:2737 and 091:3204. As in earlier periods, there were a few broken but partially complete vessel profiles, but these were always found in large groups of other, more broken and mixed pottery.

Most contexts assigned to this phase could be securely dated to after AD250/270 based on the occurrence of diagnostic late Roman fabrics like Hadham red ware and Midlands shelly ware, as well as distinctive late Roman forms such as bead-and-flange bowls or later beaker forms from the Nene Valley. Although it seems probable that Phase II.c. extends into the earlier 4th century, there is limited evidence for very late Roman activity. For example, Oxfordshire colour-coated ware, which is typically not encountered before the 4th century in East Anglia and which tends to increase in frequency in assemblages from around AD 350, was represented by just two sherds, one of which was found in a subsoil context. Similarly, Nene Valley wares are less common than we would expect if the assemblage were of very late Roman date. The Nene Valley colour-coated wares also appear to be dominated by beaker forms, whereas the later products of this industry tend to include more bowls and coarse ware forms.

Fabrics

In the latest Roman phase, the assemblage remains dominated by unoxidised coarse

wares but it is notable that there had been a shift towards coarser less micaceous fabrics with black-surface wares (BSW) making up 18% of sherds and coarse grey wares (GX) accounting 63%. The later of the two backfill assemblages from one of the two kilns, previously investigated in Area 062 (Tester *in prep.*), appeared to be producing coarse grey wares in the later 3rd to 4th century, so this might explain the marked increase in fabric GX by Phase II.c. Meanwhile finer micaceous fabrics (GMB, GMG) with similarities to wares produced by the Wattisfield industry had reduced to very low levels compared with assemblages from the earlier phases (4% and 3% of sherds respectively). Other regionally traded unoxidised wares include two sherds each of Nene Valley grey wares and BB2. Late Roman Midlands shelly wares (LSH) also appear for the first time in this phase though they remain a fairly uncommon element of the assemblage, accounting for just 3% of sherds.

Coarse oxidised wares account for about 5% of the assemblage in this phase but it is notable that these are almost all coarse oxidised wares (RX), with far fewer buff/white ware fabrics than in earlier phases. Colchester white wares and other similar fabrics are absent, for example. The few white ware fabrics encountered include a single bodysherd from a Nene Valley white ware mortarium and one possible example of a hook rim jar in the late Roman Portchester D fabric, which is widely distributed in south-eastern Britain but less well known in East Anglia.

A range of common late Roman regionally traded fine wares appear for the first time in Phase II.c. These include Nene Valley colour-coated wares, Hadham red wares and two sherds of Oxfordshire red-slipped wares. None of these fabrics are common however, and together they account for less than 2% of sherds.

There are no contemporary imported wares in this phase. Samian ware had reduced to low levels, represented by six sherds in a range of south, central and east Gaulish fabrics, all of which must represent residual sherds or curated vessels by the later 3rd century.

Forms

Forms remain dominated by jars, making up 66% of ENV and 68% of EVE. A large proportion of these are generic necked forms (G23, G24), similar to types seen in the

preceding phase. One example of this type has a warped rim and probably represents a product of local kilns, possibly even those recorded in the adjacent FLN 062 site (Tester *in prep.*). Perhaps the main change in the range of jar forms is an increase in wide mouth jars, often with strongly out-turning rims (E3, E5, E6) and the necked, sometimes rilled jar (G27), strongly associated with Late Roman shelly fabrics (and with the single possible example of Portchester D ware). One narrow based jar form, from pit 091:2737, featured an illiterate “X” graffito on its underside.

The other major form class is made up by coarse ware dishes related to the black burnished tradition; these make up 18% of ENV and 19% of EVE. As is typically the case in later Roman assemblages, plain rim dishes (B1, B3) become more common than they had in the previous phase. Similarly, bead-and-flange forms (B5, B6) make up a large proportion of the dishes in this period whilst rounded rim dishes (B4) are represented by just two examples.

Lids continue to be present in small numbers, accounting for 5% of ENV and 2% of EVE, whilst only one diagnostic mortarium was recorded: a later Roman bead and flange form (D7.2) in an unsourced black-surfaced fabric.

The only contemporary fine wares in this period are beakers, associated with Nene Valley colour-coated ware, Hadham red ware and local grey ware fabrics. A number of typical 3rd/earlier 4th century forms are represented. These are principally tall indented beakers, including a funnel necked, scaled example (H32.1) and a similar plain form with necked profile (H34). Also present is a form with a long neck and continuous globular body profile (H41).

Fine ware bowls are surprisingly absent in this phase though two late Roman flanged bowl forms (C7, C8) in Hadham red ware and another unsourced Hadham/Oxfordshire like fabric were noted in unstratified/post-Roman contexts.

Other Roman vessels of inherent interest

Most of the less certainly phased or stratified Roman pottery reflected the general composition of the assemblage from Phases II.a. – c.; however, two vessels are worth noting. One, a near complete unguentarium in an unsourced buff fabric, was labelled

as coming from pit 091:2740, a context otherwise containing a large Late Neolithic/Early Bronze Age Beaker assemblage; it may therefore be considered uncertainly stratified or mis-recorded. Another is part of the body of a small globular spouted form, probably a tettina. Its fabric, a sparsely grog-tempered black surfaced ware, probably dating to the early Roman period, suggests that it is residual in mid Roman linear slot 091:2863. Both these vessel types have associations with votive practice and, along with the lead sheet (SF 091:4014) and miniature axe (SF 091:4006), interpreted as a possible curse, could suggest the presence of a shrine or other focal point for votive activity in the wider vicinity of the site.

Decorated and stamped samian ware

A total of seven estimated decorated samian forms were recorded, of which only three examples, all Dragendorff 37 bowls, are likely to be further identifiable by a samian specialist (found in contexts 091:2506, 091:2775 and 091:2822). Three stamped samian vessels are present, summarised in Table 14. Preliminary identifications have been made using the RGZM Names on Terra Sigillata database (RGZM 2018). A samian specialist would be able to confirm identifications and refine information on specific dies etc.

Context	Fabric	Reading	Suggested potter
2691	SASG	[.....]ION	Uncertain
2698	SACG	PECVI[.]SF	Peculiaris I (AD145-170)
2815	SACG	BANOLVCCI	Banoluccus (AD150-175)

Table 14. Details of stamped samian vessels

5.3.3 Ceramic building material

Introduction

In total, there are 151 pieces of ceramic building material (CBM) from the site which together weight 7,806g. The CBM is listed and described by context in (Appendix III.c). All of the CBM is quite broken-up and there are no large tile pieces. The material has been rapidly assessed by eye and divided into types based on shape, thickness and fabric. A great majority of the material can be assigned to the Roman period with a small group of post-Roman or probable post-Roman material. It should be noted that a small number of pieces are difficult to assign to either group (Roman or post-Roman) with confidence. The Roman CBM accounts for approximately 79% of the assemblage

by count (120 pieces) and 95% by weight (7,382g). The remaining pieces are mostly thin tile which is, or appears to be, peg tile dating to the late medieval or post-medieval period with a few other pieces that are likely to be brick of probable post-medieval date or later.

Roman

Much of the Roman CBM consists of flat pieces of brick or tile which can be recognised as Roman either by their nature or fabric or both. At present, no attempt has been made to catalogue the specific fabric types within the assemblage. Broadly, almost all of the Roman CBM is in oxidised, orange coloured, fine-medium sand fabrics, although some pieces clearly have more of less sand content and some pieces have additional inclusions within the fabric. Most comes from pit fills, the largest single deposit (twenty-seven pieces weighing 1,938g) coming from pit 091:3201 (fill 091:3202), with only small quantities from other types of feature/contexts (Table 15).

Context type	No.	Wt/g
Pit	101	6,815
Post-hole	2	51
Ditch	3	10
Slot	1	2
Layer	13	504
Totals	120	7,382

Table 15. Roman CBM by context

Within the larger group are a smaller number of pieces that can be classified by brick or tile type. The most commonly recorded are pieces of *tegula* roof tile. There are a number of different shape *tegula* flanges, each representing a piece from several different tiles, although only one lower (front edge) cut-away was recorded. This came from pit 091:3183 (fill 091:3184) and is Warry's Type D16 (2006, fig 1.3) suggesting a possible Late Roman date. However, this dating is not considered other than a guide and should be treated with caution. By contrast, pieces from *imbrex* tiles (used to cover the joins between *tegula* tiles) are either quite rare or possibly absent; although it is possible that small pieces from these might be confused with of peg-tiles. There are also pieces from Roman bricks. While none of the bricks can be positively identified as to type, one or two pieces suggest they may be from the small square *basalis* or *pedalis* tiles/bricks while others are probably from larger *Lydion* bricks. One piece of flat brick/tile (091:3070), which is 19mm thick, has part of a small, pre-firing perforation

surviving in one broken edge and which is unusual on Roman bricks/tiles. A few of the smaller pieces of brick/tile appear to have been affected by exposure to heat on the underside. More specialised CBM is also present as a few pieces from comb keyed flue tiles used in hypocausts. Also, one tile piece appears to be a tesserae cube (091:3189) although there is no mortar surviving on it from it having been set into a floor.

Post-Roman

The quantity CBM considered to be of post-Roman date is quite small, consisting of approximately thirty-one pieces, together weighing 424g. The majority of the pieces come from pit fills. Most of this consists of small pieces of relatively thin (c.13mm - 15mm thick) flat tile in hard sandy fabrics that have been classified as peg-tile or probably peg-tile. One of these from pit 091:2870 (fill 091:2871) retains a typical peg-hole.

Discussion

The CBM has been rapidly quantified and catalogued to provide an overview both for discussion and to ascertain its potential for further work and investigation.

The Roman CBM, while including a range of tile types, is quite broken-up and there is no indication of dumps of material from construction or rapidly following demolition from buildings on the site. Indeed, much of the material appears more likely to represent CBM brought onto the site from elsewhere. This was probably mainly for reuse in unmortared construction such as surfaces or installations such as hearths or ovens. In this regard the absence of any significant quantity of *imbrex* tile in relation to the number of pieces from *tegulae* can be noted, probably betraying a preference for flat tile pieces, together with the presence of probable heat damage on some of the tile pieces. However, some may also have been incidentally transported here among midden material resulting from agricultural manure spreading. That aside, the CBM does indicate a source for this material somewhere in the surrounding area and that could be a building of some refinement. The presence of a tesserae cube, indicating a floor of some quality, together with pieces from hypocaust flue tiles and possibly other bricks/tiles from a hypocaust system all suggesting a well-appointed building, presumably with a tile roof.

The post-Roman CBM appears to consist almost entirely of small pieces from peg-tiles. While this material could be confused with pieces from Roman imbrex tiles, or even some hypocaust tiles, the nature of most of these pieces suggests they are peg-tile and one piece has a typical peg-hole in it. In domestic buildings it appears that this type of tile only comes into common use in the later medieval period, in north Essex this being c.14th century (Ryan and Andrews 1993, 97) and continued thereafter into the modern era, although fading with the largescale availability of slates from the 19th century onward. The quantity and nature of this material, together with the very limited quantity of other post-Roman finds from the site, would suggest it derives from manure scatter. However, most of the material identified as peg-tile here comes from pit fill which appears to be slightly at odds with the lack of other finds of this period and its potential as derived from manuring. This raises a question over the identification and spot dating of some pieces.

5.3.4 Fired clay

Introduction

A total of 2,217 pieces of fired clay with a combined weight of 33,284g was recovered. The assemblage is listed and described by context in Appendix III.d. Some can be identified as parts of objects, notably clay loomweights, with other pieces possibly from firebars or bricks, although the majority comprises pieces of structural daub from walls, hearths and ovens. The vast majority of the fired clay (92% by count and 93% by weight) comes from pit fills with very little (3% by count and 2% by weight) from ditch fills (Table 16). The remainder (approximately 5% both by count and weight) derives from varied context types including gully features, post-holes and soil layers.

Context type	No.	Wt/g
Pit	2,032	31,060
Ditch	67	632
Other	118	1,592

Table 16. Fired clay by context

Context

The largest quantities from individual features comes from pits; 091:2547 (124 pieces, 858g), 091:2678 (107 pieces, 1,104g), 091:2697 (389 pieces, 1,902g), 091:2865 (143 pieces, 7,812g), 091:2872 (230 pieces, 2,221 g) and 091:2979 (205 pieces, 1,290 g).

While the more closely datable pottery finds from the site are of prehistoric (Late Neolithic-Bronze Age and Late Bronze Age-Early Iron Age) and Late Iron Age/Roman date; all of the features listed above contain pottery dated as Roman.

Fabric

In terms of fabric, much of the fired clay is moderately firm/hard, although across the assemblage pieces range from soft or slightly crumbly to reasonably hard. Distinctly hard pieces blending into possible ceramic building material (CBM) are present, but rare. Most is oxidised having an orange or buff coloured fabric, although some pieces have a darker (grey) fabric or fabric core. Surviving surfaces are often lighter in colour than the rest of the fabric and commonly buff.

Predominantly, the fabrics are relatively fine, either silty or with fine sand, although a significant number of pieces have inclusions of fine-medium or medium size sand. Generally other inclusions are limited. Where present, small pieces of chalk are the most common, although a few pieces of rust coloured ferruginous sand were also noted as well as occasional small-medium size stones. All of these are likely to be natural to the parent clay. The most common material encountered visually within the fabric is natural streaks of a pale firing clay. This is most easily seen in a small proportion of the oxidised, orange coloured pieces.

Some organic vegetable matter is present in some of the fired clay (as noted above) which would suggest a deliberate tempering addition to the clay; although many small voids present in the fabric probably result from poor wedging or fragments of leached-out material such as chalk.

Overall the fabrics appear to be similar to those recorded in more detail from the adjacent earlier phase of excavation here (Anderson 2017b, Table 16).

Fired clay objects

Together there are approximately 175 pieces that can be identified as from objects with a combined weight of 4,866g (average weight 27.8 g). This equates to approximately 8% by count and 15% by weight of the total fired clay assemblage. These are listed by context in Table 17 and are discussed below.

Ctxt	Feature	Feature	SF no.	No.	Wt./g	Description	Firing
2374	2373	Pit	2168	1	76	Fired clay object, possibly a rounded fire-bar	fired
2570	2569	Pit	4102	1	127	Loomweight, corner piece with perforation	fired
2587	2586	Pit		1	48	Piece from a loomweight with perforation and single comb row of impression	fired
2593	2592	Ditch		1	54	Fired clay object? small piece, rounded surface area	fired
2603	2602	Pit	2175a	1	71	Loomweight, corner piece with perforation	fired
2603	2602	Pit	2175b	1	74	Loomweight, corner face with beginning of perforation	fired
2624	2623	Pit		16	378	Pieces from fired clay object(s), includes edge pieces	fired
2642	2641	Pit		1	282	Loomweight, corner piece with part of perforation	fired
2668	2667	Pit		32	422	Fired clay object(s) Inc large pieces possibly from side of a loomweight Other fragments possibly all from clay object(s)	fired
2680	2678	Pit		4	500	Loomweight, corner piece, large piece (no perforation) and fragments	fired
2693	2678	Pit		8	83	Fired clay object(s) Inc large pieces possibly from side of a loomweight Other fragments some possibly from clay object(s)	fired
2698	2697	Pit		2	567	large piece with flat surface from an object, possibly from the side of a loomweight	fired
2873	2872	Pit	2248	2	552	Loomweight, corner piece with perforation (apex broken away) Edge and part of loomweight side	fired
2874	2872	Pit	2242	7	385	Loomweight, three pieces have remains of oblique perforations. Fabric orange, poorly mixed with frequent chalk inclusions (listed and described, not located)	
2874	2872	Pit		5	367	Pieces from fired clay object(s) two corner pieces with buff surfaces, possibly clay bars/bricks	fired
2929	2929	Ditch		2	203	Fired clay object, corner piece	fired
2936	2935	Pit	2263	1	103	Loomweight, corner piece with perforation, worn groove/saddle on corner apex	fired
2942	2941	Pit		5	35	One buff piece possibly the edge of an object	
2943	2943	Finds		1	11	Small piece, possibly from edge of object	
2981	2979	Pit		58	299	Possible loomweight pieces (two with perforations)	fired
2983	2982	Pit		20	167	Fired clay pieces, possibly from loomweight(s)	
3012	3011	Pit		5	62	Fired clay objects(s) edge pieces from bricks/bars or loomweights	fired

Table 17. Fired clay objects by context

There are no complete fired clay objects and all of the pieces identified as from objects are fragmentary, often making identification as to specific object type difficult while also

limiting meaningful measurement.

Loomweights

The most common of the fired clay objects are pieces that can be identified as from loomweights. Many of these pieces are from corners. These often have the parts of perforations made at an angle to the flat edges of the weights and which would have pierced the corners allowing suspension. Although only a small part(s) of any one loomweight, is represented, the nature of the pieces would suggest that most, if not all, are from triangular loomweights typical of the Iron Age and Early Roman period. Of note, is a groove or saddle depression on the corner of one perforated piece (SF 091:2263) from context 091:2936 and part of the side of a weight with an angle perforation (pyramidal or triangular weight) that has a single line impressed by pushing a comb lightly into the surface which came from pit 091:2586 (fill 091:2587).

It can be noted that a significant number of loomweights in both fired and unfired clay were recovered from the earlier phase of the 091 excavation (Riddler 2017, 106 – 107 and Table 25).

Other objects of fired clay

Pieces of fired clay with squared corners from pit 091:2872 (fill 091:2874) and one piece that appears to be from a round section object, probably a firebar (SF 091:2168) in pit 091:2373, indicate the presence of other shaped and portable fired clay objects among the assemblage. The fragmented nature of the material recovered makes separation between objects such as loomweights and others such as firebars or clay bricks difficult. However, a number of pieces suggest they are probably from the edges of such objects rather than from clay weights.

While these may relate to domestic use it can be noted that two Roman pottery kilns have previously been excavated in the quarry, area 062, which produced a small number of pieces that may be kiln furniture; although the great majority of the kiln associated portable fired clay consisted of pottery discs or mats (Fawcett *in prep.*).

Structural Daub

Much of the fired clay is quite broken-up into irregular or more rounded, abraded pieces.

Of itself, this cannot be identified as to a particular object or structure type, although most is clearly structural in origin and some distinct pieces from structures are present among it. Most, if not all, is likely to have come from installations partly or entirely built from clay that were directly associated with heating such as hearths and ovens rather than the walls of buildings.

Clear structural elements such as distinctive voids from the former presence of wattle rods/withies (showing that the clay had been applied to a wattle frame of some description) are relatively rare. Only one or a few examples of these were recorded from seven of the contexts (091:2610, 2874, 2997, 3099, 3112, 3165 and 3211). This may in part be a consequence of the broken-up nature of much of the assemblage, although it seems clear that little of this material was in direct contact with a wattle frame. Probably the most significant of the pieces with wattle impressions come from pit 091:3108 (fill 091:3211), including a large piece with two wattle voids that are angled in different directions, showing they had been woven around a rail positioned at right angles to them.

A large piece of fired clay from pit 091:2865 (fill 091:2867) has a vesicular surface deposit and there is a similar material on a small piece from pit 091:2979 (fill 091:2980). Lynne keys has commented that this appears to represent a vitrified surface, probably a hearth lining and both pieces have clearly been part of a structure(s) such as a hearth or oven that has been subjected to high temperature. A curving piece with part of an edge surviving, probably part of a curved bar/fire bar or maybe structural, possibly part of an opening in a larger clay structure, was recovered from pit 091:3108 (fill 091:3211), while a number of fragments might also come from clay bars. These would indicate domestic based industry or more commercial light industrial processes taking place either on or in the vicinity of the site. While a few pieces with voids from burnt out organic matter could suggest the presence of briquetage (salt making debris/salt container fragments) significant fragments of organic inclusions were only noted in one instance from pit 091:2979 (fill 091:2980). Although some voids were present in a number of other pieces these do not appear to be typical briquetage material.

5.3.5 Glass

A small quantity of Roman vessel glass was recovered. In total there are five pieces,

together weighing 26g. The glass was recovered as single, small sherds from individual features, mostly pits (091:2663, 2665, 2941 and 2979) with one piece from a soil layer (091:4083). All of the glass is listed and described by context in Table 18.

All of the glass is, or appears to be, Roman. The pieces and sherds are primarily blue/green in colour and all is in good condition with no degraded or flaking surfaces. Typological features on some of the pieces demonstrate that they are Roman in date and these can be identified to broad vessel categories, such as jug or bottle. However, the sherds are generally too small to easily permit close identification to specific vessel forms.

Ctxt	Feature/ Layer No.	SF No.	Glass type	Sherd No.	Wt./g	Description	Period
2664	2663	2180	Vessel (bottle?)	1	6	Blue/green glass, exterior is flat with a rounded, straight edge, possibly from the base edge of a square bottle(?).	Roman
2666	2665	2181	Vessel	1	0.5	Pale blue/green glass, small piece of curving vessel glass with low moulded rib on exterior.	Roman
2942	2941	2264	Vessel (jug)	1	8	Blue/green glass; piece from a jug handle with central rib	Roman
2980	2979	4026	Vessel (flask/ unguent bottle?)	1	0.5	Green or dark blue/green glass, rim sherd (rolled-in rim) from a narrow-necked flask or unguent bottle (rim dia c.22 - 23mm)	Roman
3070	3069	4083	Vessel (beaker?)	1	11	Pale green glass, complete, small, circular base, rounded edge, vertical lower wall, pontil scar on base (dia. Measured on wall just above base c.45mm)	Roman

Table 18. Glass by context

Part of a handle with a central raised ridge can be identified as from a jug (SF 091:2264), while a small section of rim in green coloured glass comes from a narrow-necked vessel, such as a flask or unguent bottle (SF 091:4026). A thick sherd with a straight rounded edge may come from the base edge of a square bottle (SF 091:2180). The largest single part of any of the vessels survives as a small, circular base in pale blue-green glass, possibly from a beaker (SF 091:4083). The base has a rounded footing area formed by the low concavity of the central part while the surviving lower body wall rises near vertical above the base. The vessel has a pontil scar. Most, or possibly all of the glass is likely to date to the period of the mid 1st - 2nd century AD.

5.3.6 Quernstone

Introduction

A number of pieces from rotary quernstones were recovered. Most of these are of imported lava, but there are also pieces from querns from other (regional) sources. There is a large part of a Hertfordshire puddingstone quern and pieces from querns in gritstone/sandstone, the latter probably from the Pennine region (Millstone grit). This range of sources appears typical of rotary querns found on sites in East Anglia in the Roman period, although the puddingstone querns are current in the Late Iron Age and Early Roman period.

Lava quern

The site produced 169 broken pieces of imported lava quern that together weigh 2,510g. These are listed by context in Table 19.

Ctxt No.	Feature Number	SF no.	Feature Type	No.	Wt/g	Associated with (latest)	Comments
2509	2509		Post-hole	1	308		large piece, abraded
2556	2555		Ditch	4	115	Roman (pottery)	small, abraded pieces
2587	2586		Pit	5	7	Roman (pottery)	small, abraded pieces
2659	2658		Pit	1	36		
2664	2663		Pit	25	241		
2798	2797		Pit	130	1,797	Roman (pottery)	two large joining pieces from an upper stone with collared edge (weight includes numerous tiny fragments/flakes)
2862	2861		Pit	3	6	Roman (pottery)	
3147	3146	4037	Pit	1	2,410		Abraded (triangular shaped) section from a lower stone, c.45mm-50mm thick
3147	3146	4038	Pit	1	2,287		Abraded (triangular shaped) section from a lower stone, c.45mm-50mm thick

Table 19. Imported lava quern pieces

The lava stone is generally in poor condition. Most is badly deteriorating/crumbling and, as a consequence, much was recovered as small pieces. There are, however, two larger pieces from pit 091:2797 (fill 091:2798) and two large, triangular shaped sections (SF's 091:4037 and 4038) that came from pit 091:3146 (fill 091: 3147).

The pieces from 091:2797 join together and are from the edge of an upper stone.

There are the remains of a collar around the top edge of the stone which had degraded and become rounded. Including the collar, the stone is c.55mm thick at the edge; behind the collar it is c.35mm thick reducing to c.25mm further back.

The two large pieces from pit 091:3146 are triangular shaped sections of lower stones between 45mm - 50mm thick. The pieces are almost certainly from one quernstone, although the probable join between them is ancient and abraded; however, the fit appears good. The curvature of the edge indicates a diameter of c.380mm for the quern. The two pieces probably represent about 30% of the original stone.

While recent work has identified a potential source in France (Peacock 2013, 156 - 57), the lava stone for these querns almost without doubt originates from quarries around Mayen, located in the Rhineland area of Germany. Querns made from lava quarried there first appear in Britain immediately following the Roman conquest and are imported throughout the Roman period. This import then appears to stop, certainly as any significant trade, until the mid-late Saxon era when it revives and continues throughout the medieval period. Roman pottery is the latest closely dated finds material associated with four of the features that produced lava quern fragments (Table 18).

Puddingstone quern

A large part of the upper stone from a Hertfordshire puddingstone quern, small find SF 091:2243, was recovered from pit 091:2872 (fill 091:2874) associated with pottery of Early Roman date. The stone had been placed sitting upright on the pit base. The overall shape of the stone is domed with a flat underside, commonly referred to as 'beehive' in shape, although this includes a range of shape from cone-like to hemispherical shaped stones, the stone here being closer to a hemisphere than a cone shape. Both broad shapes are typical of puddingstone querns (Peacock 2013, 61 and Table on 63).

The maximum diameter of the stone (the flat grinding surface) is c.320mm and the height c.130mm. The stone had been broken in antiquity and approximately one third is missing from one side. A small part of the opposite edge is also missing and again this is an ancient break. The remaining part of the stone preserves the complete central

hopper and a handle hole/socket in the side. The hopper aperture is c.75mm in diameter with vertical sides to c.55mm deep, after which it slopes in to leave a hole c.25mm in diameter through the remain thickness of the stone. The hole for the handle is conical in shape, tapering to a slightly rounded end, and downward sloping.

Low down on the stone and coincident with the aperture of the handle hole is a shallow groove c.25mm broad, cut into and running around the stone. This feature is present on a number of examples from Elms farm in Essex, a site where there is a significant assemblage of these querns (Major 2015, 28). Originally this would have held an iron band and a rusty-coloured iron staining runs around it. This is recognised as a method of fitting an upright handle, although only one puddingstone quern with an actual iron band in place has previously been recorded; an old find from Colchester that cannot now be located (*ibid*). Some examples of an angled socket drilled into the stone in conjunction with a groove for an iron band to attach an upright handle are present at Elms Farm (*ibid*) and Peacock (2013, fig 8.8) illustrates the method of construction of this type of quern. In terms of date, the upright handle attached by an iron band may be a late development as Iron Age rotary querns generally only feature a shaft socket for a handle penetrating the stone; although the upright handle was certainly in use by the Early Roman period (Major 2015, 29).

The stone here is undoubtedly Hertfordshire puddingstone; although puddingstone querns made from imported French stone and from a source located around Worms Heath in Surrey have also been identified in the Iron Age and Early Roman period in southeast Britain (Peacock 2013, 163). While querns made from Hertfordshire puddingstone originate in the Late Iron Age, close dating in this respect is difficult and most pieces have been recovered from contexts of Roman date. Prior to the excavation at Elms Farm, no rotary querns of this type could be certainly associated with an Iron Age context in Essex and there were few certain examples elsewhere (*ibid* 28). In this context it is notable that there are no rotary querns of this type from the large Middle Iron Age settlement at Little Waltham (Major, 2004a). However, the evidence from Elms Farm indicates that the manufacture of these querns certainly began some time before c.AD 25 and probably continued into the Early Roman period (Major 2004a; Major 2015, 28).

It can be noted that a large piece from the lower stone of a puddingstone quern (SF 091:2101) was recovered from pit 091:1726 (fill 091:1727) in an earlier excavation phase. Although damaged, the grinding surface diameter is of similar size to that of the quern here so that it just might be possible that it is the lower stone from this quern.

Quernstones of sandstone/gritstone

Four pieces of quernstones made from coarse sandstone/gritstone, were recovered. These are listed and individually described below.

The largest piece (SF 091:2251) was recovered from pit 091:2843 (fill 091:2844). This had recently been broken into two pieces. The old surfaces are abraded but preserve part of the stone edge, which is plain, and traces of pecking on one surface which indicates it is from an upper stone. There is no collar around the stone edge. The surviving edge is too short for an accurate measurement of the diameter of the original stone, although the size of the remaining stone piece shows it was in excess of 360mm in diameter.

Of the other pieces, the largest, recovered from pit 091:2663 (fill 091:2664) is from an abraded upperstone with a small collar around the edge. The upper surface has pecked finish. Another piece from the edge of an upper stone from pit 091:2898 (fill 091:2899) also has a collar and pecked surface. Unusually the grinding surface consists of a series of radial grooves. Radial grooves are rare on Roman quernstones although there are published examples. Three stones with this type of dressing have come from Orton Hall Farm, Cambridgeshire (Mackreth 1996, 110 and figs 78 - 79) and a greensand quern from Stansted, Essex also has tooled concentric grooves making up the grinding face (Major 2004b, fig 185 no 15). The third piece, recovered from pit 091:2697 (fill 091:2698) retains faint dressed grooves, although possibly an edge piece, its orientation within the original complete stone is unclear. Neither of the two clear edge pieces is large enough to allow a good estimate of the diameter of the quern, although the largest piece, that in context 091:2664, is clearly in excess of 300mm in diameter.

While there are clear differences in the visual petrology between the four pieces (described individually below) all are in a coarse, cemented sandstone with large, easily

visible, quartz grains. Three (contexts 091:2664, 2698 and 2844) have coloured, pale pink-red/rose quartz in the matrix (either as patches of concreted sand grains or larger single pieces) while the other (context 091:2899) appears to lack this element and the overall appearance of this piece is a pale brownish-buff. Two of the stones (contexts 091:2664 and 2698) can be identified as from sources in the Pennines, commonly described together as Millstone Grit, and can be seen to match the description of pinkish quartz inclusions in some examples of this stone type as related by Chris Green (2017, 171). A similar Pennine source is also probable for the other quern piece (context 091:2899).

In terms of date of these querns, the pieces from 091:2664, 091:2698 and 091:2844 are associated with Roman pottery of 2nd century date or later. However, within a wider context relating to known dates of similar querns from elsewhere, they could have been present on the site from almost any time in the Roman period. At Stanstead, Millstone Grit quernstone of Roman date comes predominantly from Late Roman contexts (Major 2004b, 284), although it is noted that some may date earlier, while querns of this material are recorded from an Early Roman context at Northfleet Villa in Kent (Shaffrey, 2012). It can also be noted that these objects are quite robust and can potentially survive serious abrasion and fragmentation for some time. The quern piece from 091:2664 appears to have suffered some distinct abrasion, the pieces 091:2698 and 091:2844 are also abraded to some extent, while overall the smallest piece (context 091:2899) seems to have suffered the least in this respect. The degree of abrasion may, at least in part, be a reflection of the susceptibility to environment induced wear of the particular stone matrix of each of the three pieces.

Catalogue of Quernstones of sandstone/gritstone

Quernstone (091:2664): large piece from an upper stone. Plain edge, traces of pecking on face (upper). Piece from and upper stone with low collared edge and pecked surface. Coarse sandstone, clear and translucent/grey coloured quartz with finer brownish-red sand (some banded through the matrix) giving a faint pinkish hue to the stone (stone thickness 40mm, weight 1,862g).

Quernstone (091:2664): edge piece from and upper stone with low collared edge and pecked surface. Coarse sandstone, clear quartz with mix of red, rose coloured quartz,

coloured pieces are often clumped together, while rare small stone size pieces in this same coloured quartz are also present in the matrix (stone thickness at edge 75mm, thickness toward centre 55mm, weight 1,105g).

Quernstone (091:2899): edge of an upper stone with low collar, pecked upper surface. Coarse sandstone, clear and opaque quartz. Concentric circular furrows/grooving on grinding face (stone thickness at collar 40mm, thickness toward centre 35mm, weight 315g).

Quernstone (091:2698): quern piece with faint traces of grooved dressing. Coarse sandstone, clear quartz with mix of larger pale pinkish quartz(?) pieces, rare small stones are also present in the matrix (stone thickness c.40mm - 50mm, weight 670g).

5.3.7 Worked flint

Methodology

Each piece of flint was examined and recorded by context in a Microsoft ACCESS database table alongside the material previously catalogued for sites 088, 090 and the previous component of 091. The flint is recorded by site code, context number and (where appropriate) Small Find number. The material was classified by *category* and *type* (see archive) with numbers of pieces and numbers of complete, corticated, hinge fractured and patinated pieces being recorded and relative degrees of edge damage and sharpness being noted. Additional descriptive comments were made as necessary. Non-struck flint has been discarded (It is recorded in the database but not in this report).

To enable the easier recovery of flint records during analysis the flint from this phase of work (091 4a) has been highlighted in the 'Box' field in the database. Retouched and utilised pieces have been bagged separately within the main bags as necessary (but, for this phase of work, most of the identifiable tools had been numbered and bagged individually as Small Finds prior to being seen by the writer).

Individual pieces, which may be worthy of illustration or are of interest, are high-lighted in the database - although **not** all of these will be selected for illustration. Final selection of pieces for detailed description and for illustration will be made during analysis.

Introduction

A total of 869 struck, shattered, retouched or utilised flints and a single fragment of heat-altered flint were recovered. The flint assemblage is summarised by type in Table 20 and summarily described below followed by a consideration of the context and distribution of the material. The potential of the material from the present area and from areas 088, 090 and the previous phase of 091, that have already been assessed (Bates 2013 and 2016), is considered and recommendations for analysis are made. The flint from the present phase of work is listed by context in Appendix III.e.

Type	No.
multi platform blade core	1
single platform blade core	1
multi platform flake core	8
single platform flake core	1
keeled core	3
core fragment	2
struck fragment	28
shatter	40
core trimming flake	1
flake	520
blade-like flake	28
blade	14
bladelet	2
spall	25
chip	1
thinning flake	1
end scraper	16
thumbnail scraper	5
side scraper	1
subcircular scraper	1
scraper	25
leaf-shaped arrowhead	1
oblique arrowhead	1
fabricator	2
scraper/knife	4
scraper/spurred piece	1
plano convex knife	1
piercer	3
denticulate	2
serrated blade	3
?notched flake	3
?notched blade	1
truncated/retouched blade	1
retouched flake	52
retouched blade	2
retouched fragment	5
utilised flake	52
utilised blade	7
utilised fragment	4
Total	869
Heat-altered fragment	1

Table 20. Summary of the flint by type

The assemblage

Cores and struck pieces

Only two blade cores are present, both of them quite small; a slightly patinated piece with blade scars emanating from a platform at one end but also struck transversely from one side (61g; context 091:3115), and a fairly irregular cortical piece with blades removals from one side (66g; layer 091:3151).

Eight multi platform flake cores range in size from 51 - 139g (most between 60 - 80g). They range from chunky to more irregular types with two quite thin fragments being struck from one edge, but probably deriving from cores struck from other directions/platforms (pit fills 091:2744 and 2975).

A small thick fragment, probably thermally fractured, has flakes struck from a single platform (27g; pit fill 091:3099) and two pieces, both from context 091:2506, have flakes struck from either side of one ridge and have been classified as 'keeled' cores, although one is incomplete. Another thick piece, struck from two sides of one ridge, is probably another keeled type core; its other face is also struck with one quite deep removal perhaps having led to its discard (pit fill 091:3008). Two other fragments are probably from flake cores (pit fills 091:2525 and 2754).

Twenty-eight pieces are broadly classified as struck fragments. Mostly these are irregular and have been hit, perhaps breaking accidentally or during the initial preparation of flint lumps for knapping. A small number may have been tested for use as cores (pit fills 091:2664 and 2722) or be part of a core (pit fill 091:2560).

Flakes and other debitage

One squat flake has previous removals evident from its proximal dorsal edge and may represent the deliberate rejuvenation of a core platform (pit fill 091:2679).

Unmodified ordinary flakes form 62% of the assemblage by number. There is a range of flake types but, predominantly, they are hard hammer struck and relatively small. Eighty-four percent of the flakes (by number) are complete and 75% have cortex. Of the cortical flakes, 11% are primary pieces with entirely cortical dorsal faces. Fifteen percent of the flakes have cortical platforms with, in some cases, the cortex extending

around the proximal side of the piece (*i.e.* there was no real platform at all with the flake struck from a cortical face of the 'core'). Only 3% of flakes are recorded as exhibiting evidence for platform edge preparation (in a few cases it is uncertain as to whether this is deliberate, or more general bashing or crushing of the edge) (Butler 2005, 33-34 fig 13; Whittaker 1994, 101, 105, fig 6.22; Ballin 2002, 17). Platform surfaces, where non-cortical, include plain and faceted surfaces; the latter often indicating the rotating of cores and use of a previously flaked area as a new platform. Five percent of the flakes have hinge terminations which may suggest less careful working (or, perhaps, flaws in the flint used). Both sharp and edge damaged flakes are present; 7% percent of the flakes are patinated to some degree. Only two small squat refitting flakes were noted at assessment, both in context 091:2540.

Twenty-eight blade-like flakes are present, mostly small. These have some, but not all, of the attributes of true blades. For example, they may be long and relatively narrow but have significant cortex or irregular dorsal scars or they may have regular blade-type scars, but be shorter squatter pieces. The percentage of blade-like flakes which are complete (89%) is somewhat higher than for the ordinary flakes (this may be partly due to the fact that incomplete pieces would not necessarily be identified). Other attributes occur in frequencies which would be expected - relative to those of the ordinary flakes; there are no primary or hinge fractured pieces, there are fewer cortical pieces (64%) and cortical platforms (7%) and more evidence for platform preparation (18%). One small flake may be a thinning flake from shaping the edge of a tool from ditch 091:2681.

There are fourteen blades and, again, these are mostly small and exhibit relatively less cortex (although 57% of blades have cortex) and more frequent evidence for platform preparation (36% of pieces). Two bladelets were also found.

Irregular shattered fragments are mostly quite small with some cortex and probably resulted during knapping although some may be 'natural' fragments. Spalls and a chip are also present.

Retouched and utilised tools

Scrapers

Scrapers are the most common tool type. While various sub-types are present and in

some cases are distinctive, many of them are of slightly irregular form and the majority of the scrapers are classified as miscellaneous types. For example, there are a fair number of small scrapers which, in size and nature, are similar to Later Neolithic earlier Bronze Age 'thumbnail' types but which, either in shape, cortical nature or slightness of retouch have not been classified as such. A few more regular thumbnail scrapers are also present, mostly in pit 091:2753 (fill 091:2755), along with end scrapers (including two or three regular ovate examples; SF's 091:2167, 2212 and 2252) all mostly irregular). One small thick side scraper is present (pit fill 091:2744) and a small sub-circular scraper is neatly retouched around most of its circumference (ditch fill 091:3170).

Combination tools

Three pieces shows evidence of use as both end scrapers and knives (pit fill 091:2755 and x2 from unstratified contexts). One of the latter is a very neat long slightly 'nosed' scraper and has wear/polish on parts of both lateral edges (SF 091:2291). It is of likely later Neolithic/earlier Bronze Age date. Another combination knife/scraper is made on a thick fragment (SF 091:4010) and there is also a possible scraper/spurred piece (pit fill 091:2993).

Arrowheads

The medial part of an earlier Neolithic leaf-shaped arrowhead is present (slot fill 091:2595).

A later Neolithic oblique arrowhead (SF: 091:2005) was also found ditch fill 091:0414 during the earlier phase of excavation but had not been submitted for assessment and is described here. It is triangular with an asymmetric hollowed base formed by retouched at both faces and more, slight, retouch to both sides.

Fabricators

Two probable fabricators are present. One quite long thick piece has very tiny traces of polish or wear at its ridge, it is possible that it could be a reused fragment from an axe (unstratified context, SF 091:2244). The other example is smaller and narrower and is worn at both ends and possibly on some arrises (pit fill 091:2540).

Other tools

There are three piercers, all retouched at their distal points, all from pit fills (091:2530, 2989 and 2997). The latter, a small blade-like piece, has a small possible 'tang'.

A small neat plano-convex knife is likely to date from the Later Neolithic earlier Bronze Age (slot fill 091:2572).

Two irregular thickish flakes have possible denticulated edges and three blades have a serrated lateral edge; two of these, one from an unstratified context (091:2506) and the other from a pit fill (091:2755). The third piece is a neat thin blade which is clearly from a prepared core (pit fill 091:2724).

A neat narrow blade has a nick or notch in one side which may be use-related (pit fill 091:2724) and three flakes have possible notches although, again, in some cases the edge 'damage' may be accidental, two in pit fill 091:2789 and one in pit fill 091:2829. A neat quite long blade from an unstratified context (091:2506) has its proximal end truncated by retouch. Its distal end is missing but one side has semi abrupt retouch which may be 'backing' while the opposite edge is utilised. The piece is likely to be earlier Neolithic.

Miscellaneous retouched and utilised pieces

A total of fifty-nine other retouched pieces are present. These are mostly edge utilised flakes with many used as irregular, or only slightly modified, scraper type tools, although at least one 'piercer' is present. The proximal part of a retouched blade is present, as well as a few irregular fragments, the latter most commonly with slight or crude retouch of scraper-like edges and one piece possibly used as a point. A relatively large blade (115mm in length) has very slight retouch of its right proximal edge and some damage, including possibly slight retouch and a notch on the opposite side (unstratified context 091:2506). The blade has been struck from a large prepared core.

Sixty-three miscellaneous utilised pieces are present. They include several quite neat blades, some with deliberate abrasion of their platform edge. Mostly the utilised pieces are flakes of various sizes and types, and edge utilised. Four irregular fragments have also been utilised.

Flint by context

The total number of flints by feature type is shown in Table 21 and numbers of flints by individual feature in Appendix III.f.

NB: Regarding Table 21, numbers of feature types reflect those recorded in context database; some may be separately numbered parts of the same feature and this has not been checked in detail at the assessment stage.

Feature Type	No. of features	No. of flints
Pit	112	731
Finds	5	60
Ditch	11	31
Post-hole	5	16
Unstratified	-	11
Layer	1	7
Slot	4	6
Sondage	1	4
Gully	1	2
Linear	1	2
Total numbers	141	870

Table 21. Total flint numbers by feature type

Flint from pits

The greatest number of flints from came from pits (84% of the flints from the site by number came from a total of 298 pit related contexts). This is a greater proportion of flint from pits than from the previously recorded area of 091.

The largest pit assemblages were from a group of pits located, close together, in the central/NW area of the site and dated by pottery to the earlier Bronze Age. These pit assemblages all included scrapers with several, including types distinctive to the period, coming from each of three of the pits:

Pit 091:2753: the assemblage comprised 188 flints including a slightly irregular chunky flake core and a range of debitage, predominantly hard hammer struck flakes with various cortex types. Twelve scrapers were found in the pit as well as a combination scraper/knife, a denticulate and a few miscellaneous retouched or utilised pieces. There is one thumbnail type scraper and other similar small scrapers as well as two 'end' scrapers. Flints came from both upper and lower fills of the pit.

Pit 091:2743: forty-seven flints with scrapers, again forming a significant part of the pit assemblage (eight in total) and including three thumbnail types and a small ovate scraper. Flakes are generally quite small and regular. Fragments of two flake cores were also found.

Pit 091:2818: the assemblage comprised thirty-six flints include various small flakes, four small scrapers, two of them very small, a possible piercer and single retouched and utilised flakes.

Pit 091:2740: assemblage comprising thirty-five flints include a small chunky core or tested lump, flakes and other debitage (mostly small and irregular in nature) a thin quite squat sub-circular scraper and two retouched flakes.

Between eleven and thirty-three flints came from each of five Roman pits (091:2756, 2974, 2737, 2735 and 2547). The flints are mostly flakes with a small number of miscellaneous retouched or utilised pieces. A flake core, a utilised blade from a prepared core and a long quit regular flake were found in pit 091:2974.

A total of 101 pits contained ten or less pieces, many of these with three or fewer flints present.

Flint from other feature types

Flint came from two possible four-post structures that have been described as 'unconvincing' in this assessment; a total of thirteen pieces from 091:3000, located near the NW corner of the site (flakes, a small blade, a possible thinning flake, a slightly 'spurred' small scraper-like tool and a retouched fragment) and three from 091:3122, located towards the south-west corner of the site (a blade-like flake, a neat retouched flake and a utilised blade with crushing at its platform). LNEBA pottery came from two features forming part of 091:3000 while 091:3122 is undated by pottery.

Flints were recovered in fairly small numbers from ditches; most of which appear to date from the Roman period or later. Very small numbers of flints are recorded from other feature types (see Table 21).

5.3.8 Heat-altered flint and stone

The site produced a significant amount of heat-altered stone (HAS) totaling some 99,120g. This consists of 58,159 grams of heat-altered flint and 40,961g of other heat-altered stone, consisting of sandstone/quartzite. Including material from four soil samples, heat-altered flint was recovered from 112 contexts and sandstone/quartzite from seventy contexts. All of the heat-altered stone is listed and described by context order in Appendix III.g.

The distribution of the HAS by feature type is presented in Table 22 which shows that by weight almost all of the heat-altered flint and over three quarters of the sandstone/quartzite derives from pit fills.

Feature type	flint Wt/g	flint Wt/g %	sandstone/quartzite Wt/g	sandstone/quartzite Wt/g %
Ditch	337	0.6	170	0.4
Gully	38	0.1	369	0.9
Layer	138	0.2	1,988	4.9
Pit	57,417	98.7	34,442	84.1
Post-hole	117	0.2	264	0.6
Slot	0	0.0	3,397	8.3
Sondage	0	0.0	331	0.8
Finds	112	0.2	0	0.0
Totals	58,159	100.0	40,961	100.0

Table 22. Distribution of heat-altered flint and sandstone/quartzite by feature type

The largest single quantity of HAS comes from pit 091:2994 (fill 091:2995) which produced 40,400g (40.4 kg) of heat-altered flint and represents just under 70% (69.5%) of the heat-altered flint assemblage. The material from this pit was associated with both residual prehistoric pottery and Roman pottery. Significant quantities of heat-altered flint were also recovered from pit fills 091:2532 (4,512g) and 091:2852 (1,760g). Other contexts produced less than one kilogram of material each. The largest group of heat-altered sandstone/quartzite derived from pit fill 091:3178 which produced 4,634 grams and, as with 091:2995, contained both prehistoric and Roman pottery. Pit fills 091:2662, 091:2980, 091:3202, 091:3189 and slot fill 091:2595 also produced over two kilograms of heat-altered sandstone/quartzite.

HAS is commonly associated with prehistoric sites, their purpose being to absorb and transfer heat from a fire either as a heat source in themselves (hot rocks) or, probably most commonly, to heat water. The different thermal properties of flint and

sandstone/quartzite make the latter a better material for this as it is much better at withstanding thermal shock.

5.3.9 Metalworking waste

Introduction and methodology

A very small quantity of material (just under 5kg.), initially identified as 'slag', was recovered by hand on site and from soil samples processed after excavation (Appendix III.h).

For the assessment, it was examined by eye and tested with a magnet. The material was categorised on the basis of morphology; a magnet was used to test for iron-rich material and detect smithing micro-slugs in the soil adhering to slags. Each slag or other material type in each context was weighed except for smithing hearth bottoms (hereafter SHB), which were individually weighed and measured for statistical purposes. Quantification data and details are given in the table below in which weight (wt.) is shown in grams, and length (len.), breadth (br.) and depth (dp.) in millimetres.

Number of boxes and types stored

The entire slag assemblage as listed in Table 23 below, is currently stored in one box. Several pieces of iron (also listed in the table) await removal from amongst the slag.

Ctxt	<S>	Slag type	Wt/g	len	br	dp	Comment
2562		ferruginous concretion	7				
2615		undiagnostic	19			20	part of SHB?
2720		cinder	10				
2734		undiagnostic	71				x 1
2771		undiagnostic	172				x 1; furnace slag?
2866		burnt flint	4				
2866		cindery runs	5				
2866		ferruginous concretion	9				includes flake hammerscale
2866		iron	21				x 3
2866		iron-rich	30				
2866		undiagnostic smithing hearth bottom	373	115	75	50	
2866		undiagnostic	67				
2867		fired clay	20				
2867		iron	155				One large, heavy object (155 g); wrapped in newspaper and bagged separately.

Ctxt	<S>	Slag type	Wt/g	len	br	dp	Comment
2867		iron-rich	189				
		undiagnostic					
2867		SHB	160	80	70	35	
2867		undiagnostic	74				
2869		undiagnostic	22				
2874	2874	burnt glass bead?					Weight 0.5 g
2874	2874	sample residue	290				Heat-altered flint, undiagnostic (including slag dribbles), slag runs, iron (x2), fuel ash slag; also small quantities of hammerscale and iron spheroids
2874		cindery runs	45				
2874		SHB	351	100	70	40	incomplete
2874		undiagnostic	367				lots of heat-altered flint inclusions
2942		cinder	25				
2942		SHB	148	75	70	40	
2942		undiagnostic	64				flowed
2953		ferruginous concretion	44				
2953		fuel ash slag	135				
2953		iron	40				x 5
2953		slag dribbles	31				
2953		SHB	191	100	75	30	
2953		undiagnostic	38				heavy; bronze inclusion?
2953		undiagnostic	166				many heat-altered flint inclusions
2980		cindery dribble	11				
2980		undiagnostic	100				x 1
2980		undiagnostic	70	65	40	15	possibly embryonic SHB
2981		cinder	20				
2981		cindery runs	22				
2981		ferruginous concretion	36				
2981		undiagnostic	92				embryonic SHB, or run slag?
2981		undiagnostic	190				x 3; some charcoal impressions - possibly furnace slag
2981		vitrified hearth lining	38				
2983		iron-rich	29				
		undiagnostic					
2983		undiagnostic	455				could be furnace slag
2983		vitrified hearth lining	20				
2999		undiagnostic	18				
3189		fuel ash slag	11				
3189		iron-rich	409				x 1; possibly smelting
		undiagnostic					
Total wt.			4,709				

Table 23. Quantification table and explanation of terms

Description of the processes involving iron

Smelting

Smelting is the manufacture of iron from ore and fuel in a smelting furnace. The products are a spongy mass called an 'unconsolidated bloom' consisting of iron with a considerable amount of slag still trapped inside, and slag (waste). The types of slag produced vary over time according to the type of furnace and technology used.

Furnace slag is a general term used for slag recognised as having been produced in a smelting furnace but is incomplete or has no particular morphology.

Smithing

Smithing involves the hot working (using a hammer) of the bloom to remove excess slag (primary smithing) or, more commonly, the hot working of one or more pieces of iron to create or to repair an object (secondary smithing). As well as bulk slags, including the SHB or slag cake (a plano-convex slag cake which builds up under the tuyère hole - hottest part - where the air from the bellows enters the hearth), smithing generates micro-slugs; these can be hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) and/or tiny spheres from bloom smithing or high temperature welding used to join or fuse two pieces of iron. Hammerscale, because of its tiny size, is usually only recovered by taking soil samples from fills and deposits but it is very magnetic and its presence can be detected using a magnet; it is most prevalent (thickest) in archaeological contexts in the immediate area of smithing, *i.e.* in the vicinity of the anvil and between it and the smithing hearth. A small quantity of both hammerscale and iron spheroids was recovered from a bulk sample from context 091:2874.

Slag described as undiagnostic cannot be assigned to smelting or smithing either because of morphology or because it has been broken up during deposition, re-deposition or excavation. Other types of debris in an assemblage may derive from variety of high temperature activities - including domestic fires - and cannot be taken on their own to indicate iron-working was taking place. These include fired clay, vitrified hearth lining, cinder and fuel ash slag. If found in association with iron smelting and/or smithing slag they are almost certainly products of the process.

Ferruginous concretions are made up of a re-deposition of iron hydroxides (rather like

iron panning), enhanced by surrounding archaeological deposits, particularly if there is iron-rich waste present as a result of iron working.

The assemblage

The slag types present in the assemblage are presented in Table 24, statistical data from the SHB's is presented in Table 25.

Slag type	Wt. (g)	Process	Ironmaking/working
cinder	55	not diagnostic	no
ferruginous concretion	96	not diagnostic	no
fuel ash slag	146	not diagnostic	no
iron	216	not diagnostic	possible
iron-rich undiagnostic	657	undiagnostic	yes
slag runs and dribbles	114	undiagnostic	yes
SHB's	1,223	diagnostic	smithing
undiagnostic	1,985	undiagnostic	yes
vitrified hearth lining	58	not diagnostic	no

Table 24. Slag types present

	range	median	standard deviation
weight	148 - 373	191	109
length	75 - 115	100	16
breadth	70 - 75	70	3
depth	30 - 50	40	7

Table 25. Statistical data for smithing hearth bottoms (Five examples; total wt. 1.2kg)

Key groups:

Roman (Phase II.b.) pit 091:2865 (wt. 1,107g): two smithing hearth bottoms; one large iron object; hammerscale flake; undiagnostic slag.

LIA/EROM (Phase II.a.) pit 091:2872 (wt. 1,054g): one smithing hearth bottom; slag dribbles and runs.

Roman (Phase II.0) pit 091:2952 (wt. 645g): one smithing hearth bottom; slag dribbles; heavy undiagnostic slag (perhaps with a lead or bronze element); iron fragments; undiagnostic slag with heat-altered flint inclusions; ferruginous concretions.

Discussion of the assemblage

The assemblage is very small and the slag mostly undiagnostic and redeposited in pits. Some slag may have been produced by smelting but one detail, however, stands out: there is no tap slag or recognisable fragments of this slag type present in the assemblage; the undiagnostic slag is unlikely to have been produced by any Roman smelting to produce raw iron. Tap slag is a dense, low porosity, fayalitic (iron silicate) slag with a ropy flowed structure which formed as liquid slag is allowed to flow out, continuously or intermittently, through a hole in the furnace side into a specially made channel leading to a hollow in the ground. This removal of the slag facilitated retrieval of the bloom after the smelting operation. It is believed furnaces with tap holes replaced bowl furnaces and slag pit furnaces as their efficiency was recognised early in the Roman period. Any smelting slag found at the Flixton site is pre-Roman in date.

Present in the assemblage, however, are five smithing hearth bottoms (there are also possible fragments of others). These, along with the few traces hammerscale flakes recovered, are indicative of secondary smithing; much of the undiagnostic slag was probably produced by smithing activity. The presence, also, of some fragments of iron amongst the slag may lend support to this supposition.

5.3.10 Miscellaneous finds

Clinker

Small pieces of dark, lightweight, clinker slag or coke were recovered from contexts in three pits: pit 091:2621 (fill 091:2622), pit 091:2650 (fill 091:2651) and pit 091:2870 (fill 091:2871) with dates attributed as Roman, undated and modern respectively.

Other materials

A few diverse pieces of stone, sixteen pieces of natural iron pan and a single piece of modern concrete were present among the finds assemblage (Table 26). Much of this material was probably recovered accidentally, either because it could not be easily identified during excavation or, when dirty, was thought to represent a significant find such as pottery or metal/slag. It can be noted that the piece of modern concrete came from post-hole 091:2507 (fill 091:2508) and a small piece of slate came from ditch 091:3017 (091:3038); the former was attributed a post-medieval date while the ditch

was thought to be Roman. Also, two lumps of natural ironstone (possibly mistakenly for metallurgical slag) came from the Early Roman pit 091:2963 (091:2964). This material, which is of little or no archaeological significance, has been rapidly quantified and can be disposed of.

Context No.	Feature No.	Feature Type	Material	No.	Wt/g	Comments
2508	2507	Post-hole	concrete	1	99	Modern concrete (inc. sand and flint pebbles)
2548	2547	Pit	ironpan	1	4	natural
2558	2557	Pit	ironpan	1	4	natural
2570	2569	Pit	ironpan	1	77	natural
2659	2658	Pit	flint	1	144	Natural rounded pebble
2662	2661	Pit	ironpan	1	13	natural
2687	2686	Pit	ironpan	1	10	natural
2691	2690	Pit	ironpan	1	5	natural
2693	2678	Pit	ironpan	1	11	natural
2738	2737	Pit	ironpan	1	5	natural
2766	2765	Pit	ironpan	1	8	natural
2804	2803	Pit	ironpan	1	19	natural
2829	2828	Pit	ironpan	2	14	natural
2856	2855	Pit	ironpan	1	19	natural
2869	2861	Pit	ironpan	1	2	natural
2936	2935	Pit	ironpan	1	5	natural
2964	2963	Pit	ironstone	2	201	non-magnetic lumps of ironstone
3038	3017	Ditch	slate	1	9	Late post-medieval/modern?
3107	3104	Ditch	ironpan	1	20	natural

Table 26. Miscellaneous stone and concrete

5.4 Quantification and assessment of the small finds archive

5.4.1 Introduction

A total of 243 objects were assigned small find numbers during the second phase of excavation for the 091 site (Appendix III.i.). Of these, 145, predominantly those of later Iron Age and Roman date, were sent for assessment by Ian Riddler. The remainder of the assemblage were studied in-house and comprised the following categories of material: flint tools (forming part of the worked flint assessment), Roman coins and brooches (examined by Jude Plouviez, see below), loomweight fragments (included with the general fired clay), querns and significant post-medieval items.

Unsurprisingly, the range of material reflects the earlier phase of 091 assessment, in the sense that it is dominated by material of Roman date, one brooch could be pre-conquest, with a small quantity of largely unstratified post-medieval finds. However, it

includes a substantially larger quantity of Roman iron objects, including the binding strips, nails and lock plate of an iron chest, most of which came from two contexts. Tools and household implements are well-represented once again, whilst dress accessories remain scarce.

5.4.2 Methodology

The objects were examined with the aid of low magnification and have been identified to type, as far as possible. At this stage, no X-radiographs are available for study, but recommendations have been made in the database concerning objects that would benefit from this treatment. Following this initial work, object identifications were checked against the project small finds database (which includes good descriptions of the artefacts), and amendments were made where necessary.

5.4.3 Late Iron Age and Roman Small Finds

Introduction

The objects of Roman date have been examined under low magnification and identified to type where possible. They have also been placed together into functional categories, following the sequences used for Hacheston and Scole in Suffolk (Seeley 2004; 2014). This will make comparisons with East Anglian assemblages easier during the analysis phase. Even at this stage, it highlights a noticeable disparity between Flixton and the assemblages from those larger sites, which include many more dress accessories and objects of copper alloy while here they form a small component of the Roman finds assemblage. There are only a small number of brooches and there are no bracelets or pins.

Most of the objects have been identified and compared with the perceptive descriptions provided in the archive database. A number of the iron objects remain indistinct and would benefit from an X-radiograph; amidst them are fragments of several implements (SF's 091:2202, 4033, 4065 and 4098), as yet unidentified. The objects are briefly described here by functional category, following the headings initially utilised for Colchester and adopted also for Hacheston and Scole.

Coins

Introduction and methodology

A total of twenty-five Roman coins (and one post-medieval farthing) were examined. Loose dirt has been removed using distilled water and cotton buds to improve legibility. However, many of the coins are corroded, sometimes with areas of concretion, making identification relatively imprecise.

The coins have been identified with assistance from general sources, but only 4th century examples that fall within Late Roman Bronze Coinage (Carson Hill and Kent, 1960) have full references. They have been listed in a MS Access table with fields for key attributes following the Portable Antiquities database, and this is supplied in MS Excel (these fields could be merged to form a single Description field for the site database if needed). The fields include date ranges and the Reece period where possible (Reece, R, 1991). Weights were recorded (two decimal places).

Description

One coin was a silver denarius (of Julia Domna, 193 - 211), the remaining twenty-four were copper-alloy radiates or nummi of late 3rd and 4th century date. The nineteen coins identifiable to Reece period (Table 27) suggest a fairly short period of activity is represented between the beginning of the 3rd century and the early 4th century, and the remaining five coins probably all fall within this span also.

Reece period	No.	%age
10	1	5.3
13	3	15.8
14	12	63.2
16	2	10.5
17	1	5.3

Table 27. Roman coins by Reece period

Context

Most of the coins were unstratified and four were from 091:3070, a mixed layer that included the subsoil layer that presumably produced the unstratified material. One group of three coins derive from a single pit, 091:3134, suggesting that this feature was filled during the 270's or later.

Objects of personal adornment or dress

Introduction

Unusually for a Roman site, dress accessories are poorly represented; no bracelets or pins are present and only three or four brooch fragments. An iron finger ring (SF 091:2165) includes a simple flattened bezel, now lacking its setting, and a second example (SF 091:2262) is formed merely of coiled wire. An unstratified silver ring of circular section (SF 091:4002) is probably of Roman date. A possible buckle of iron (SF 091:2249) needs to be checked with an X-radiograph.

Brooches

Introduction and methodology

A group of five objects were submitted for assessment as possible brooches with accompanying X-radiographs. One item was of iron and neither the X-ray nor the object look like a brooch; one was a silver-coloured post medieval item which required no further comment. The remaining three pieces were copper-alloy brooch fragments, and another brooch fragment is listed in the database (SF 091:4042) but was not seen. Loose dirt was removed from the brooches using cotton buds and distilled water to reveal key features. Each was catalogued in MS Excel by broad type and by Mackreth type where appropriate (Mackreth 2011) with accurate weights (recorded to two decimal places).

Description

The three brooch fragments examined are a Colchester, a Colchester derivative Harlow type (and also the unseen fragment) and a Hod Hill type. The Colchester brooch may well have been in use before the Roman conquest in 43, the others post-date 43 but all fall within the 1st century and quite likely were made and used before c.80. Brooch SF 091:2284 has some intrinsic interest as one of a closely linked sub-group of Colchester derivatives, probably the product of a single workshop or metalworker in East Anglia. Only the Hod Hill fragment (SF 091:2196) was recorded as from a specific context, 091:2951, listed as the fill of pit 091:2950 that was assigned to Phase II.a. (early Roman). Oddly, while overlapping chronologically, this small group does not contain the same types as were recovered from the previously reported area of 091.

Household Utensils and Furniture

Daily life and the maintenance of tools are represented by a hone stone (SF 091:2233) of sandstone, as well as fragments of several iron knives (SF's 091:2550, 2615 and 2685). A fragmentary copper alloy handle (SF 091:4043) comes from a spoon, whilst a curved strip of iron (SF 091:2192) may represent part of a bucket handle. Two iron rings of rectangular section (SF's 091:4022 and 4091) can also be added to this assemblage. Most of the objects placed within this category, however, may relate to a single large container recovered from two widely spaced features, layer 091:3069 and pit 091:3133. These comprised a large sequence of iron strips, nails, staples and corner brackets and belong in all probability to an iron-bound wooden box or chest. Some of the iron strips and brackets are quite substantial and it is likely that the form of the chest can be reconstructed, although its original dimensions may prove elusive. It is possible that some, at least, of the fragmentary iron strips from other contexts may belong to this object as well (SF's 091:4082, 4092, 4093 and 4099, for example), although they could belong to a second object. The box includes a lock plate (SF 091:4060) and a substantial iron key for the lock (SF 091:2295). A small copper alloy mount (SF 091:2300) may belong with this box, but is more likely to be part of a second example, and there is also part of a copper alloy drop handle for a box or casket (SF 091:2293). These copper alloy fittings are more delicate and are likely to belong to a smaller box, decorated in a different way to the large box or chest.

Tools

Several tools can be identified, including four possible chisels (SF's 091:2183, 2266, 2267 and 4020), occurring in different sizes. A heavy iron implement (SF 091:4102) is possibly part of an axe head. As noted above, four further iron implements are as yet unidentified. It is likely that most of these tools relate directly to woodworking.

Objects used in the manufacture or working of textiles

The ceramic loomweights from this part of the site have been examined separately by Stephen Benfield as part of the overall fired clay assessment. The quantity was small and will be combined with the larger assemblage from the earlier phase of excavation during the analysis stage. There are no other objects that can be associated with the manufacture or working of textiles.

Objects associated with religious beliefs and practices

Votive material includes a complete cast copper alloy miniature axe (SF 091:4006) (Plate 57, 1), similar to several examples from Scole and from sites on the southern Fen edge in Cambridgeshire (Jackson 1996, 350; Sealey 2014, 354). An enigmatic object (SF 091:2161) consists of folded lead sheet, wrapped around what appears to be a copper alloy ring. It is possible that a curse may have been inscribed on to the sheet, but it is not currently visible. The object came from a context assigned to the prehistoric period and must be intrusive, possibly of Iron Age date.

Objects associated with agriculture, horticulture and animal husbandry

The two objects that fall into this category can both be related to fishing practices. A complete lead net weight (SF 091:4015) is unstratified, but the absence of Anglo-Saxon and medieval activity in this area, alongside the total lack of finds of those dates, both indicate that it is either of Roman or post-medieval date. The possibility that it is of Roman origin is strengthened by the occurrence of a near-complete iron fish hook (SF 091:4094) from a stratified context of that date.

Objects associated with transport

The movement of livestock is reflected merely in the presence of two iron ox-goads (SF's 091:2166 and 4084), originally attached to wooden shafts and used to coerce domestic animals.

Military equipment

A long socketed implement (SF 091:2253) tapers to a blunt end and its function is a little uncertain, although it is likely to be a ferrule, originally associated with a spearhead, similar to an example from Castleford (Scott 1998, 129).

Fasteners and fittings

Structural ironwork from the site includes 65 iron nails, almost all of which belong to Manning's type 1, the most common form of Roman iron nail, equipped with a simple discoidal head (Manning 1985, 134). In addition, single examples of a cleat (SF 091:2182) and a staple (SF 091:2288) have been identified.



Plate 57. 1) SF 091:4006; miniature votive axe, 2) SF 091:2268; gold coin,
3) SF 091:2276; ring, all at x2

Late Medieval and Post-Medieval Objects

A small quantity of objects of copper alloy and lead alloy, all of which are unstratified, were submitted for assessment. These include a belt mount, a button, two mounts, three musket balls and a lead standing weight. These are all common finds acquired from metal-detecting. In addition, single examples of copper alloy and lead alloy vessel repair patches can also be regarded as belonging to the post-medieval period, although it is possible that the copper alloy example goes back to the late medieval period.

Other Small Finds of this period that were assessed in-house and included the following three objects:

SF 091:2268: a complete Crown of the double rose type of Henry VIII and Katherine of Aragon, c.1526 - 1533 (as North, 1975, no. 1788) (Plate 57, 2). Obverse: initial mark is a rose. Crown over a double rose with the initials h and K either side. All within an inner circle. Legend: hENRIC VIII RVTILANS ROSA SINE SPINA. Reverse: crown over a shield,

SF 091:2276: A complete, gold ring or ferrule (Plate 57, 3). It has a wide flat hoop with two strengthening stepped ridges around both the top and bottom edges. In between the ridges the band is decorated with a repeating motif of raised reverse S's, interspersed with single dots. The ring has a straight cut through the band. There is no internal hallmark. Diameter 23mm, width of band 6.7mm.

The object has a similar form to some known early Post-Medieval rings with stepped ridges along the top and bottom edges, see reference 905-1871 in the collection of the Victoria and Albert Museum, or an example declared Treasure recently from Bodmin, Cornwall (2016 T310; CORN-64CDC9). Both of these rings are of similar size (22mm diameter), but instead of a decoration around the hoop feature inscribed 'posies'. Yet another ring of the same size, though composed of silver-gilt, a ring from Priston, Bath and North East Somerset (2014 T249; GLO-FDFE16) also has a decorative middle band rather than an inscription, and displays a cut or break through the band, as in the subject ring. (*Extract from PAS Report for the Coroner for object database Record No. SF-6228FD*)

SF 091:2277: elongate, ovoid spectacles case. Flattened lid hinged. Almost certainly associated with the 20th century military activity.

5.5 Quantification and assessment of the biological evidence

5.5.1 Animal bone

Methodology

The bone in this assemblage consisted of hand-collected material and bone from sieved samples. Bone was identified to species wherever possible and assessed for the presence of suitable bones for ageing, measuring for estimates of species, stature and breed. There was no attempt to record all bird and fish remains to species at this stage, hence, many were recorded simply as 'mammal'. The mammal bones were recorded and estimated following a modified version of guidelines described in Davis (1992) and Baker and Worley (2014).

Butchering was recorded, where possible, noting the type of butchering, such as cut, chopped or sawn and location of butchering. A note was also made of any burnt bone. Pathologies were recorded where easily observed. Other modifications were also noted, such as any possible working, working waste or animal gnawing. Weights and total number of piece counts have been taken for each context for the hand-collected bone; these appear in Appendix III.j. Samples were not quantified at this stage, although the bones that were assessed as measurable (following Von Den Driesch 1976) and countable (following Davis 1992) were noted as present by context. All information was recorded directly into an Excel database for analysis. A catalogue of the material from samples is provided in Appendix III.j, giving a summary of all of the faunal remains by context. The full assessment data record is available in the digital archive and a summary table is provided for the appendix.

The hand-collected assemblage – quantification, provenance and preservation

The hand-collected assemblage comprised a total of 6,570g of bone, consisting of 1,517 elements. Bone was produced from fifty-nine deposits, with most bone recovered from pit fills, with other material retrieved from ditches, finds deposits and a layer. The bulk of the bone is of a Roman date range, with lesser amounts Prehistoric in date. Quantification of the faunal assemblage by weight is presented in Table 28 and by

element count in Table 29.

The condition of the bone at this site varied considerably. Some remains are in good condition with little damage to surfaces. Some fills produced heavily fragmented bone with numerous small fragments and some erosion of surfaces and flaking.

Fragmentation has also occurred from butchering, which was regularly seen in the assemblage.

Date	Feature type				Total
	Ditch	Finds	Layer	Pit	
Early Roman				1,125	1,125
Late Roman			68	1,391	1,459
LIA/Early Roman				91	91
Mid Roman	23			389	412
Mid/Late Roman				229	229
Roman	143	12		3,061	3,216
Undated				38	38
Total	166	12	68	6,324	6,570

Table 28. Quantification of bulk faunal assemblage by spot dates, feature type and wt. in g.

Date	Feature type and count of elements				Total
	Ditch	Finds	Layer	Pit	
Early Roman				662	662
Late Roman			38	149	187
LIA/Early Roman				30	30
Mid Roman	4			234	238
Mid/Late Roman				91	91
Roman	1	16		291	308
Undated				1	1
Total	5	16	38	1,458	1,517

Table 29. Quantification of bulk faunal assemblage by spot dates, feature type and element count

One Roman pit fill produced gnawed bone and two Early Roman pit deposits produced burnt fragments from the hand-collected remains and further bone was seen from the sieved sample remains. Several bones were seen that can produce metrical data that would allow estimation of stature, breed and species and additional species identifications would be possible during a full analysis.

Species, modifications and observations

At least seven species are present in the faunal assemblage, with quantification of those identified in Table 30.

Species	Feature type and NISP				Totals
	Ditch	Finds	Layer	Pit	
Bird - Magpie				1	1
Cattle	1			204	205
Deer - Fallow				64	64
Ichthyosaur	1				1
Equid			1	15	16
Mammal	2	16	37	1,146	1,201
Pig/boar				11	11
Sheep/goat	1			17	18
Totals	5	16	38	1,458	1,517

Table 30. Quantification of bulk faunal assemblage by feature type, species and NISP

The main food species

Cattle were the most frequently seen of the main food mammal, with most from pit fills of a Roman date range and a single find from a ditch fill. Most of the cattle are from adults, but juveniles were seen, suggesting local breeding.

Sheep/goat were recovered in slightly larger numbers than pig/boar, but in much lower numbers than cattle. No attempt was made at this stage to distinguish sheep and goat and some remains may be from goat, which were more commonly kept in earlier periods for milk. All ovicaprids were from adults, but it is possible that juveniles' delicate bones did not survive. Pig/boar were seen, with juvenile remains, from two Roman pit fills. These animals initially appear to have played a lesser part in the diet than the cattle and ovicaprids.

Other species

Equids were found in five Roman pit fills; all bones recovered were from adult animals. Largely, the equids' remains are those of teeth, with one limb bone identified during the assessment. Initial observations suggest at least one small equid, possibly a mule.

Of great interest is what appears to be a partial skeleton that is clearly identifiable as that of a fallow deer (*Dama dama*) from undated, but probably relatively recent pit 091:2965, fill 091:2966. The bones of this deer include a metapodial, talus, upper limbs, sacrum and vertebrae; no butchering was clearly seen during the assessment, but a more thorough examination may show some subtle skinning marks. If the context is of earlier date, then the Fallow deer is of interest as this animal was not native to

Britain during the Roman period, although a small captive population was kept at Fishbourne in Sussex (Sykes 2010); normally occasional bones, often metapodials, are found in Roman deposits which suggest skins or cuts of meat brought to Britain. The discovery at this site of a possible Roman Fallow Deer that appears to have been skinned here (head and most lower limb and foot bones are missing) and the carcass buried without clear signs of consumption, strongly suggests a live animal might have been here and it is plausible that this might be a 'ritual' burial of the deer remains.

Another unusual bone in this assemblage is that of an ichthyosaur vertebra, in the Roman ditch 091:2835, fill 091:2956. The vertebra is large (approximately 9cm in diameter) and largely complete, with some surface damage on one side. Identified as 'ichthyosaur', this is one of two very similar species of this dolphin-like dinosaur known in Britain during the Jurassic and early Cretaceous periods. While very rare on archaeological sites, a similar find was made at Downham Market, Norfolk (Curl 2008), from a Saxon pit fill, which was thought to have had a 'ritual' purpose at that site. While these vertebrae are occasionally found, it is possible that this vertebra had been collected, resulting in its presence at this site, although similar finds have been found at Flixton as 'erratics' within the Lowestoft till clay deposit (Boulter *pers. comm.*).

Birds were only represented by a single magpie (*Pica pica*) tarsometatarsus in pit 091:2872, fill 091:2874. The presence of this magpie may indicate disposal of a pet bird or perhaps a scavenger.

Butchering

Butchering was regularly seen. Fine cuts from skinning were noted and some cuts on meat-bearing bones show removal of meat. Heavier chops and cuts show dismemberment of the carcass and preparation of joints of meat.

Pathologies

Some dental pathologies were seen with the cattle. A tooth abnormality was seen with a sheep mandible from a Late Roman deposit, with the fourth premolar growing backwards and slightly overlapping the first molar, a problem which had led to an infection in the jaw.

The sieved sample assemblage

A total of 298g of bone, consisting of 372 pieces, was recovered from the sieved samples. Seven fills, all from pits, produced the sieved bone, most of which was of a Roman date; one fill was from a Neolithic to Bronze-Age date range. Quantification of the sieved sample bone is shown in Table 31.

Context	Type	Period	Ctxt Qty	Wt. (g)	Comments
2550	Pit	Early Roman	18	37	Cattle Dp4,
2615	Pit	Early Roman	15	11	
2664	Pit	Mid Roman	1	1	small mammal vertebrae
2698	Pit	Mid Roman	51	76	
2755	Pit	LNeo/EBA	7	1	
2874	Pit	Early Roman	16	54	inc pig
2980	Pit	Early Roman	264	118	inc pig, some burnt pig

Table 31. Quantification of faunal assemblage from samples by context and feature type

The sample remains are generally heavily fragmented, with scarce complete elements. Overall, the samples appear to largely contain cattle and pig/boar remains, although small mammal bone was recorded in four fills.

All of the sieved samples seen contained burnt bone; in particular, pit 091:2980, included clearly identifiable burnt animal remains. It is quite probable that the burnt remains are from general or cooking fire debris.

Discussion

The assemblage from this site is largely dominated by the main domestic food mammals, cattle and sheep, which probably provided the bulk of the meat as well as milk, dung, skins, wool and other by-products. Pig/boar clearly added to the diet. Equids, possibly small mule-sized animals, would have provided traction, although initial observations suggest they were not eaten.

There are possibly unusual features in this assemblage. The partial carcass of a fallow deer is likely to be of recent date although it does not represent the skinning, but the disposal of the main (and seemingly uneaten) body. If this proves to be of earlier date than is suspected, it strongly suggests 'ritual' activity. The ichthyosaur vertebra is likely to be simply naturally derived from the adjacent lowestoft till deposits, although might have been a deliberately collected and curated item.

5.5.2 Charcoal

Small pieces of charcoal were recovered by hand from contexts in two features: pit 091:2588 (fill 091:2589) and pit 091:2648 (fill 091:2649). That from context 091:2589 consists of a single small piece (1g), while that from 091:2649 consists of two small pieces together with a number of small fragments (1g).

5.5.3 Charred plant macrofossils and other remains

Introduction and Methods

Nine bulk samples were collected. The features sampled date, more or less exclusively, from the Roman period except one which dates from the Early Bronze Age.

Samples were processed using manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. The dried flots were scanned using a binocular microscope at x16 magnification and the presence of any plant remains or artefacts are noted in Appendix IV. Identification of plant remains is with reference to *New Flora of the British Isles*, (Stace, 1997).

The non-floating residues were collected in a 1mm mesh and sorted when dry. All artefacts/ecofacts were retained for inclusion in the finds total. The residues were also scanned with a magnet to retrieve any hammer scale or ferrous spheroids present.

Quantification

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

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

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

x = rare, xx = moderate, xxx = abundant

Results

Most of the samples contained fibrous rootlet fragments in moderate quantities, these are modern contaminants and are considered intrusive within the archaeological deposits.

Preservation of the plant macro fossils present is through charring and is generally poor. Wood charcoal fragments were present in all of the samples and made up the majority of the material present. Most of the samples produced flots of 100ml or less and these were scanned in full. Four samples produced flots of between 200ml and 400ml, a maximum of 100ml from these larger flots were scanned for the purposes of this report.

On the whole, the charcoal recovered was highly comminuted and of little value for species identification or radiocarbon dating. However, within some of the larger flots, fragments could be identified as being from both ring porous and diffuse porous species. No species identification was attempted on the wood charcoal beyond this point.

Cereal grains were recorded in five samples, although in very small quantities. Most of the caryopses were very fragmented and abraded making identification to species difficult or impossible. Wheat (*Triticum* sp.) caryopses were very rare, one or two of those observed appeared to be elongated, which may suggest the possible presence of Spelt wheat (*Triticum spelta* L.). No other chaff elements, rachis fragments, glume bases or spikelet forks, which would have aided in identification of the grains, were observed within the scanned flots.

A single possible charred legume fragment was observed within pit fill 091:2664, possibly a fragment of celtic bean (*Faba vicia* L.). Historically, pulses have provided an important source of protein within the diet, however as they do not require processing with heat in the way cereals often do, they are less likely to be exposed to chance preservation through charring and are often under-represented in the archaeological record.

Charred Hazel (*Corylus avellana* L.) nutshell fragments were present within four

samples and were particularly common within in pit fill 091:2755, the finds evidence from this feature suggests a date from the Early Bronze Age. Hazel nutshells are frequently recovered from prehistoric features, as evidenced in previous phases at Flixton Quarry (Fryer and West, various) and most likely represent a gathered food or fuel resource.

Charred weed seeds were rare and only a low number of possible grass family (Poaceae) fruits were observed within three of the samples. These could represent crop contaminates or material incorporated within collected fuel.

Un-charred weed seeds were also rare, only being present in small numbers. Clover/Medicks (*Trifolium/Medicago* sp.), Goosefoot family (Chenopodiaceae) and Speedwells (*Veronica* sp.) were all present but usually as less than five specimens at a time. Although many of these are common weeds of cultivated or rough/open ground, as none of them were either charred or abraded, it is likely that they are modern and intrusive.

Possible metalworking debris was observed within two samples. Flake and spheroid hammerscale was particularly common within pit fill 091:2874. The flot from this sample contained vitreous material and globules which were slightly magnetic along with ferrous spheroids. Material recovered from the non-floating residue has been submitted to the relevant specialist along with the hand collected material from this context. However, a small quantity of flake hammerscale recovered from the non-floating residue was not submitted with this material and so its presence has been recorded here. Flake hammerscale is produced during smithing and spheroidal hammerscale is produced during hot welding. The presence of spheroid and flake hammerscale within this context, along with all the metal working debris recorded previously suggests that metal working activities such as smithing were taking place in the vicinity.

Fragments of animal bone and fired clay were present in three of the samples. This material was observed under magnification and although its presence is recorded here the materials is either too small or too sparse to require additional identification by the relevant specialist.

6 Significance of the data and potential for analysis

6.1 Realisation of the Original Research Aims

Given that the areas covered by Assessments 4 and 4a were excavated under the same HER number (FLN 091), the following section considers how the combined assessments have addressed the original research aims for the project as specified in the Brief and Specification document dated 18th February 2011.

RA1: To undertake archaeological monitoring where there will be disturbance at subsoil level and prior to extraction of mineral or other development works.

Realisation: The soil-stripping process was monitored by an experienced archaeologist with a constant presence maintained during the exposure of the archaeological levels (both Assessments 4 and 4a).

RA2: To enable the identification and evaluation of potentially significant archaeological features or deposits.

Realisation: All features revealed during the soil-stripping process were marked on the ground in order to facilitate the subsequent evaluation of their archaeological significance. Individual features, groups of features/structures were assessed and treated at a level congruent with their perceived archaeological significance (both Assessments 4 and 4a).

RA3: To identify, excavate and record features and deposits of lesser archaeological significance.

Realisation: Deposits assessed as being of lesser archaeological significance were sampled and recorded in both plan and section (both Assessments 4 and 4a).

RA4: The principal academic objective revolves around the potential of the site to produce evidence for multi-period settlement and funerary activity.

Realisation: Significant prehistoric archaeology was recorded with the principal phases

being the Early/Middle Neolithic (long enclosure and pits, Assessment 4 only), Late Neolithic and Early Bronze Age (pits and ring-ditches, predominantly Assessment 4), Bronze Age/Iron Age (extensive occupation deposits, predominantly Assessment 4, but extending into 4a), Late Iron Age/Early Roman (occupation deposits, both Assessments 4 and 4a), middle and later Roman (Almost exclusively Assessment 4a).

Other than the prehistoric and Roman archaeology, the remaining features and deposits related to the post-medieval history of the site as part of the parklands associated with Flixton Hall (almost exclusively Assessment 4) and World War II activity (both Assessments 4 and 4a, but predominantly the latter).

6.2 The potential and significance of the stratigraphic data

6.2.1 Introduction

The following sections provide an assessment of the stratigraphic data by period with reference, where appropriate, to the regional research agenda; Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott (ed.) 2011). Similarly to Section 6.1, the potential and significance of the stratigraphic data presented below combines the results from the first tranche of work, previously detailed in Assessment 4, with those solely relating to Assessment 4a. However, where the emphasis for particular periods of activity differed between the two phases of work, then this is demonstrated in the text.

6.2.2 Period I.c. and d.; Neolithic

Flixton Quarry has already been recognised as one of the key projects in the region where Neolithic archaeology has been excavated (Medlycott (ed.) 2011, 11 and 13). Previously recorded Neolithic archaeology at Flixton includes both probable domestic type deposits, principally pits, and two monuments, a long barrow in 069 and a post-hole circle in 013, the latter published in East Anglian Archaeology 147 (Boulter and Walton Rogers 2012).

The Neolithic features covered by Assessments 4 and 4a comprise pits, arguably domestic in character, and a long enclosure. All but a single pit were recorded in the

Assessment 4 area. Two of the pit groups, both including significant artefactual evidence in their fills, were formally arranged; one as a small circle, the other with the individual features forming a 'lozenge' shape.

The research agenda states that future research would benefit from the exploration of the relationship between the Neolithic and Bronze Age funerary landscapes and settlement (Medlycott (ed.) 2011, 13), an opportunity for which is afforded by the Flixton sites and previously considered to be of at least regional significance. However, with the addition of the long enclosure to the monument group, then this can be raised to national significance.

6.2.3 Period I.e.; Early Bronze Age

Flixton Quarry has already been recognised as one of the key projects in the region where Bronze Age archaeology has been excavated (Medlycott (ed.) 2011, 15 and 19). Previously excavated Early Bronze Age archaeology at Flixton includes a series of funerary monuments (ring-ditches and associated cremation and inhumation burials) and Beaker domestic deposits.

The Early Bronze Age archaeology covered by Assessments 4 and 4a is effectively peripheral to the principal concentrations of features and monuments previously recorded in the quarry, elements of which are considered to be of national importance. Vestiges of two ring-ditches, the bulk of which were excavated in the 086 and 090 sites, and a few pits were recorded along with a grave-like feature in the Assessment 4 area with a further cluster of pits in Assessment 4a. While undated, the possible grave in Assessment 4 was similar in character to a beaker burial in the adjacent 069 site.

The research agenda states that future research would benefit from the exploration of patterns of burial practice and should include the relationship between settlement sites and burial (Medlycott (ed.) 2011, 20). The overall Flixton site offers this opportunity and the material in this assessment will form part of the greater whole. Given that the intended publication destination (Flixton Volume III) for this assessment will include some of the most significant Early Bronze Age archaeology at Flixton (Assessment 3b) (Boulter 2015), the 091 material will be included as part of this analysis.

6.2.4 Period I.f.; Middle Bronze Age

The Middle Bronze Age has not previously been well represented at Flixton and only a eleven features were positively identified in 091, all covered by Assessment 4.

However, these do include possible structural evidence and it has been suggested that some of the unspecified prehistoric features, including an enclosure ditch, could be Middle Bronze Age in date. In terms of the significance of the 091 material, it will be analysed in conjunction with the Late Bronze Age and Early Iron Age phases which are more extensively represented in both Assessments 4 and, to a lesser extent, 4a.

6.2.5 Period I.g/h.; Late Bronze Age and Early Iron Age

Flixton Quarry has already been recognised as one of the key projects in the region where Bronze Age and Iron Age archaeology has been excavated (Medlycott (ed.) 2011, 15, 19, 22 and 25).

The Late Bronze Age/Early Iron Age archaeology covered by Assessments 4 and 4a effectively comprises a series of pits, the majority of which contained finds assemblages that were domestic in character and erring on the side of Early Iron Age rather than Late Bronze Age. These features were predominantly located in the Assessment 4 area, although residual ceramic material was frequently encountered within the Assessment 4a assemblage. While no structural evidence was recorded, the pattern broadly continues the dispersed evidence of Early Iron Age settlement previously identified occupying a similar topographical aspect on the shallow north-east facing slopes in area 056, 057, 059 and 062 to the south-east. Given that the intended publication destination (Flixton Volume III) for this assessment will include part of an extensive area of Late Bronze Age occupation (Assessment 3b) (Boulter 2015), that is spatially isolated from the later material, there is potential to study and compare the character of these successive phases of activity.

Clearly the site has local significance and, when looked at in the wider context of the Flixton excavations, has the potential to be of regional or even national significance.

6.2.6 Period I.i.; Middle Iron Age

The Middle Iron Age has not previously been well represented at Flixton. While not extensive, the 091 deposits included a discrete scatter of pits and a circular structure in the Assessment 4 area, the location of which was effectively isolated from the Early Iron Age and Late Iron Age/Early Roman occupation areas. However, some of the identified ceramic types were clearly persistent throughout the entire Iron Age and, as they were found in both Assessment areas, almost certainly indicate at least a low, but continuous, level of background activity.

The Revised Regional Framework states that while some key projects have gone some way to addressing the earlier research topic ‘Social organization and settlement form and function in the early and middle Iron Age’, that ‘the early Iron Age appears to be better represented than the middle Iron Age’ (Medlycott (ed.) 2011, 29). It is also stated that in some parts of the region the evidence for Middle Iron Age activity is poor, including Suffolk and Norfolk (Medlycott (ed.) 2011, 32). There is potential for the character of the Flixton deposits to be considered in regard to their chronological and spatial relationship with the Early Iron Age and Late Iron Age/early Roman activity and with similar sites in the region. However, their significance is considered to be essentially local/regional.

6.2.7 Period I.0.; Prehistoric, unspecified date

Even though the features in this phase were poorly dated, they included significant items, for example the unurned cremations and flint cobble filled penannular ring ditches in Assessment 4. While the absence of dating does limit their import, they are at least locally significant as they form an intrinsic, if small, part of a wider prehistoric monumental landscape. There is potential for C14 dating to be undertaken on the unurned cremations.

6.2.8 Period II.a.; Late Iron Age/Early Roman

Flixton Quarry has already been recognised as one of the key projects in the region where Late Iron Age/early Roman archaeology has been excavated (Medlycott (ed.) 2011, 33 and 36).

While in the overall 091 area there are deposits which effectively span the later Iron Age and 1st century AD, the majority of the features assigned to Period II.a. are actually identified as definitively post-conquest. This is a particularly important period of time for this part of the country due to it being within the polity of the Iceni tribe and what this implies regarding the Boudiccan revolt.

In addition, the Revised Regional Framework recognizes the difference between broadly the north and south of the region (Medlycott (ed.) 2011, 32). Flixton lies relatively close to what is considered to be the boundary between two of the principal tribal entities, the Iceni to the north and the Trinivantes to the south, and may have some significance in regard to this regional difference.

While no obvious structural deposits were identified, the finds assemblage was essentially domestic in character, but did include evidence for small scale industrial activity, metalworking and textile manufacture. The deposits represent the continuation of contemporary activity recorded to the south-west in area 062 where post-holed buildings were present. In addition, the redundancy of a ditched field system recorded extensively in the quarry has been attributed to this phase, but may have been initiated earlier, in the Iron Age or even extending back into the Bronze Age.

6.2.9 Periods II.b. and II.c.; Middle and Late Roman

Flixton Quarry has already been recognised as one of the key projects in the region where Roman archaeology has been excavated (Medlycott (ed.) 2011, 33 and 36).

The features of middle and later Roman date were overwhelmingly recorded in the Assessment 4a area, effectively the continuation of deposits previously excavated in area 062 immediately to the south-west (Boulter 2006 and forthcoming). This represented a contraction of the area occupied during the later Iron Age and Early Roman phases, a scenario also demonstrated at Cartwrights Covert some 900m to the west-south-west (Boulter 2011b and 2018).

The Revised Regional Framework states that many of the earlier research topics identified by Going and Plouviez in *Research and Archaeology: A Framework for the*

Eastern Counties 2. research agenda and strategy (Brown and Glazebrook 2000) remain valid. In addition, the essentially rural character of the Flixton deposits lends it comparison with the recent synthetic works, particularly 'The Rural Settlement of Roman Britain' (Smith *et. al.* 2016). The topics highlighted in the revised local research agenda which are relevant to Flixton are primarily those associated with rural settlements and landscapes (Medlycott (ed.) 2011, 47) with their significance level considered to be local/regional.

6.2.10 Period IV.; Medieval

There is no potential for any further study regarding the single medieval feature.

6.2.11 Period V.b.; Post-medieval, c.17th – 19th centuries

The majority of features attributed to this phase, all of which were in the Assessment 4 area, were field boundaries, some of which may represent survivals from an earlier period, but also include developments associated with the Flixton Park Estate. When examined in conjunction with similar period archaeological deposits excavated over the wider area of the quarry, these features can be considered to be of local importance.

6.2.12 Period V.d.; Post-medieval, c.20th century

The majority of the features attributed to this phase relate to a World War II military installation, predominantly recorded in the Assessment 4a area.

While these deposits may have some local and regional historical significance, no further work is recommended other than a passing note in any subsequent publication.

6.2.13 Period 0.; Undated

The features attributed to this phase were generally unremarkable and not datable. No further work is recommended other than inclusion on feature plans and a passing note in any subsequent publication.

6.3 The potential and significance of the finds data

6.3.1 General introduction

The detailed information presented by finds category below combines that from the earlier 091 excavation, previously included in Assessment 4, with that from the area covered by Assessment 4a (this document).

Overall, the 091 phases of post-excavation analysis will considerably increase our understanding of the extent and characterisation of the prehistoric and Roman landscape at Flixton.

A study of the artefacts (pottery and worked flint) relating to the Early to Middle Neolithic period features, principally the Assessment 4 long enclosure, can be considered alongside the Long Barrow finds assemblages in Volume II (Boulter in prep.). The Grooved ware and Beaker pottery assemblages dating to the Late Neolithic/Early Bronze Age period can be viewed in the context of previous assemblages of this date on the site. The plant macrofossils (cereal grains, pulses and hazelnuts) which were recovered from Late Neolithic features provide some evidence of a settled agrarian regime during this period.

Extensive artefactual evidence dating to the Early Iron Age, and the Late Iron Age/Roman period have been described previously on the site at Flixton, and the recent work has also uncovered activity of this date. Artefacts of Middle Iron Age and their associated features have been largely absent in previous phases of the quarry but were recovered during the earlier 091 fieldwork, adding to the continuity of occupation within the wider area of the quarry site.

The finds also revealed a significant middle and later Roman presence in the Assessment 4a area, which was clearly directly associated with deposits previously excavated immediately to the west-south-west in site 062 (Boulter forthcoming).

Limited palaeoenvironmental remains were recovered although these along with a small assemblage of metalworking waste did provide evidence for iron smithing occurring in the vicinity during either the later Iron Age, or more likely the earlier Roman period.

6.3.2 Pottery

Prehistoric Pottery

The Early/Middle Neolithic assemblage is of small to moderate size and features some diagnostic elements which would be worthy of publication, although not as large as some of the groups recovered from previous stages of work at Flixton Quarry (Percival 2012 and *in prep.*). The main element of regional significance is that much was recovered from a long enclosure, possibly forming a mortuary-related monument. There is therefore potential for comparison with the Early Neolithic pottery from the long barrow in an adjacent area of the site (Percival *in prep.*). One major difference is the occurrence of both Early Neolithic plain bowl/Mildenhall pottery and Middle Neolithic Peterborough Ware, potentially suggesting that the ditches associated with this monument either remained open over an extended period or received waste material which was curated or in circulation for a long time. There may also be potential to look at attributes like fabric, decorative style and vessel size, as well as post-depositional effects like fragmentation. Elsewhere in the Early/Middle Neolithic assemblage, there are also some possible hints of structured deposition which would be worth investigating, particularly in pit 091:1443, which contained a large proportion of a single vessel.

The later Neolithic Grooved Ware, predominantly recovered from the earlier phase of work, represents a large regionally-significant assemblage adding to sizable groups already identified in previous phases of work at Flixton (Percival 2012 and *in prep.*). In some ways the assemblage is comparable to that from these phases, containing elements of the Durrington Walls and Clacton styles, sometimes within the same groups. More in depth analysis of form and decorative style is required in order to try and tie down and quantify these individual styles and look in more detail at the dating evidence. There is potential to submit two Grooved Ware sherds with carbonised residues for direct radiocarbon dating and if other suitable material is available for C14 it may further the regional research aim to better understand the chronology of this pottery tradition (Medlycott 2011, 13).

A particularly interesting element of the assemblage is the very large number of sherd links occurring within the Grooved Ware pit arrangement 091:0164. Within the scope of this assessment it was not possible to lay out this material together to look for all cross-

fits or sherds of common vessels occurring in different features. As part of the analysis work, there is clearly potential to carry out a detailed refitting exercise. Especially if comparable data is available for worked flint and/or any other artefact categories, it would be possible to analyse the temporal relationship between the pits, estimate more closely the number of vessels and look at the relationship of the pottery to permanent or semi-permanent phases of occupation (e.g. following the model used by Garrow *et. al.*, 2006). This could also feed into analysis of depositional patterns, whether these are interpreted as placed deposits or the deposition of domestic waste, perhaps as part of the closing of a phase of landuse.

The Beaker assemblage, predominantly recovered from the second phase of the 091, is clearly the most significant element of the prehistoric pottery from that area. Relatively small non-funerary Beaker assemblages have previously been noted from a number of different areas of Flixton Park Quarry (Percival 2012; Percival *in prep.*; Percival 2015; Doherty 2017). The stratified material from pits 091:2740, 091:2743, 091:2753 and 091:2818 represent one of the most substantial groups, comparable in size to the assemblage from Area 062 (Percival *in prep.*). In general, this assemblage appears stylistically similar to that from other areas of the quarry but there is scope for a more detailed comparison of form and decorative elements. It appears significant that the pits have a number of cross-fits between Beaker vessels in pits 091:2740, 091:2743 and 091:2753. A similar pattern has been noted in a pit arrangement containing Grooved Ware in the previously assessed part of Area 091 (Doherty 2017). There is also potential to compare this 'domestic' assemblage with other funerary Beaker pottery including that from 088 and 090 (Percival 2015), the two other areas which will combine with 091 as the Flixton Volume III EAA monograph.

The Iron Age assemblage, particularly that from the earlier phase of excavation, includes some very large stratified groups which would provide useful comparative data for the region, especially as the assemblage exhibits some evidence for chronological progression. On the other hand, diagnostic material comes from a limited number of discrete features which are fairly widely dispersed across the site making it less useful for examining topics like distribution or relationship of the pottery to structures or areas of activity. There is also no potential for direct radiocarbon dating of carbonised residues on pottery from this period. Overall, although the assemblage has some

regional significance because it provides good key groups which warrant detailed description, quantification, illustration and comparison with other regional assemblages, there is probably limited scope for wider analysis.

The later Iron Age/early Roman assemblage, again mostly collected during the earlier phase of excavation, is of similar character to that previously published, or in preparation, from other areas of the quarry. However, it is the largest single assemblage so far recovered and includes many large stratified groups. There are no clear-cut examples of placed deposits in this assemblage. Twelve vessels could be described as fragmented but partially-complete but they all appear in much larger groups of fragmented pottery. This perhaps suggests that such groups derive from middens which contained both older and more freshly deposited material. Although rubbish may not always have been dumped near its place of use, there does appear to be some potential to use this material to look at special patterning to determine where areas of intensive domestic activity are located.

Previous work in Flixton Quarry produced some features which had particular concentrations of Gallo-Belgic wares (Tester 2012, 66 - 71). This also seems to be the case in the current area, with large quantities in pit 091:1746 and ditches 091:1630/1646. Further analysis of this material might therefore, have the potential to identify intra-site areas which are either of relatively high status or where activities like dining and drinking took place. This relates well to a priority identified in the original research agenda for the Eastern Counties to address 'evidence for internal zoning or spatial organisation including areas for ritual and burial, specialist industrial manufacturing or processing, habitation, agriculture and stock management' (Brown and Glazebrook 2000, 17).

The assemblage produced a notably substantial component of both imported Gallo-Belgic wares and imitations – sometimes very good quality ones – in local fabrics. Further to the south, this type of assemblage typically comes from nucleated settlements with good links to elite centres or oppida, which have so far not been identified on the same scale in northern East Anglia as they have around Essex and Hertfordshire. A project published in the last ten years which aimed to quantify all of the Terra Nigra and Terra Rubra in published catalogues and unpublished museum

collections (Timby and Rigby 2007) recorded just fifty-four estimated vessels from Suffolk and Norfolk combined – mostly from just two sites in south Suffolk, Burgh and Hacheston, which are probably more directly within the sphere of the ‘Eastern kingdom’, as defined by Creighton (2000), centred around *Camulodunum*. The current phase of work at Flixton produced twenty-six TN or TR vessels, adding to the already substantial component of Gallo-Belgic vessels from previous phases of work. This strongly suggests that the site had high-status elements, and perhaps starts to add to other archaeological evidence from sites like Thetford for the presence of some well-connected Gallo-British elites in the territory of the Iceni. This evidence clearly has regional significance and contributes to a research aim identified in the Revised Research Framework for the East of England to better understand the transition between Iron Age and Roman period in northern East Anglia (Medlycott 2011, 31).

The Roman pottery assemblage, the vast majority of which was recovered from the later area of excavation, is very large and well stratified, with many substantial, well-sealed pit groups and a good chronological sequence. It therefore has some regional significance and would warrant full publication. Although it overlaps chronologically with the pottery from area 053, reported on in Volume I (Tester 2012) and those, principally 059 and 062, that will form part of Volume II (Tester *in prep.*) it appears to have similar focus, predominately in the late 1st to 2nd century with some material of later 3rd to earlier 4th century date. The assemblage is similar in character to the previously excavated material, being dominated by local coarse wares with few imports or widely traded fabrics. The apparent contrast between the previously assessed/published high status assemblages from the mid-1st century AD, featuring high numbers of imported Gallo-Belgic wares, and assemblages from the late 1st century onwards, which have fairly limited quantities of samian ware, amphorae and relatively low proportions of other fine and table wares, is an area which would warrant further analysis. This appears to suggest a significant change in the status and/or cultural affiliations of the population. It is tempting to link this shift to the aftermath of Boudiccan rebellion, when high status Gallo-Roman supply networks would likely have been interrupted. In order to understand this phenomenon more fully, it would be useful to compare the assemblage with other non-urban settlements with high status origins in Norfolk, Suffolk and Essex. Examples include Thetford, Burgh, Kedington, Woodham Walter, Kelvedon and Dovehouse Field, Cressing (Martin 1988; Gregory 1991; Martin *et. al.* 1998, 235;

Rodwell 1987; 1988; Marter-Brown and Doherty *in prep.*).

More generally, there is potential for further research and comparison with other assemblages both from within the quarry itself and in the wider region. It would also be useful to compare the pottery in the current assemblage with fabric samples and illustrations of kiln products from the two kilns previously investigated in area 062 (Tester *in prep.*). At present the assemblage has not been analysed with reference to its distribution, so it may also be useful determine whether there are any intra-site concentrations of pottery.

Post-Roman pottery

The post-Roman pottery assemblage was almost entirely recovered from the earlier phase of excavation and consists of a small quantity of sherds (twenty-seven sherds, total wt. 137g) dating mainly from the medieval to late post-medieval period, with one sherd of Late Saxon date. This contrasts with the previous phases of work, where substantial groups of Early Anglo-Saxon pottery were recorded, both from cemetery features and from the settlement. The pottery from the current phase was recovered mainly from ditches and pits, and its significance lies in the dating that it can provide for these features. This information can be summarised for publication if required.

6.3.3 Ceramic building material

The majority of the ceramic building material was recovered from pit fills, with only small quantities from other features such as ditches. Marginally more, in terms of quantity, was collected from the later phase of excavation. Almost all of this is Roman. While the Roman material includes pieces from a range of tile and brick types (including flue-tile), the nature of the assemblage suggests these were brought onto the site from elsewhere and do not indicate that any tile roofed or well-appointed building(s) were present; although they suggest that a building or buildings of some status may well have existed in the wider area. The Roman CBM was probably brought onto the site as useful material, for example for use in surfaces or in un-mortared construction. The small quantity of post-Roman CBM, mostly consisting of small pieces suggests this derives from manure scatter in the late medieval and/or post-medieval period. Both the Roman and post-Roman CBM appears to have little to add to the overall interpretation of the site other than the preparation of a brief summary for incorporation in the publication.

6.3.4 Fired clay

Pieces from fired clay objects and a large quantity of more disparate material that can be gathered together as structural daub was recovered; mainly from pit fills with a small amount from ditches and other features.

There are a significant number of pieces from loomweights, probably most if not all of Iron Age/Early Roman type. Other pieces appear clearly to come from other object types, possibly bricks or fire bars, although these are difficult to separate from the loomweight pieces. The loomweights indicate household industry producing cloth and hint at the potential management of flocks here in relation to wool production for this purpose. The relatively small and more fragmented assemblage from the second phase of the 091 excavations will be considered in relation to a larger assemblage of loomweights recovered during the earlier phase of excavation (Riddler 2017 and section 7.49 Small Finds, this volume).

There is a significant quantity of broken-up pieces of structural daub. The more diagnostic material among this includes some structural pieces with wattle voids. Most probably derives from clay-built structures such as ovens and hearths rather than burnt walls of buildings. One or two pieces from fired clay objects (above) may also be associated with these types of structure. A few pieces with vitrified surfaces are probably hearth lining. These betray use in high temperature installations and indicate light industry or industrial processes taking place on this area or close by. There are also one or two small pieces might possibly be briquetage, which has been recorded as present in the earlier phase of 091 excavation (Anderson 2017), although the pieces here are not considered typical. The material hints at the import of salt from coastal sites.

6.3.5 Glass

Glass was recovered from both phases of the 091 excavations; an insignificant quantity of post-medieval material from the earlier phase that requires no further investigation, along with a small, but significant assemblage of Roman vessel the glass, mostly probably of Early - Mid Roman date, all recovered from the second phase of excavation.

Also, although fragmentary, it allows a range of vessels types to be identified at a broad level. This material therefore has some potential for comment in relation to the status of the Roman period settlement here. In addition, very little Roman glass has previously been recovered from the excavations here (*Cool in prep.*).

6.3.6 Quernstone

The querns, the majority of which were recovered from the second phase of 091 excavation, form an interesting group with pieces from several sources. These include imported lava querns from the Rhineland and British quernstones from the Pennines in typical Millstone Grit and sandstone and a large upperstone from a Hertfordshire puddingstone quern. The latter is of itself significant as it retains the complete profile, including handle hole and hopper and also a girth groove for an iron drive band which is stained from the iron band itself. Two other pieces of Hertfordshire puddingstone quern, one large (SF 091:2101), were recovered from the earlier phase of excavation in the 091 area. The large fragment appears to be non-standard in its overall shape, as it is not a beehive-shaped upper stone. Other type of Hertfordshire Puddingstone querns have been recorded which are much flatter than the typical hemispherical or sub-conical form, and it is possible that this type belongs to an earlier group (c.AD 25-50). Further work is required to establish how the stone fits into the existing typology, together with the dating evidence for the feature in which it was found.

The Pennine querns are also of interest in that one is concentrically tooled with radial grooves on the grinding face, a surface finish which appears not to be common among Roman querns, although there are published examples.

In the case of the large sections of puddingstone quern, these will most likely represent a deliberate/placed deposit and the context of this should be investigated in relation to the background of similar deliberate deposition at other sites. It should be born in mind that other quern pieces may also have connotations as special deposits, notably the two large, joining pieces of lava quern; although as pieces of quern they may not necessarily have produced any special resonance within the less tangible experiences and propitiatory routines of the community. The date of the contexts of the British querns is also of interest as this has potential to comment on the date of these types of querns (Hertfordshire and Pennine stone) as site finds.

6.3.7 Worked flint

Introduction

Consideration of the pottery dates for the flint-producing contexts from the 4a phase of work suggests that, where of prehistoric date, features in this part of the site are more likely to fall into an earlier period (LNEBA or earlier Bronze Age) than the later Bronze Age or Iron Age dates proposed for much of the material from 088, 090 and the earlier phase of 091. It is also apparent (from the pottery dates provided) that much of the flint from the 4a phase of work was found residually in deposits of Roman date.

Previously it was noted that proportions of parent waste (cores, struck fragments etc.), general debitage, and tools from 088, 090 and the earlier phase of 091 were fairly similar (Bates 2016). However, the assemblage from 4a differs slightly with less parent waste and debitage and somewhat larger numbers of tools and retouched and utilised pieces (Table 32). This may reflect the different dates of the material or relate to the contexts in which it was found. However, it should be noted that these %'s, by number of the assemblage from each site, are 'approximate'. In addition, a few miscellaneous other types, e.g. thinning and polished flakes, hammerstones *etc.*, have not been included.

Type	088	090	091/4	091/4a
Parent waste	7	6	6	5
Debitage	90	86	83	73
Tools	2	2	3	8
Misc. retouched	1	2	3	7
Misc. utilised	1	2	5	7

Table 32. Percentages by broad type of flint from sites FLN 088 – 091

At assessment, the flint distribution has not been looked at in detail and it is likely that analysis and further consideration may enable identification of other distinctive feature assemblages within the present study area. It will also enable comparison by period and type with the material from the other areas of Flixton Quarry, including the areas already published.

Potential for further work (sites 088, 090, 091 and 091/4a)

The entire 091 assemblage will be analysed and reported on alongside the material

from 088 and 090. Analysis of the flint from all these areas will add to the corpus of material already published from other areas at Flixton Park (Bates 2012 and *in prep.*). It has the potential to assist in forming a more complete dataset for the area of the quarry and providing further interpretation both topographically and chronologically for activities and lifestyles (Lithic Studies Society 2004, Historic England 2015).

In broad terms, while some earlier material is present, the assemblages may have particular relevance in terms of identifying trends in flint-working during the Bronze Age and Iron Age (Medlycott 2011, 21). Evidence for flint-working during these periods has previously been recorded, in differing amounts, from several nearby areas of the site (*e.g.* 062, 065, 069, 068 and 086) (Bates *in prep.*).

An earlier component for the assemblage is particularly well represented within the 091, 4a material, demonstrated by the presence of several blades of probable earlier Neolithic (and possibly earlier) date, an earlier Neolithic arrowhead and truncated blade, a later Neolithic arrowhead, and scrapers, a knife and (probably) combination tools distinctive of the later Neolithic earlier Bronze Age. Other material (*e.g.* flakes cores, debitage and miscellaneous retouched and utilised pieces) is less diagnostic and could be of various dates (likely to be later Neolithic onwards). The earlier date is also supported the presence of LNEBA/EBA pottery in many of the associated contexts. Flint relating to activity during these periods has also come from most of the previously excavated areas at Flixton (*e.g.* 008, 009, 013, 053, 057, 059, 061, 062, 069 and 086) (Bates *in prep.*) and the present material has potential in terms of comparison and consideration in terms of the wider site.

The potential of the flint lies mainly in its analysis in relation to ceramic dates and context type. It will probably be the case, once initial analysis of the flint by context is undertaken, that specific group/feature/context assemblages are identified as of particular potential significance and will be selected for closer consideration. It seems likely that some flint will be included in the final report only in Tables and/or summary statements.

An impression during cataloguing the earlier phase of 091 was of relatively few retouched tools, although this was not as marked for the subsequent phase (Table 32).

In addition, this is not supported by a preliminary comparison with 088 and 090 but might be evident in comparison with the other, previously reported, areas of the quarry. A lower perceived number of 'tools' may be due to the irregular and 'miscellaneous' nature of much of the modified flint but would, anyway, concur with a later prehistoric date. It is possible that closer consideration of the irregular pieces may suggest particular patterns of tool use.

The flint from the 4a phase of 091 also appeared, during cataloguing, to include relatively few diagnostic tools but, as can be seen in Table 32, this was, actually not the case – a greater proportion of the material from this site comprised tools, both formal and informal/miscellaneous ones. Rather the observed 'few' tools resulted from the fact that almost all of the formal tools had been assigned small find numbers and bagged individually, and separately from the main context assemblages. This process also meant that, at assessment, entire context assemblages were not seen together. It will be informative to study the 'small finds' alongside the rest of the flint from individual contexts and (where they occur) from multiple fills of individual features. It is possible that this process may also help suggest dates for some of the smaller feature assemblages.

The comparison of the present assemblages with those previously excavated at Flixton, and elsewhere could, potentially, reveal variations in the make up of the lithic assemblages from different periods and associations and within the wider area where aspects such as raw material type and topography were the same.

Analysis of the flint has potential to help date excavated deposits or features, either in conjunction with pottery or, on occasion, in the absence of ceramic evidence.

6.3.8 Heat-altered flint and stone

Heat-altered flint and stone (sandstone/quartzite) have been fully catalogued. The material was collected from a large range of features types, few of which would have been directly related to the activity with which the material was originally associated, presumably processes involving heating.

Of itself the material has limited potential for future analysis, although the occurrence by

period on the site has not been investigated and this should be undertaken in association with the more datable elements of the finds assemblages recovered from the same contexts. Particular emphasis should be where the heat-altered material appears to be within its primary context of deposition, e.g. clay lined pits.

6.3.9 Metalworking waste

The assemblage, particularly that from the earlier of the 091 excavation phases, is significant because it indicates ore roasting, smelting and smithing probably took place on a limited scale somewhere on or near the site in the late Iron Age or very early Roman period. The smithing hearth bottoms seem to suggest smithing was limited during each episode and was probably a 'one-off' activity.

After the establishment of Roman rule, the traditional Iron Age ironworking practices (one-off, small-scale local activity which took place when required and utilised local ore sources) virtually disappeared in England, to be replaced by large-scale iron production in areas such as the Weald of Kent and the Forest of Dean. The technology of the furnaces also changed, altering the types of slags that were produced during smelting.

The assemblage is of local and regional importance. It is also of national importance in that it is an addition to the increasing number of Iron Age and very early Roman sites demonstrating that iron production was widespread in the pre-Roman conquest period. Yet again this site demonstrates the emerging theme that smelting took place wherever an ore source existed, no matter how small that source and despite the it sometimes requiring pre-treatment to extract as much iron as possible during the smelt.

6.3.10 Miscellaneous finds

Nails

Most of the nails are included with the small finds section. The few iron nails recorded separately are of limited archaeological potential other than as potential dating evidence for features of Roman or later date.

Clinker

The small quantity of this material has been catalogued and otherwise appears to be of very limited archaeological potential.

Other finds

Most of this material is natural in origin. The small quantity of artefactual material within this is, of itself, of low or no archaeological potential.

6.4 The potential and significance of the small finds

6.4.1 Coins and brooches

Coins

Only a small assemblage comprising four copper-alloy coins were recovered from the earlier phase of 091 excavation. Notably, however, two (SF's 091:2052 and 2113) are identifiable as copies of an as and a dupondius of Claudius I (AD43 - 54); these types have been suggested to have been produced by the Roman army in Britain to make up for a shortfall in available bronze coin and were probably in circulation between 43 and 65. The other two are unidentifiable except to probable broad type later in the Roman period.

The assemblage from the later phase of the 091 excavation was also not particularly large, but does appear to represent a fairly typical profile for a Roman rural site, with a large number of late 3rd century issues, particularly the contemporary copies that were widespread in the period AD 275 - 285. The absence of early Roman coins need not imply an absence of activity during that period and the silver denarius is from a time when silver coinage was relatively widely circulated so does not suggest any particular status other than coin use.

However, the low representation in Reece period 17, the 330's, suggests that activity here came to an end, as coin loss is normally high at this time.

Given the contrast with the coins found in the earlier area of 091, which were sparser but predominantly early Roman, the unstratified/subsoil finds seem likely to reflect past activity in the immediate context. The overall Flixton sample now represents a significant assemblage for studying Roman coin loss across a landscape.

Brooches

While the number of later Iron Age and Roman brooches recovered from the two phases of the 091 excavation was not high, there were differences in date/type between the areas. There is potential to explore the reasons for the differences along with comparisons with the wider Flixton site and other locally and regionally.

One of the brooches from the earlier phase (SF 091:2114) is unusually large and flamboyantly decorated with Celtic curvilinear motifs which are generally rare on post-Conquest brooches. Also, of particular note from the earlier phase is the association of three brooches (and the pin fragment) in a single pit (091:1746).

6.4.2 Other Iron Age/Roman small finds

Loomweights

The assemblage of loomweights forms a welcome addition to the growing corpus from the Quarry. Two sets of Flixton triangular loomweights have been published or are close to publication (Anderson 2012; Riddler forthcoming), whilst a small number from 088 and 090 (where most of the loomweights are cylindrical in form) have been assessed (Riddler 2013). The relative totals by site are shown in Table 33 and they emphasise the contribution that this latest group makes to the overall assemblage of triangular loomweights from Flixton.

The significance of this group of triangular loomweights from the various sites at Flixton can be appreciated when the weights of Table 33 are compared with the total of 10.5kg from 88 fragments retrieved at Fison Way, Thetford (Gregory 1991, 148). The weight of loomweights from 091 alone exceeds the total from Thetford.

Site	No. of pieces	Wt. (g)	Percentage by Wt.
008, 013, 053	153	5,033	15.2%
057, 059, 061, 062, 068	101	10,079	30.5%
088	10	224	0.7%
090	1	36	0.1%
091 (Ass 4 and 4a)	408	17,716	53.5%
Totals	673	33,088	100%

Table 33. Triangular loomweights from Flixton Quarry

Within the overall assemblage, the only complete or near-complete loomweights are unfired. The heaviest of them (SF 091:2039) approaches the weight of the fired triangular loomweight from 053 (Anderson 2012, fig 4.7.1). The three remaining examples have weights of 1,655g, 1,915g and 2,117g. Given their fragile state and unfired condition, they should not necessarily be compared precisely with other triangular loomweights for these weights. There is only one other complete, fired triangular loomweight from Flixton and that weighs 1,429g. The new loomweights add further detail to the metrology of triangular weights across the Iron Age, suggesting that they were manufactured in at least two different weights. There is a growing interest in the weights of these objects and the details of East Anglian examples have been summarised recently (Crummy 2016, 63). The Flixton material will add further significant detail to this study.

The most important point about them, however, is that a number of them are unfired. Whilst fragments of fired triangular loomweights are commonly found on sites of Iron Age and early Roman date, it is extremely rare to find unfired examples. There are no published examples from East Anglian sites and they have seldom been reported elsewhere, other than at Danebury, where they formed less than 10% of the assemblage (Poole 1991, 230). The second volume in the Flixton Park Quarry series already has a lengthy section on ceramic loomweights of cylindrical, pyramidal and triangular form, and weaving implements form an important part of the prehistoric section of that report. Further loomweights of cylindrical and pyramidal form were assessed from 088 and 090. These new discoveries from 091 effectively add another whole type of loomweight, the triangular form, to those recovered from the 088 and 090 sites, which are centred on cylindrical and pyramidal loomweights, with only a small component of triangular loomweights, as noted above. When the loomweights from 088, 090 and 091 are put together, there is a complete sequence of the known types of prehistoric date. Although that sequence can be matched in East Anglia by sites at Mucking and its immediate vicinity in Essex, all of those sites were published before the modern interest in loomweights and weaving technology began.

Other Late Iron Age and Roman Small finds

As stated above, the earlier 091 assessment of small finds is dominated by ceramic loomweights, but it was also noted that the iron objects (mostly of Roman date) are

mostly craft working objects or structural ironwork and are generally comparable with the larger assemblage from Fison Way at Thetford, amongst other sites (Gregory 1991). The first assemblage included objects of ceramics, copper alloy, iron and stone with the range of iron implements used in woodworking and leatherworking of particular interest although, intriguingly, there is an absence of simple objects like knives, which might have been expected.

A similar image emerges here, but the assemblage of Roman iron objects is more substantial and significant. It includes a number of implements, most of which are probably related to woodworking, as well as substantial parts of the bindings of at least one iron-bound chest, a comparatively rare item for Roman Britain. The focus of attention here lies with this intriguing collection of Roman ironwork. It is heightened by the lack of publication of Roman ironwork from Suffolk. The publication of material from Scole for example, was largely confined to a CD and was very selective in its approach, with only a sample of the ironwork considered, whilst Hacheston was more balanced in its approach (Seeley 2014, 327).

The second facet of this work to be considered is the increased interest in the nature of these depositions of ironwork, a subject led by Richard Hingley in particular (Hingley 2006). Are we dealing with the deliberate deposition of an iron-bound wooden chest and its contents, with the intention of recovering it at a later date? Or had the chest already been dismantled, possibly for recycling? Was its deposition a deliberate, ritual act? Is it a hoard of Roman ironwork? Hingley has set out a framework for the consideration of these alternatives and a close examination of the chest and its contents should enable us to make an informed choice between these alternatives. The interpretation of this material can then be used to reflect on a consideration of the site as a whole, noting, as already mentioned, what is missing as much as what was actually recovered from the site with only the small assemblage of brooches providing a balance to an assemblage that is otherwise heavily centred on craft production.

6.4.3 Post-Roman small finds

The objects of later medieval and post-medieval date were generally unstratified, mostly recovered during metal detecting and represent common object types. No further work is recommended for them.

The two exceptions, the gold coin and ring (Plate 57, 2 and 3), have been fully recorded, reported to the coroner, subsequently disclaimed and sent back to the landowner.

6.5 The potential and significance of the biological evidence

6.5.1 Cremated bone

The five cremation burials were all recorded in the earlier phase of the 091 excavations. Full recording of the bone will provide data on the surviving cremated human remains, as well as enabling radiocarbon dates to be established for the unurned cremations. This analysis will inform a broader understanding of the land-use of this part of the Flixton prehistoric landscape.

The burials require full recording and analysis, and the preparation of a publication report. Radiocarbon samples will be extracted. No further work is required on the small quantities of probable animal bone, although a note will be included in the report.

6.5.2 Animal bone

The overall 091 assemblage has the potential to provide further information on the diet in the prehistoric to Roman period. Ages of individuals and estimates of stature should provide information on breeds present and their uses. Similarly, pathologies should provide insights into the health and husbandry of domestic food stock and other domestic animals present. In addition to the dietary evidence, the hand-collected and especially the sieved samples, have the potential to provide environmental evidence with the small mammal remains.

There is a relatively high number of burnt fragments of bone in this assemblage, much of which is heavily fragmented. It may be possible that some of the remains are of human bone and from cremations. However, it is equally possible that these burnt remains are meat waste disposed of on long-term fire sites or larger fires, which would leave fully oxidised fragments of bone. Animal bone, with its high fat content, was sometimes used as a source of fuel and may have been collected for fueling fires.

A notable difference between the overall 091 assemblage and remains from the other Flixton sites is the type of the most frequent species. At 088 and 090, equids were the most frequent (Curl 2015), while at 091, cattle and sheep/goat are the most frequent. There is potential to investigate the chronological and spatial relationships associated with these differences.

6.5.3 Charred plant macrofossils and other remains

In general, the samples from both phases of 091 excavation were poor in terms of identifiable material. The assemblages present however, are consistent with the material recovered from similar features during earlier phases of excavation at Flixton Quarry that have previously been analysed by Val Fryer (Fryer, 2012 and *in prep.*).

Charred cereal grains and pulses were present in small numbers. Although many of the remains were relatively sparse, they clearly indicate that agricultural, domestic and possibly ritualistic activities were taking place in the vicinity. The mixed nature of these deposits, including wood charcoal, cereal remains, fragmented animal bone and fired clay fragments, suggests domestic waste, possibly the result of food preparation, deliberately disposed of within the backfill of the features sampled. Only Sample 091:1794 contains sufficient density of material (c.+100 specimens) to allow for quantification; however, analysis of the single sample would add little information to the current understanding and interpretation of the site and is not recommended.

The presence of cereal and pulse remains within the late Neolithic contexts, although sparse, is of interest. Evidence for development of agriculture in Britain and a transition from a more transient hunter-gather lifestyle is often rare, particularly so within late Neolithic assemblages. The presence of cereals along with the possible remains of gathered food resources in the form of nutshells may add data, however sparse, to the study of this transitional period (McClatchie *et. al.*, 2014). Again, however, the current assemblages are too sparse to justify full quantification or analysis as part of this investigation.

The metal-working debris recovered from these samples, however, is of significance and as discussed earlier in this document, were submitted to a metal-working specialist

for assessment.

It is not recommended that any further work should be carried out on the flots from these samples. However, the flots will be retained as part of the site archive and will, therefore, be available for future study.

7 Updated Project Design

7.1 Introduction

The following sections present the updated research aims and required analysis tasks, both stratigraphic and finds, by period. This effectively supersedes the Assessment 4 Updated Project Design (Boulter 2017) and includes tasks relating to deposits from the wider area of the 091 site as well as the area covered specifically by Assessment 4a.

7.2 Updated research aims

RA 1: To develop an understanding of the archaeology of the overall 091 site within its local, regional, national and, where appropriate, international contexts.

RA 2: To undertake a series of analysis tasks (see below) which will result in the preparation of a monograph-type publication in conjunction with sites 088 and 090 (Volume III of the Flixton series).

7.3 Stratigraphic analysis and general tasks

Analysis tasks will include:

- Prepare publication synopsis (to include Assessments 3a, 4 and 4a; sites 088, 090 and 091 respectively).
- Research the available literature for local, regional and national parallels for the Middle Neolithic long enclosure and examine it in relation with the other monuments at Flixton, particularly the Early Neolithic long barrow the currency of which may have overlapped with that of the enclosure.
- Research the available literature for local, regional and national parallels for later Neolithic and earlier Bronze Age non funerary sites with discrete pit groups, some with a semi-formalised plan, with hints structural deposition and related finds assemblages (cross-fitting ceramics and worked flint).
- Research the available literature for local, regional and national parallels to help

understand the character of the Late Bronze Age/early Iron Age, Middle Iron Age, Late Iron Age/Early Roman and Roman occupation with particular regard to the apparent mobility/shift in activity and the currency of each phase.

- Using available information from specialist finds analysis and stratigraphy to help target samples for radiocarbon dating (estimate eight determinations to include long enclosure contexts, Grooved Ware/Beaker features and unurned cremations).
- Update site database and digital phase plans with additional information gleaned from specialist analysis.
- Prepare first draft of the stratigraphic elements of the publication text for submission to publishing body (presumably EAA).
- Select content of general illustrations for publication.
- Prepare draft general illustrations for publication.
- Select general photographic images for publication.
- Integrate all specialist reports and illustrations into overall first draft publication text for submission to publishing body (presumably EAA).
- Update site archive as required.

7.4 Bulk finds analysis

7.4.1 General observations

While some of the finds types are of limited archaeological potential, the entire 091 assemblage will need to be considered and integrated into an overall 'by period' discussion of the finds from the three discrete sites that will be combined to form the Volume III publication, these being 088, 090 and 091. Many of the finds types will also

benefit from final updating of their context dating/phasing information.

7.4.2 Pottery

Prehistoric and Roman pottery: Specific aims and objectives

Can analysis of vessel attributes like fabric, form, decoration and size, as well fragmentation and condition, demonstrate any difference between pit assemblages and that from the long enclosure? How do both of these assemblages compare with the Early Neolithic assemblage from long barrow 069:0200, in previous stages of work at Flixton quarry (Percival in prep)? Can any functional differences be identified through artefact composition or distribution and what does this suggest about the feature's function? Are the Early/Middle Neolithic finds assemblages as a whole (pottery, flint etc.) suggestive of structured deposition?

Can a more detailed refitting exercise on the Grooved Ware, particularly that from pit group 091:0164, help to demonstrate the temporal and functional relationships between the pits? How does the refitting pattern compare with that in the flint assemblage? Can radiocarbon dating improve our understanding of the chronology of Grooved ware in the region?

How does the Beaker assemblage from FLN 091 4a compare with other 'domestic' and funerary assemblages both from within Flixton Park Quarry and elsewhere?

Can further detailed comparative analysis of quantified data on fabric and form in the Late Iron Age/early Roman assemblage and comparison with other regional assemblages show that the site is of high status and/or culturally connected to Gallo-British elites?

What can further study about the relative status and cultural affinities of pottery assemblages from the mid 1st century AD and the later 1st century onwards tell us about wider societal changes in this period?

Can analysis of Late Iron Age/Roman pottery distribution help determine where areas of intensive domestic activity are located and is there any intra-site patterning to the more high-status elements of the assemblage?

A major standalone prehistoric and Roman pottery analysis/publication report will be prepared combining the proposed work already outlined in assessment 3b for the 088 and 090 sites (Boulter 2013) and the 091 tasks listed below. In addition, a small quantity of additional pottery identified amongst other materials requires identification and inclusion in the overall catalogue and report.

Analysis tasks will include:

- Cataloguing of extra pottery recovered from other material groups, inputting and inclusion in report.
- Concordance of site-specific fabric type-series and familiarisation with material from assessment 3b
- Comparison of fabric, form, decoration and fragmentation data on Early/Middle Neolithic pottery from the long enclosure and pit assemblages both in the current area and with features in previous areas of the quarry.
- Detailed refitting exercise on Grooved Ware assemblage from pit group 091:0164.
- Compare fabric, form, decoration and fragmentation data from pit group 091:0164 with the rest of the Grooved ware assemblage and with that from other areas of the quarry.
- Detailed quantification of decorative styles in the Beaker assemblage.
- Comparison of the Beaker assemblage with funerary and non-funerary assemblages from elsewhere in Flixton Park Quarry and the wider region, including preparation of discussion text.
- Comparative research on Bronze Age and Iron Age assemblages from the region.

- Spatial analysis of later Iron Age and Roman assemblage.
- Prepare phased quantification tables for the later Iron Age and Roman pottery.
- Examine distribution of the larger Roman pottery groups, including preparation of discussion text.
- Compare the pottery with sites which have high status origins and large imported Gallo-Belgic assemblages, including preparation of discussion text.
- Undertake specialist identification and report on decorated and stamped samian
- Wider reading and comparison with suitable local assemblage, including preparation of discussion text.
- Prepare publication text.
- Illustration related tasks (catalogue, extraction/reintegration, checking).
- Illustration: It is estimated that around 150 pottery illustrations will be required from the overall 091 assemblage (about 70 of which are likely to be highly decorated earlier prehistoric wares and 30 simpler later prehistoric/Roman profiles).

Post-Roman pottery

The post-Roman pottery has been fully recorded and catalogued. A note will be prepared for publication if required, taking into account the phasing of the site when this is available. The assemblage should be retained in the archive.

7.4.3 CBM

Both the Roman and the small quantity of post-Roman CBM have been fully recorded, catalogued and reported in detail, apart from a small bag of additional fragments

recovered from 091:1062, and there is little more that can be learnt from the material itself, although the catalogue will need updating with fabric descriptions corresponding with those of the with earlier excavation areas.

The context of the Roman material and its distribution across the site should also be investigated to see the likely date that this material first appears or was being dumped. Also, whether some specific material, such as pieces that look heat damaged, can be associated with a particular area(s) that may help to shed light on their use on the site.

Publication text will be prepared, taking into account any revised site phasing.

The small quantity of post-Roman CBM probably does not require much further work other than in a few instances to review/ascertain its identification as post-Roman, which is important in relation to dating and to update the catalogue with basic fabric identifications. The material is important in relation to the date/potential disturbance of features/contexts but beyond this appears to have limited archaeological significance.

The overall assemblage does not have any great intrinsic value and could be discarded.

7.4.4 Fired clay

The fired clay from the earlier phase of 091 excavation has been fully recorded and catalogued.

The fired clay from the second phase of excavation has been described in a basic catalogue by context and briefly reviewed in order to provide a broad overview and to assess its potential for further study. Overall, while fabrics have been broadly noted, they have not been closely catalogued for any of the individual pieces and this work should be undertaken to bring the recording of the assemblage into line with existing material from adjacent area (see Anderson 2017b, Table 16).

Pieces that come from objects, most of which can be identified as loomweights, require a definitive catalogue and a report by a specialist and will be combined with the wider analysis of the significant quantity of loomweights recovered during the earlier phase of 091 excavation (Riddler 2017). Closer study of the more enigmatic of the pieces from

fired clay objects, including the fabrics, might allow a more secure identification or separation of types. It may be that a few pieces will require illustration.

The structural fired clay has been discussed at greater length and has little to add to the material already recorded from other excavation areas, although it will need to be taken into account in producing the final report. Most of the structural daub consists of relatively non-descript pieces that probably derive from broken-up ovens and hearths. There are, however, a few pieces that betray use in high temperature installations as they have vitrified surfaces and indicate light industry or industrial processes taking place on this area or close by. The outstanding work on this material will also involve updating the catalogue with fabric descriptions in line with earlier excavation areas

In terms of dating, while much of this material derives from feature associated with Roman finds, the temporal and spatial aspects of the assemblage, based on the site dating and phasing, have not been explored and this work should also be undertaken. The aim of this would be to situate the material within the wider understanding of the site and also to look at the potential for understanding the spatial distribution of activity in relation to associated domestic or light industry.

In general terms, further work is required to analyse the entire combined assemblage in its spatial and temporal contexts. A report will be prepared which describes the assemblage in more detail. The presence of possible briquetage will be explored with regard to the source of this material; the River Waveney was once subject to tidal activity up as far as Bungay and a relatively local location for a salting cannot be dismissed.

7.4.5 Glass

Although only a small assemblage, the glass is of some significance in that all appears to be, or is, Roman and is probably mostly or Early-Mid Roman date. Also, although fragmentary, it allows a range of vessels types to be identified at a broad level. This material therefore has some potential for comment in relation to the status of the Roman period settlement. In addition, very little Roman glass has previously been recovered from the various Flixton excavations (Cool 2012, 75 and *in prep.*).

7.4.6 Quernstone

Overall, the quernstone has already been reported in some detail and the existing text will be updated for publication purposes. The possibility that the large pieces of puddingstone quern may represent placed deposits requires further investigation and discussion; the context of the querns should also be investigated.

Drawn profiles of the two large Hertfordshire quern fragments should be made together with photographs of these pieces along with the radially grooved Pennine quern piece and the two triangular pieces of lava quern.

7.4.7 Worked flint

Initial cataloguing has been undertaken, but the following further tasks are recommended for the analysis stage:

- From the 088 and 090 areas, twelve contexts had flint in multiple bags at assessment and the material was not looked at together. These flints will be re-examined as whole context assemblages. These, and a few other context assemblages, may also merit further examination for refitting pieces.
- Flint from the three areas has been input to a catalogue in the same MS Access database, context information is held in separate databases and it is thought unlikely that they can be easily combined. Analysis will, probably be conducted by 'site' and the results subsequently integrated.
- Flint from the later phase of the 091 excavation (4a) has 'small finds' bagged individually and context assemblages will need to be examined to gain a better understanding of the nature of the flint overall – and to enable selection of representative pieces for detailed description and illustration. There may be flints from the other areas that were treated in the same way and this will need to be checked by SACIC.
- The flint should be considered in the light of ceramic, or other, dating evidence and, as appropriately, in more detail in relation to the recorded groups, features

and deposits. Its association with other artefact types should also be considered.

- Consider the relationship between raw material, flint type and condition of material and the type and date of its context.
- The present assemblages will also be compared to those from the areas previously excavated at Flixton (Bates 2012 and *in prep.*) as well as to other locally, regionally and nationally excavated sites. Comparison with the other Flixton material will include consideration of flint types and dates, technological aspects of flakes and distribution of material.
- A final report by period will be written for publication combining the three sites. Detail and length of the report of flint will depend on the significance of the period and feature assemblages.
- Representative pieces or significant groups of flints will be selected for illustration. At current assessment approximately sixty pieces from the overall 091 assemblage have been provisionally identified for possible illustration. This should be considered to be a maximum number as it is envisaged that the final total will be reduced following analysis. Sketches of the flints for illustration will be provided by the specialist.
- Editing final flint report, checking flint illustrations before final inking-up.

7.4.8 Heat-altered flint and stone

The quantification of the material has shown that heat-altered stone assemblage can be divided by stone type as either flint or sandstone and quartzite cobbles, mixed together with other pieces of erratic quartz. The occurrence of the different stone types will be investigated with particular attention on the features where the heat-altered material is likely to be in its primary context of use/deposition rather than incidental inclusion in feature fills. This material should also be investigated in terms of its chronological and spatial distribution. In order to do this, the material needs to be quantified further.

7.4.9 Metalworking waste

Geological identification of the stone and possible ore recovered during the earlier of the 091 excavation phases is required. Further work is required to establish whether there are parallels for the ore from the region. The iron objects present in the assemblage from the later 091 phase should be removed, packaged appropriately and passed to the relevant specialist for further examination.

Plans of phases showing features with metalworking waste and ore are required for the differing activities and their dates to be plotted across the site. Information derived from plotting the types will enable the specialist to discuss the layout of the activity and compare with sites elsewhere.

Iron fragments found present in the metalworking waste assemblage should be x-rayed and where necessary can be added to the small finds catalogue and any additional fragments of hammerscale or metalworking debris present in the samples should be examined and the information added to the overall report.

7.4.10 Miscellaneous finds

It is not considered that any further work is necessary in relation to this material.

7.4.11 Small finds

Analysis tasks will include:

- Catalogue of late prehistoric small finds, primarily the loomweights.
- Discussion text on loomweights.
- Further work on the late Iron Age/Roman brooches will include:
 - A record photograph should be made of each, showing front and profile views.

- Iron brooches (SF's 091:2097 and 2098) should be re-x-rayed to show front, back and profile detail for the record as they are deteriorating.
- All the complete or near complete copper-alloy brooches (six of) require cleaning and conservation to stabilise the current areas of corrosion and enable long term storage.
- The copper-alloy brooches should all be photographed to show front and profile views, and also back view of the Colchester derivatives (SF's 091:2104, 2111 and 2114) and the Léontomorphe (091:2112).
- The existing catalogue will need to be expanded to include full Mackreth (2011) brooch types along with other comparative information and regional relationships.
- The distribution of the assemblage should be examined against the site plans (and the previous adjacent area 062) and site phasing.
- The implications of the brooches in terms of status and contacts should be discussed, with comparisons to the full Flixton Iron Age/Roman brooch assemblage (principally 062) and other local/ regional groups.
- The results of the analysis should be integrated with the data from the other Roman small finds.
- Eight of the brooches should be considered for drawing and inclusion in the publication.
- Further work on the Roman coins will include:
 - **091 phase 1:** the coins are in poor condition; the two Claudian ones could be cleaned and stabilised.
 - **091 phase 1:** The occurrence of two relatively rare mid-1st century coins should be discussed in the context of other finds, previous finds

from 062 and other sites in the region.

- **091 phase 2:** seven of the coins should be cleaned of dirt and concretion to improve legibility (see Excel table, final column).
 - **091 phase 1 and 2:** all coins should be sufficiently clean and stable for long-term preservation (there is probable active corrosion at present).
 - **091 phase 1 and 2:** all coins should be photographed for the record.
 - **091 phase 1 and 2:** the spatial distribution of the unstratified coins should be examined and viewed in relation to recorded features and against the more numerous coins from the adjacent 062 area. NB 091 phase 1; if the locations are, particular note should be made regarding the proximity of SF 091:2052 to pit 091:1899.
 - **091 phase 1 and 2:** identifications could be improved by cataloguing the radiate coins as per the recent Cunetio and Normanby Hoards publication (Bland, Besly and Burnett 2018) and would be justified given the overall significance of the Flixton assemblages.
 - **091 phase 1 and 2:** the entire assemblage should be compared with other Flixton groups and with local and regional material.
- Investigative conservation should be undertaken on Roman chest fittings in order to identify and report on 'mineral preserved organics'.
 - Catalogue and discussion text of the Roman chest fittings to include detailed analysis of character of the deposition of the ironwork.
 - Undertake other investigative conservation works where required; to include opening of possible lead curse under controlled conditions (SF 091:2161).

- Catalogue and discussion text on remaining late prehistoric and Roman small finds.
- Illustration of selected objects.

7.5 Biological evidence analysis

7.5.1 Cremated bone

The five cremation burials require full recording and analysis, and the preparation of a publication report. Radiocarbon samples will be extracted.

7.5.2 Animal bone

For the earlier phase of 091, the bone that is currently unidentified to species should be examined to determine species where possible and to attempt to identify any human remains in the assemblage.

Burnt bone in particular requires further identification to attempt to determine the presence of human bone and cremations.

Recording and analysis of the faunal material will take place once full dating and phasing information is available, as currently some of the assemblage is undated.

Comparisons need to be made with other assemblages recovered from Flixton and other sites of a similar date range both locally and nationally, for example other mixed Iron Age to Roman sites including North Elmham (Bond 1995), Tort Hill East (Albarella 1997) and West Stow (Crabtree 1990).

Analysis would require the following work

- Cataloguing the faunal assemblage
- Further identifications of mammals.
- Identification to species of any birds, small mammals and herpetofauna present

using comparative reference material.

- Recording metrical data where appropriate for species identification, stature and breed.
- Sorting of bone from samples and identifications of further vertebrate remains.
- Quantifications and full catalogue of the sieved material.
- Full examination of the fallow deer remains to determine the level of butchering, sex, to record fully all bones present and research into the presence of other fallow deer in Britain (to be omitted if modern date is confirmed).
- Analysis of ichthyosaur; assess local geology and frequency of fossil finds in immediate locality and possibility of a collected find.
- Photographing of specimens of interest for report and archive.
- Analysis of data.
- Comparisons with other sites locally and nationally.
- Production of tables, catalogues and written analysis report.

7.5.3 Shell

Only very small quantities of terrestrial and marine shell were recovered from the 091 excavations, which have been quantified by context; no further analysis is required.

7.5.4 Plant macrofossils and other remains

It is not recommended that any further work should be carried out on the flots from these samples at the analysis stage of the project. A summary of the assessment results will be prepared for inclusion in the publication.

8 Publication strategy

The general principles of an analysis and publication strategy were agreed between SCCAS (on behalf of the Mineral Planning Authority) and Adrian Havercroft (The Guildhouse Consultancy on behalf of Cemex (UK) Materials Ltd.) for sites 088, 090 and 091.

Essentially, Flixton Volume III will combine the results from the 088 and 090 sites (Assessment 3b) with those from the remaining area of the current permission, all excavated under the HER code 091. After the initiation of Assessment 4 (Boulter 2017) covering the area of 091 excavated to that point, the company decided to expand the quarry further up to the limits of the permission into an area owned by Peter Parsons. The archaeology in this expanded area was also excavated under the HER site code 091 and forms the basis of Assessment 4a (this document).

As it is proposed that as Flixton Volume III will include the analysis of Assessments 3B, 4 and 4a, it was considered wastefully expensive to produce even a preliminary publication synopsis on the completion of each assessment and it was subsequently decided that a single publication proposal would be prepared once Assessment 4a was complete.

On that basis, Assessment 4a includes a fully integrated task list covering all the analysis and publication work (up to draft submission) for the three sites including provision for the preparation of a synopsis document to be submitted to the publishing body (presumably EAA). However, while the individual specialists have provided an estimate of the number of days required to undertake the 088, 090 and 091 analysis tasks (see Section 9.2 below), costs will be submitted to the client separately (by way of the Guildhouse Consultancy).

9 Analysis and publication: resources and programming

9.1 Staff for analysis and publication

It is envisaged that where possible, the staff that will undertake the analysis and publication tasks will be the same as those used to prepare the assessments. However, given the protracted nature of the project, some changes are inevitable. The team below includes staff who have tasks associated with sites 088 and 090 only.

Overall Project Manager and principal author:	Stuart Boulter (SB1)
Finds management + publication tasks:	Richenda Goffin (RG)
Graphics, illustration and photography:	Ryan Wilson (RW), Ruth Parkin (RP), Gemma Bowen (GB), Ellie Cox (EC1)
Archiving	Ruth Beveridge (RB), Clare Wootton (CW)
Prehistoric pottery and Roman pottery:	Anna Doherty (AD)
Roman pottery stamps:	TBA
Post-Roman pottery, fired clay (bulk), human skeletal remains, CBM:	Sue Anderson (SA)
Work flint:	Sarah Bates (SB2)
Heat altered flint and stone:	Stephen Benfield (SB3)
Metalworking waste:	Lynne Keys
Geologist	TBA
EBA burial update:	Alison Sheridan (AS)
Loomweights and spindle whorls and other small finds:	Ian Riddler (IR)
IA/Roman brooches and coins:	Jude Plouviez (JP)
Mould fragment:	TBA
Jetton ID:	Ruth Beveridge (RB)
Animal Bone:	Julie Curl (JC)
Plant macrofossils and C14 sample extraction:	Anna West (AW)
Investigative conservation of small finds and investigation of MPO's:	Pieta Greaves (PG), Esther Cameron (EC2)

9.2 Task list

The following tasks have been identified as necessary to complete the project to draft publication level for the entire 088, 090 and 091 sites. No costs have been set against the tasks, but 'person-days' have been included where possible. It has also been requested that archive information should be included as this will have a cost. While SCCAS charges for pre-2012 material are still negotiable, the 088 and 090 sites were excavated prior to this date.

Task	Staff	088 and 090 No. of days	Ass. 4; 091 No. of days	Ass. 4a; 091 No. of days
General management, meetings, staff liaison etc.	SB1, RG +	15	15	15
Publication tasks (editing of specialist reports, selection of illustrations etc.)	SB1, RG +	5	5	5
Preparation and submission of EAA synopsis	SB1	1	1	1
Stratigraphic analysis + text	SB1	45	45	25
Prehistoric and Roman pottery analysis	AD	7	16	8
Post-Roman pottery	SA	0.25	0.25	-
Roman pottery stamps	TBA	-	0.5	1
Worked flint analysis	SB2	10	26	14
Fired clay (bulk)	SA	1	1	4
Heat-altered stone analysis	SB3	3	4	2
Metalworking waste	LK	-	1.5	1
Geological identification of possible ore	TBA	-	0.5	-
Summary report on CBM	SA	0.5	0.25	2
Human skeletal remains analysis	SA	2	3	-
Animal bone	JC	0.5	2	2
Plant Macrofossils + retrieval of C14 dating material	AW	1	1	1
EBA burial report update	AS	1	-	-
Loomweight and spindle whorl analysis, iron objects + misc. SF reports	IR	2.5	11	6
Analysis of querns	SB3	-	0.5	2
Analysis of vessel glass	SB3?	-	-	1
Analysis of possible mould	TBA	0.25	-	-
IA/Roman brooches and coins	JP	-	1	3
Description of jetton	RB	0.25	-	-
Prepare general illustrations	RW, GA, EC1	18	20	12
Cleaning and investigative conservation of selected SF's and investigation of MPO's	PG + EC2	-	1	11
Illustration + photography of c.45 prehistoric vessels (088 + 090), c.150 prehistoric and Roman (091 Ass. 4 and 4a)	GA, EC1, RP + TBA	15	30	17
Illustration small finds, c.3 (088 and 090), c.40 and c.100 (091 Ass. 4 and 4a)	RP + TBA	1	15	23
Photography of small finds	GB	0.5	1	2
Illustration of c.30 struck flints (088 and 090), c.70 (091 Ass. 4 and 4a)	RP	7	12	5
Provision of C14 dates		x 8	x 5	x 3
Other costs (consumables, finds transport, x-ray plate etc., electron microscope) Includes staff time	RB	2 staff time, other costs TBA	2 staff time, other costs TBA	2 staff time, other costs TBA
Preparation of archive and delivery to SCCAS (staff time)	RB, CW	3	3	1.5

Material Archive Considerations:

Description	No boxes	No boxes	No boxes
Bulk finds boxes (SCCAS deposition charge @ £50.00 each)	x 21	x 51	x 37
Stewart boxes (SF's) (SCCAS deposition charge @ £50.00 each)	x 3	x 4	x 4
Paper archive (SCCAS deposition charge @ £50.00 each)	x 2	x 2	x2
Box costs @ £5.00 each	x 26	x 57	x 44

9.3 Archive Deposition

At the conclusion of the project the site archive, both physical and digital, will be deposited with SCCAS. The cost of archive deposition and curation will need to be agreed between SCCAS and Cemex (UK) Materials Ltd. Transfer of Ownership forms for the finds will be sent for completion to Cemex (UK) Materials Ltd. via The Guildhouse Consultancy.

10 Acknowledgements

The fieldwork associated with Assessment 4a was carried out by Preston Boyles, Steve Hunt, Steve Manthorpe, Jez Meredith, Simon Picard, Filipe Santos and was directed by Stuart Boulter.

Overall project management was undertaken by Stuart Boulter with finds management undertaken by Richenda Goffin.

Finds processing was primarily carried out by Jonathan Van Jenniens while quantification and data inputting was by Ruth Beveridge and Matt Thompson. Finds assessments were prepared by, Sarah Bates (worked flint), Steve Benfield (querns, fired clay, CBM), Julie Curl (animal bone), Anna Doherty (Prehistoric and Roman pottery), Jude Plouviez (IA/Roman coins and brooches), Ian Riddler (small finds), Loannis Smyrnaio (heat-altered flint and stone). Finds reports were collated by Loannis Smyrnaio and Steve Benfield. Soil sample processing and the plant macrofossil assessment were undertaken by Anna West.

The report illustrations were created by Ryan Wilson and Stuart Boulter and the report was edited by Rhodri Gardner.

Thanks are also extended to Adrian Havercroft of the Guildhouse Consultancy and the Flixton Park Quarry, Cemex, Manager Brian Beales and his staff.

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