

Flixton Park Quarry (FLN 091)

Flixton, Suffolk

(Assessment 4; Volume I; Text, Figures and Plates)

Client:

Cemex (UK) Materials Ltd.

Date:

January 2019

FLN 091

Archaeological Assessment Report

(Vol I, Text, Figures & plates)

SACIC Report No. 2016/063

Author: Stuart Boulter

© SACIC



Flixton Park Quarry, Flixton

Post-Excavation Assessment Report

SACIC Report No. 2016/063

Principal Author: Stuart Boulter

Contributions By: Sue Anderson, Sarah Bates, Ruth Beveridge,

Anna Doherty, Richenda Goffin, Jude Plouviez,

Ian Riddler, Loannis Smyrnaiois, Anna West

Illustrators: Gemma Adams, Stuart Boulter

Editor: Rhodri Gardner

Report Date: January 2019

HER Information

Site Code: FLN 091

Site Name: Flixton Park Quarry, Flixton, Suffolk

Report Number 2016/063

Planning Application No: W/10999/10

Date of Fieldwork: Phased between 2012 - 2015

Grid Reference: TM 3073 8660

Oasis Reference: suffolka1_260461

Curatorial Officer: Rachael Abraham

Senior Project Officer: Stuart Boulter

Client/Funding Body: Cemex (UK) Materials Ltd.

Consultant: Adrian Havercroft (The Guildhouse Consultancy)

Digital report submitted to Archaeological Data Service:
<http://ads.ahds.ac.uk/catalogue/library/greylit>

Disclaimer

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.

Prepared By: Stuart Boulter
Date: January 2019
Approved By: *****
Position: *****
Date: *****
Signed: *****

Contents

Summary

1. Introduction	2
1.1 Site location	2
1.2 The scope of the project	2
1.3 Circumstances and dates of fieldwork	3
2 Geological, topographic and archaeological background	4
2.1 Geology, topography and recent land use	4
2.2 Archaeology	4
3 Original research aims	8
4 Site sequence: results of the fieldwork	9
4.1 Introduction	9
4.2 Period I; Prehistoric	13
4.2.1 Period I.c. & I.c./d.; Early and middle Neolithic	13
4.2.2 Period I.d.; Late Neolithic	16
4.2.3 Period I.d./e.; Indeterminate Late Neolithic/Early Bronze Age	20
4.2.4 Period I.e.; Early Bronze Age	20
4.2.5 Period I.f.; Middle Bronze Age	23
4.2.6 Period I.g.; Late Bronze Age	25
4.2.7 Period I.h.; Early Iron Age	26
4.2.8 Period I.i.; Middle Iron Age	29
4.2.9 Period I.0.; Indeterminate prehistoric	33
4.3 Period II.; Late Iron Age and Roman	42
4.3.1 Period II.a.; Late Iron Age/Early Roman	42
4.3.2 Period II.c.; Roman, c.L.3 rd – 4 th AD	45
4.3.3 Period II.0.; Roman unspecified date	47
4.4 Period IV. Medieval	47

4.5	Period V.; Post-medieval	49
	4.5.1 Period V.b.; Post-medieval, c.17 th – 19 th century	49
	4.5.2 Period V.d.; Post-medieval, c.20 th century	51
	4.5.3 Period V.0; Post-medieval, unspecified date	51
4.6	Undated	51
5	Quantification and assessment	56
5.1	Post-excavation review	56
5.2	Quantification of the stratigraphic archive	56
5.3	Quantification and assessment of the bulk finds archive	57
	5.3.1 Introduction	57
	5.3.2 Pottery	57
	5.3.3 Ceramic building material	76
	5.3.4 Fired clay	79
	5.3.5 Post-medieval glass	81
	5.3.6 Lava quern	82
	5.3.7 Worked flint	82
	5.3.8 Heat-altered flint and stone	98
	5.3.9 Metalworking waste	100
	5.3.10 Iron nails	103
5.4	Quantification and assessment of the small finds archive	104
	5.4.1 Introduction	104
	5.4.2 Methodology	105
	5.4.3 Small finds by period	105
5.5	Quantification and assessment of the biological evidence	111
	5.5.1 Cremated bone	111
	5.5.2 Animal bone	112
	5.5.3 Shell	117

5.5.4	Charcoal	117
5.5.5	Charred plant macrofossils and other remains	117
6	Significance of the data and potential for analysis	124
6.1	Realisation of the Original Research Aims	124
6.2	The potential and significance of the stratigraphic data	125
6.2.1	Introduction	125
6.2.2	Period I.c. and d.; Neolithic	125
6.2.3	Period I.e.; Early Bronze Age	126
6.2.4	Period I.f.; Middle Bronze Age	126
6.2.5	Period I.g/h.; Late Bronze Age and Early Iron Age	127
6.2.6	Period I.i.; Middle Iron Age	127
6.2.7	Period I.o.; Prehistoric, unspecified date	128
6.2.8	Period II.a.; Late Iron Age/Early Roman	128
6.2.9	Period II.c.; Late Roman	129
6.2.10	Period IV.; Medieval	129
6.2.11	Period V.b.; Post-medieval, c.17 th – 19 th centuries	129
6.2.12	Period V.d.; Post-medieval, c.20 th century	129
6.2.13	Period 0.; Undated	129
6.3	The potential and significance of the finds data	130
6.3.1	General introduction	130
6.3.2	Pottery	130
6.3.3	CBM	134
6.3.4	Fired clay	134
6.3.5	Lava quern	134
6.3.6	Worked flint	134
6.3.7	Heat-altered flint and stone	135
6.3.8	Metalworking waste	136

6.3.9	Iron nails	136
6.3.10	Small finds	137
6.4	The potential and significance of the biological evidence	139
6.4.1	Cremated bone	139
6.4.2	Animal bone	140
6.4.3	Charred plant macrofossils and other remains	140
7	Updated Project Design	142
7.1	Introduction	142
7.2	Updated research aims	142
7.3	Stratigraphic analysis	142
7.4	Bulk finds analysis	143
7.4.1	Pottery	143
7.4.2	CBM	145
7.4.3	Fired clay	145
7.4.4	Lava quern	146
7.4.5	Worked flint	146
7.4.6	Heat-altered flint and stone	147
7.4.7	Metalworking waste	147
7.4.8	Small finds	148
7.5	Biological evidence analysis	149
7.5.1	Cremated bone	149
7.5.2	Animal bone	149
7.5.3	Shell	149
7.5.4	Plant macrofossils and other remains	150
8	Publication strategy	151
9	Analysis and publication: resources and programming	152
9.1	Staff for analysis and publication	152

9.2	Task list	152
9.3	Archive Deposition	154
10	Acknowledgements	154
11	Bibliography	155

List of Figures

Figure 1.	Site location	1
Figure 2.	All features plan	10
Figure 3.	Period I.c. & I.c./d.; Early and middle Neolithic features (red)	14
Figure 4.	Period I.d.; Late Neolithic features (red)	17
Figure 5.	Period I.d./e.; Indeterminate Late Neolithic/Early Bronze Age features (red)	21
Figure 6.	Period I.e.; Early Bronze Age features (red)	22
Figure 7.	Period I.f.; Middle Bronze Age features (red)	24
Figure 8.	Periods I.g. and h.; Late Bronze Age and Early Iron Age features (red)	27
Figure 9.	Period I.i.; Middle Iron Age features (red)	30
Figure 10.	Period I.0.; indeterminate prehistoric features (red)	34
Figure 11.	Period II.a.; Late Iron Age/Early Roman features (red)	40
Figure 12.	Period II.0.; Roman, unspecified date features (red)	46
Figure 13.	Period IV.; Medieval and V.a.: Post-Medieval c.17 th – 19 th century features (red)	48
Figure 14.	Period V.; Medieval c.20 th century (red)	50
Figure 15.	Period V.0.; Post-medieval unspecified date features (red)	52
Figure 16.	Period 0.; Undated features (red)	53

List of Tables

Table 1. Provisional site phasing	11/12
Table 2. Quantification of the stratigraphic archive	56
Table 3. Bulk finds quantities	57
Table 4. Pottery quantification by period	58
Table 5. Quantification of prehistoric and Roman pottery by period/tradition	58
Table 6. Quantification of Early/Middle Neolithic pottery fabrics	62
Table 7. Quantification of Grooved Ware fabrics	65
Table 8. Quantification of Beaker fabrics in pit 091:0471	67
Table 9. Quantification of probable Middle Bronze Age pottery fabrics	68
Table 10. Quantification of Late/Bronze Age/Early Iron Age fabrics	69
Table 11. Quantification of Early/Middle Iron Age pottery fabrics	70
Table 12. Quantification of Late Iron Age/Roman pottery	73
Table 13. Post-Roman pottery quantities by fabric	75
Table 14. CBM fabric descriptions and quantities (fragment count) by form	77
Table 15. CBM by feature type	78
Table 16. Fired clay fabrics and quantities	80
Table 17. Possible functions represented in the fired clay assemblage	80
Table 18. Summary of the flint by type	83
Table 19. Total flint numbers by feature type	96
Table 20. Quantification of heat-altered flint and stone by context type	98
Table 21. Breakdown of slag types present	101
Table 22. Smithing hearth bottoms	102
Table 23. Distribution of nails by feature	104
Table 24. Breakdown of small finds by major chronological period	104
Table 25. Ceramic loomweights	106
Table 26. Cremated and calcined bone	112
Table 27. Faunal remains quantification by feature, broad date range and weight	113
Table 28. Faunal remains quantification by feature type, broad date range and fragment count	114
Table 29. Species quantification by date and NISP	115
Table 30. Species type by feature and NISP	116
Table 31. Triangular loomweights from Flixton Quarry	137

List of Plates

Plate 1. Enclosure 091:0500; eastern entrance looking north-west	15
Plate 2. Enclosure 091:0500; representative section	15
Plate 3. Pit group 091:0164 looking south	18
Plate 4. Pit circle 091:1379, looking north-west	18
Plate 5. Possible grave 091:1682, looking NE	28
Plate 6. Possible grave 091:1682, looking S	28
Plate 7. Structure 091:0160 looking west	31
Plate 8. Pits 091:0183 and 091:0187, looking NW	31
Plate 9. Cremation 091:0028, looking N	35
Plate 10. Possible grave 091:0008, part excavated, looking WSW	35
Plate 11. Ring-ditch 091:1090, looking NW	37
Plate 12. Ring-ditch 091:1585, looking SE	37
Plate 13. Pits 091:1132, 1154, 1206 and 1227, looking SW Plate 14.	41
Plate 14. Slots 091:1232, 1272 and post-hole alignment 091:0597, looking NW	41

List of Appendices (on accompanying CD)

Appendix I. a) Brief and Specification	
b) Written Scheme of Investigation and Method Statement	
Appendix II. FLN 091: Context List and Descriptions	
Appendix III. Finds Catalogues	
a) Bulk finds quantifications	
b) Catalogue of prehistoric and Roman pottery	
c) Catalogue of post-Roman pottery	
d) Catalogue of CBM	
e) Catalogue of fired clay	
f) Catalogue of struck flint by context	
g) Catalogue of struck flint by feature	
h) Catalogue of heat-altered flint and stone	
i) Catalogue of metalworking waste	
j) Catalogue of small finds	
Appendix IV. Plant macrofossils and other remains	
Appendix V. Oasis record summary (to be updated with Assessment 4a)	

Summary

This document covers the assessment of the archaeology excavated by Suffolk Archaeology CIC within a c.8.13 hectares area of Flixton Park Quarry under the HER code FLN 091. The fieldwork phases were undertaken between 2012 and 2015.

The principle periods represented were as follows:

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

Early Bronze Age: vestiges of two ring-ditches and pits.

Late Bronze Age/Early Iron Age: extensive occupation deposits.

Middle Iron Age: occupation deposits including a roundhouse.

Late Iron Age/Early Roman: occupation deposits including some evidence for metalworking.

Post-medieval: various features including ditches, quarry pits, tree-holes, fence-lines and WW II military structures. A number of the ditches relate directly to features shown on early estate and Ordnance Survey maps.

The information in this assessment will be used to put together a programme of analysis and publication.

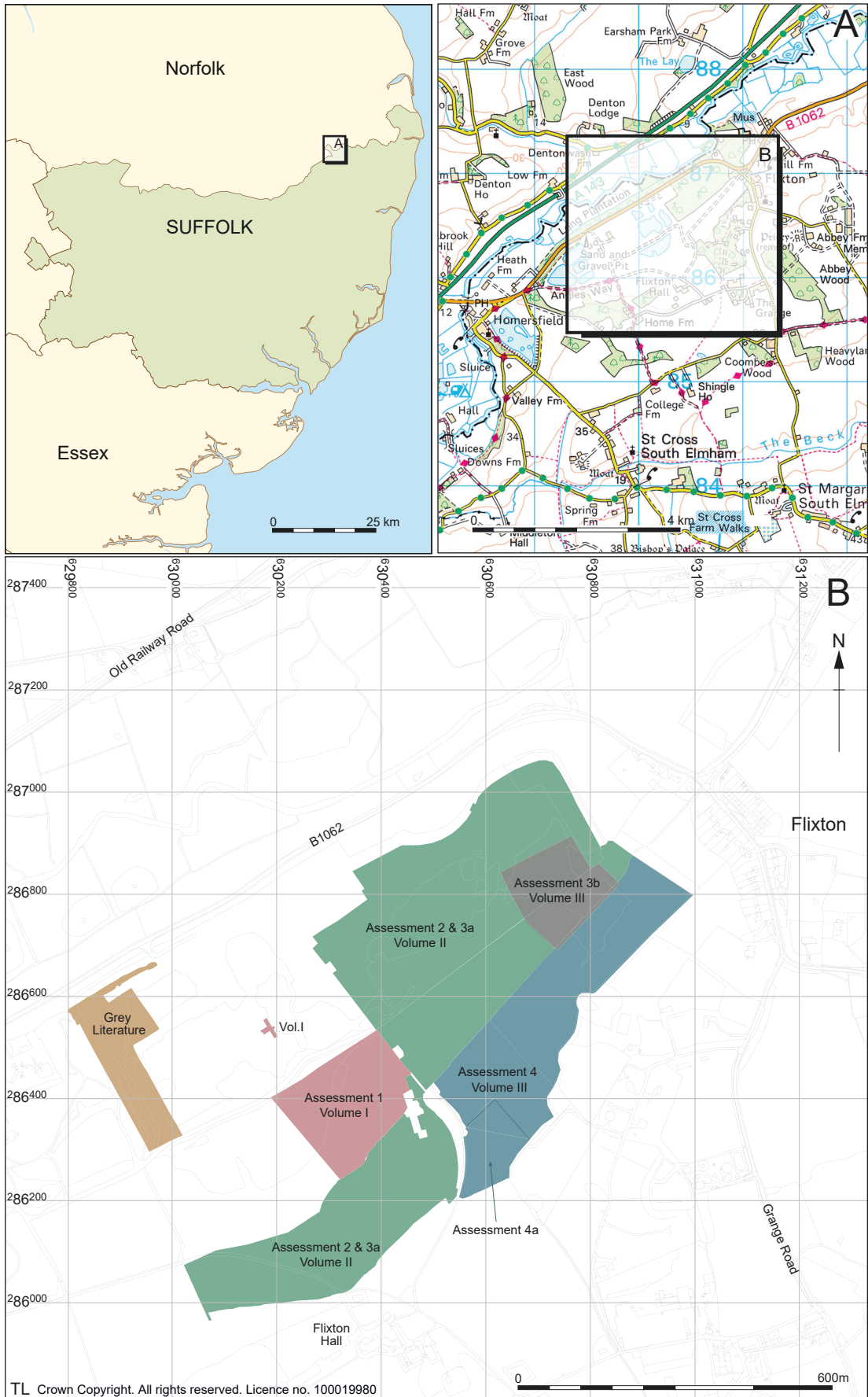


Figure 1. Site location

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.8.13 hectares area covered by this assessment, allocated the Historic Environment Record (hereafter HER) code FLN 091, is centred at TM 3073 8660 and lies immediately to the south-east of the areas previously excavated and assessed in Assessment Report 3b (Boulter 2015).

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 (hereafter SCCAS/FPT), 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 between the autumn of 2012 and summer 2015, excavated under the HER code FLN 091 and equating to the south-east ends of the areas known as New Quarry Phases 17 and 18 and the whole of New Quarry Phase 19 and the majority of New Quarry Phase 20 (the remainder of Phase 20 was subsequently and became Assessment 4a).

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 additional area excavated in 2016/17, also as FLN 091, which will be the subject of Assessment 4a 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 autumn of 2012 and phased through to the summer of 2015, effectively working from north to south.

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

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 and 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 FLN 091 area generally slopes down from south-east to north west from a high of c.25.00mOD, at a point towards the southern end of the site's eastern edge, to c.12.00mOD in the northernmost corner of the site (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, field boundaries were removed until the subject area became part of one large agricultural field. A hexagonal area of tree-planting known from the early OS maps dating to the first decades of the 20th century and later aerial photographs, was removed within living memory.

2.2 Archaeology

Prior to soil-stripping, the only known archaeology within the FLN 091 area were features identified on aerial photographs comprising field boundary ditches of various date, some representing a continuation from previously excavated areas, and the aforementioned tree-planting.

However, extensive excavations undertaken by SCCAS/FPT within the quarry to the north and west of FLN 091, between 1995 and 2012 (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 and pits, the former located immediately to the north of the FLN 091 area.

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 number of ring-ditches that would originally have surrounded round barrows which have since been ploughed flat. These monuments, four of which were located immediately to the north of the FLN 091 area, are considered to be funerary monuments, although burials were not recorded with every ring-ditch. The most significant of the burials was located c.100m to the north-west of the FLN 091 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). 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 west of 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 be of later Iron Age/earlier Roman date. 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 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 and 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.

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 (Appendix I) 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, this document 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 were allocated to 778 discrete features, layers, multiple feature structures or monuments and their stratigraphic elements for the 091 area (Figure 2). Of these, 156 numbers were allocated to small finds.

A provisional chronological phasing of the site is presented as Table 1. 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.

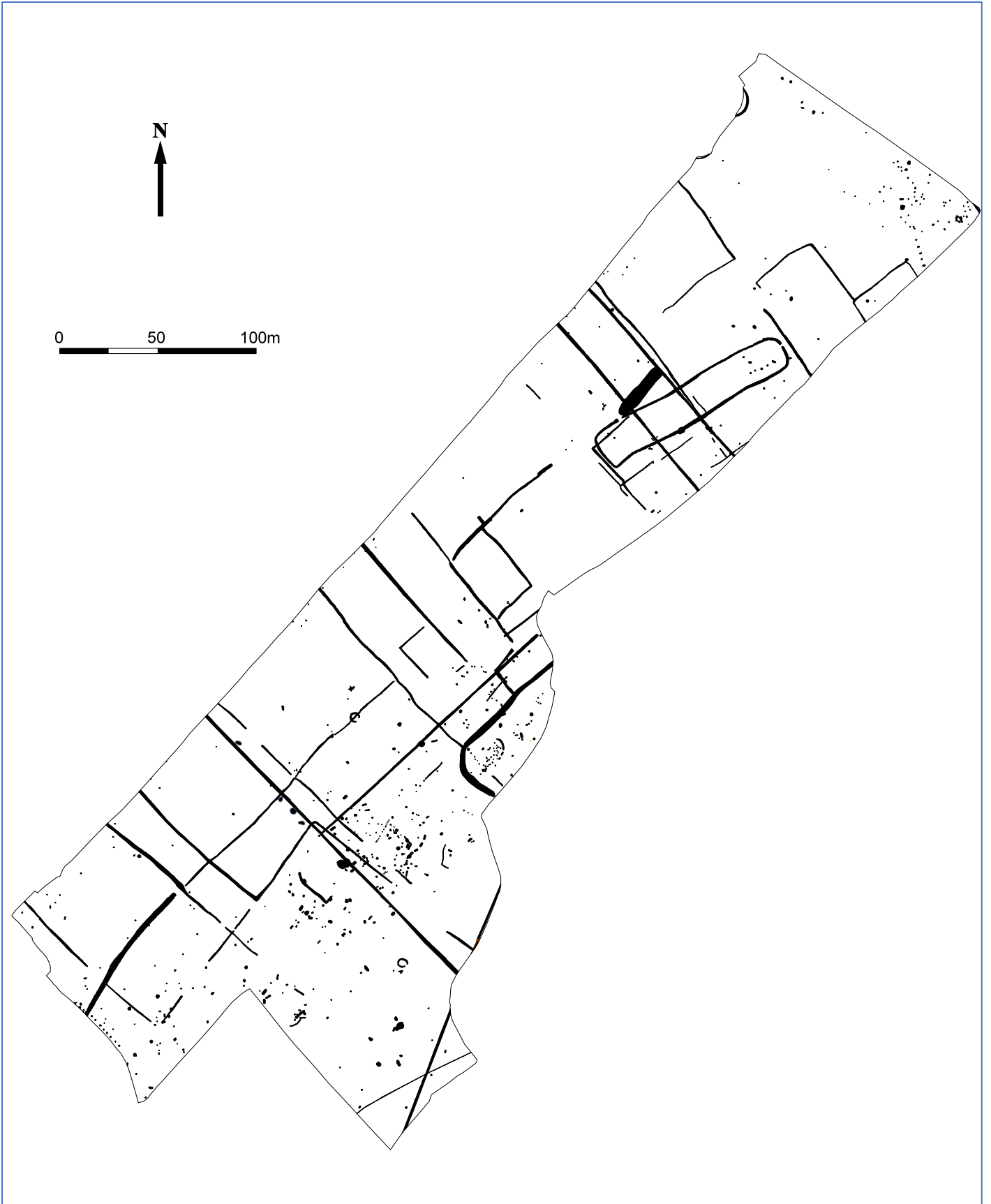


Figure 2. All features plan

Period	Site phase	Date range	Features
Prehistoric	Phase I.a.	Palaeolithic; c.10,000+ BP	No features or finds
	Phase I.b.	Mesolithic; c.8000 – 4000 BC	No features or finds
Total 3 features	Phase I.c.	Early Neolithic; c.4000 – 3300 BC	Pits: 0276, 0680, 0785 (Total 3)
Total 7 features	Phase I.c/d.	Middle Neolithic c.3300 – 2900 BC	Long enclosure: 0500 (Total 1) Pits: 0457, 0476, 0516, 0734, 1443, 1447 (Total 6) Spot-find: 0521 (Total 1)
	Phase I.d.	Late Neolithic; c.2900 – 2100 BC	Pits: (pit group 0164) 0062, 0064, 0069, 0079, 0090, 0101, 0103, 0119, 0130, 0136, 0139, 0141, 0142; (pit circle 1379) 1365, 1367, 1369, 1372, 1375, 1377; (other pits) 0071, 0341, 0343, 0353, 0355, 0357, 0461, 0463, 0527, 0664, 0708, 0905, 0915, 1055, 1078, 1240, 1319, 1321 1551, 1755, 1821, 1838, 2364 (Total 42) Spot-find: 0452 (Total 1)
Total 42 features	Phase I.e.	Early Bronze Age; c.2100 – 1500 BC	Ring-ditches: 0239, 0258 (Total 2) Pits: 0471, 0693, 1993, 2423, 2425 (Total 5)
Total 7 features	Phase I.d/e.	Ind. L.Neo/EBA	Pits/Post-holes: 0058, 0177, 0658, 1048, 1137, 1760, 1950, 2366, 2388, 2439 (Total 10) Slot: 1298 (Total 1)
Total 11 features	Phase I.f.	Middle Bronze Age; c.1500 – 1000 BC	Pits: 0386, 0439, 0739, 0741, 0747, 0757, 0897, 1076, 1296 (Total 9) Gullies: 0926, 0933 (Total 2)
Total 11 features	Phase I.g.	Late Bronze Age; c.1000 – 650 BC	Grave: 1682 (Total 1) Pit: 1700 (Total 1)
Total 2 features	Phase I.h.	Early Iron Age; c.650 – 400 BC	Pits: 0314, 0666, 0674, 0689, 0736, 0847, 0858, 0986, 1039, 1044, 1086, 1149, 1203, 1352, 1382, 1389, 1397, 1399, 1401, 1409, 1411, 1456, 1510, 1515, 1528, 1536, 1538, 1545, 1557, 1611, 1620, 1624, 1709, 1711, 1715, 1719, 1750, 1828, 1855, 1857, 1985, 1991, 2343, 2407, 2443 (Total 45) Ditch/slot: 1842 (Total 1) Spot-find: 0529 (Total 1)
	Total 46 features	Phase I.i.	Middle Iron Age; c.400 BC – 50 BC
Total 34 features	Phase I.o.	Prehistoric; unspecified date	Cremations: 0028, 0088, 0179, 0290, 0331, 0536 (Total 6) Grave: 0008 (Total 1) Spot-find: 0060, 0388, 0503, 0620, 1584 (Total 5) Pits/post-holes: 0006, 0043, 0049, 0095, 0144, 0345, 0359, 0383, 0404, 0453, 0455, 0459, 0519, 0557, 0564, 0566, 0656, 0660, 0662, 0691, 0716, 0718, 0720, 0791, 0793, 0795, 0870, 0876, 0878, 0880, 0887, 0891, 0907, 0909, 0921, 0923, 0947, 0949, 0982, 0990, 1018, 1070, 1113, 1151, 1180, 1197, 1357, 1359, 1387, 1426, 1460, 1477, 1520, 1616, 1674, 1732, 1772, 1796, 1808, 1830, 1872, 1916, 1961, 1983, 1987, 1989, 1995, 2307, 2324, 2326, 2329, 2338, 2340, 2345, 2347, 2359, 2380, 2382, 2390, 2401, 2403, 2435 (Total 82) Ring-features: 1090, 1585 (Total 2) Ditches: 0669, 0714, 0723 (Total 3) Hearth: 1057 (Total 1)
Total 100 features	Phase II.a.	Late Iron Age/Early Roman; c.50 BC – E.2nd century AD green = definitely post-conquest	Pits: 0751, 0754, 0763, 0781, 0783, 0787, 0789, 0807, 0809, 0812, 0820, 0845, 0969, 1041, 1093, 1097, 1108, 1132, 1139, 1141, 1147, 1154, 1199, 1201, 1206, 1209, 1211, 1213, 1215, 1219, 1225, 1227, 1234, 1236, 1238, 1246, 1248, 1251, 1253, 1255, 1275, 1283, 1380, 1417, 1436, 1454, 1458, 1462, 1464, 1469, 1474, 1524, 1541, 1548, 1555, 1559, 1562, 1580, 1582, 1588, 1606, 1609, 1622, 1626, 1628, 1694, 1706, 1724, 1726, 1728, 1730, 1744, 1746, 1752, 1757, 1780, 1782, 1789, 1793, 1819, 1834, 1836, 1874, 1876, 1892, 1897, 1899, 1901, 1905, 1914, 1980, 2445, 2493 (Total 93) Post-holes: (alignment 0597) 1217, 1244, 1278, 1280, 1294, 1313, 1325, 1327, 1329, 1345, 1350; (alignment 1354) 1304, 1306, 1308, 1310, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1391 (Total 23) Ditches: 0243, 0247, 0259, 0261, 0267, 0272, 0303, 0318, 0325, 0336, 0361, 0369, 0373, 0397, 0431, 0490, 0501, 0548, 0574, 0628, 0631, 0634, 0636, 0638, 0678, 0695, 0699, 0850, 0953, 0992, 1182, 1266, 1439, 1497, 1499, 1502, 1574, 1630, 1646, 1903, 1922, 1965 (Total 42)

Total 164 features	Phase II.a. continued		Slots/gullies: 1232, 1272, 1865 (Total 3) Layers: 1085 (Total 1) Spot-finds: 0727, 1891 (Total 1)
	Phase II.b.	Roman; c.E.2nd – L.3rd century AD	No features or finds
Total 1 feature	Phase II.c.	Roman; c.L.3rd – 4th century AD	Pit: 1861 (Total 1)
Total 10 features	Phase II.0	Roman; unspecified date	Pit: 1083, 1126, 1268, 1270, 1288, 1670, 1946, 1969 (Total 8) Slots/gullies: 1122, 1124 (Total 2)
Saxon	Phase III	E. Anglo–Saxon; c.410 – E. 7th century	No features or finds
Medieval Total 1 feature	Phase IV	c.1066 – 1480	Pits: 1230 (Total 1) Spot-find: 0760 (Total 1)
Post-medieval	Phase V.a.	L.15th – 17th centuries	No features or finds
	Phase V.b.	c.17th – 19th centuries	Ditches: 0274, 0294, 0410, 0413, 0466, 0642, 0761, 0765, 0767, 0816, 0818, 1261/1508, 1433, 1531, 1590/1644, 1806, 1845, 1911/2322/2332, 2353/2496 (Total 19) Layers: 0640, 0641 (Total 2) Pits: 1532, 1804, (Total 2)
Total 23 features	Phase V.c.	c.1914 – 1918	No features or finds
	Phase V.d.	c.20th century	Pits/post-holes: (fence line 2453) 2454, 2456, 2458, 2460, 2462, 2464, 2466, 2468, 2471, 2473, 2476, 2478, 2480, 2484, 2488, 2490; (other pits/post-holes) 0395, 0416, 0977, 1564, 1649, 1658, 1660, 1676, 1678, 1810, 1812, (Total 27) Borehole: 1814 (Total 1) Drain & associated feature: 1185, 1195 (Total 2)
Total 30 features	Phase V.0	Post-medieval; unspecified date	Pits/post-holes: 1061, 1063, 1192, 1618, 1663, 1920, 1926, 1928, 1930, 1934, 2334, 2414, 2416, 2418, 2421, 2499 (Total 16)
Undated	Phase 0	Undated and naturally derived features	Ditches: 0002, 0769, 1036 (Total 3) Pits/post-holes: 0004, 0009, 0011, 0012, 0014, 0016, 0018, 0020, 0023, 0025, 0033, 0041, 0045, 0075, 0077, 0083, 0085, 0105, 0107, 0109, 0112, 0117, 0151, 0154, 0156, 0194, 0200, 0202, 0204, 0206, 0208, 0221, 0223, 0225, 0227, 0229, 0231, 0233, 0235, 0237, 0251, 0253, 0255, 0264, 0278, 0280, 0282, 0284, 0287, 0292, 0297, 0299, 0301, 0309, 0312, 0321, 0339, 0363, 0365, 0379, 0381, 0389, 0391, 0393, 0399, 0408, 0419, 0426, 0434, 0436, 0486, 0508, 0533, 0555, 0568, 0572, 0576, 0578, 0607, 0614, 0625, 0644, 0647, 0651, 0672, 0686, 0703, 0706, 0728, 0730, 0732, 0743, 0745, 0749, 0774, 0778, 0797, 0800, 0803, 0822, 0831, 0833, 0838, 0842, 0852, 0862, 0864, 0866, 0868, 0872, 0874, 0854, 0856, 0860, 0882, 0885, 0889, 0893, 0895, 0899, 0901, 0903, 0911, 0917, 0919, 0973, 0975, 0980, 0984, 0995, 1003, 1006, 1008, 1010, 1015, 1024, 1026, 1028, 1030, 1032, 1034, 1053, 1065, 1068, 1072, 1074, 1080, 1091, 1095, 1099, 1103, 1105, 1111, 1143, 1145, 1159, 1175, 1177, 1190, 1286, 1292, 1315, 1317, 1323, 1348, 1355, 1385, 1393, 1395, 1403, 1405, 1407, 1413, 1415, 1420, 1422, 1424, 1428, 1450, 1452, 1466, 1479, 1483, 1485, 1487, 1489, 1492, 1494, 1518, 1522, 1553, 1576, 1578, 1634, 1637, 1639, 1651, 1668, 1684, 1689, 1713, 1717, 1722, 1736, 1738, 1740, 1742, 1769, 1777, 1784, 1817, 1832, 1840, 1849, 1853, 1867, 1883, 1885, 1895, 1907, 1934, 1938, 1952, 1954, 1959, 1963, 2301, 2303, 2305, 2309, 2316, 2318, 2320, 2336, 2349, 2351, 2355, 2357, 2371, 2373, 2375, 2384, 2386, 2405, 2412, 2427, 2429, 2431, 2433, 2437, 2441, 2448, 2451, 2502 (Total 254) Hearth: 1648 (Total 1) Natural disturbance: 0246, 1869 (Total 2) Layers: 0027, 0756, 1022, 1250, 1260, 1363 (Total 6)
Total 266 features			

Table 1. Provisional site phasing

4.2 Period I; Prehistoric

4.2.1 Period I.c. & I.c./d.; Early and middle Neolithic

The earliest features recorded comprised nine pits and a long enclosure all dating to the earlier part of the Neolithic (c.4000 – c.2900 BC) (Table 1; Fig. 3).

Three of the pits (091:0276, 0680 and 0785) produced ceramic evidence, exclusively Mildenhall/plain bowl wares, that suggested a date towards the earlier end of this range, while the other six pits (091:0457, 0476, 0516, 0734, 1443 and 1447) included Peterborough Ware which is more indicative of a Middle Neolithic date. Three of these later pits (091:0457, 0476 and 0516) were located close to the long enclosure, with 091:0476 having a direct stratigraphic relationship with the north-east corner of the ditch. Unfortunately, the actual position of 091:0516 does not appear on the recorded plan, but it was thought to lie external to the enclosure on its south side towards the western end. The three other pits were not obviously associated with the enclosure; shallow unconvincing feature 091:0734 was located c.145m to the south-west with 091:1443 and 1447 a further 100m to the south-east.

The pits were generally near circular or oval in shape, varying in size from 0.60m in diameter (091:0476) to 2.00m by 1.10m (091:0516), with depths of 0.10m (091:0734) through to 0.70m (091:0516) and fills of light to mid brown silty sand with a variable content of gravel to pebble-sized stones.

The long enclosure (091:0500) measured c.105m from north-east to south-west and c.20.50m from north-west to south-east (Fig. 3), effectively with its long axis on the 15m contour line. There were two entrances marked by opposed butt-ends in the enclosure ditch; one was located to the north of the centre of the eastern end and the other towards the western end of the north long side. The butt-ends of the eastern entrance exhibited a marked deepening to the rest of the ditch, but with no additional width (Plate 1.). The western entrance did not have the same deepening, but the westernmost side did expand into rounded bulbous butt-end. Generally, the ditch measured between 0.70m and 1.30m in width, at the level of the site strip, with a round-bottomed V-shaped profile and depths usually in the region of 0.60m, increasing to 0.90m in the butt-ends of the eastern entrance (Plate 2.).

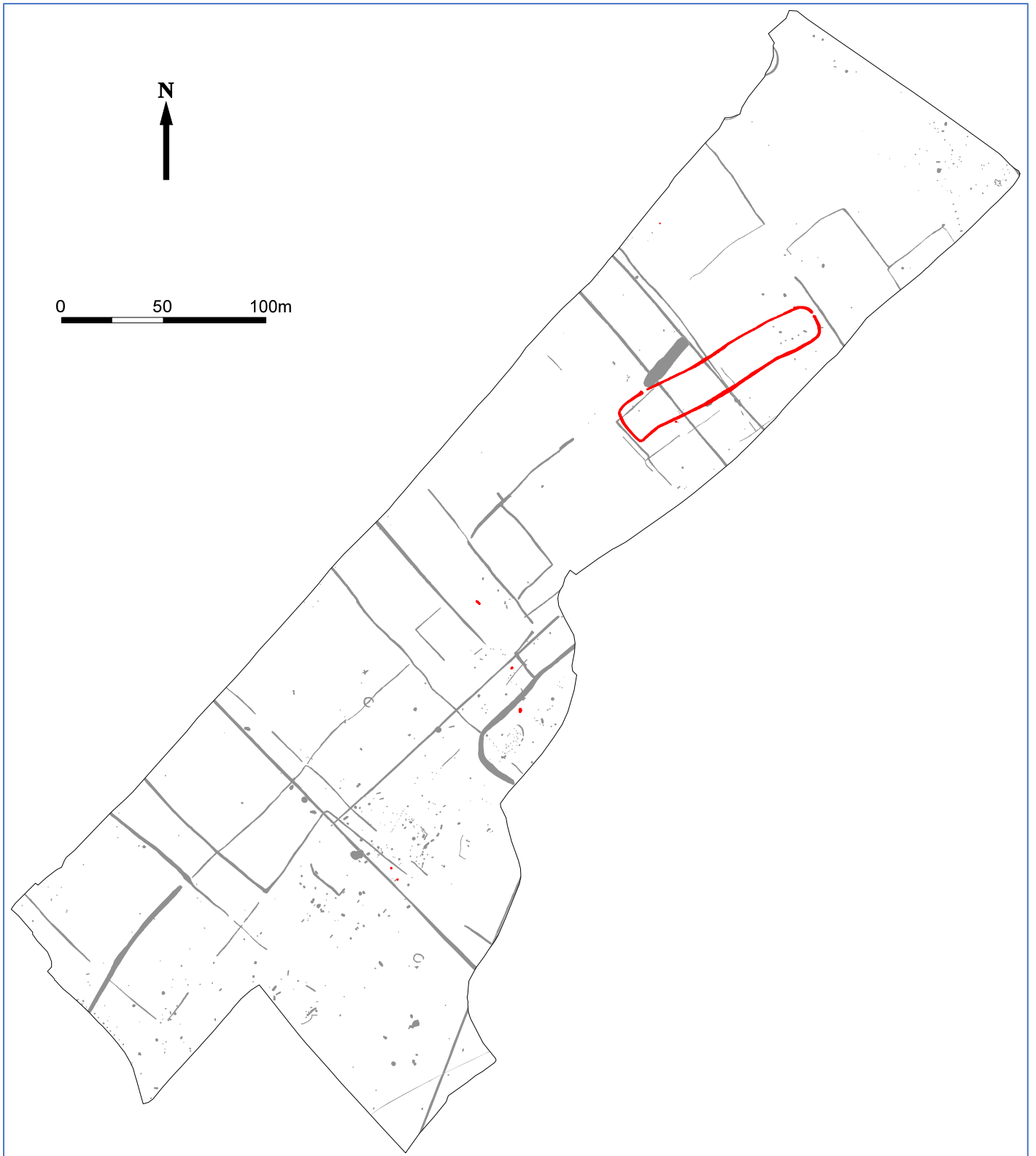


Figure 3. Period I.c. & I.c./d.; Early and middle Neolithic features (red)



Plate 1. Enclosure 091:0500; eastern entrance looking north-west



Plate 2. Enclosure 091:0500; representative section

The overall shape of the enclosure was somewhat eccentric with the corners of the western end more angular than those to the east with slightly sinuous long sides and a marked kink in the south side, some 13.00m from the south-west corner, which was mirrored to the north in the stretch of ditch running from the west side of the entrance to the north-west corner. The ditch fill was very leached with panning frequently running through into the undisturbed natural sides and the edges were often difficult to detect. While generally comprising relatively homogenous light brown silty sand with occasional small stones and clay pellets, there were some local variations; sometimes a slightly darker central element was recorded with local deposits of clay reflecting differences in the adjacent geology as did local concentrations of stones. Worked flint and ceramics were the principle artefactual evidence with pottery including earlier Neolithic wares (Mildenhall/plain bowl), middle Neolithic material (Peterborough Ware), including both the earlier Ebbsfleet substyle and the later Mortlake and Fengate substyles, the latter known to extend into the later Neolithic. The worked flint included a broken laurel leaf point of earlier Neolithic date.

4.2.2 Period I.d.; Late Neolithic

A total of forty-three features, all described as pits, and a pottery spot-find (Table 1; Fig. 4) were attributed a later Neolithic date based essentially on the presence of Grooved Ware pottery as the main datable artefact.

While features were recorded throughout the site, they were clearly concentrated towards the southern side where the slope steepens up towards the south-east and the underlying drift geology begins to become heavier. Two principle concentrations were present; group 091:0164 in the north-east corner and group 091:1379 towards the south-east along with isolated features and small clusters (Fig. 4).

Group 091:0164 comprised thirteen closely spaced pits (091:0062, 0064, 0069, 0079, 0090, 0101, 0103, 0119, 0130, 0136, 0139, 0141 and 0142) which appeared to formally define a c.4m by c.5m area (Plate 3.). The features themselves had the character of pits rather than post-holes and as such were not thought themselves to represent a structure. They were near circular, with diameters varying between 0.50m (091:0139) and 0.90m (091:0079), generally with rounded profiles and depths of up to c.0.4m.

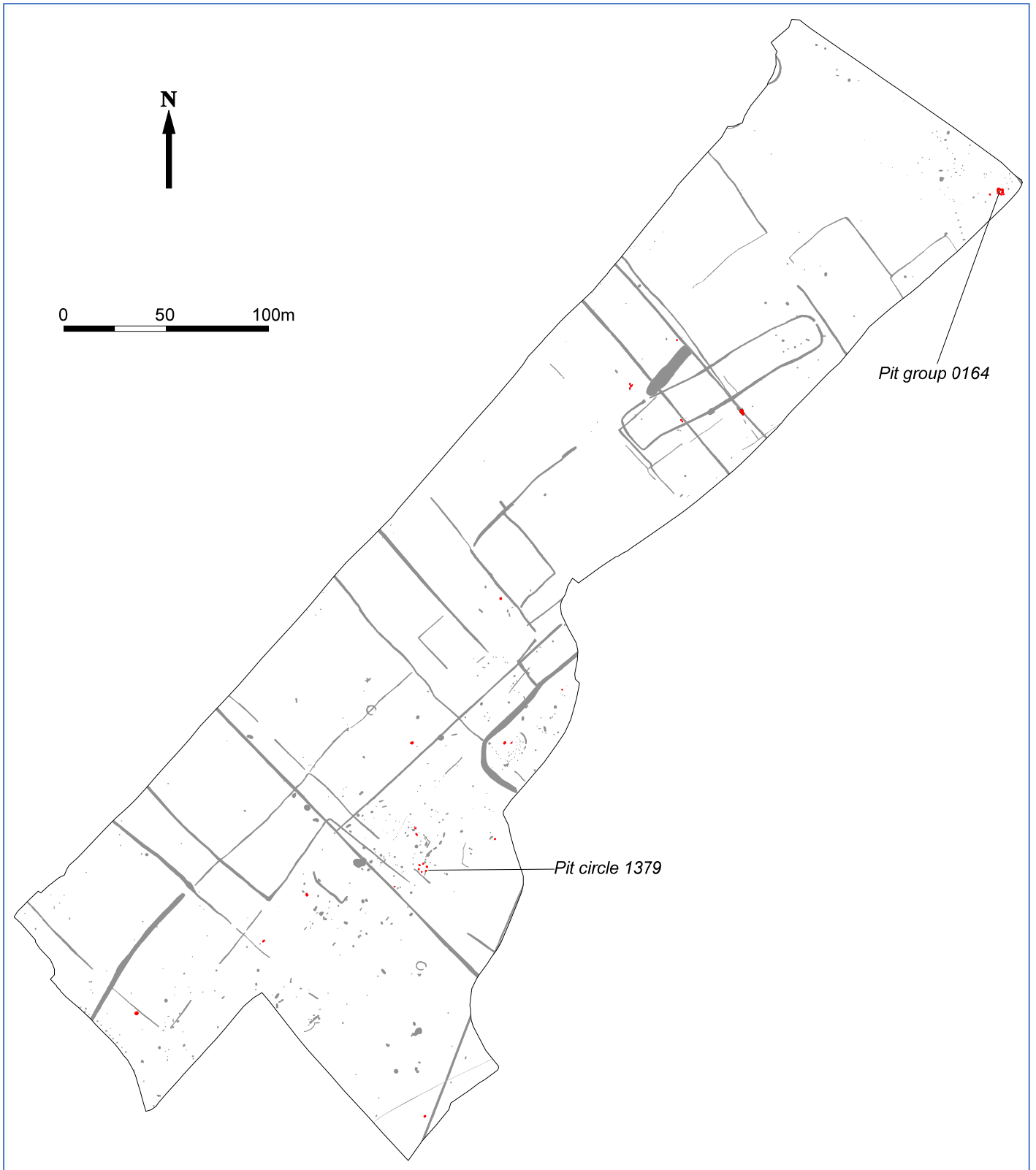


Figure 4. Period I.d.; Late Neolithic features (red)



Plate 3. Pit group 091:0164 looking south



Plate 4. Pit circle 091:1379, looking north-west

The fills often included a darker central component which tended to include the majority of the artefacts. Grooved Ware pottery and worked flint were the principal artefacts with many cross-fits noted in the pottery and a number of flint tools, principally scrapers, amongst the assemblage.

Group 091:1379 comprised six regularly spaced circular pits (091:1365, 1367, 1369, 1372, 1375 and 1377) defining a circle of c.4.70m in diameter (Plate 4.). The individual pits varied in diameter from c.0.55m (091:1367) to c.0.85m (1091:365), although the majority were closer to the latter, with rounded profiles and depths varying between 0.14m to 0.20m. The fills were generally homogenous, consisting of grey/brown silty sand with occasional to moderate small stones. Four of the pits (091:1365, 1369, 1372 and 1375) included ceramic evidence which, on balance, was probably Grooved Ware (see below). Four of the pits produced worked flint (091:1365, 1367, 1369 and 1372), with 1365 including two scrapers and a knife.

The remaining twenty-four pits were distributed throughout the site; often as singletons but also occasionally paired and in small clusters (Fig. 4). The majority of the features were circular with occasional oval and irregularly shaped examples. Most were small, less than 1m in diameter, with depths mostly not exceeding c.0.30m and variable profiles. Fills varied, but usually comprised grey/brown silty sand with inclusions of small stones, sometimes with a darker central component grading lighter towards the edges of the feature. One pit (091:0527) was markedly different in character, probably oval in shape, although truncation by later ditches 091:0272 and 091:0274 and tree-throw 0576 made the identification of the true edges somewhat difficult. However, the surviving portion of the pit suggested that it had measured at least c.2.8m by c.1.3m with a surviving depth of some 0.50m. The fill (variously 091:0528, 0542 and 0563) comprised predominantly of brown, silty, slightly clayey sand with prominent orange panning locally. Local variations included some clay and a darker component towards the base from which all of the ceramic evidence, including substantial portions of a single vessel, was recovered. Pit 091:1821 located towards the southernmost extremity of the site also contained substantial parts of two Grooved Ware vessels.

4.2.3 Period I.d./e.; Indeterminate Late Neolithic/Early Bronze Age

Ten features described as pits or post-holes and a slot-like feature (Table 1; Fig. 5) were attributed an indeterminate later Neolithic or earlier Bronze Age date on the basis that the included ceramic evidence was uncertain regarding its identification as either Grooved Ware or Beaker.

Generally, the pits occupied the same area of the site as the Grooved Ware features, with which they could be broadly contemporary, although the majority were located within the southern half of the site with only two towards the northern end.

With the exception of 091:1048, which was an irregular multilobed feature, almost certainly a tree-hole, and slot 091:1298, the features were generally near circular or oval in shape, measuring between 0.28m (091:0058) through to 1.55m (091:2366) in width at their widest point, although the majority were towards the lower end of this range. Depths varied between 0.12m (091:0658) and 0.80m (091:2366). Most of the features exhibited single, but locally variable fills of grey/brown silty sand with occasional to moderate inclusions of small stones and charcoal flecks. The one exception to this was larger pit 091:2366 which had four clearly stratified fill components (091:2367 - 2370).

Slot 091:1298 apparently cut Grooved Ware pit 091:1377, part of circle 091:1379, and the small amount of pottery recovered may have been derived from the cut feature with the slot unrelated and of much later date. The slot was somewhat irregular in shape measuring c.2.90m approximately north to south with a maximum width of 0.50m. The long profile was characterized by four discrete deepening which were also discernable as darker fills, possibly indicative of post-settings.

4.2.4 Period I.e.; Early Bronze Age

Seven features were attributed an Early Bronze Age date, two ring-ditches (091:0239 and 0258) and five pits (091:0471, 0693, 1993, 2423 and 2425) (Table 1; Fig. 6).

The two ring-ditches were located at the northernmost end of the site and were the vestiges of two features that had previously been excavated in the 086 and 090 areas.

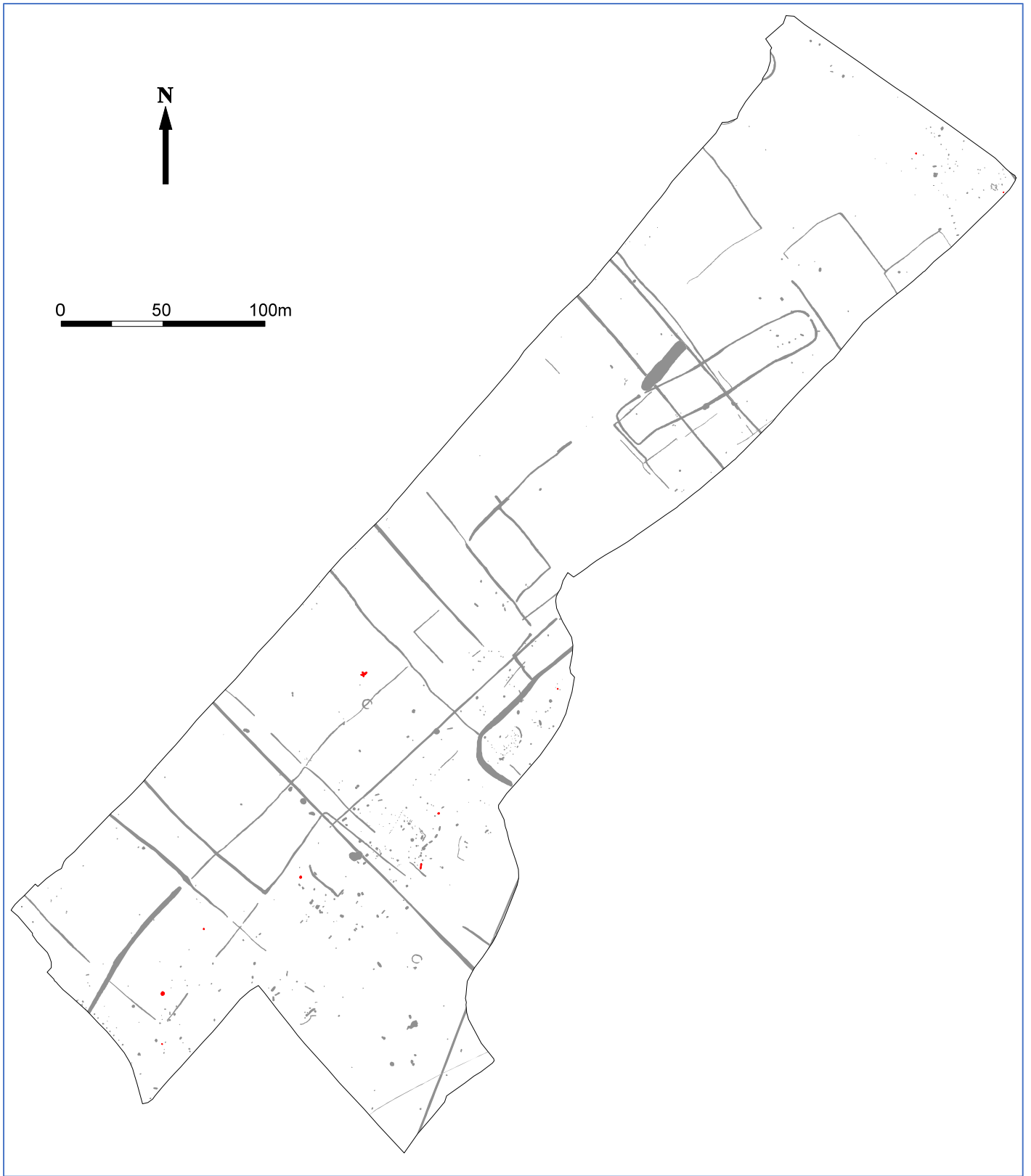


Figure 5. Period I.d./e.; Indeterminate Late Neolithic/Early Bronze Age features (red)

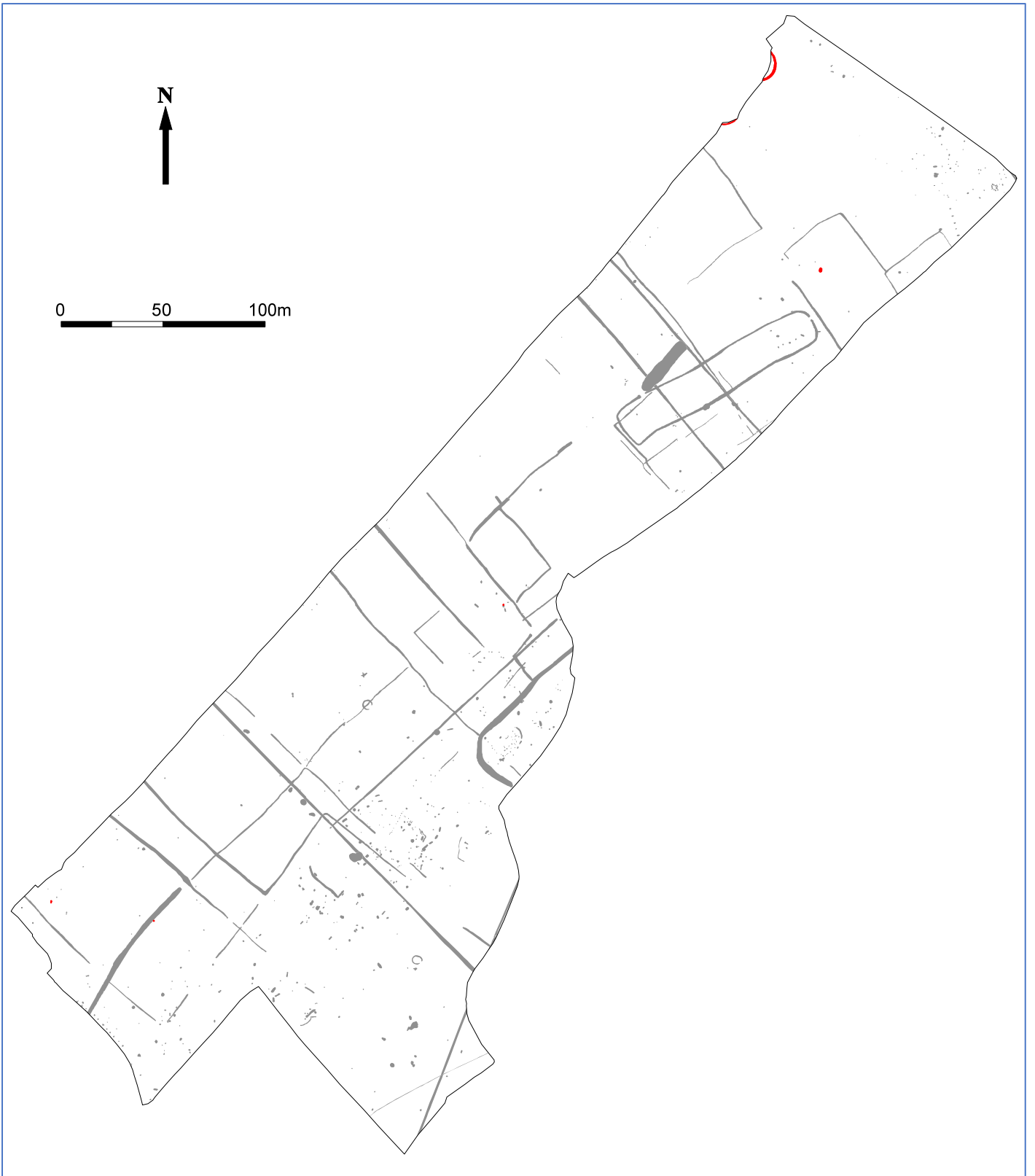


Figure 6. Period I.e.; Early Bronze Age features (red)

Dating was based purely on typology as no burials were associated with them and no datable artefactual evidence was recovered.

Five pits were included in this phase based on the inclusion of diagnostic Beaker pottery in their fill, although in the case of pits 091:0693 and 091:1993, only one sherd was present in each. With the exception of 091:2423 and 091:2425, which were immediately adjacent to each other in the westernmost corner of the site, the pits were isolated. Four (091:0693, 1993, 2423 and 2425) were small, measuring no more than 0.70m at their widest point with depths not exceeding 0.20m, while the fifth (091:0471), which also included sixty-one sherds of Beaker pottery, was larger, measuring c.1.40m by 1.80m with a depth of c.0.40m. Single fills of grey/brown silty sand with variable stone content were the norm, although the larger pit (091:0471) was stratified with three separate fill components recognized, including a very dark central element from which almost all the ceramic evidence was recovered.

4.2.5 Period I.f.; Middle Bronze Age

Eleven features were attributed a Middle Bronze Age date, two probably related slots (091:0926 and 0933) and nine pits/post-holes (Table 1; Fig. 7;). Dating was primarily based on ceramics (mostly Deverel Rimbury), but in some instances this was not entirely certain, although there was enough diagnostic material present in the overall assemblage to show that there was at least some activity on the site at that time.

Other than pits 091:0386 and 091:0439, which were located quite close to the Neolithic long enclosure, the former some 30m from its south side and the latter c.13m to the north, the features were all in the southern half of the site. Of these, six were located close to the southern edge of the site within the area enclosed by ditch 091:0714, itself assigned an unspecified prehistoric date due to the lack of securely datable artefactual evidence. The remaining three features (091:0757, 1076 and 1296) were located to the north-west, west and south-west, respectively, of enclosure 091:0714.

The features enclosed by ditch 091:0714 that were positively assigned to the Middle Bronze Age included four pits/post-holes (091:0739, 0741, 0747 and 0897) and two slot-like features (091:0926 and 0933) which, together, defined a part circle that if continued would have had a diameter of c.11.50m.

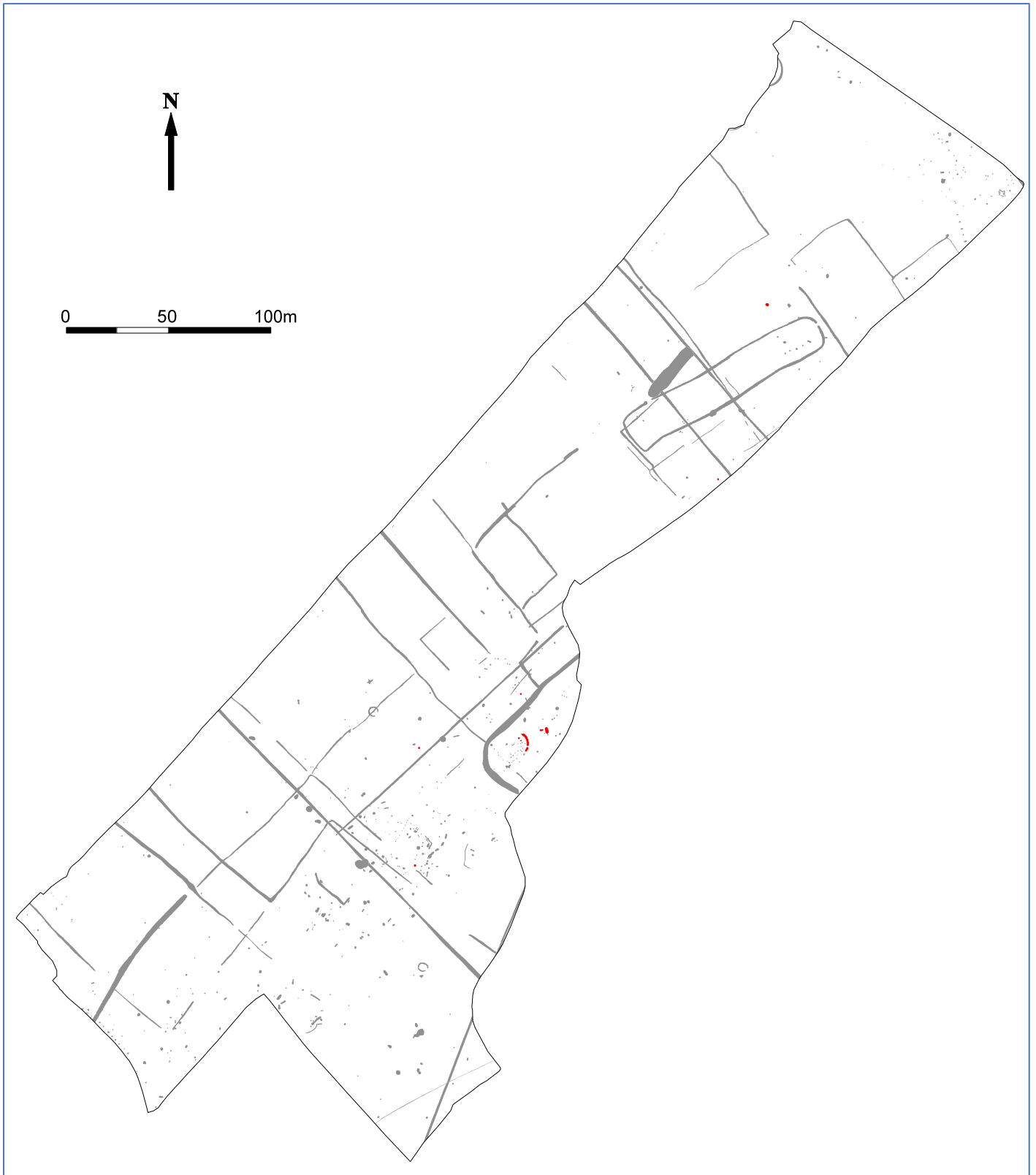


Figure 7. Period I.f.; Middle Bronze Age features (red)

A cluster of approximately thirty small pits/post-holes were recorded within the area that would have been enclosed by the full circle; two of these (091:0747 and 0897) produced ceramic evidence suggesting a Middle Bronze Age date. Of the remainder, two (091:0905 and 0915) were tentatively attributed a later Neolithic date, two more (091:0858 and 0986) appeared to be Early Iron Age, but the majority were either assigned an unspecified prehistoric date or were completely undated. Given that the two slots produced ceramic evidence which, on balance, favoured a Middle Bronze Age date and that these were probably directly related with the enclosed cluster of features, it is tempting to suggest that, together, these represent a structure of that period, possibly within a contemporary enclosure.

Generally, the pits/post-holes were circular or oval in shape; the smallest (091:0757) measured 0.40m in diameter while the largest (091:0739) measured 2.70m by 1.20m, the majority, however, were towards the lower end of this range. Most were shallow, varying between 0.10m (091:0439) and 0.34m (091:1076). Fills comprised grey-brown silty sand, sometimes clayey, sand with occasional to moderate small stones.

4.2.6 Period I.g.; Late Bronze Age

Only two features were attributed to the Late Bronze Age (Table 1; Fig. 8), a sub-rectangular pit (091:1682), possibly a grave, and a pit (091:1700), probably a tree-throw. The dating was based primarily on ceramics considered to be incontrovertibly of Late Bronze Age date. The features were both located towards the southern end of the site, just over forty metres apart and are marked as *LBA* on Figure 8.

Pit 091:1700 was irregular in shape, only 0.15m deep with uncertain edges with a fill defined by patches of almost black stony sand with charcoal and areas of mid brown silty sand. While this feature almost certainly represented a tree-throw, it did include two conjoining sherds of probably later Bronze Age pottery in its fill. Its location immediately to the south of undated, but almost certainly prehistoric, ring feature (091:1585) may also be significant.

Feature 091:1682 was recognized at the surface as a discrete concentration of flint cobbles (091:1683). On excavation, the cobbles were found to be part of an upper fill

(091:1691) with a matrix of dark brown silty sand which was confined with a shallow sided upper cut to the feature (Plate 5.). At a depth of c.0.20m the edges of the cut verticalized down for a further c.0.30m into what appeared to be a regular rectangular-shaped chamber (Plate 6.) with a series of fills which hinted at the presence of a lining or possibly a coffin/bier. While no skeletal evidence survived, the general character of the feature exhibited similarities to other positively identified graves, although, admittedly, these were of earlier Bronze Age date rather than Late Bronze Age, as indicated by the significant assemblage of ceramic finds recovered from the two top fills (091:1691 and 1692) relating to about ten vessels. In addition, the presence of the concentration of flint cobbles, possibly from a degraded cairn, has also been a feature of other funerary features at Flixton.

4.2.7 Period I.h.; Early Iron Age

A total of forty-six features were attributed to the Early Iron Age (Table 1; Fig. 8); forty-five of these were described as pits with one slot (091:1842). The dating was primarily based on the ceramic evidence that was not always clear cut. In Table 1 the interface between the later Bronze Age features and those of the earlier Iron Age has been dotted as some of the identifications were uncertain as to which side of this line they should be (e.g. pit 091:0689). In addition, some of the ceramic assemblages suggest the later end of the range, possibly overlapping into the Middle Iron Age (e.g. pit 091:1611)

With the exception of pit 091:0314, dated by two small conjoining sherds that could have been earlier in date, all of the Early Iron Age features were located in the southern half of the site, the majority within the area where it began to slope more steeply up to the south-east, the part of the site that appears to have been favoured during most of the early periods of activity.

The majority of the pit-like features were small, although there was considerable variation in size; the smallest (091:1545) only 0.34m in diameter, the largest (091:1510) measuring 2.80m by 1.20m. Depths varied between 0.08m (091:0858) and 0.60m (091:1528 and 1611). There were considerable variations in shape, although most were either circular oval.

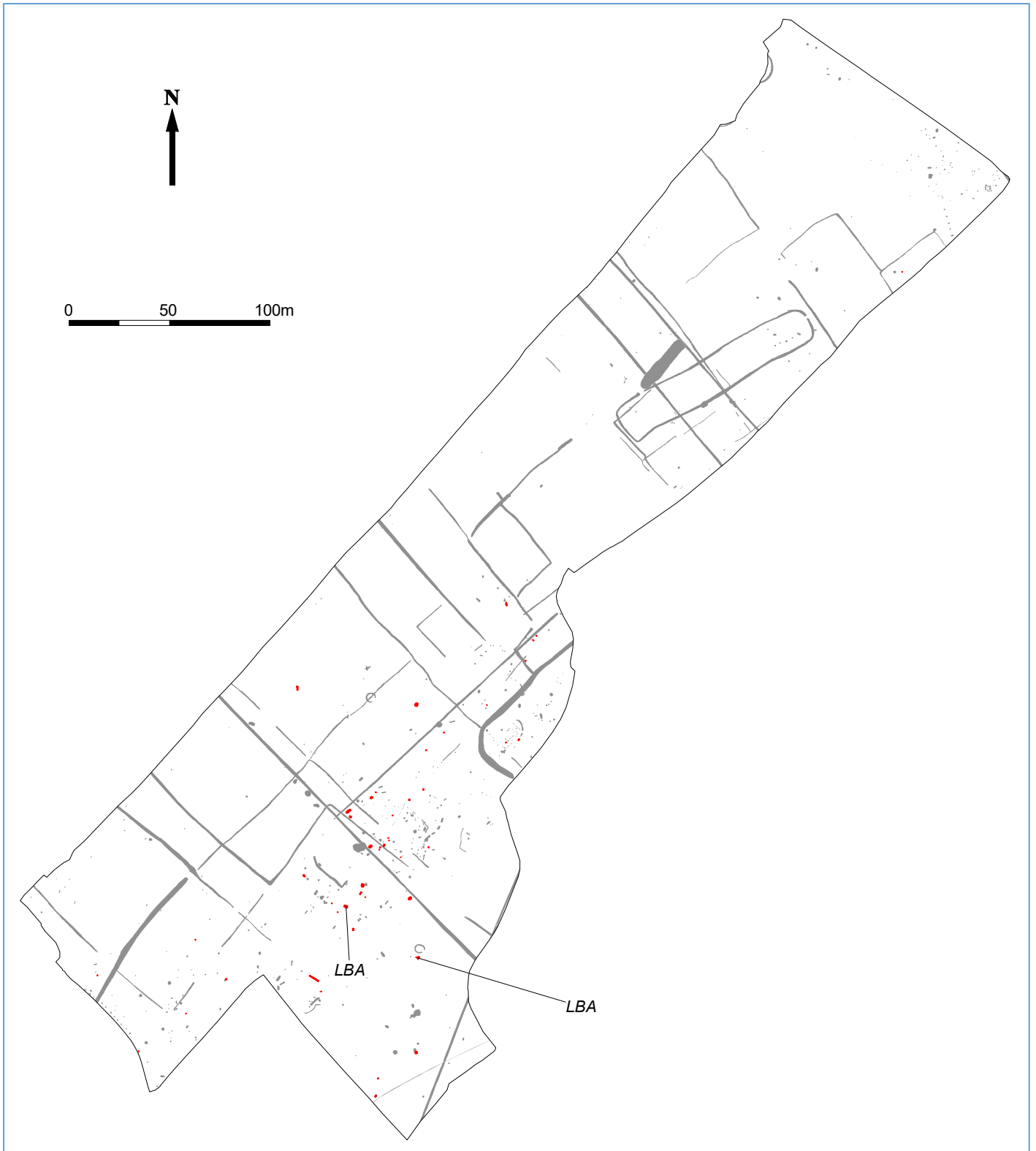


Figure 8. Periods I.g. and h.; Late Bronze Age and Early Iron Age features (red)



Plate 5. Possible grave 091:1682, looking NE



Plate 6. Possible grave 091:1682, looking S

Most of the features had single fills of grey/brown silty sand, some with a noticeable clay content and variable amounts of stone. There were exceptions where there was clear stratification, usually with the larger examples. Notably, sub-rectangular pit 091:1528 had a marked upper and lower fill, while 091:0611 had four fill components. Pit 091:1709 had three elements including a baked red component overlain by a layer with frequent heat-altered flints suggesting that the feature had either been used for an activity using heat, or at the very least, had been backfilled with hot material generated from activity elsewhere.

Also included was a regular north-west to south-east orientated slot-like feature (091:1842) that was 5.50m long, 0.70m wide with a rounded profile and a fill that included a significant quantity of flint cobbles.

4.2.8 Period I.i.; Middle Iron Age

A total of thirty-four features were attributed a Middle Iron Age date (Table1; Fig. 9); a circular structure/building (091:0160) demarked by an arrangement of five post-holes and twenty-eight features described as pits. Dating was overwhelmingly provided by the associated ceramic assemblage.

The majority of the features were concentrated towards the north-east corner of the site with only a few isolated examples further south, all towards the eastern side of the site.

Structure 091:0160 comprised a formal arrangement of five post-settings (091:0124/0158, 0126, 0128, 0134 and 0146) (Fig. 9; Plate 7.), one of which was a double, possibly indicative of repair. The post-holes were set on the circumference of a circle measuring c.3.70m in diameter which, given that these were almost certainly internal supporting posts, would be indicative of a building with a diameter of approximately 6.00m. There was no definitive evidence to where the entrance would have been. No other structural elements had survived such as a drip gully, wall slot or formal floor surface but the building did form part of a concentration of broadly contemporary features including three large pits (091:0171, 0183 and 0187) located immediately to the west. The artefactual evidence from the post-holes was scant but, on balance, a Middle Iron Age date is preferred.

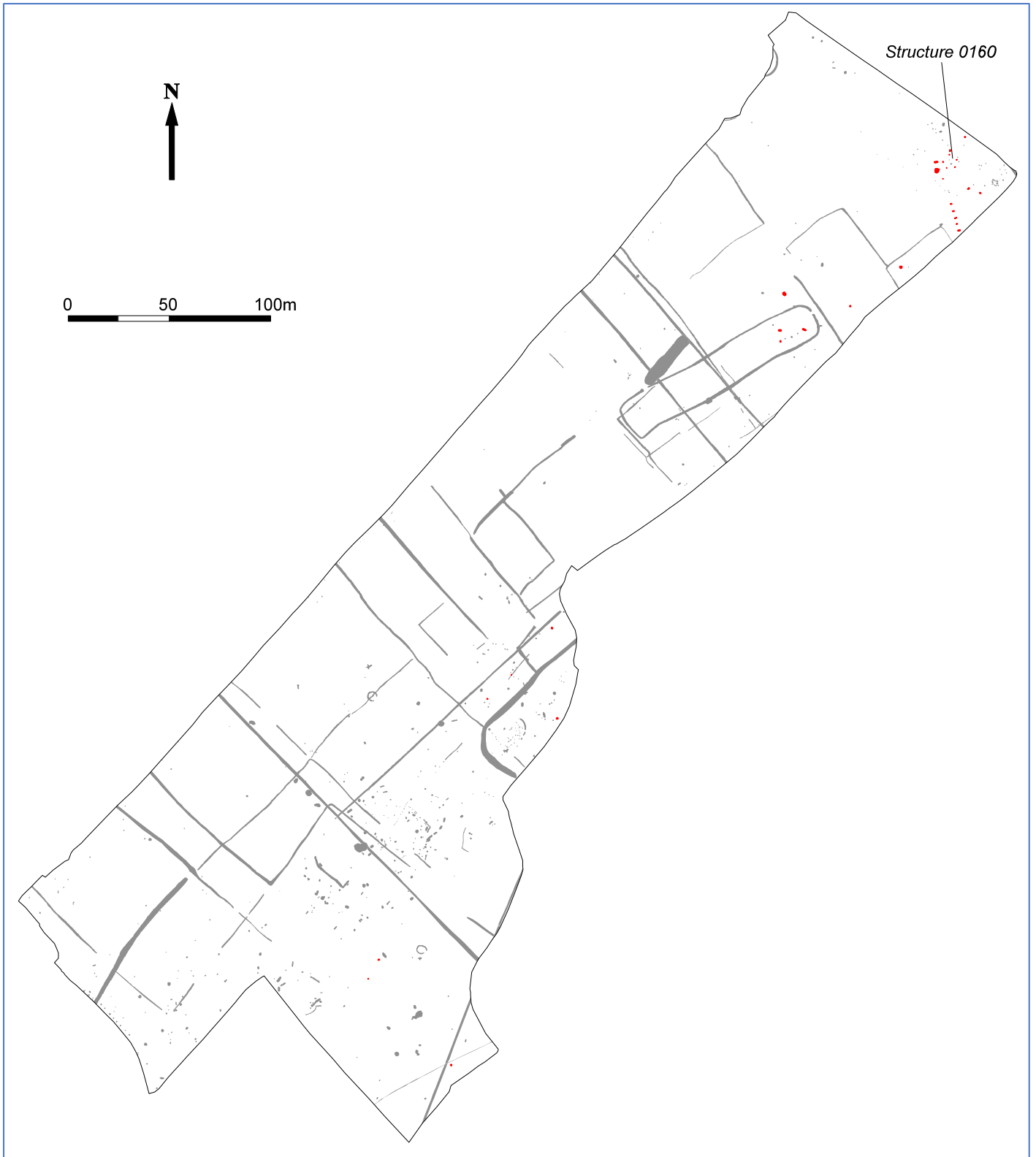


Figure 9. Period I.i.; Middle Iron Age features (red)



Plate 7. Structure 091:0160 looking west



Plate 8. Pits 091:0183 and 091:0187, looking NW

The post-holes themselves were relatively similar in character, all circular with diameters in the region of 0.40m, depths generally between 0.20m (091:0126) and 0.40m (091:0134), although 091:0158, one of the double setting was 0.54m deep; all were steep-sided with a gently rounded base. No post-pipes were in evidence with the single fills comprising grey/brown silty, often stony, sand.

The remaining twenty-eight features attributed to this period exhibited a wide range of sizes (widths/lengths of 0.44m to 2.20m; 091:0951 and 091:0187 respectively, depths of 0.10m to 0.70m; 091:0323 and 091:0183 respectively) and differences in morphology (circular – oval, trough-like and more irregular) and character (single fills and stratified fills), but all were described as pits. Of these, five are worthy of further consideration (091:0171, 0183, 0187, 0210 and 1665).

Pits 091:0171 and 091:0210 were rectangular in shape; the former with very angular corners, the latter more rounded. The steepness of the sides varied within each feature from near vertical to quite gentle, with the gentle slope only at one end. A single fill of dark grey silty sand, grading lighter towards the edges, with occasional small stones, was recorded in 091:0210, while that in 091:0171 was stratified with three major elements (091:0173, 0174 and 0175); the two upper layers (091:0173 and 0174) comprised mid to dark grey/brown silty sand with a moderate quantity of small stones, with charcoal flecks in 091:0174, while the basal component (091:0175) was similar but very stony. Pit 091:0171 produced a total of one 143 sherds of pottery along with small quantities of fired clay, worked flint, heat-altered flint/stone and animal bone, while the assemblage from 091:0210 included pottery, thirty-seven sherds, along with fired clay, worked flints, heat-altered flint/stone and animal bone.

Pit 091:0183 clearly seemed to be cutting 091:0187 from the surface, but there was some ambiguity in the section regarding the lower fills (Plate 8.). Pit 091:0183 was sub-circular in shape with a diameter in the region of 2.10m, a depth of 0.70m, with sides that sloped relatively gently from the surface before verticalizing at a depth of c.0.30m down to an angled base. The stratified fill had at six individually numbered components (091:0184 – 0186 and 091:0191 – 0193) which effectively comprised an upper element (091:0184) of brown silty sand with occasional stones over stonier, less silty layers. A

total of 331 sherds of pottery were recovered, the majority from upper fill 091:0184, along with fired clay, worked flint, heat-altered flint/stone, animal bone and a single piece of metalworking waste. Pit 091:0187 was more trough-like, measuring 2.20m by 1.00m, a depth of 0.60m with steeply sloping sides to a gently angled base. Two fills were recorded; 091:0189 comprising dark grey/brown silty sand with moderate stones and charcoal flecks, forming the bulk of the fill, with a marginal stony slumping deposit (091:0190) on the edge. The finds assemblage included 358 sherds of pottery along with fired clay, worked flint, heat-altered flint/stone and animal bone.

Pit 091:1665 was located towards the southern end of the site. The comparatively earlier Middle Iron Age date of the included two pottery sherds suggest that its affinities lay with the earlier Iron Age phase rather than the more discrete Middle Iron Age concentration of features to the north. The feature itself, was circular, 0.76m in diameter, a depth of 0.12m and exhibiting gently sloping sides to an angled base. The base and sides were lined with a thin layer of yellow clay (091:1667) which had no evidence for being heat-altered even though the overlying fill (091:1666) comprised largely of heat-altered flint and sandstone in a matrix of dark greyish brown silty, clayey sand with occasional charcoal flecks. Other than the aforementioned pottery sherds and heat-altered flint/stone, the finds were limited to a single piece of fired clay and eleven pieces of undiagnostic metalworking slag.

4.2.9 Period I.0.; Indeterminate prehistoric

One hundred features (including five spot-finds) were considered to be of prehistoric date but could not be securely attributed to a discrete phase (Table 1; Fig. 10). Of these, six were described as unurned cremations, one was a possible grave, two were penannular ring-ditches, eighty-two pits/post-holes, three ditches and a hearth.

While distributed throughout the site, the features were marginally more concentrated towards the south (Fig. 10).

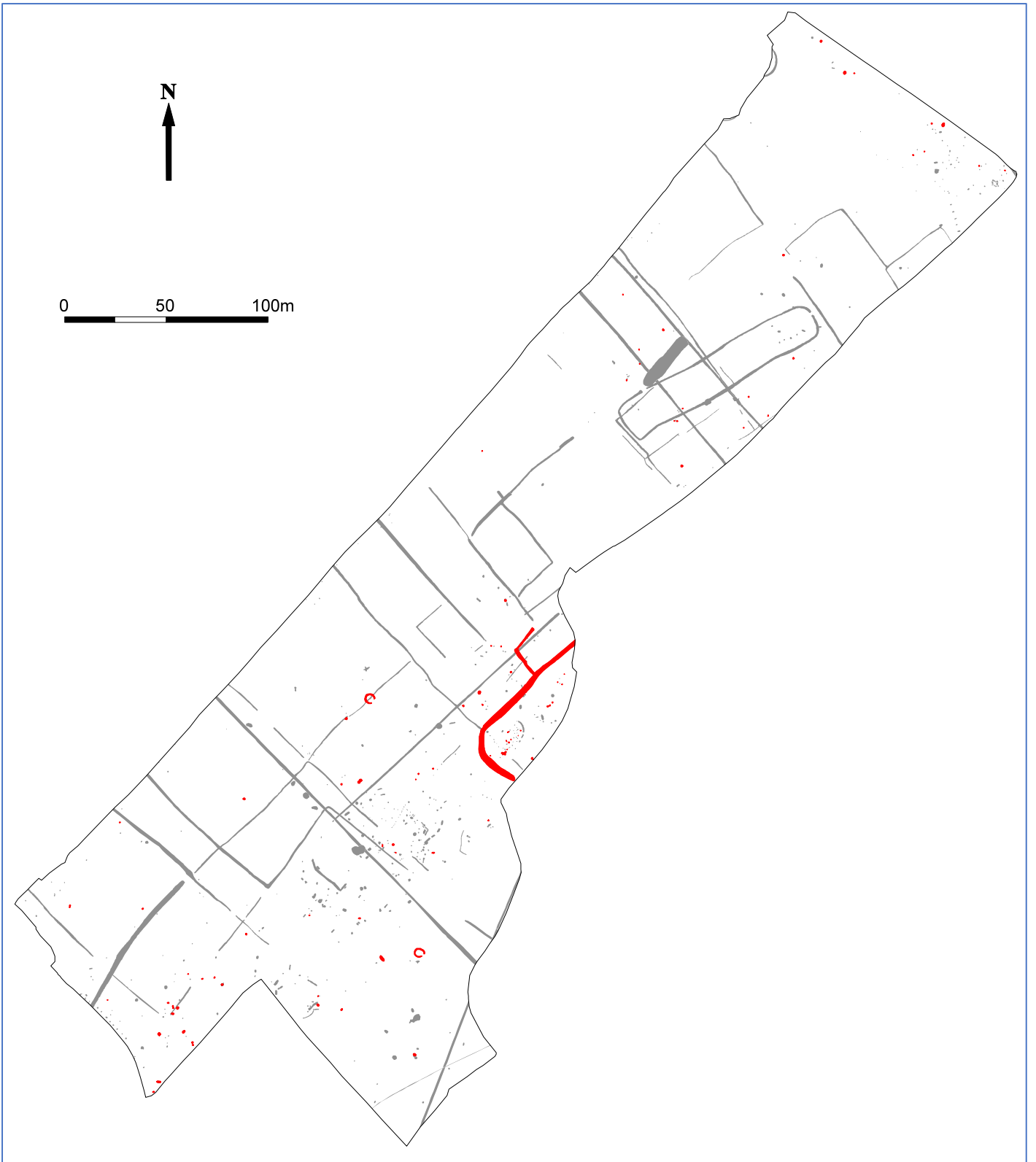


Figure 10. Period I.O.; indeterminate prehistoric features (red)



Plate 9. Cremation 091:0028, looking N



Plate 10. Possible grave 091:0008, part excavated, looking WSW

Six features (091:0028, 0088, 0179, 0290, 0331 and 0536) were described during excavation, due to the presence of calcined bone fragments, as unurned cremations. At assessment, one of these (091:0179) was effectively discounted as the bone was not considered to be human. The cremation pits were generally circular, measuring between 0.53m and 0.70m in diameter (091:0088 and 0028 respectively) and shallow, with depths ranging between 0.10m and 0.30m (091:0536 and 0290 respectively). The fills were often disturbed by roots and burrows with the calcined bone not spread evenly through the fill which could, on occasion (e.g. 091:0028, Plate 9.) exhibit stratification. The western edge of cremation pit 091:0028 was heat-reddened while the silty sand component of the fill of cremation pit 091:0290 also exhibited reddening, in both instances it is likely that the introduction of material while it was still hot from the cremation pyre caused this to happen. At the analysis stage of the project it is likely that at least one of these cremations will be subjected to C14 dating.

Feature 091:0008 (Plate 10.) was somewhat enigmatic with its identification as a grave based entirely on its morphology, character of its fill and similarity with positively identified examples, both at Flixton and other sites in the region. The feature was a regular oval in shape with its long axis orientated north-north-east to south-south-west measuring 3.80m by 2.40m. a depth of 0.80m with vertical sides to a flat base. There was a homogenous brown silty sand upper fill component (variously 091:0035 – 0038) with a hint of vertical stain 091:0039 at either end which was thought to represent the result of the collapse of a chamber or coffin. Fill 091:0039 continued down for c.0.36m to a level base. Below this, there was further evidence that a chamber or coffin had been present with clear vertical and horizontal differentiation in the fills which in similar chamber-like graves, for example 088:0809 (Boulter 2015) has been interpreted as post-depositional collapse occurring as a wooden chamber or coffin rots away with the overlying fill dropping down into the void. While there were no human skeletal remains surviving or grave goods that would have confirmed this interpretation, on balance it remains the most likely explanation for the evidence.

Two penannular ring-ditches were recorded (091:1090 and 1585) (Plates 11. and 12. respectively). No artefactual evidence was recovered, but stratigraphically feature 091:1090 was cut by the Period II.a. (LIA/E. Rom) ditch 091:0992 and a prehistoric date seems most likely.



Plate 11. Ring-ditch 091:1090, looking NW



Plate 12. Ring-ditch 091:1585, looking SE

Ditch 091:1090 was first recognised by as a somewhat indistinct ring of flint cobbles protruding from the surface of the site. On cleaning, it became clear that there was an underlying penannular ring-ditch containing cobble-sized flints (mostly light in colour) set in a light to mid brown silty sand matrix. The ring measured c.5.00m in diameter with a c.2.20m wide break to the south-east. The ditch itself was between 0.50m and 0.86m wide with a maximum depth of 0.40m and a profile varying between rounded and open V-shaped.

Ditch 091:1585 was similarly recognised during machine stripping as a concentration of flint cobbles appearing to define a ring. The cleaning of the area revealed slightly eccentric circle of flints with a c.5.00m diameter with a c.1.35m wide break to the south-east. However, on excavation it was not found possible to identify distinct cut; if a discrete cut feature were present it must have been above the level of the clean, naturally occurring, drift geology on which the flints appeared to lie and completely within the overlying subsoil with which it was indistinguishable.

While the function of these features remains unclear, elsewhere in Flixton Quarry, for example Early Neolithic long-barrow 069:0200 (Boulter 2008) and the Early Bronze Age composite monument 088:0789/0788/0821/0856 (Boulter 2015), where concentrations of flint cobbles have been recognized, they are associated with funerary activity.

A series of three ditches (091:0669, 0714 and 0723) were attributed an indeterminate prehistoric date based primarily on the lack of datable artefactual evidence, although stratigraphy did offer a *terminus ante quem*, as the principle ditch (091:0714) was cut by Period II.a. (LIA / E. Rom) pits. Ditch 091:0714 formed what appeared to represent the corner of an enclosure with a north-east to south-west component running from the site edge for a distance of c.63.00m before curving round and running for c.21.00m in south-easterly direction and butt-ending adjacent to the site edge. The ditch was not uniform in character throughout, with its profile varying between an open V-shape (e.g. S409) to markedly shouldered (e.g. S411) with a width of up to 3.00m and a depth of up to 0.90m. The sections exhibited clear stratification with a central upper fill underlain by a minimum of one and sometimes two or three lower components. The character of these fills was clearly dependent the composition of the adjacent drift geology which, at this juncture, varied between clay and more sandy/silty deposits. The ditch enclosed

features attributed to various of the prehistoric phases including the Middle Bronze Age gullies 091:0926 and 091:0933 and, as previously stated, it is tempting to suggest that these features represent a structure within a contemporary enclosure, although there is no direct evidence for this. The other two ditches (091:0669 and 0723) were continuous with 091:0714, with 091:0723 running in a north-westerly direction for c.15.00m and turning to the north-east as 091:0669 and running for c.14.00m before ending in a double-lobed butt-end. These ditches were a maximum of 1.65m in width with a generally rounded profile and depth not exceeding 0.35m. The fills comprised a relatively homogenous mix of very silty, almost clayey sand.

A sub-circular feature (091:1057) with a diameter of c.0.60m, a depth of 0.20m and a rounded profile was described as hearth. The stratified fill included a basal deposit (091:1058) of ash and charcoal with evidence for *in-situ* burning.

Eighty-two features described as pits and post-holes have been attributed an indeterminate prehistoric date based on a combination of their character and often the presence of artefactual evidence that was not diagnostic to period level but was consistent with a generally early date. The features varied widely in their morphologies and the character of their fills; most were circular, sub-circular or oval in shape, although there were some more eccentrically shaped and also trough-like examples. While there was a large variation in feature size, the majority were towards the smaller end of the range. The smallest feature (091:0662) was only 0.20m in diameter and 0.07m in depth, while the largest (091:1674) measured 3.28m by 1.30m with a depth of 0.50m, and the deepest, at 1.00m, was 091:0095. Most contained single fills of silty, sometimes clayey sand of various hues with occasional to frequent inclusions of small to cobble-sized stones. Stratification was occasionally evident, most notably in 091:0095, which contained a significant quantity of undiagnostic worked flint. A few of the features exhibited fills which comprised overwhelmingly of heat-altered flint and stone, although no *in situ* burning was evident in these features, suggesting that this was material dumped after use. A possible clay lining was recorded in pit 091:1113. *In situ* burning was recorded in one feature, 091:2401, although not in conjunction with heat-altered flint/stone.



Figure 11. Period II.a.; Late Iron Age/Early Roman features (red)



Plate 13. Pits 091:1132, 1154, 1206 and 1227, looking SW



Plate 14. Slots 091:1232, 1272 and post-hole alignment 091:0597, looking NW

4.3 Period II.; Late Iron Age and Roman

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

A total of 164 features were attributed to this period (Table 1; Figure 11). Of these, ninety-three were described as pits, twenty-three as post-holes forming two discrete alignments, forty-two as ditches, three as slots and gullies, one layer and two spot-finds.

The ditches were recorded extensively throughout the northern end and western side of the site while the discrete features were concentrated in a north-east to south-west band in the area where the topographic profile begins to slope up more steeply to the south-east and the subsoil becomes heavier.

Dating for this phase has often proved problematic regarding the attribution of a pre- or post-conquest date; in this instance seventy-three of the ninety-three pits have positively been assigned a post-conquest date (colored green in Table 1).

Ninety-four features were described as pits, although this category covered a very wide and diverse range of features in terms of their size, morphology and character. Morphologies included circular, oval, rectangular, irregular and trough-like examples with dimensions varying from 0.22m (091:1559) in diameter/width to over 3.00m in the case of some of the trough-like features (091:0969, 1227 and 1897). Depths varied between only 0.08m (091:1548) and 0.64m (091:1154). The majority of the pits exhibited relatively undifferentiated fills of grey/brown, sometimes clayey sand with variable quantities of small to cobble-sized stones. Marked stratification was occasionally present, for example pit 091:1541.

A number of the pits merit further description. Nineteen of the pits could be described as elongated ovals or trough-like in character. These ranged in size from 3.46m by 1.00m (091:1227) down to 1.42m by 0.60m (091:0789) and tended to have relatively dark coloured fills with reasonable finds assemblages, including a significant quantity of heat-altered stone in 091:1227. Four of the trough-like pits (091: 1132, 1154, 1206 and 1227) (Plate 13.) were arranged in what must be considered to be a formal alignment. While varying somewhat in size, the character of the pit fills were unerringly similar with a relatively homogenous upper component of mid to dark brown silty sand with

occasional stones, making up the bulk of the fill, over a thin basal deposit of pale blue/grey, occasionally light brown, firm very silty sand with occasional small stones which had the appearance of being waterlain. Given that the naturally occurring drift geology forming the sides of the pits at this juncture included a high proportion of clay, it is possible that the basal fill simply represented natural build-up in the base of a feature that had remained open for a period of time with standing water present. There was little evidence that could be used to suggest a specific function for these pits; a reasonable assemblage of finds was recovered, but the bulk soil-samples were severely lacking in charred plant macrofossils other than small fragments of charcoal. A small amount of metalworking waste was recovered from a sample from fill 091:1229 in pit 091:1227 which also contained heat-altered stone and five iron objects.

Four other pits merit further attention (091:0807, 1283, 1746 and 1789). Pit 091:0807 was sub-circular in shape, c.1.00m in diameter, a depth of 0.50m with steeply sloping sides to an angled base. In addition to a moderately large assemblage of pottery (sixty-two sherds), heat-altered flint/stone and animal bone, the presence of unfired loomweights is considered to be a rare occurrence, and therefore a significant, find (see below). Pit 091:1283 was small, measuring only 0.86m in diameter with a depth of 0.22m with a two-component fill which included a significant quantity of metal-working waste (see below). Pit 091:1746 was an irregular oval in shape, measuring 2.40m by 1.90m, 0.52m deep with a generally rounded profile. The stratified fills included 512 sherds of pottery, with imports and fine table wares particularly well represented along with three brooches (SF's 091:2105, 2106 and 2108) and a possibly associated detached pin (091:2104). Given that only ten brooches were recovered from the entire 091 site, then the presence of four in one feature is significant. Other finds included fired clay fragments (including possible kiln furniture SF 091:2103), metalworking waste, worked flints, heat-altered flint/stone and animal bone. Pit 091:1789 was oval in shape, measuring 2.50m by 2.08m, 0.32m in depth with moderately sloping sides to an angled base. The fill was characterized by the inclusion of a large quantity of heat-altered flint, over 30kg recovered from the three stratified fills in just one half of the feature. There was no evidence for *in situ* burning suggesting it represented a dump of material which had been generated and used elsewhere. Spotdating for this feature was based on a single body sherd of pottery and, as such, must not be considered conclusive.

The forty-two ditches formed part of a rectilinear field system with the component ditches orientated either north-east to south-west or northwest to south-east. The field system forms part of a wider network of ditches previously identified in other areas of the quarry. The dating for the ditches remains problematic as artefactual evidence was scarce. The inclusion in this phase is based heavily on finds recovered in the adjacent 062 site. However, the latest finds would almost certainly relate to the final redundancy of what could be features with a chronologically extended period of use after their primary excavation. On that basis, it can be hypothesised that the currency of the field system could encompass part or all of the Iron Age and even back into the Bronze Age, the latter a theory favoured by Matt Brudenell (Brudenell *pers. comm.*).

The ditches themselves varied in width between less than 1.00m to over 3.00m, but most were towards the lower end of this range. Profiles varied from open V-shaped, shouldered and U-shaped. Fills were generally quite leached, usually with one or two components of grey/brown silty sand with varying concentrations of small to larger sized stones. Re-cuts were occasionally present along with some phasing that suggested that the field complex may have developed over a period of time, or at least have been altered and added to during its use.

Two alignments of post-holes (091:0597 and 1354) were recorded converging in a north orientated V arrangement and possibly associated with adjacent slots/gullies 091:1232 and 091:1272 (Plate 14.). The north-west to south-east orientated component (091:0597) comprised eleven individual irregularly spaced post-holes over a distance of c.15.00m while the north-east to south-west component (091:1354) comprised twelve individual irregularly spaced post-holes over a distance of c.13.00m. The post-holes were all small, mostly, although not exclusively, circular with maximum diameters of 0.50m and depths not exceeding 0.20m. The usually single fills comprised grey/brown silty sand with occasional small stones. The L-shaped configuration formed by slots/gullies 091:1232 and 091:1272 wrapped around the southernmost end of alignment 091:0597. Post-hole 091:1313 was recorded as cutting slot/gully 091:1272. Not all of the post-holes produced dating evidence, but their spatial association was considered to be sufficient to include them together as a discrete group. There was no evidence that to indicate what these groups of features represented or even if they related to a single structure or process. However, given the acute angle between the

two post-hole alignments, it is not considered likely that they formed part of a building of a traditional shape.

Of the three features described as slots and gullies, two (091:1232 and 1272) were recorded in close association with post-hole alignments 091:0597 and 091:1354. Slot 091:1272 was orientated from north-west to south-east, running for c.5.00m before turning at just over ninety degree to the south-west where it continued for c.3.30m as 091:1232. Slot 091:1232 was c.0.70m wide with a depth of c.0.25m and exhibited an open V-shaped profile. Slot 091:1272 was narrower, between 0.30m and 0.40m in width, with a maximum depth of 0.20m, a reflection on the more severe machining at that juncture, with a similar profile. The fill of both slots comprised grey/brown silty sand with occasional small to medium-sized stones.

Slot/gully 091:1865 was located towards the southern end of the site where it ran for c.7.50m, curving round from a north to south orientation at its eastern end to east to west at its western end with a maximum width of 0.50m and a maximum depth of 0.20m, generally with a rounded profile. The fill comprised mid to dark brown silty, almost clayey sand with charcoal flecks. The function of this feature remains unclear, although a structural use cannot be completely disregarded.

Layer 091:1085 was a shallow diffuse deposit of mid to dark greyish brown sandy silt with areas rich in charcoal located to the south-east of and possibly associated with adjacent pit 091:1083.

4.3.2 Period II.c.; Roman, c.L.3rd – 4th AD

A single pit (091:1861), located towards the southern end of the site (Table 1; Fig. 11, marked as *Late Roman pit*), was attributed to this phase based on a single sherd of pottery. The pit was circular, 0.56m in diameter, 0.20m deep with moderately sloping sides to a tightly rounded base. The edges of the feature were heat-reddened. The dark grey/brown silty sand fill included occasional small stones and charcoal flecks. Relatively few features of later Roman date were recorded in the 062 site to the west with the evidence for activity extending into this period on the site largely based on finds recovered from the basal level of the subsoil (Boulter forthcoming).

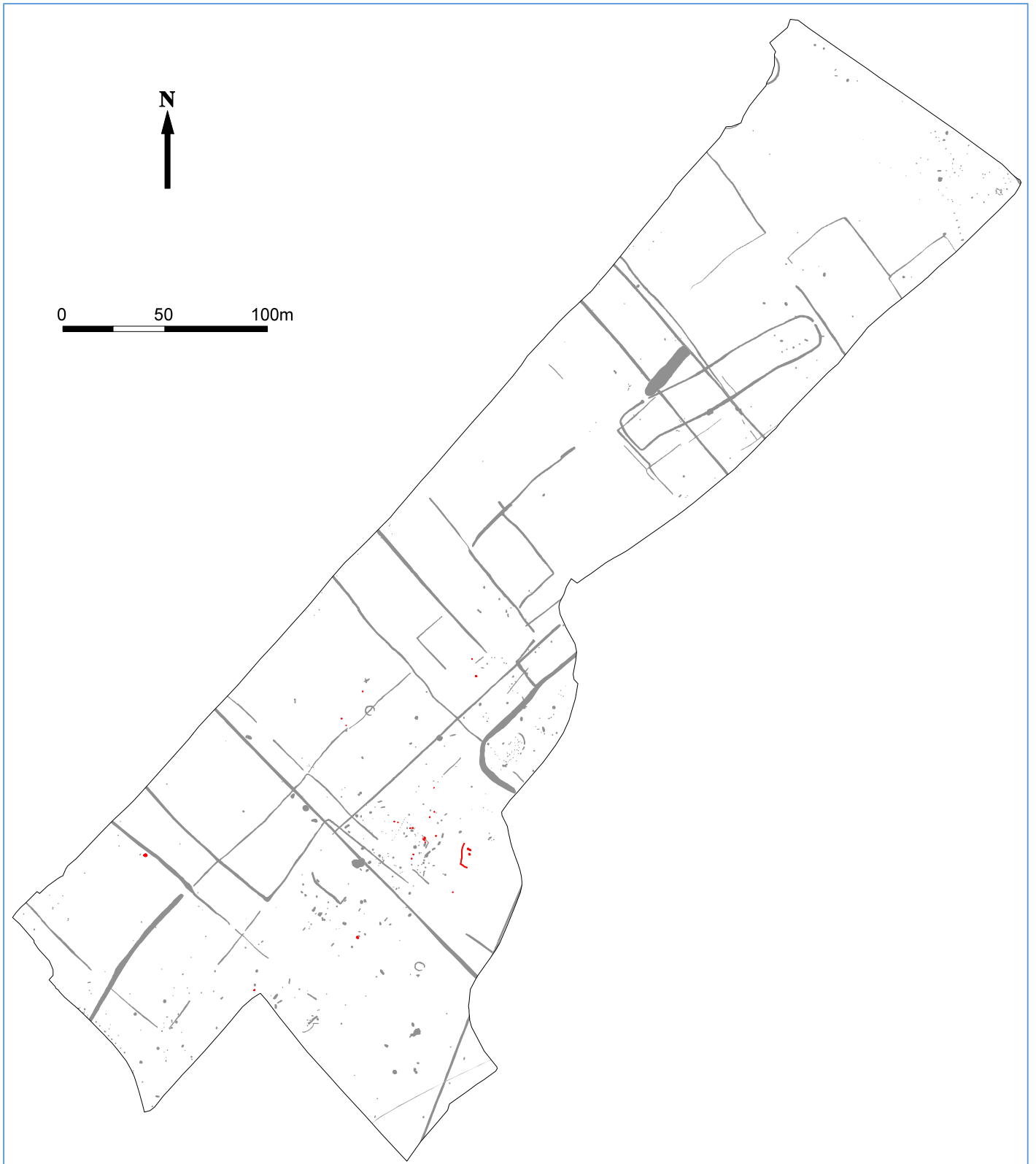


Figure 12. Period II.0.; Roman, unspecified date features (red)

4.3.3 Period II.0.; Roman unspecified date

Ten features were attributed a Roman, but unspecified, date based largely on the undiagnostic character of the pottery assemblage and absence of other securely datable material (Table 1; Fig. 12). Generally, the features were located in the same area as that occupied by the highest concentration of Late Iron Age and Early Roman features and it is likely that this is where their affinity lies.

Two of the features were described as slots/gullies while the remaining eight as pits.

The two slots/gullies (091:1122 and 1124) were associated as one continuous feature. Component 091:1122 was orientated south-east to north west, running for c.3.90m before turning towards the north-north-east and continuing for c.10.50m in a somewhat sinuous fashion. The slot was c.0.40m wide, c.0.10m deep with a rounded profile and a fill comprising mid grey/brown silty sand with occasional stones.

With the exception of trough-like feature 091:1288, which measured 1.40m by 0.36m, the pits ranged from circular to oval in shape with the smallest measuring 0.60m in diameter and the largest (091:1969) measuring 1.40m by 1.20m. Depths varied between 0.14m (091:1270 and 1288) and 0.39m (091:1969). Fills generally comprised grey/brown silty sand with variable stone content with some charcoal.

4.4 Period IV. Medieval

A single feature (pit 091:1230) and a ceramic spot find (091:0760) (Table 1; Fig. 13, marked as *MED*) were attributed a medieval date based on artefactual evidence alone. The pit was small, 0.70m in diameter, a depth of 0.18m with a rounded profile and a fill comprising mid to dark brown silty sand with occasional small stones from which twelve tiny laminated sherds of medieval coarseware were recovered. However, given that the only other medieval pottery recovered was residual material in later features and there is no other evidence for significant activity of this period on the site, it seems reasonable to suggest that the pottery in 091:1230 does not necessarily reflect the actual date of the feature. The presence of the scattered medieval finds is probably the result of a process such as manuring.

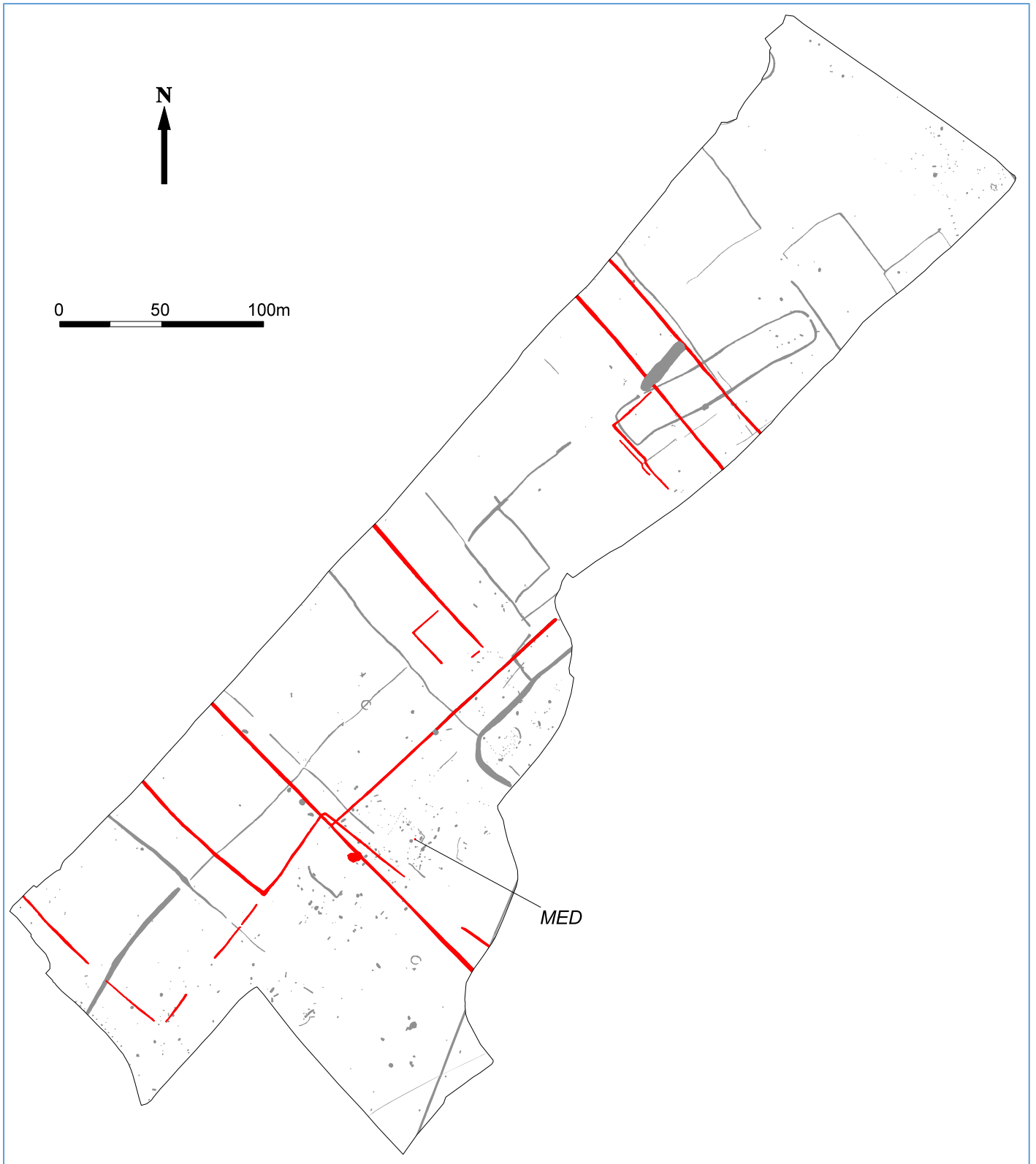


Figure 13. Period IV.: Medieval and V.a.: Post-Medieval c.17th – 19th century features (red)

4.5 Period V.; Post-medieval

4.5.1 Period V.b.; Post-medieval, c.17th – 19th century

A total of twenty-three features/contexts were assigned to this period (Table 1; Fig. 13), based on a combination of stratigraphy, artefactual and map evidence. Of these, nineteen were ditches, two were layers and two were described as pits.

The majority of the ditches can be related to map evidence and are continuations of features seen in other phases of the quarry excavations. However, there was some intercutting, for example ditch 091:1531 clearly cut ditch 091:1590, which suggests rearrangement of some elements of the landscape during this phase, probably associated with changes to the parklands around Flixton Hall. It may be possible through map regression to identify the dates of the landscape changes more closely.

During machining, it was possible to see that the ditches clearly cut through the subsoil/colluvial layer to the base of the topsoil and in some places, particularly at the base of the north-east facing slope where the subsoil/colluvial accumulation was at its deepest, were entirely within this layer and were removed during the soil-stripping operation (e.g. 091:1433/1531 and 091:1261/1508).

The two layers (091:0640 and 0641) were located directly to the south of ditch 091:0642 with which they may have been associated, possibly representing the upcast bank created when the ditch was excavated. These were only seen in one of the excavated sections adjacent to the site edge, but were probably present more extensively, but was removed during soil-stripping.

Unexcavated pit 091:1532 was irregular in shape, but nearly 7.00m across at its widest and was seen from the surface to cut post-medieval ditch 091:1531. Similar features recorded elsewhere in the quarry have been interpreted small scale quarry pits. Pit 091:1804 was also irregular in shape and was continuous with the fills at the right-angled junction between post-medieval ditches 091:1590 and 091:1806. The pit was interpreted as a possible tree-hole.

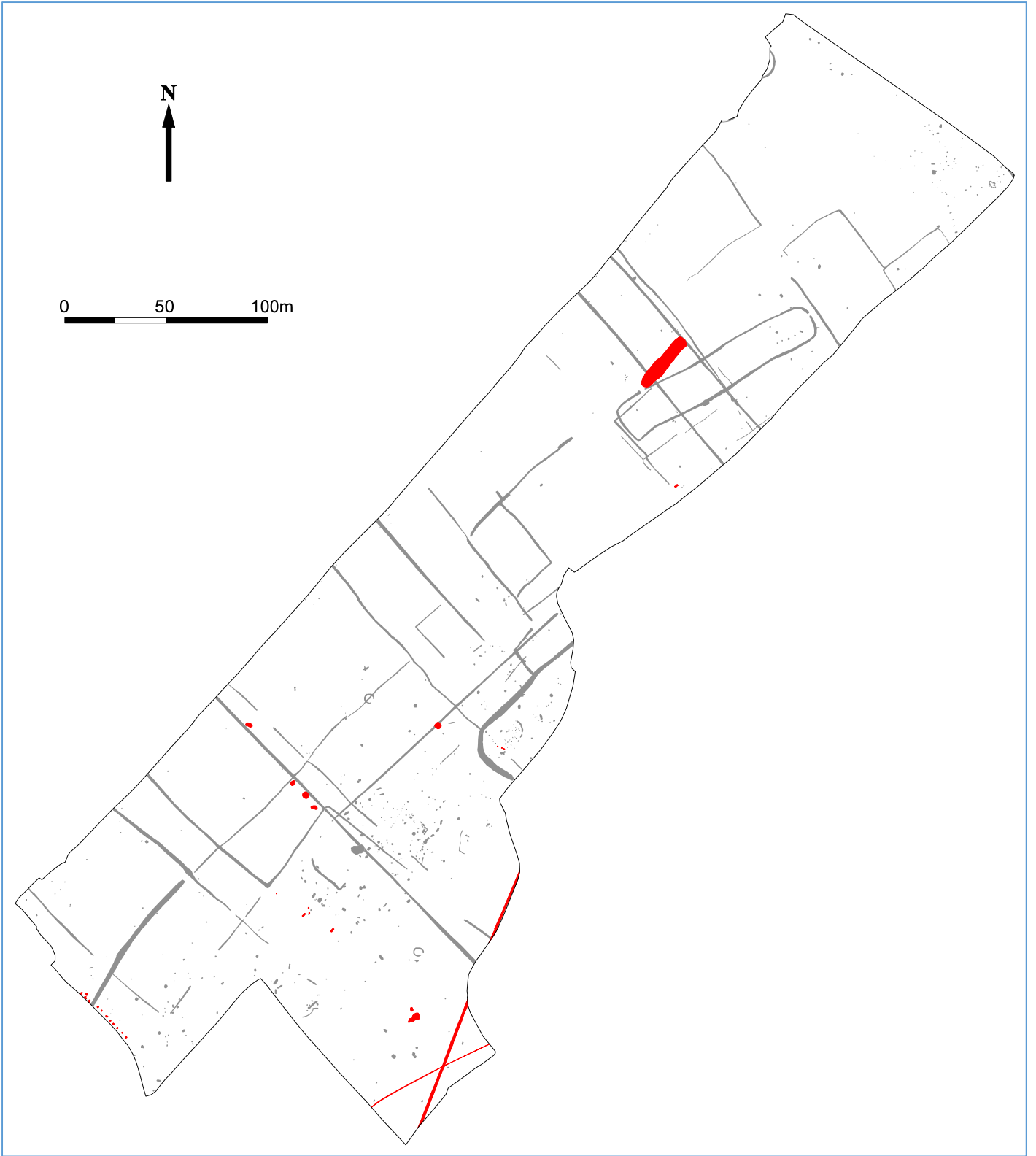


Figure 14. Period V.: Medieval c.20th century (red)

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

Thirty features were positively identified as 20th century through a combination of stratigraphy, artefactual and map evidence (Table 1; Fig. 14).

Of these, twenty-seven were described as pits and post-holes and included a fence-line at the southern end of the site (091:2453) while a large c.30.00m long by c.6.00m wide pit (091:0416) marks the location of a former copse of trees, the remains of which were bulldozed into a pit at that juncture within living memory. The remaining features include three regular rectangular pits (091:0395, 1810 and 1812) measuring c.1.90m by c.0.70m that almost certainly represent machined test-holes.

Other features included a geotechnical borehole (091;1814), a ceramic drain and associated manhole (091:1195 and 1185 respectively) and an unnumbered electricity cable. The manhole, drain and cable relate to a known phase of activity relating WWII military buildings which have since been excavated in 2016 and 2017.

4.5.3 Period V.0; Post-medieval, unspecified date

Sixteen features (Table 1; Fig. 15), all described as pits and post-holes were deemed to be of post-medieval date, but with not enough evidence to attribute them to a phase within that period.

Eight of these, located towards the north-west corner of the site, were post-holes, almost certainly relating to fence lines. Two of these, shallow rectangular pit (091:1192) and an irregular kidney-shaped feature (091:1936) had clearly been excavated for the disposal of the carcasses of single animals, a cow and a goat respectively (see below). The remaining features were small and isolated with no obvious function.

4.6 Undated

A total of 266 features remained undated (Table 1; Fig. 16). These were located throughout the site, but with concentrations corresponding to areas also occupied by features relating to the more securely dated phases. The majority of the undated features almost certainly belong within these recognised phases, but cannot be attributed as such due to lack of evidence.

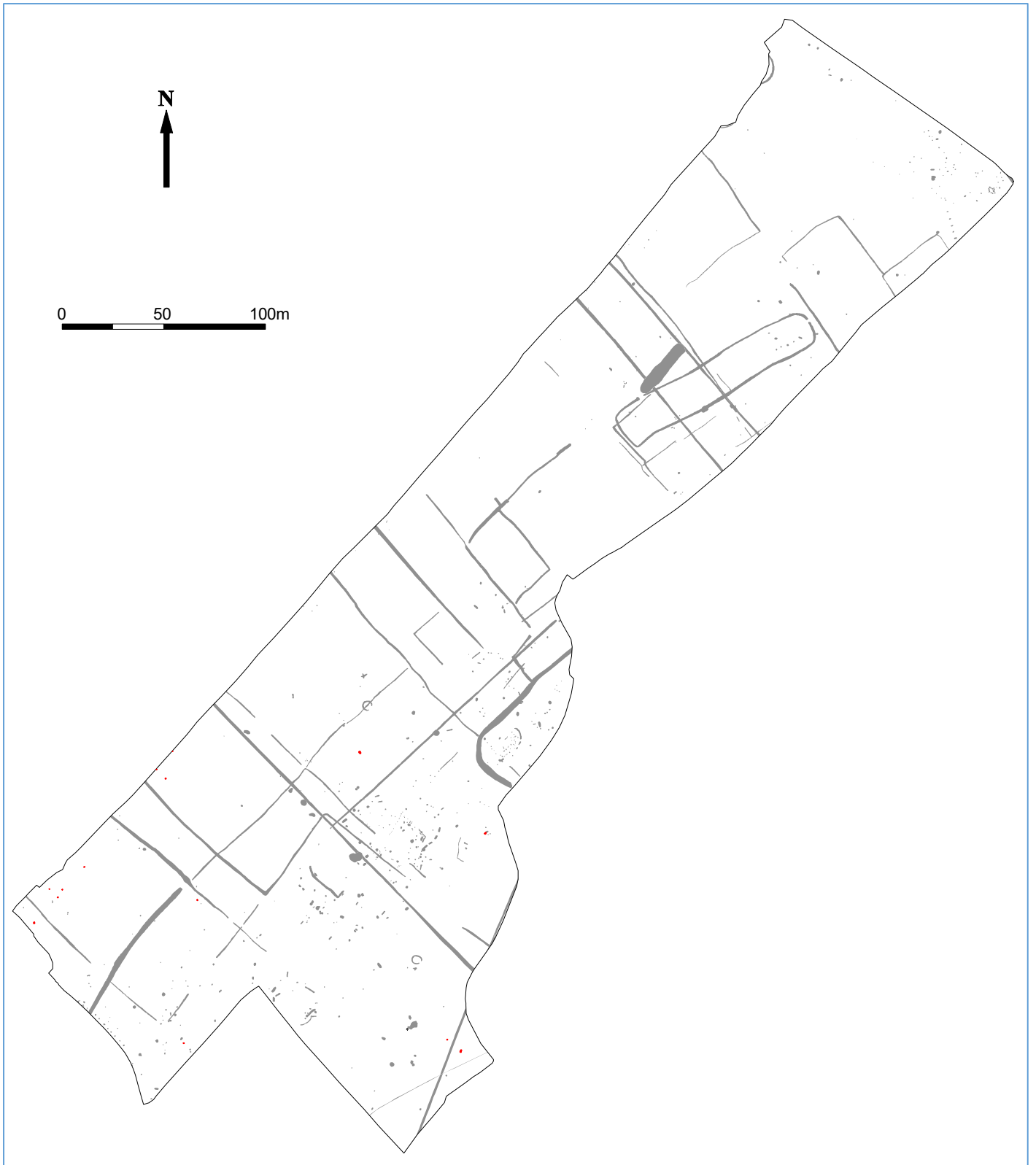


Figure 15. Period V.0.: Post-medieval unspecified date features (red)

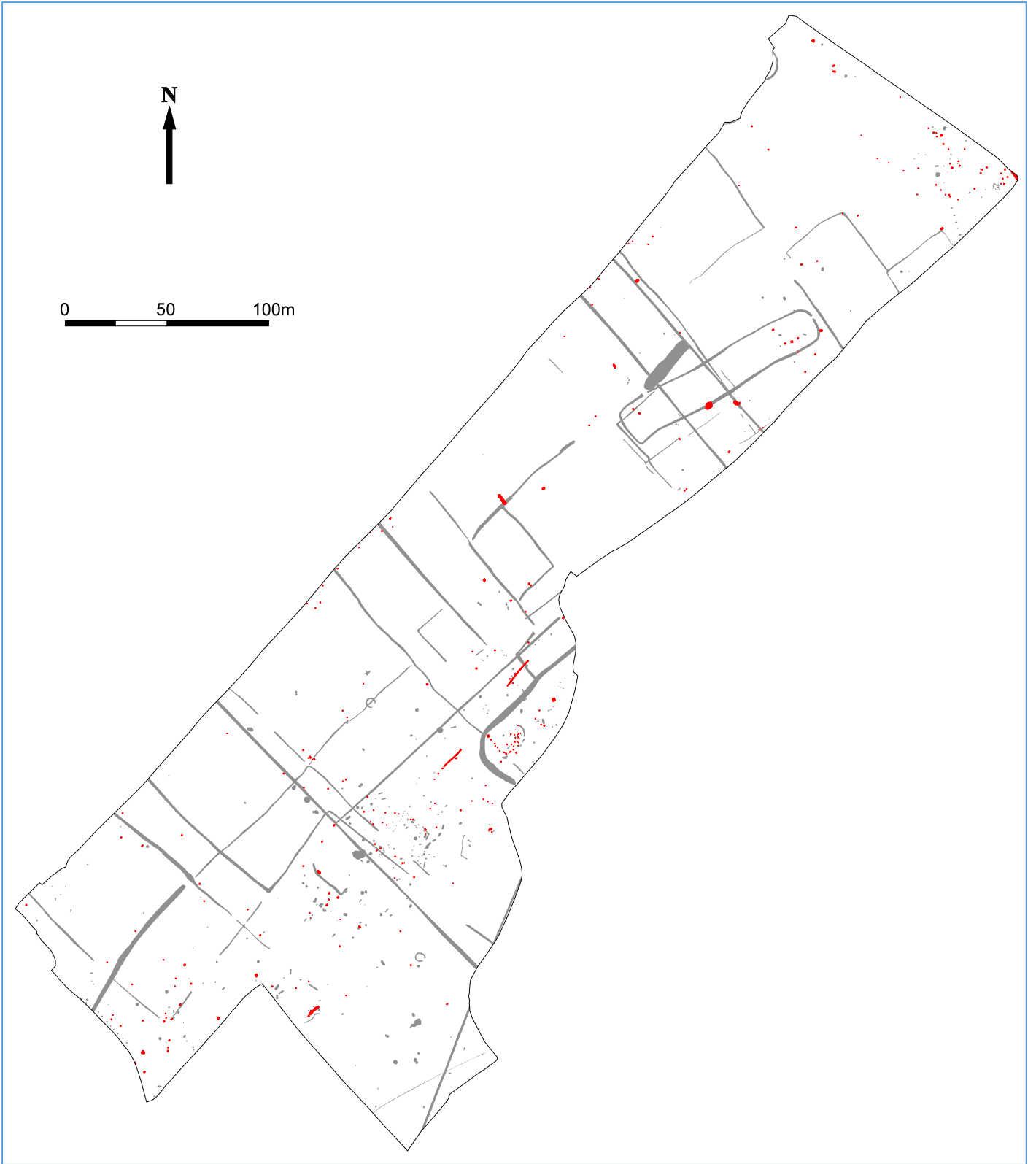


Figure 16. Period 0.: Undated features (red)

The features included three ditches, a hearth, six layers, two hundred and fifty-four features described as pits and post-holes and two natural disturbances.

The three ditches included 091:0002 which cut across the easternmost corner of the site on a north-west to south-easterly alignment. The orientation of this feature would be in keeping either the prehistoric field system or the later ditches. On balance, the homogenous grey/brown silty sand with moderate small stones fill and the lack of finds suggests that the earlier date is more probable. Similarly, the other two ditches (091:0769 and 1036), both orientated from north-east to south west, on an alignment suggesting they were part of the same feature, had more in common with the earlier ditch complex, but were sufficiently isolated for this to remain uncertain.

Hearth 091:1648 was effectively no more than a c.0.70m in diameter patch of heat-altered natural clay subsoil suggesting that a source of intense heat had been sited immediately above it at some time.

The two features considered to be natural disturbances were different in character; the first (091:0246) was an amorphous area of disturbed soil thought to be a tree-throw cutting ditch 091:0243, while 091:1869 was an irregular linear, measuring c.6.00m by c.1.00m, c.0.20m deep with a rounded profile and a fill of very silty, almost clayey sand. While a quantity of fired clay and a few worked flints were recovered, the excavator was never convinced that it was a genuine feature.

The six contexts described as layers (091:0027, 0756, 1022, 1250, 1260 and 1363) were essentially all related to the intervening subsoil layer between the topsoil and the underlying drift geology. However, given that the very basal levels of this deposit were cut by the Roman features, which were themselves sealed by the upper component, then clearly the layer had built up over a chronologically extended period of time. The majority of the layer, comprising a uniform mid to dark brown very silty, stone free, sand, was considered to represent a colluvial deposit generated by the mass movement of material down slope. However, local differences were noted, particularly in the base of the angle formed by a marked break of slope that ran from north-east to south-west through the site, but was particularly prominent towards the southern end where it was recorded in a long section.

The two hundred and fifty-four pits and post-holes exhibited a wide range of sizes, morphologies and character, but were dominated by relatively small shallow features, a fair proportion of which were almost certainly natural in origin but could not be entirely dismissed.

Not all of these features were totally devoid of artefactual evidence, but where just a few pieces of heat-altered flint/stone or tiny undiagnostic fragments of other materials such as fired clay, animal bone or even pottery were present then this was not considered enough to assign a definitive phase.

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 (Table 1) and plans (Figs. 3 - 16)
- 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 A1 and 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 and 4 (costing provided separately)

5.2 Quantification of the stratigraphic archive

The stratigraphic archive is quantified in Table 2:

Type	Format	Site 091
Context register sheets	A4 paper	65
Context recording sheets	A4 paper	1,149
Environmental sample register sheets	A4 paper	10
Small finds register	A4 paper	5
1:20 scale plan and section sheets	A3 plastic drafting film	119
1:100 scale site plans	A1 plastic drafting film	30
1:500 & 1:1000 scale site sketch plans and A1 plan sheet locations	A3 plastic drafting film	4
Site photo book	Hardback 155 x 110mm note book	1
Digital images	14mp .jpeg	1,719
Site survey/level book	Hardback 190 x 120mm note book	2

Table 2. Quantification of the stratigraphic archive

5.3 Quantification and assessment of the bulk finds archive

5.3.1 Introduction

Table 3 shows the quantities of bulk finds recovered from the recent excavation. This includes finds retrieved through the process of environmental sampling. A full catalogue of the finds listed in context order is available in Appendix III.a.

Finds Type	No	Wt. (g)
Pottery	8,670	63,947
CBM	107	10,078
Post-medieval bottle glass	6	42
Post-medieval vessel glass	1	1
Slag	-	1,230
Nails	59	427
Fired clay	2,794	17,255
Lava quern	-	1102
Worked flint	8,270	-
Heat-altered flint	19,108	36,1152
Heat-altered stone	731	64,451
Animal bone	1,275	3,818
Cremated bone	-	1,599
Shell	12	19
Charcoal	368	133
Coal	1	1

Table 3. Bulk finds quantities

5.3.2 Pottery

Introduction

A breakdown of the pottery is shown in Table 4. As can be seen, by far the largest elements of the assemblage belong to the prehistoric and Roman periods. The table below is slightly misleading, as it is likely that some of the greywares present amongst the overall LIA/Roman component of the assemblage actually belong to the late Roman period, although they have no diagnostic features to indicate this.

Period	No	Wt. (g)	% by sd count	% by sd weight
Prehistoric	5,049	36,202	58.2	56.6
LIA/Roman	3,591	27,574	41.4	43.1
Later Roman	3	34	0.03	0.05
Late Saxon	1	25	0.01	0.03
Medieval	17	32	0.19	0.05
Post-medieval	9	80	0.10	0.12
	8670	63947	99.9	99.9

Table 4. Pottery quantification by period

Prehistoric and Roman pottery

A large and chronologically diverse range of prehistoric and Roman pottery was recovered during the current phase of excavation at Flixton Quarry with a full catalogue presented as Appendix III.b. The assemblage has been broadly broken down by period and tradition in Table 5, though this quantification is based purely on the inherent dating of the pottery itself and does not, at this stage, take into account stratigraphic phasing. Almost every major period/pottery tradition from the Early Neolithic to the early Roman period is represented to some degree. The more significant elements include: a moderate quantity of Early and Middle Neolithic material, much of it from an elongated rectilinear enclosure (091:0500), possibly representing a mortuary-related monument; a substantial assemblage of Late Neolithic Grooved Ware, including one very concentrated group from a formally arranged group of pits (091:0164); and large assemblages, predominantly from pits, dating to the Iron Age and early Roman periods.

Period	Tradition(s)	Sherds	Wt. (g)	ENV	EVE
Uncertain prehistoric		51	264	35	
Early Neolithic	Mildenhall/plain bowl	103	1,097	57	
Middle Neolithic	Peterborough Ware	132	1,051	42	
Early/Middle Neolithic	Uncertain Mildenhall/plain bowl/ Peterborough Ware	255	1,306	188	
Late Neolithic	Grooved Ware	1,151	7,723	354	
Late Neolithic/Early Bronze Age	Beaker	98	440	75	
Late Neolithic/Early Bronze Age	Uncertain Grooved Ware/Beaker	145	527	68	
Middle Bronze Age (& poss. ?Early Bronze Age)	Deverel-Rimbury (inc. few sherds of uncertain Collared/ Biconical Urn or DR)	368	2,979	47	
Late Bronze Age	Post-Deverel-Rimbury	377	2,455	157	
Early/Middle Iron Age		2,369	18,360	1,511	
LIA/Roman		3,591	27,574	2,290	30.52
Later Roman		3	34	3	0.04
Total		8,643	63,810	4,827	35.92

Table 5. Quantification of prehistoric and Roman pottery by period/tradition

Methodology

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). In previous work on prehistoric ceramics from Flixton Quarry, a site specific fabric type-series had been used (Percival 2012 and in prep). However, as the current work was undertaken by a different specialist with no access to fabric samples from the original phases of work, it was not possible to use common codes and consequently it was necessary to work with a new and non-compatible fabric type-series formulated in accordance with the Prehistoric Ceramics Research Group (PCRG 2010). Some concordance work will probably be necessary at the analysis stage especially if the current assemblage is to be published with that from the most recent previous phase of assessment (Boulter 2013).

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 neighbouring Essex region (Hawkes & Hull 1957; Going 1987).

Site specific fabric type-series:

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
QUGR1	Common quartz mostly of 0.4-0.6mm; rare/sparse grog 1-2mm

Early and Middle Neolithic

Nearly 500 sherds are thought to belong to the 4th /early 3rd millennium BC. This assemblage contains some diagnostic elements of both Early Neolithic Mildenhall/plain bowl pottery (c.3700-3300BC) and Middle Neolithic Peterborough Ware (3300-2700BC). However, fabrics are very similar across both traditions and, in some features, both styles appear to occur together so it is difficult to quantify precisely how much of the assemblage belongs to each. As shown in Table 6, Early and Middle Neolithic pottery fabrics are overwhelmingly flint-tempered. In general, they tend to contain some coarse quartz-sand in their matrixes (**FLQU** fabrics) although about a third of fabrics have dense non-sandy matrixes (**FLIN** fabrics). There are also a few individual examples of sandy fabrics without flint (**QUAR4**, **QUAR5**).

The fabrics mostly contain sparser frequencies of fairly ill-sorted flint. The majority are in medium coarse fabrics with inclusions of less than 4mm (e.g. **FLIN1**, **FLIN5**, **FLIN6**, **FLQU1**, **FLQU2**, **FLQU3**, **FLQU9**) but there are examples of finer wares (e.g. **FLIN4**,

FLIN7, FLQU4, FLQU5) and some fabrics with coarse or very coarse inclusions (e.g. **FLIN3, FLQU7, FLQU10, FLQU13, FLIN2, FLQU8**). One very distinctive fabric (**FLQU14**) associated with two diagnostic Mortlake Peterborough Ware vessels, contained exceptionally coarse flint of up to 20mm.

Fabric	Sherds	Wt. (g)	ENV
FLIN1	59	222	56
FLIN2	51	564	22
FLIN3	45	270	29
FLIN4	16	68	14
FLIN5	29	243	15
FLIN6	12	17	12
FLIN7	8	27	1
FLQU1	55	200	47
FLQU2	29	95	15
FLQU3	27	153	17
FLQU4	1	5	1
FLQU5	7	9	7
FLQU7	22	197	14
FLQU8	25	166	7
FLQU9	1	7	1
FLQU10	32	737	12
FLQU13	3	6	3
FLQU14	41	400	4
QUAR4	10	20	6
QUAR5	17	48	4
Total	490	3,454	287

Table 6. Quantification of Early/Middle Neolithic pottery fabrics

Very few features could be conclusively dated to the Early Neolithic period. The only moderately large stratified group (62 sherds, weighing 165g) comes from an isolated trough shaped pit 091:0680. Although not very diagnostic, the fabric composition and presence of an out-turning rimsherd, quite typical of the plain bowl tradition suggests an Early Neolithic date for this group.

Two other pits contained very small quantities of diagnostic Mildenhall pottery and no later material. Pit 091:0276 includes a number of sherds from one vessel with a crudely beaded rim, neutral profile and a single fingernail impression along the rim; the vessel also features a post-firing perforation. Similarly, pit 091:0786 produced a bowl with a gently out-turning rim and an undulating horizontal line of fingernail impressions on the

shoulder. A small number of residual Early Neolithic sherds also occur in later groups. Although both the well-stratified and redeposited Early Neolithic material tends to come broadly from the central part of the current excavation area, there are no distinct clusters.

One of the most significant groups of 4th millennium pottery from the site comes from the large long enclosure, 091:0500. Overall, 220 sherds, weighing 1.39kg were recovered from its ditches. Interestingly they contain both Early Neolithic Mildenhall/plain bowl (c.3700-3300BC) and Middle Neolithic Peterborough Ware (c.3500-2700BC), seemingly often from within the same fills. Although only one partial plain rim from an unambiguously Early Neolithic vessel was identified (from fill 091:0618 of ditch segment 091:0443), over 85% of the sherds from the enclosure ditches are undecorated. In general Peterborough Ware tends to feature impressed decoration over most of its surface area so the very low proportion of decorated sherds suggests that many of the undiagnostic pieces in this group are also of Early Neolithic date. Having said this, the earliest (Ebbsfleet) sub-style of Peterborough Ware, which overlaps chronologically with Mildenhall/plain bowl (in the period c.3500-3300BC) is usually undecorated on the lower body so most of the bodysherds from the enclosure ditches could be of Mildenhall/plain bowl or Ebbsfleet type, though we would probably still expect a higher proportion of sherds in a fully Ebbsfleet-style assemblage to be decorated.

Two partial rims from the long enclosure ditches could also arguably be diagnostic elements of Ebbsfleet style because they are simple with less heavily-defined necks/shoulders than bowl forms which typify the later sub-styles of Peterborough Ware (Mortlake and Fengate). The possible Ebbsfleet forms include a fairly plain out-turning rim with simple impressed decoration along the rim top which appears to be from the same vessel as a non-fitting shoulder sherd with twisted cord decoration, found in fill 091:0618. Another rim, from fill 091:0612, is quite thin-walled without a heavily defined neck area and is decorated with simple incised lines (arguably more Ebbsfleet-like traits), although the rim is somewhat triangular in profile and it is decorated on both the interior and exterior (features more typical of Mortlake and Fengate bowls).

The enclosure also produced some diagnostic material which definitely does belong to the later Mortlake/Fengate sub-styles. This includes: bodysherds from vessels where wide areas of the body are covered by pinched or bird-bone impressed decoration (fill 091:0504); a heavy triangular rim with twisted cord impressions on the rim top/interior and fingernail impressions on the vessel exterior (fill 091:0475); and another triangular rim with internal and external twisted cord impressions (fill 091:0619). A small sherd from a vessel with a narrow, flat base, clearly in the Fengate style, was also noted in fill 091:0623. Emerging from c.3330BC, these sub-styles have no chronological overlap with Early Neolithic pottery so their presence implies that the long enclosure contains material of somewhat mixed date, perhaps indicating curation or recycling of waste from middens in use over extended periods of time and/or suggesting that the ditches were maintained over quite a long period.

In addition, Peterborough Ware vessels, mostly probably of Mortlake style were noted in several pits in the vicinity of the enclosure, including 091:0437, 091:0508 and 091:0516, although 091:0508 was an irregular tree-hole cutting the enclosure ditch, as well as three pits from further to the south-east, 091:0734, 091:1443 and 091:1447. The latter was notable for producing a partially-complete vessel, with large parts represented in both of its fills.

Late Neolithic

A relatively large assemblage of Late Neolithic pottery was recovered from the site. A total of 1,138 sherds, weighing 7.61kg can be confidently identified as Grooved Ware whilst another 145 sherds may be Grooved Ware but are not diagnostic to distinguish definitively from Beaker pottery. Over a third of this assemblage comes from an oval-shaped cluster of pits near the north-east corner of the excavation area, group 091:0164 (Plate 3.). There are also large individual assemblages from pits 091:0527 and 091:1821 and small to moderate-sized groups from a number of pits which are widely distributed around the northern and central part of the site.

As shown in Table 7, a range of subtly different fabric groups have been identified, although the predominant inclusion type is almost always grog. The majority of Grooved Ware sherds are in moderately sandy grog-tempered wares either lacking flint altogether (**GRQU** fabrics) or containing rare to sparse amounts (**GRQF2**, **GRQF3**,

GRQF4). One fabric, **GRQF1**, contained flint-temper in more moderate quantities, whilst another minor group of fabrics contain grog (and occasionally rare flint) within less sandy matrixes (**GRFL1**, **GROG1**, **GROG2**, **GROG3**). There is also one grog-tempered fabric containing quartz at higher frequencies (**QUGR1**) and a few sherds in purely sandy, non-grog-tempered fabrics (**QUAR4** and **QUAR5**).

Fabric	Sherds	Wt. (g)	ENV
GRFL1	1	8	1
GROG1	22	106	5
GROG2	22	167	3
GROG3	3	6	3
GRQF1	38	383	23
GRQF2	492	3,506	40
GRQF3	73	425	19
GRQF4	1	5	1
GRQU1	314	1,635	182
GRQU2	171	1,385	67
QUAR4	3	10	2
QUAR5	3	53	2
QUGR1	8	34	6
Total	1,151	7,723	354

Table 7. Quantification of Grooved Ware fabrics

As in previous stages of work at Flixton Quarry, the assemblage appears to contain elements of both Durrington Walls and Clacton style Grooved Ware. Relatively few substantial form profiles could be reconstructed but there are a mixture of neutral or recurving and bucket shaped vessels. A number of bodysherds appear to feature rounded shoulders, especially on vessels featuring handles (which were quite commonly recorded). The vessels are mostly small to medium-sized (under 200mm), although a few examples with larger diameters up to 280mm were also recorded. Of particular note is a partially-intact vessel with a shallow cup like profile, found in isolation in pit 091:1055. Unlike the rest of the Grooved Ware assemblage, it is of just of c.50mm in diameter and 30mm in height. The vessel also stands out in terms of fabric, being one of the few Late Neolithic examples of non-grog-tempered sandy wares (fabric **QUAR5**), though it shares a common incised lattice motif with many of the other Grooved ware vessels from the site.

Decorative styles appear to come from quite a narrow repertoire. Horizontal cordons, often alternating with rows of finger-tipped or fingernail impressed decoration are amongst the most common types. Examples of horizontal cordons were also noted and some vessels include both horizontal and vertical cordons. Horizontal cordons in particular appear to be pinched out from the walls though in a few cases they may have been applied. Incised decoration is also very common. One of the most distinctive motifs comprises widely spaced incised lozenges infilled with incised lattice. Lattices also sometimes occur in vertically or horizontally aligned rectangular panels and, in other cases, simple incised chevrons occur without infilling. The other main type of decoration uses individual impressions, including fingernail, finger-tipped, simple tooled and bird-bone examples, occurring over a wide body area. On many examples, the impressions appear in horizontal or vertical rows/columns and in others they are more randomly arranged. Cord impressions were recorded on just one vessel and, aside from the cordons mentioned above, applied plastic decoration is also absent.

A significant proportion of the Grooved Ware assemblage came from a closely spaced oval arrangement of thirteen pits, group 091:0164 (Plate 3.). Although a few larger parts of vessel profiles were noted in these pits, they were generally characterised by broken and mixed sherds from different vessels. The largest individual group, from pit 091:0064, contained over a hundred sherds but most of the pits produced more moderate quantities of pottery. One very striking aspect of this assemblage is the sheer number of cross-fits or sherds probably originating from the same vessels. These sherd links occurred not just between directly adjacent or intercutting features but often between features on different sides of the pit group; sherds of common vessels also often occurred in multiple pits. One sherd within the group produced an internal carbonised residue which might be suitable for radiocarbon dating, although this was unfortunately slightly uncertainly situated, being assigned to a general finds collection number 091:0163.

The pattern of deposition in group 091:0164 contrasts with two of the larger groups from more isolated Grooved Ware pits found elsewhere on the site, 091:0527 and 091:1821, which both contained large portions of just one or two partially-complete vessels. In the latter, one of these vessels also featured a residue possibly suitable for radiocarbon dating.

Late Neolithic/Early Bronze Age

Only one feature, pit 091:0471, contained a diagnostic Beaker assemblage, although, as already noted, a number of sherds in broadly Late Neolithic/Early Bronze Age fabrics are not diagnostic enough to distinguish definitively as Grooved Ware or Beaker. This is because there is considerable overlap in fabric and decorative techniques in the two traditions. About ten other individual sherds have decorative styles like comb-stabbing or 'barbed wire' which seem to more specific to Beaker though they occur in isolation or with earlier/later pottery. It is worth noting that comb-stabbing does occur on two very small bodysherds from the Grooved Ware pit group 091:0164 and these could be contemporary Beaker although, given their small size, it is difficult to assign them to a stylistic tradition with confidence.

Fabric	Sherds	Wt. (g)	ENV
FLQU3	7	9	6
GRQF1	14	131	11
GRQF2	1	5	1
GRQF3	7	27	6
GRQF4	25	76	18
GRQF5	6	58	3
GRQU1	24	74	20
GRQU2	2	12	2
QUGR1	2	4	1
Total	88	396	68

Table 8. Quantification of Beaker fabrics in pit 091:0471

As shown in Table 8, fabrics in the single substantial Beaker pit group are fairly similar to those in the Grooved Ware assemblage though there are some examples of flint-tempered wares lacking grog (fabric **FLQU3**) as well as more frequent occurrences of flint in the grog-tempered wares (e.g. **GRQF1**). The group mostly comprises fragmented sherds but includes rims from two globular beakers including one with a neck cordon. Decorative styles are dominantly by comb-stabbing and horizontal rows of fingernail impressions.

Middle Bronze Age

The current assemblage contained no positively identified examples of Early Bronze Age Collared or Biconical Urn. There are some examples of thick-walled coarsely grog-

tempered bodysherds (fabrics **GROG1**, **GROG2**) which, individually, could belong to either of these styles (both dating to c.2000-1500BC) or to the overlapping Middle Bronze Age Deverel-Rimbury (DR) tradition (c.1700-1150BC). However, on balance, most of these seem more likely to be of DR type because they tend to occur in stratified groups with flint-tempered wares which likely emerged well into the Middle Bronze Age (e.g. **FLIN2**, **FLQU3**, **FLQU7**, **FLQU8**, **FLQU10**, **FLQU11**). As shown in Table 9, there are also a few examples of fabrics containing both flint and grog together (**GRFL1**, **GRFL2**) which are quite distinct from the sandy grog-tempered wares which were typically found in the Grooved Ware assemblage; however, there are also a few examples of fabrics which are similar to Grooved Ware ones, within context groups of probable Middle Bronze Age date (**GRQF1**, **GRQF4**).

Fabric	Sherds	Wt. (g)	ENV
FLIN2	1	35	1
FLQU3	12	68	10
FLQU7	138	1,548	3
FLQU8	3	16	2
FLQU10	1	13	1
FLQU11	1	20	1
GRFL1	6	38	5
GRFL2	24	130	1
GROG1	127	559	14
GROG2	47	515	6
GRQF1	2	11	1
GRQF4	1	7	1
QUAR5	5	19	1
Total	368	2,979	47

Table 9. Quantification of probable Middle Bronze Age pottery fabrics

The only one of these groups which is entirely grog-tempered, from pit 091:0757, appears to have some DR like traits including a horizontal applied cordon and simple barrel shaped profile, though this may be quite an early or traditional DR group. One of the vessels in this group features an internal carbonised residue which would be suitable for radiocarbon dating. Pit groups with mixed flint and grog assemblages include those from 091:0439, 091:0739 and 091:0747 and from associated stretches of curvilinear gully 091:0926 and 091:0933. These are mostly fairly undiagnostic but feature some partial rims from neutral or barrel urns including one with finger-tip decoration on the rim (from pit 091:0747).

Late Bronze Age

The Post-Deverel-Rimbury (PDR) pottery from the site comprises one large assemblage from pit/grave 091:1682, and a few small to moderate pit groups including 091:0179, 091:1039, 091:1397, 091:1411, 091:1828 and 091:1980.

Fabric	Sherds	Wt. (g)	ENV
FLIN1	39	193	25
FLIN2	1	4	1
FLIN3	33	205	9
FLIN4	4	43	1
FLIN5	156	949	18
FLIN6	7	20	4
FLIN7	10	76	6
FLQU1	18	81	12
FLQU10	2	28	2
FLQU11	3	57	3
FLQU12	1	9	1
FLQU13	6	37	6
FLQU2	1	20	1
FLQU3	41	348	29
FLQU4	14	73	13
FLQU5	9	71	5
FLQU6	11	27	8
FLQU7	16	206	10
FLQU9	1	2	1
GRQU1	1	3	1
QUAR4	3	3	1
Total	377	2,455	157

Table 10. Quantification of Late/Bronze Age/Early Iron Age fabrics

As shown in Table 10, these are predominantly fairly coarse non-sandy flint-tempered wares. Some sandier flint-tempered wares are represented and these often contain fairly common quantities of flint (e.g. **FLQU1**, **FLQU3**). Although not all of the pottery included in the quantification below can be considered closely-dated, the forms represented are predominantly plain, bipartite or simple necked forms which are very typical of PDR plain ware assemblages dating to c.1150-800BC. Only one example of finger-tipped decoration on a shoulder sherd was noted amongst this material.

Early/Middle Iron Age

The (pre 1st century AD) Iron Age assemblage is perhaps the most difficult to quantify in the absence of stratigraphic phasing. This is because there may be some overlap with the preceding PDR tradition and there is also some evidence that Middle Iron Age style sandy wares may have remained contemporary in the Late Iron Age/early Roman period so it is possible that the quantification presented in Table 11, slightly over-estimates the quantity of Iron Age pottery.

Fabric	Sherds	Wt. (g)	ENV
FLIN1	9	46	8
FLIN2	3	11	3
FLIN3	22	112	18
FLIN4	64	474	4
FLIN5	38	389	10
FLIN6	15	75	7
FLIN7	12	142	6
FLQU1	13	83	13
FLQU10	16	147	14
FLQU12	52	246	25
FLQU13	53	550	45
FLQU2	8	42	8
FLQU3	74	592	71
FLQU4	130	559	119
FLQU5	49	253	44
FLQU6	166	926	124
FLQU7	14	89	14
FLQU8	30	452	6
FLQU9	19	38	19
GLQU1	6	50	2
QUAR1	1,313	9,851	835
QUAR2	250	3,077	106
QUAR3	13	156	10
Total	2,369	18,360	1,511

Table 11. Quantification of Early/Middle Iron Age pottery fabrics

The Iron Age pottery has only been quantified according to broad chronological parameters so far but there is some evidence for chronologically distinct clusters of features. Flint-tempered fabrics are a much more common element of Iron Age groups from the central/southern part of the site (broadly speaking, contexts 091:0700+), suggesting that they mostly pre-date c.300BC. Included in this material is one substantial diagnostic pit group of probable earliest to Early Iron Age date (c.800-500BC) from feature 091:1711. This contains a large component of non-sandy flint-

tempered fabrics (pre-fixed **FLIN**) alongside sandy flint-tempered wares which are in the majority (**FLQU** fabrics). In this group non-flint-tempered sandy fabrics are only represented by a single sherd. The diagnostic elements include several examples of bipartite bowls with strongly carinated shoulders, a jar with a 'pie-crust rim', a sherd with an applied finger-impressed cordon; finger-tipping on a shoulder sherd and the use of flint-gritting on a base sherd.

More generally, the Iron Age groups from the central/southern part of the site appear to belong mostly to the transitional Early/Middle Iron Age (c.500-300BC). The biggest groups of this type came from pits 091:1528, 091:1536, 091:1611 and 091:1985, although several of these also contain a few sherds of Late Iron Age/early Roman pottery, which are probably intrusive. In the same area of the site, Roman features, pit 091:1606 and ditch 091:1646, contained large Early/Middle Iron Age assemblages which appear to be entirely residual. These assemblages largely lack non-sandy flint-tempered fabrics and contain a mix of sandy flint-tempered wares (**FLQU** fabrics) and wholly quartz-rich fabrics (**QUAR** fabrics). Groups broadly belonging to this period are dominated by necked jar forms often associated with fingernail or finger-impressed rims and, occasionally, finger-tipping on shoulders. Reflecting a gradual move towards Middle Iron Age pottery styles, they also contain some sinuous necked profiles with rounded rather than flat-topped rims.

It is striking that flint-tempering is almost absent from Iron Age pottery groups from the northern part of the site (predominantly in contexts ranging from 091:0001-091:0500). This probably indicates a chronological shift, with Iron Age features in this area of the site probably post-dating c.300BC. Large groups of this type include those from pits 091:0171, 091:0183 and 091:0187 and moderate sized ones from pits 091:0210, 091:0404 and 091:0441. Some of these, especially 091:0187, still contain some remnants of Early/Middle Iron Age decorative traits like finger-tipping or fingernail scoring rim tops, suggesting that they still belong broadly in the first half of the Middle Iron Age. In others, including 091:0183 and 091:0404, these traits seem to have died out, in favour of largely undecorated necked jars forms with rounded rim profiles. It is likely that pottery of this type remained fairly unchanged throughout most of the rest of the Iron Age and, where it occurs with early Roman material it may be well be broadly contemporary.

Late Iron Age/Roman

The Late Iron Age/Roman assemblage comes from a wide range of features, though it was predominantly found in pits. There are some very large stratified groups from individual features including pits 091:0969, 091:1227, 091:1541, 091:1980, 091:1897, 091:1901, 091:1914 and 091:2493. There is also a particular concentration in associated linear features 091:1630, 091:1646 and 091:1653 and in some of the surrounding pits such as 091:1588 and 091:1746. Almost without exception, the Late Iron Age/Roman assemblage appears to have been *deposited* in the post-Conquest period although these depositional events may relate to the final abandonment of a settlement established in the Late Iron Age. As noted above, it is more difficult to distinguish Middle and Late Iron Age pottery in north Suffolk than in other areas of eastern England where there was a pronounced shift towards wheel-thrown pottery and grog-tempered fabrics from the mid-1st century BC. Until more phasing work is completed, it is difficult to determine how much continuity there is between the Late Iron Age/Early Roman phase and the preceding Iron Age one but initial indications are that there is a lack of clear evidence for Late Iron Age activity pre-dating the 1st century AD. In terms of end-dates, nothing in the assemblage appears later than c.AD80 and, given the assemblage's substantial size, the lack of diagnostic Flavian material might put the end date even earlier.

As shown in Table 12, the assemblage is dominated by sandy black-surfaced wares (**BSW**), whereas grog-tempered fabrics are very rare and, where they do appear, they tend to be associated with storage jar forms. It should be noted however, that it was not uncommon to find some handmade coarse black-surfaced sandy fabrics in early Roman groups. These wares are fairly indistinguishable from those in the Middle Iron Age assemblage (fabric **QUAR1**). A similar tendency for handmade sandy wares to appear in Late Iron Age/early Roman groups has been noted elsewhere in Flixton Quarry (Tester 2012, 66-71) where they were considered to represent broadly contemporary Late Iron Age/early Roman fabrics (though it is also possible that some may represent residual material of significantly earlier date). Nearly all of this material occurred in stratified groups with unambiguously post-conquest pottery. A few features including pits 091:0807, 091:0812, 091:0845, 091:1609 and 091:2493 were spot-dated as Late Iron Age/early Roman but these were mostly very small groups, all including some well-

fired wheel thrown black-surfaced wares, which likely date to close to the Conquest even if they are less certainly attributable as Roman. As discussed below, a single jar form from pit 091:1458 is the most convincingly pre-Conquest aspect of the Late Iron Age/early Roman assemblage but it was unfortunately found without any other pottery (other than a residual prehistoric flint-tempered sherd).

Fabric Code	Expansion	Sherds	Wt. (g)	ENV	EVE
AGAUL	Gaulish amphora	3	120	2	
BSW	Unsources black-surfaced ware	1,742	14,184	1,322	13.66
BSW/GROG	Grog-tempered black-surfaced ware	13	209	11	
BUF	Unsources white/buff oxidised wares	102	333	63	0.33
COLB	Colchester buff ware	61	357	10	0.32
ESH	Early shell-tempered ware	7	73	7	0.07
GF	Unsources fine grey wares	29	174	14	0.37
GMB	Unsources fine micaceous black wares	365	2,386	221	4.26
GMG	Unsources fine micaceous grey wares	127	844	84	1.12
GMO	Unsources fine micaceous oxidised wares	142	973	52	1.45
GROG	Grog-tempered wares	88	2,745	48	0.49
GX	Unsources coarse grey wares	360	2,551	280	4.66
NGWF	North Gaulish white ware	101	524	28	0.6
RF	Unsources fine red oxidised wares	159	375	26	0.12
RX	Unsources coarse red oxidised wares	89	521	70	0.33
?SACG	?Central Gaulish samian ware	1	3	1	
SASG	South Gaulish samian ware	14	43	9	
TN	Terra Nigra	14	142	10	0.26
TR	Terra Rubra	15	65	5	0.3
TR4	Possible Romano-British Terra Rubra type fabrics	127	726	11	1.72
UC	Unsources colour-coated wares	6	12	5	
VRW	Verulamium region white ware	1	26	1	
WC	Unsources white-slipped wares	25	188	10	0.46
Total		3,591	27,574	2,290	30.52

Table 12. Quantification of Late Iron Age/Roman pottery

Almost all stratified contexts from this period include at least a small proportion of well-developed Roman sandy fabrics, typically grey wares (**GX**), and fine micaceous fabrics (**GMB**, **GMG**, **GMO**). Two kilns have previously been recorded within Flixton Quarry and these were apparently producing similar fabrics to **BSW**, **GX**, **RX**, **GMB**, **GMG** and **GMO** (Tester *in prep.*). Although the fabrics from the current excavation area may be of local origin, it is not possible to say whether the nearby kilns were the source of the Late Iron Age/early Roman pottery in the current assemblage. Amongst the very few sherds

in regionally-traded coarse wares are some examples of Colchester buff wares and a single fragment of possible Verulamium region white ware.

Imported wares are a fairly large component of the assemblage, but only fifteen sherds of samian ware were noted, all but one of south Gaulish origin. A single sherd in an uncertainly identified samian fabric which looks more central or east Gaulish was found in a large stratified group of otherwise mid/late 1st century date. Not enough of the form is visible for conclusive identification but it may be from the Flavian or later cup form, Dragendorff 33. Even if it is of later date than the bulk of the assemblage, it would appear to be intrusive in its group (fill 091:1647 of ditch 091:1645). Amphorae were almost absent although bodysherds from two vessels of large amphora-like profile are probably of Gaulish origin and may represent London 555 or Dressel 2-4 forms. Imported Gallo-Belgic wares make up a notably large proportion of the assemblage (7% of sherds overall, though only c.2% of estimated vessels). The largest component of this assemblage are flagons and butt-beakers in north Gaulish white ware but Terra Nigra (**TN**) and Terra Rubra (**TR**) are also well represented. A few vessels were noted in a good quality **TR**-like red-slipped fabric which might be of Romano-British origin but further fabric comparison is required to confirm this.

Forms in this period are predominantly made up by necked jars with cordons similar to Going's (1987) G16-G20. Also fairly well represented are cordoned carinated bowl forms similar to Cam forms 212-216. There are very few examples of more complex cordoned or corrugated jar profiles which tend to be better represented in pre-conquest assemblages, although some examples of forms like Cam 218, the forerunner to G16 and G17, were recorded. As already noted, some hand-made sandy fabrics, similar to Middle Iron Age wares, were found in early Roman groups. These were frequently associated with Middle Iron Age-style simple hand-made necked jars. Evidence from previous excavations at Flixton suggests that these fabrics and forms may have survived through the Late Iron Age and perhaps even into the early Roman period in the local area and they probably represent broadly contemporary material. In one case, in pit 091:1456, a hand-made necked jar featuring multiple cordons, clearly reflecting influences from the Gallo-Belgic tradition – and most likely of pre-Conquest date – was recorded but it was unfortunately not stratified with any other contemporary pottery.

In keeping with the evidence of high levels of imported fabrics, the assemblage includes a large proportion of table ware forms, particularly drinking vessels. Butt-beakers are well-represented but particularly notable are examples of girth beakers and cup forms like Cam 56-58, which are usually not seen in lower-status rural assemblages. By comparison other Gallo-Belgic table wares such as platters and collared flagons are not so well represented but they are still present in the assemblage. Amongst the Gallo-Belgic fine ware forms it is worth highlighting a complete literate stamp reading OVVII on a Cam 57 cup and an illiterate stamp featuring three intersecting lines within a rectangular border on the base of a platter, both vessels in good quality Romano-British Terra Nigra imitation fabrics. The stamps would benefit from further identification/analysis by a Gallo-Belgic stamp specialist.

Just three sherds of late Roman pottery were noted, in pits 091:1618, 091:1834 and subsoil layer 091:1881. Two of these are Oxfordshire red-slipped ware and another is Hadham red-ware. These fabrics are characteristic of the very later Roman period and sometimes occur as curated or residual material in Saxon features.

Post-Roman pottery

Twenty-seven sherds of post-Roman pottery were collected from eight contexts. The fragments represented a minimum (MNV) of 14 vessels with an estimated vessel equivalent (eve) of 0.34. Table 13 shows the quantification by fabric.

A summary catalogue is included in Appendix III.c and a full catalogue is available in the archive as an MS Access database.

Fabric	Code	Date range	No	Wt. (g)	eve	MNV
Thetford-type ware	THET	9th-11th c.	1	25		1
Medieval coarseware	MCW	12th-14th c.	17	32		6
Late medieval and transitional wares	LMT	M.14th-M.16th c.	2	16		2
Tin-glazed earthenware	TGE	17th-18th c.	1	3		1
Porcelain	PORC	18th c.	2	43	0.08	1
English stoneware: Nottingham-type	ESWN	L.18th-19th c.	1	3	0.06	1
Refined factory-made whitewares	REFW	19th-20th c.	3	15	0.20	2
Totals			27	137	0.34	14

Table 13. Post-Roman pottery quantities by fabric

Sandy greywares are the most frequent type in the assemblage. These include some

definite medieval coarsewares, but also some sherds which may be coarse Roman greywares. The flat Thetford-type ware base from pit fill 091:1565 is an example of this, although the presence of 'cheese-wire' marks on the base is more typical of Late Saxon than Roman wares. A body sherd from ditch fill 091:0295 with clear throwing lines may also be Roman, although it is in the same fabric as other more certain medieval wares in the same context. Medieval coarsewares were also found in pit 091:1230 and as unstratified finds 091:0266. No rims are present in the assemblage.

Two body sherds of late medieval and transitional ware, probably of local manufacture, were collected as unstratified finds 091:0266 and from ditch fill 091:0275. Both have spots of green glaze, the former externally and the latter internally.

An undecorated body sherd of tin-glazed earthenware in a pinkish fabric with thick white glaze from pit fill 091:1565 is likely to be of English manufacture and 17th/18th-century in date. Two sherds of a porcelain plate with moulded basket-weave decoration and a hand-painted bug-like motif were recovered from pit fill 091:1565 and ditch fill 091:1573; the plate style is 18th-century and the piece may be a Lowestoft product, although it appears to be a hard-paste porcelain. A fragment of a late 18th or 19th-century Nottingham-type stoneware jar with a flaring rim was found in ditch fill 091:1550. Refined whitewares comprise two fragments of a spongeware cup from 091:0643 and an undecorated base fragment from pit fill 091:1565.

5.3.3 Ceramic building material

Introduction

CBM totalling 107 fragments (10,078g) was recovered from forty-three contexts (Appendix III.d). The assemblage is generally in fair condition, although there is a high proportion of abraded material, some of which could not be positively identified to form.

Methodology

The CBM was quantified by context, fabric and type, using fragment count and weight in grams. Fabrics are based on coarseness of sand within the matrix and major inclusions, but for smaller fragments this may mean classification simply on the basis of the sand content. Roman forms were identified with the aid of Brodrigg (1987), and post-medieval forms are based on Drury (1993). The presence of burning, combing, finger marks, mortar and other surface treatments was recorded. Roman tile

thicknesses were measured and for flanged tegulae, the form of flange was noted and its width and external height were measured. Data were input into an MS Access database, which forms the archive catalogue.

The assemblage

Table 14 shows the basic fabric types identified in this assemblage, and the total quantities of CBM forms for each (uncertain forms are merged with more certain).

Fabric	Description	BOX	FLT	IMB	RBT	LB	RTP	QFT	UN
fs	fine sandy, no obvious inclusions				3	3	1		2
ms	medium sandy, no obvious inclusions			1		2	5		1
fscp	fine sandy with clay pellets	1	1		2	1			
fsg	fine sandy with grog					4			
fsv	fine sandy with voids (leached chalk)					2	1		1
fscf/fsvf	fine sandy with chalk/voids and flint					3			
mscf	medium sandy with chalk and flint					1			
fscx	fine sandy poorly mixed with chalk					2			
fsfe	fine sandy with ferrous inclusions					1	4		
msfe	medium sandy with ferrous inclusions						6		
fsf	fine sandy with flint					8	13	1	
msf	medium sandy with flint					9	2		
fsffe	fine sandy with flint and ferrous					5			
msffe	medium sandy with flint and ferrous					3	17		
wfe	white fine sandy with ferrous inclusions					1			
Totals		1	1	1	5	45	54	1	4

Table 14. CBM fabric descriptions and quantities (fragment count) by form

Eight fragments of abraded Roman tiles were recovered. These comprise a fragment of box flue tile (BOX) with combed keying externally (090:1794), a fragment of flanged tegula (FLT) (091:0624), a possible fragment of imbrex (IMB) (090:0624), and five abraded fragments of uncertain type (RBT) (091:0624, 1550, 1708 and 1794). Only the flanged tegula was measurable, having a thickness of 22mm, a flange height of 38mm and a flange width of 29mm. The flange section is a common form, with straight top and straight-sloping inner edge.

All other CBM recovered from this site is post-medieval and is in fabrics similar to those found elsewhere on the quarry site in previous seasons.

Forty-five fragments of late brick (LB) were recovered. They include eight fragments which have one or two complete dimensions (Appendix III.d). Thicknesses vary between 50 and 64mm and widths between 111–122mm. Although in some cases the bricks in this assemblage are relatively thin, all are in fabrics which suggest a later post-medieval date (c.17th–19th). The largest group was recovered from post-hole fill 091:2422, and includes three pieces of grey cementitious mortar/render adhering to flakes of brick.

Post-medieval plain roof tile (RTP) is the most frequent CBM type, but fragments are generally small and unremarkable. A piece from pit fill 091:1534 has a circular peg hole.

A fragment of possible post-medieval quarry floor tile, 35mm thick, was found in pit fill 091:1064. The surface had been burnt, which is a common finding for Roman tile, but the fabric of this piece is more typically post-medieval.

Four fragments are unidentified due to their small size or lack of diagnostic features.

CBM by context type

Table 15 shows the quantities of CBM by feature type.

Period	Form	Ditch	Pit	Post-hole	U/S finds
Roman	BOX		1		
	FLT				1
	IMB?				1
	RBT		3		
	RBT?	1			1
P-med	LB	20	9	8	4
	LB?		3	1	
	QFT?		1		
	RTP	23	22		1
	RTP?	2	1		
Un	UN	2	2		
Total no.		48	42	9	8
Total wt. (g)		4,983	2,433	2,084	578

Table 15. CBM by feature type

The majority of fragments were recovered from ditches and pits, although the largest average fragment size was from post-holes. This is due to a large quantity of CBM recovered from a single post-hole fill, 091:2422.

5.3.4 Fired clay

Introduction

A total of 2,794 fragments of fired clay (17,255g) was recovered from 206 contexts (Appendix III.e). This quantity does not include thirty objects which had previously been separated for inclusion with the small finds (SF) assemblage. The SF group was included in the assessment of the main fired clay assemblage, but only for the purposes of comparison of fabrics and to aid in identification of further fragments of loomweights and other objects. As a result, 727 fragments (7572g) were identified as possible or probable loomweights, spindle whorls and other non-structural objects and these were extracted for inclusion with the SF assessment. The following report comprises an assessment of the structural and undiagnostic fired clay (2,067 fragments, 9,683g).

Methodology

The fired clay was fully catalogued and quantified by context, fabric and type, using fragment count and weight in grams. The presence and form of surface fragments and impressions were recorded, and wattle dimensions measured where possible. Data was input into an MS Access database which forms the archive catalogue.

The assemblage

Table 16 shows the basic fabric types identified in this assemblage, and the total quantities of fired clay for each.

Fine sandy fabrics with chalk (or more commonly voids) are the most common type, although pieces tempered only with sand, or sand and occasional flint, are also common. Loomweights from this site are also commonly in fabrics **fsc/fsv** and **fsf**. Where surfaces are present, these were generally slightly convex or flattish and it seems likely that most of this material was used to form objects, particularly loomweights, rather than being used for structural purposes.

Fabric	Description	No	Wt. (g)
fs/ms	fine/medium sandy with few other inclusions, usually soft and oxidised	547	2,465
fsv/fsc	fine sandy with voids which are probably the result of leaching of chalk inclusions, or fine sandy with chalk (often some chalk is present in fsv)	1,058	4,156
fsf/msf	fine/medium sandy with moderate to common coarse flint/quartz inclusions, often hard and red	350	2,413
fsvf	fine sandy with voids and coarse flint inclusions	70	470
fsvo	medium sandy with voids and sparse organic inclusions	3	18
fscp	fine sandy with clay pellets	3	27
org	abundant grass tempering, often highly fired, possibly kiln dome fragments	38	156

Table 16. Fired clay fabrics and quantities

Only a few of the pieces in the bulk fired clay were diagnostic for function. Many fragments were small, abraded, amorphous lumps. Table 17 shows the pieces which appear to represent other uses of fired clay.

Possible function	No. frags	Wt. (g)	Contexts
Briquetage?	4	52	091:1142
Daub	13	327	091:0199, 091:1242
Render	25	190	091:1612–13, 091:1654
Hearth lining/vitrified hearth lining	174	1,426	091:0790, 091:1228, 091:1607–8, 091:1610, 091:1617, 091:1672, 091:1881, 091:2302, 091:2406
Kiln bar	3	100	091:1254

Table 17. Possible functions represented in the fired clay assemblage

Four fragments of red fired clay from pit fill 091:1142 contained abundant grass (represented by voids), a trait commonly seen in salt-making briquetage. This material is occasionally found on inland sites and may represent vessels in which the salt was transported from the red hill sites on the coast. An additional possible fragment of fired clay related to briquetage was identified in 091:0624. It is part of a circular slab or tray with a diameter of c.300mm and a height of c.31mm. In profile, it is slightly stepped-up towards the middle part, which is partially reduced. It is worn on the base. As it is so distinctively shaped and well preserved it has been assigned a small find number (SF 091:2157).

Fragments of daub are identified by the presence of impressions of withies, either running parallel to each other or at right-angles. Both types are present in this assemblage, but only in small quantities. Fragments from pit fill 091:0199 are in fabric '**fsvf**', with buff flattish surfaces and a red underside, and have right-angled withy impressions 15–20mm in diameter. Parallel wattle impressions on two '**fsf**' fabric

fragments from pit fill 091:1242 are also c.20mm in diameter. These fragments probably represent 'daub' used to make oven domes on a withy frame, rather than pieces of 'wattle-and-daub' walling. Other fragments with traces of possible withy impressions (or possibly loomweight holes) were recorded in other contexts, but none could be positively attributed to daub.

Fragments of render, possibly from walls or fire-related structures, are present in three contexts. They are similar in appearance, having flat surfaces with traces of combing, although the fabrics are slightly different (**fs**, **fsf** and **fsvf**). One piece, with an undulating back surface, measures 8mm thick.

Pieces identified as possible hearth lining are present in a number of contexts and are generally in '**fs**' fabrics with flattish to slightly convex surfaces and measuring c.7–14mm thick. Several fragments from pit fills 091:1607, 091:1608, 091:1610, 091:1617 and 091:1672 may be from the same structure. They are smoothed flat with surface striations, measure c.25mm thick and have black patches in the centre of otherwise red surfaces. One fragment has a straight edge with another flat surface sloping away at c.45 degrees.

Three joining fragments of a possible kiln bar were recovered from pit fill 091:1254. The piece has a rounded end with tapering sides and measures c.50mm wide and 38+mm thick at its widest extent. This kind of bar is often found in Roman pottery kilns, but could also be part of an oven.

Fired clay by context type

The majority of fired clay was recovered from pits (1,841 fragments, 9,014g), with 204 (769g) fragments from ditches/gullies, twenty-four (360g) from layers, seven (33g) from post-holes and the remainder unstratified. At the time of writing, the contexts are undated, no further comments are possible on distribution of the material across the site or through time.

5.3.5 Post-medieval glass

A total of seven fragments of glass was collected from the excavation (overall weight 43g). The small assemblage consists almost entirely of post-medieval bottle glass, although one piece from fill 091:1442 of ditch 091:1433 is very fine and is from a smaller

vessel. Five of the glass fragments were recovered from the fills of ditch 091:1433 and the upper fill of pit 091:1564, features which both contained post-medieval ceramic building material. A small piece of green bottle glass was found in fill 091:2500 of pit 091:2499, which contained a tiny chip of grog-tempered pottery but was described as post-medieval in date, whilst a seventh piece is unstratified.

5.3.6 Lava quern

Fragments of lavastone were recovered from a single context, one of the fills (091:1226) of a pit containing early Roman pottery. Two large pieces survive, together with many tiny fragments which are fast degenerating into a powdery residue, weighing 1,102g in total. The surface of the stone is laminating, and it is overall very worn. The stone is a fine-medium-grained vesicular stone of a mid to dark grey colour, which is likely to be a product of the Mayen-Niedermendig area of the Eifel Hills of Germany. Rhenish lavastone was quarried from this area during the Roman period, and well as from the Middle Saxon through to the post-medieval period. This type of volcanic rock is very suitable, because the vesicles create an ideal grinding surface as they become worn away and are replaced by new ones. The rock can be easily redressed and does not have the faults and joints of some other types of stone, nor does it shed quartz as it is being used.

The fragments represent the remains of a hand-turned quern, which has an external diameter of c.380mm. Evidence of a slight collar survives, indicating that the stone is likely to have been part of an upper stone. This is confirmed by the condition of the base, which shows wear. Other features associated with Roman querns such as the vertical dressing around the outer edge and the 'harp' pattern on the upper surface have not survived.

5.3.7 Worked flint

A total of 8,270 struck, shattered, retouched or utilised flints was recovered from Flixton area 091 (referred to below as 'the site'). The flint assemblage is summarised by type in Table 18 and summarily described by type below followed by a summary description of the contexts from which it came. The potential of the material from the present area and from areas 088 and 090 (flint from these areas previously assessed by the writer) is assessed and recommendations for analysis are made. The flint is fully listed by context in Appendix III.f. and by feature in Appendix III.g.

Type	Number	Type	Number
multi platform flake core	31	piercer	30
single platform flake core	29	spurred piece	6
single platform blade core	7	?burin	1
discoidal core	7	backed knife	3
keeled core	2	knife	8
opposed platform core	4	laurel leaf	1
core fragment	35	dagger	1
tested piece	66	denticulate	5
struck fragment	359	serrated blade	6
shatter piece	743	serrated flake	4
core tablet	2	notched flake	7
core trimming flake	5	notched blade	1
core/tool	10	combination scraper/piercer type	6
flaked piece (various; possible core type or tool fragments)	15	combination backed knife/end scraper	1
flake	4,478	combination piercer/serrated flake	1
blade-like flake	276	combination burin/retouched flake	1
blade	233	leaf-shaped arrowhead	4
bladelet (some irregular)	33	chisel arrowhead	2
spall	909	oblique arrowhead	1
chip	133	barbed and tanged arrowhead	1
flake from hammerstone	3	arrowhead	6
flake with polished surface	6	retouched flake/?arrowhead	2
tool thinning flake	21	fabricator	4
stone/?shale flake	1	polished axe fragment	1
hammerstone	10	retouched flake	167
spherical piece ?slingshot	1	retouched blade	15
end scraper	32	retouched fragment	33
side scraper	15	utilised flake	287
end/side scraper	3	utilised blade	71
double end scraper	1	utilised fragment	26
scraper	89	Total	8,270
subcircular scraper	1		
thumbnail scraper	8	Heat-altered fragment	39

Table 18. Summary of the flint by type

Methodology

Each piece of flint was examined and recorded by context in an MS Access database table alongside the material previously catalogued for 088 and 090 (with site code in one field and context number in a separate field). The material was classified by *category* and *type* (see Appendix III.f.) 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 included in the database but not in this report).

To enable the easier recovery of flints during analysis the boxes have been numbered 1-16 (in context order, and in pencil) and the box number is included as a field in the database. Retouched and utilised pieces have been bagged separately within the main bags as necessary (but not where the context assemblages are small). Individual pieces, which may be worthy of illustration or are of interest, are highlighted in the database and numbers of these pieces are highlighted (in italics) below - although not all of these will be selected for illustration. Pieces cited below by context as examples are not necessarily the same as those highlighted in the catalogue. Final selection of pieces for detailed description and for illustration will be made during analysis.

The assemblage

Cores and struck pieces

There are thirty-one multi-platform, and twenty-nine single platform, flake cores. Various cortex types from weathered gravel lumps, cortical nodules and fragments are present. The multi-platform cores range in size from 27-339g (average weight 88g). They include irregular pieces with a few neater more chunky cores, some of them apparently worked with some attention to their continued use. For example; a squat quite neat core has been struck from two sides of a ridge and from elsewhere (context 091:0145) while some pieces are mainly struck, quite neatly, from one edge but with a few removals from another side e.g. contexts 091:0513 and 091:1131. Other cores are more irregular and/or minimally struck e.g. contexts 091:0362 and 091:0522. Two cores may also have been used as hammerstones, contexts 091:0624 and 091:0997 (*4 multi-platform flake cores were highlighted during cataloguing*).

The single platform flake cores range from 35-201g (average weight 94g). Most often they are struck from one side although a few have been struck from around other parts, or the entire 'circumference' of a single platform and a small number from two sides of the same edge e.g. contexts 091:0148 and 091:0473. The single platform cores are more 'cortical' in nature; several pieces have rounded nodule type areas surviving, sometimes at one end, with another end or side having been struck (*7 single platform flake cores were highlighted during cataloguing*).

There are seven single platform blade cores (25-85g, average weight 64g). Most of them are described as quite neat but one irregular squat core in context 091:0424 is struck from both sides of a wide platform. Three cores from one context (091:0624) are highlighted as of possible earlier Neolithic date.

Seven cores are bifacially flaked 'discoidal' types (27-120g, average weight 56g). Several of these have one flatter surface and the other convex and have been carefully used e.g. contexts 091:0266 and 091:1573. It is possible that some of them were worked in this way to produce blanks for later Neolithic arrowheads or other tools (see Butler 2005, 157) (*2 discoidal cores were highlighted during cataloguing*).

Two cores were classified as keeled types; these have been struck from two sides of a ridge but are more irregular/less well-used than the discoidal cores described above.

Four opposed platform cores are present (31-219g, average weight 88g). They are quite irregular and the largest piece is a very irregular cortical nodule fragment but is neatly struck from two ends at its other face 091:0535. One in context 091:0522, although incomplete, has some neater blade scars and is patinated. It is probably of earlier Neolithic date.

Thirty-five core fragments are mostly undiagnostic but they include pieces with a single platform edge surviving (although they are not necessarily from single platform cores), pieces struck from more than one platform and some pieces with part of a former platform edge surviving on a ridge. At least two pieces are from blade cores (contexts 091:0097 and 0266), the latter is patinated. Another fragment appears to be from the side of a regular keeled type core (context 091:1529). One fragment from a small core exhibits post-breakage edge utilisation (context 091:1259).

Sixty-six tested pieces are present (28g- 672g, average weight 76g). Most are classified by category as cores but seventeen pieces were broadly classed as struck fragments during cataloguing. They include irregular broken and cortical nodule type fragments. Some pieces were clearly selected for their size or ease of use while some very irregular or small pieces, and some thin fragments with one cortical face and tested along an edge on the other face, e.g. contexts 091:0074 and 091:0102, seem surprising

choices; they would have produced only very small flakes or would, seemingly, have been quite awkward to hold and use.

A total of 359 irregular struck fragments are present – they exhibit evidence for having been directly struck. This evidence takes the form of negative flake scars battered edges and visible percussion points (the latter sometimes incipient where mishits have occurred). The fragments almost all have at least some cortex (various types, mostly from nodules). Some may have been ‘deliberately’ struck from an edge and might be better classed as ‘tested’ pieces but many of the fragments probably resulted accidentally during the knapping process; as larger fragments were broken for use. Three pieces are heat-altered.

Flakes and other debitage

A total of 743 irregular shattered fragments are present. These are angular or fractured pieces most of which is probably debris which resulted during flintworking (although some may be naturally fractured pieces). Most of the fragments are sharp or quite sharp as if freshly shattered when deposited and they range in size from small to quite large. About twenty pieces are heat-altered.

A small number of flints have been classed as core rejuvenation pieces; they are slightly irregular but show a degree of care was taken in the use of some cores; cores were not necessarily discarded once a platform was exhausted. Two quite large flakes have been struck from across the surface of a core platform and are listed in the catalogue as irregular core tablets (context 091:0266), three pieces are struck from along platform edges (contexts 091:1472, 1647 and 0619) and two squat thick flakes are from the sides of multi-platform or opposed platform cores (contexts 091:0473 and 1691).

Ten pieces may have been cores and/or were used as tools. Eight were weighed (55-218g, average weight 111g) and, on average, are slightly larger than most of the cores from the site. They are mostly thickish cortical pieces which have been struck from an edge, or edges. Some could have been used as crude scrapers (contexts 091:1984, 1205 and 0266). The latter is patinated and has neat blade scars; it may be a Mesolithic or earlier Neolithic piece. Others are used as a thick point (context 091:0657) or a hammer or pounder (091:0001). One irregular piece has a thicker end

which could be a scraper and thinner protruding 'chisel' like point at the other end – which could, possibly, have been used for hafting (context 091:1915) (*5 core/tools were highlighted during cataloguing*).

Fifteen 'flaked pieces' are present. At least four pieces may be fragments from core type pieces but most of the others were probably used as tools or fragments from tools. They include irregular or minimally worked as well as bifacially flaked pieces (*6 flaked pieces were highlighted during cataloguing*).

A total of 4,478 unmodified ordinary flakes are present. There is a range of flake types but, predominantly, they are hard hammer struck relatively small and/or irregular pieces. Seventy-eight percent of the flakes (by number) are complete and 69% have cortex. Of the cortical flakes 6% are primary pieces with entirely cortical dorsal faces. Fourteen percent of the flakes have cortical platforms and on about forty of these pieces the cortex extends around the proximal side of the piece (i.e. there was no real platform at all but the flake was struck from a cortical face of the 'core'). Only 2% of flakes are recorded as exhibiting evidence for platform edge preparation but the exact nature of this was not recorded in detail. However, although a few pieces (possibly <2%) have abraded/trimmed platform edges (Butler 2005, 34, fig. 13, Whittaker 1994, 101, 105, fig. 6.22), some other pieces have battered platform edges or faceted platform surfaces suggesting perhaps, respectively, repeated striking (possibly mishits), or the rotating of cores and the selection of new platforms (Ballin 2002, 17). Five percent of the flakes have hinge terminations. Both sharp and edge damaged flakes are present but with greater numbers of the former. Six percent of the flakes are patinated to some degree. A few refitting flakes were recorded from five contexts (091:0517, 1594, 0612, 0602 and 0841) and other contexts (mostly with larger numbers of flakes) included very similar pieces but refits were not identified at assessment (*Some flakes were highlighted during cataloguing; for example where there are possible refits, where distinctive pieces or particular groups of similar material was noted*).

A total of 276 blade-like flakes are present. 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 complete blade-like flakes which are

complete (77%) is almost the same as for the ordinary flakes but, as might be expected there are slightly fewer cortical pieces (62%) in total (although the same 6% of these are primary pieces) and considerably more pieces (12%) have evidence of platform edge preparation.

A total of 233 blades are present. Mostly they are small or fairly small pieces, some of them very neat and thin, although some larger examples are present including one very regular blade of almost back flint (131mm long) (context 091:0448). Many of the blades are likely to be of earlier Neolithic date and a few Mesolithic piece are probably also present. Seventy-three percent of blades are complete and 43% have at least some cortex. Thirty-two percent of the blades have abraded platform edges showing they were struck from cores with prepared platforms while only three blades have cortical platforms. Twenty-one percent of the blades are patinated. Compared to the flakes and blade-like flakes described above there are lesser numbers of cortical pieces (including fewer cortical platforms and total absence of primary flakes), and notably higher proportion of prepared platforms. These differences would all be expected, or likely, to be seen due to the more careful preparation required for blade production. A higher proportion of patinated pieces (as seen) would also be expected; although patination is not an absolute indicator of greater age, in such as the present assemblage, where most of the flint is unpatinated, it is often seen to correlate with the earlier flint types present. A few small neat blades have a particular 'bluish' white patina which might possibly suggest a Mesolithic date, e.g. context 091:2391, although the original nature of the flint used may also have effected patination. It can be seen, from summary observation of the catalogue entries, that a larger number of blades than other pieces are of notable flint types; for example, light brownish grey or translucent flint; this reflects the more careful selection of raw material, e.g. contexts 091:0510, 091:0599 and 091:0617 (*Some blades were highlighted during cataloguing; for example, where distinctive pieces or particular groups of similar material was noted*).

Thirty-three bladelets were found. A small number of these are very neat pieces with abraded platform edges and six of were broadly classified as flakes rather than blades; they are very small, slightly irregular, but blade-like pieces.

Totals of 909 and 133 spalls and small chips respectively are also present. It was noted during cataloguing that in many cases spalls were relatively large. This might be significant (or may reflect recovery methods).

Ten hammerstones, or pieces possibly used as hammers, are present. Where pieces were weighed they range from 63-615g (with an average weight of 345g). Apart from one irregular pebble with one end battered, context 091:1448, they are irregular cortical nodules or fragments from nodules with an end or part/s of their surfaces battered or pitted by use. One, a sub-spherical cortical lump which is broken at one end, is otherwise unmarked by use, but may be a hammer; it is of suitable size and shape to fit into the hand (context 091:0692). Three flakes have areas of pitted/pecked surface and are from hammerstones.

Six flakes have areas or traces of polish on their surfaces and/or edges and are likely to date from the Neolithic period. All of these flakes are patinated.

Twenty-one distinctive flakes are probably from thinning tools (although it seems likely that other flakes from the site, not recorded as such, may have resulted from the same process) (Butler 2005, 140-141, Whittaker 1994, 185). The recorded flakes are mostly thin slightly curving pieces with multi directional negative scars on their dorsal face. Two thicker flakes have bashed platform areas which might possibly be from the original tool edge (contexts 091:0102 and, 0509) and one flake is an opaque creamish grey flint quite unlike most of the flint from the site (context 091:1595). Such material often seems to have been selected for axe manufacture (Healy 1988, 33, and observed elsewhere).

One flake is of shale or similar (context 091:2127). It may be incomplete, possibly it has split across a bedding surface. Another surface is striated, perhaps due to wear or utilisation. Also unusual, is a small spherical flint; entirely cortical around its surface it is about 25mm in diameter and, although a naturally-formed fossil, it may be significant.

Retouched and utilised tools

Scrapers

A total of 149 scrapers are present and, as most often seen in assemblages of Neolithic or later date, they are the most common formal tool type - although there are relatively few clearly defined types and very few pieces for which a close date can be suggested, most could date from the broader later prehistoric period. End scrapers are the most common (32 examples). Longer, squatter and ovate forms all occur and sizes vary from quite large to very small. Most pieces have at least some cortex and three end scrapers are on primary flakes. A later Neolithic early Bronze Age date is suggested for two or three more regular and neatly retouched pieces (*9 end scrapers were highlighted during cataloguing*).

One double end scraper is made on an irregular thermal fragment (context 091:1500) (*It was highlighted during cataloguing*).

Fifteen pieces are classified as side scrapers. They are mostly small with one lateral edge retouched. Two or three have cortex forming natural 'backing' to the opposite side of the flake; one piece, with cortex around the proximal part has a natural thumbhold within a dorsal scar (context 091:0093). A small almost subcircular quite thin side scraper may be of later Neolithic earlier Bronze Age date (context 091:0473) (*3 side scrapers were highlighted during cataloguing*).

Three end/side scrapers were found. There is a very small neat ovate flake with retouch at its distal end and extending along each side (context 091:0145), it is probably of later Neolithic/earlier Bronze Age date. Another end/side scraper is on a broken, probably, blade-like flake (context 091:1984) and a thick thermal fragment, with cortex 'backing', is retouched at a steep end and around a concave side (context 091:0266).

Eight pieces are described as thumbnail type scrapers. These small subcircular pieces with retouch of part/s of their circumference are generally considered to indicate a later Neolithic/early Bronze Age date although a few of those present are slightly irregular, and one is rather large for the type (context 091:0433) (approximately 30mm in diameter) (*5 of the 'thumbnail' type scrapers were highlighted during cataloguing*).

A thick neatly retouched subcircular scraper of larger size is present in context 091:0266.

Eighty-nine other pieces have been broadly classified as scrapers; they have part/s of their edge/s retouched or utilised but no close type has been assigned. One scraper may be made on a reused fragment from a bifacially flaked tool (context 091:1042). A few pieces have a cortical edge (sometimes a steeply sloping cortical side) which is slightly retouched or utilised (showing the utilisation of a naturally occurring scraper-like edge) e.g. contexts 091:0464, 091:1138, 091:1274, 091:0266 and from 091:0925 an abraded possibly thermal flake and a small broad primary flake both represent the opportunistic use of flint. At least four pieces are noted as having dorsal scars well-suited as thumbholds (contexts 091:0065, 0161 and 1966).

Piercers and other points

Thirty pieces have been classed by type as piercers. The piercers are of various types, mostly quite small and with distal points retouched or utilised, but sometimes with a protruding point. There are squat pieces e.g. contexts 091:1468 and 091:0624, thick flakes e.g. contexts 091:1581 and 091:1384 and two longer flakes have cortex at their side/s; one may have been truncated at its distal end, perhaps accidentally, but a point formed between the broken edge and the right lateral edge, is worn (context 091:1748). Two shattered fragments have points utilised (context 091:0057) and another irregular fragment has a point emphasised by a slightly retouched 'notch' (context 091:0930). A small pointed blade-like piece with retouched/utilised distal tip and possible small notches at opposite sides near its distal end – perhaps they were for hafting the piece (context 091:1157).

Six of the piercers are only slightly utilised (they are broadly classed in catalogue as utilised blades and utilised flakes); a small narrow pointed piece with slight edge retouch near its tip (context 091:0960) and a thickish 'blade' with its distal edge/tip worn (context 091:0943). The utilised flakes/piercers include an irregular fragment, a fragment of smooth black flint, a small pointed flake from a flaked surface and an irregular piece with a long protruding point and possible burin type removal (context 091:1107).

Six spurred pieces are present, all with slightly protruding spurs formed by retouch of edges.

Another point has a burin-like distal edge/point which is slightly damaged (context 091:1688). It has been broadly classed as a piercer (*A total of 10 of the piercer-type tools were highlighted during cataloguing*).

Knives

A backed knife on a long blade has steep retouch of its left side and use-related damage to the opposite edge (context 091:1979), it is likely to be of earlier Neolithic date. Two smaller blade-type pieces have also be classed as backed knives although they are more irregular (contexts 091:0623 and 0624). Eight pieces are classified as miscellaneous knives and are irregular but two of these have cortex 'backing' (contexts 091:0295 and 1446). Four others, on thinnish medium-sized flakes with retouched or worn edges are from (context 091:0624) and a thin broad flake of patinated light grey flint has retouch along its distal edge and a shallow concavity/negative flake scar on its dorsal surface forms a pleasing 'hold' (context 091:1979).

There is also a thin bifacially flaked possible earlier Neolithic laurel leaf with part of one side missing (context 091:0475) and a fine bifacially flaked dagger with one end missing (context 091:1259, SF 091:2055). This is likely to date to the later Neolithic early Bronze Age (*6 of the knife-type tools were highlighted during cataloguing*).

Denticulates, serrated and notched pieces

Five pieces have an irregular denticulated edge, most of them are fairly minimally retouched with just a few small indentations or adjacent very small 'notches' in the edge (*2 denticulates are highlighted in the catalogue*).

Ten serrated pieces are present, six blades and four flakes. One blade is a very neat thin piece with an abraded platform edge from a prepared core (context 091:1511), it is patinated and probably of earlier Neolithic date, possibly slightly earlier. Another small pointed blade is likely be of the same date, other pieces are slightly more irregular, they could be of the same (or a later) date. Three of the flakes are relatively large and

regular, the other is a small triangular piece with one serrated edge and cortex backing an opposite edge (*5 of the serrated pieces were highlighted during cataloguing*).

Seven flakes have notches or possible notches in an edge. In one or two cases a shallow concavity has been formed by retouch e.g. context 091:1672, the others have small slighter notches which are probably use-related. A small thickish blade has cortex along one side and evidence for use, including a small notch, in its opposite side (context 091:1054). The notched pieces are most likely to be of later Neolithic or later date (*2 of the notched pieces were highlighted during cataloguing*).

Combination tools

Nine pieces are classified as combination tools having retouch or signs of use indicating that they had more than one function (although other tool types may, of course, also been used for more than a single purpose). The tools include various combinations of working edges or points (see Table 18). These are more common in later Neolithic assemblages but also occur in earlier and later periods. A slightly patinated knife/end scraper on a quite long thin ovate flake (context 091:0624) and a slightly serrated pointed blade type flake with its tip retouched are both probably of earlier Neolithic date (context 091:0398). The other pieces are scraper/piercer combinations and a possible 'burin' /retouched flake combination (context 091:1656) – although the latter may be better described as a retouched flake (*7 of the combination tools were highlighted during cataloguing*).

Arrowheads

Sixteen arrowheads, or possible arrowheads were found. There are two slender earlier Neolithic leaf-shaped arrowheads (SFs 091:2045 and 091:2048) and two other minimally retouched possible leaf-shaped pieces (context 091:0266); one is incomplete.

Later Neolithic pieces include an oblique arrowhead (context 091:1984) and two chisel type arrowheads (contexts 091:1088 and 1881), the latter of which is broken.

There is one later Neolithic/earlier Bronze Age barbed and tanged arrowhead (SF 091:2047). It is sturdy with a small tang.

The other arrowheads are miscellaneous or questionable pieces a few of which might be discounted during analysis following further consideration. They are all appropriately sized/shaped pieces with some retouch of their edges or faces (*All of the arrowheads were highlighted during cataloguing*).

Fabricators

Two quite small fabricators, one with an end broken came from the same context (091:0266). Two other possible fabricators are a small parallel-sides thick pieces with wear at its distal end and an abraded thick platform (context 091:1264) and a long thick triangular-sectioned piece, broken at one end and flaked on one side from both edges (context 091:0517) (*All of the possible fabricators were highlighted during cataloguing*).

Axe

Part of a Neolithic axe was found (SF 091:2109). It is of light greyish flint and is patinated. Both faces are polished although one side has more of the polished surface surviving. The edges of the original axe are also ground; one side has a narrow rounded profile, the other has a slight ridge. The axe has broken transversely, across its thickest part and this may have been caused by a mishit during re-sharpening (Whittaker 1994, 190-191, fig. 8.12); the fracture is almost vertical from one edge and then bends to a lip. The other end has been flaked from both sides, again this may have been in order to reshape the axe – and may have included the blow which caused the fracture. Alternatively, the piece may have subsequently been used or tested for use as a core, or re-flaked as a crude chopping tool. It has also been struck from the broken edge which suggests at least some post-fracture re-use occurred (*Axe fragment highlighted in catalogue*).

Miscellaneous retouched and utilised pieces

Totals of 167 flakes, thirty-three fragments and fifteen blades are retouched. Most of the flakes have retouch, sometimes quite minimal, of an edge or edges, with a very small number having retouch at a point. Some pieces are more regular; three are suggested as possibly of earlier Neolithic date due to their edge abraded platforms and patination but mostly they are not closely dateable.

The retouched blades are also mostly edge modified with one or two pieces having possible retouch at their points. One thick blade has batter (?possible crestring) of its dorsal ridge and slight retouch of one side including a possible notch (context 091:0943). Several pieces are patinated, two have abraded platform edges and two are suggested as of possible Mesolithic date with several others likely to date to the earlier Neolithic.

Retouched fragments include a few thermally fractured pieces and most fragments are cortical, sometimes the cortex acting as backing (context 091:1136) or otherwise enabling an easier hold (context 091:0475) and sometimes just very irregular pieces demonstrating the use of cortical fragments (contexts 091:0509 and 1239) (*18 retouched pieces in total are highlighted in catalogue*).

Totals of 287 flakes, seventy-one blades and twenty-six fragments are utilised. The flakes are almost all edge utilised; only about ten pieces are recorded as having utilised points and a smaller number are notable as being backed by cortex (contexts 091:0382, 0624 and 1710). Most pieces were probably used for cutting or scraping. Many of the utilised blades are small neat pieces e.g. contexts 091:0624 and 091:1605, twenty-one of them have abraded platform edges, most are edge utilised but a couple have their tips utilised and two may have notches. At least six blades have cortex which could be interpreted as natural 'backing e.g. context 091:1259.

Utilised miscellaneous fragments are mostly shattered pieces which could be knapping debris which has been picked up and utilised e.g. 091:0215. Some fragments are shaped in such a way as to have suggested their suitability to the knappers or other occupants of the site e.g. 091:0581, and/or may have cortex or another blunt edge forming natural backing e.g. 091:0612 and 091:0273. A small number of thermal fragments are utilised e.g. 091:0925 (*12 utilised pieces are highlighted in catalogue*).

Flint by context

The total number of flints by feature type is shown in Table 19 and numbers of flints by individual feature in Appendix III.g. **NB** numbers of feature types in Table 19 reflect those recorded in the database, some may represent separately numbered feature components.

Feature Type	No. of flints	No. of features
Pit	5,133	338
Ditch	1,900	64
Gully	162	6
Layer	288	4
Grave	85	2
Ring-ditch	46	2
Post-hole	22	13
Hearth	4	1
Slot	4	1
Finds from cleaning	264	19
Small finds	4	
U/S finds	396	2

Table 19. Total flint numbers by feature type

The greatest number of flints were found in pits (60% of the flints from the site by number came from a total of 338 pits). Pit 091:0471, with the largest pit assemblage (612 flints) included mostly irregular flakes and shatter pieces but several retouched pieces, mostly scrapers, are noted as being of possible Late Neolithic/Early Bronze Age date. Pit 091:1793, (227 pieces, about half of which are generally thickish and/or irregular flakes) has relatively large numbers of miscellaneous retouched or utilised pieces. Fourteen pits had between fifty and 150 flints and just over 130 pits had ten flints or less (with many of these having three or fewer pieces). A group of fifteen 'Grooved Ware' pits 091:0164 in the eastern corner of the excavated area included a total of 805 flints; with numbers in individual pits ranging from two to two hundred pieces. Flakes (with very few blade-like pieces), shatter pieces, struck and tested fragments and spalls were the most common flint types from the pits but fourteen scrapers, three piercers and small numbers of miscellaneous and retouched and utilised pieces are present.

Many of the pits included pottery in their fills and much of this is provisionally dated to the prehistoric period; often the provisional date provided is a general 'prehistoric' one but more closely dated material includes Neolithic, Bronze Age and Iron Age. Some, but relatively few, pits with flint appear to have included Roman or later pottery.

Twenty-four percent (by number) of the flint from the site was from ditches or gullies (mostly ditches). A total of 493 flints were from different areas of a long enclosure ditch 091:0500. This flint includes quite a few regular blade type pieces and a few other pieces, including some retouched tools, which are of earlier Neolithic types. Significant numbers of flints also came from ditch 091:1965 (278 pieces) where flakes of similar

flint came from each of several contexts and a few retouched tools as well as miscellaneous retouched and utilised pieces were found, and gully 091:0933 (127 pieces) where a few blade type pieces, other debitage and modified pieces are generally of a more irregular nature. All these features also included prehistoric pottery.

Flint was found in lesser amounts in just over sixty ditch contexts; in many cases a prehistoric date is suggested by pottery found although in a few cases Roman pottery is recorded as present.

Lesser numbers of flints were found in soil layers, ten post-holes, two graves, two ring ditches and a hearth, and other flints were unstratified. Again, in many cases prehistoric pottery was also found in these contexts.

Discussion

Occasional diagnostic tools or other more closely dateable flints occur within the assemblage. Some leaf arrowheads, a possible laurel leaf, a backed knife, some serrated or utilised blade type pieces, other small neat blade type pieces, flakes from polished tools and part of a polished axe are all likely to date to the earlier Neolithic (cf. Clark 196 Wainwright 1972). Some of these types were found previously at Flixton (Bates in prep.). The axe fragment may have been re-used; perhaps at a later date. A few arrowheads, and possibly some cores, are of later Neolithic date and pieces of (likely) Late Neolithic/Early Bronze Age date include a barbed and tanged arrowhead, some scrapers and part of a probable dagger and flints were recovered from a small cluster of Grooved Ware-associated pits. Although, considering the extensive multi period activity in the vicinity of the site, some of these flints are residual (or unstratified), in a few cases these pieces are particularly notable by their presence or concentration in features or within a group of features. However, at assessment the distribution has not been looked at in detail; it seems likely that analysis and consideration alongside other dating evidence may enable identification of other distinctive feature assemblages. The flint can be seen alongside that from the earlier Neolithic activity immediately to the west and to the south-west of 091 and the later Neolithic earlier Bronze Age activity mainly to the south-west (Bates 2012 and in prep.).

Predominantly the flint is irregular in nature suggesting that much of it may be of a later prehistoric date. Provisional dates of the pottery from the site are mostly only cited as 'prehistoric' but it appears that Iron Age pottery came from quite a few of the excavated contexts. The overall proportions of parent waste, debitage and tools from 091 do not differ greatly from those seen at 088 and 090, where ceramic dates were not available at assessment but where a later prehistoric date was suggested for much of the flint. There are, however, slightly more retouched and utilised pieces from the present assemblage and there is a prevalence, within the retouched/ utilised component, of miscellaneous scrapers, retouched or utilised pieces (with miscellaneous utilised pieces having the greatest increase; they form 5% of the entire assemblage compared to 1% and 2% respectively from 088 and 090). The irregular cores and debitage, as well as the scraper types and numbers of miscellaneous retouched and utilised flints with evidence for the opportunistic use of cortical and (some) thermal fragments and the possible reuse of earlier pieces would all support a later Bronze Age or Iron Age date (Ballin 2002, Humphrey 2007). Flint was found in later Bronze Age pits, and in Iron Age pits and post-holes mostly, and respectively, to the west and south-west of the present site during previous work (Bates in prep.).

5.3.8 Heat-altered flint and stone

The excavation produced 19,108 sizeable pieces of heat-altered flint and large quantities of tiny fragments that could not be counted, weighing a total of 361.152 kg. Heat-altered flint derives from 452 contexts. Furthermore, the excavation produced 731 pieces of heat-altered stone, deriving from 169 contexts and weighing 64.451 kg. The quantities of heat-altered flint and heat-altered stone by context type are presented in Table 20 and a full catalogue from all contexts is presented in Appendix III.h.

Context types	No of ctxts	HA flint No.	% HA flint No.	HA flint Wt. (g)	% HA flint Wt. (g)	HA Stone No.	% HA Stone No.	HA Stone Wt. (g)	% HA Stone Wt. (g)
Ditch	92	1,182	6.19	22,222	6.15	50	6.84	4260	6.61
Pit	342	17,786	93.08	335,172	92.81	671	91.79	59,135	91.75
Grave	7	18	0.09	99	0.03	1	0.14	15	0.02
Gully	11	22	0.12	526	0.15	3	0.41	196	0.30
Hearth	1	17	0.09	516	0.14	2	0.27	380	0.59
Post-hole	10	13	0.07	469	0.13	0	0.00	0	0.00
Slot	2	5	0.03	68	0.02	0	0.00	0	0.00
Layers	5	44	0.23	1,455	0.40	1	0.14	92	0.14
Other	11	21	0.11	625	0.17	3	0.41	373	0.58
Totals	481	19,108	100.00	361,152	100.00	731	100.00	64,451	100.00

Table 20. Quantification of heat-altered flint and stone by context type

The vast majority of heat-altered flint and heat-altered stone derives from 342 pit fills which for the heat-altered flint represents 93.08% of the total assemblage by count, or 92.81% by weight. Heat-altered stone from the same pit fills represents 91.79% of the total assemblage by count, or 91.75% by weight. The second largest quantities of heat-altered flint and heat-altered stone derive from 92 ditch fills. Heat-altered flint from ditch fills represents 6.19% of the total assemblage by count, or 6.15% by weight. Heat-altered stone from the same contexts represents 6.84% of the total assemblage by count, or 6.61% by weight.

The largest quantities of heat-altered flint by count derive from pit fills 091:1792, 091:1360, 091:1947 and 091:1198. Unfortunately, such numbers are not representative of the size of the heat-altered flint assemblage, as only large pieces were included in the original count. The largest quantities of heat-altered flint by weight derive from pit fills 091:2391, 091:2341, 091:1360, 091:2420 and 091:1198. The total heat-altered flint from those five contexts is 101.597 kg, which represents roughly 28% of the entire assemblage. This quantity of heat-altered flint suggests that they were used as pot boilers and despite the absence of pottery and other datable artefacts from the same contexts, it most likely relates to domestic activities.

The largest quantities of heat-altered stone by count derive from pit fills, 091:0473, 091:0813, 091:0906 and 091:1087. These contexts are primarily prehistoric in date, although 091:0813 is probably Late Iron Age/early Roman. The largest quantities of heat-altered stones by weight come from pit fills 091:0906, 091:1087, 091:1229, 091:1366, 091:1666 and 091:1712. With exception of pit fill 091:1229, which contained Roman material, all other fills are prehistoric. The total weight of heat-altered stones from those six contexts is 17.846 kg, which represents roughly 28% of the entire assemblage. Similarly to heat-altered flint, such heat-altered stones are most likely related to cooking and/or other domestic activities. The material coming from the early Roman pit fill 091:1229 was found together with a group of large pottery sherds, which is likely to verify this hypothesis.

5.3.9 Metalworking waste

Introduction and methodology

A small quantity of material (just over 12.3kgs), initially identified as slag, was recovered by hand on site along with material from bulk soil samples, although this was not recognised by the specialist.

For this report the assemblage was examined by eye and tested with a magnet. The material was categorized 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, which were individually weighed and measured for statistical purposes. Quantification data and details are given in the tables below in which weight (wt.) are shown in grams, and length (len.), breadth (br.) and depth (dp.) in millimetres. A table of quantification for the slag and other high-temperature debris is shown in Appendix III.i.

A brief description of the activities involving iron is presented below:

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 slag produced varies depending on the technology used in different periods: furnace slags (including slag blocks and furnace bottom cakes), run slag, tap slag, dense slag or, in later periods, blast furnace slag.

Furnace slag is a general term used for slag which can be recognised as having been produced by smelting but which is incomplete or has no particular morphology which can identify the furnace type or technological method used.

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 smithing hearth bottom (a plano-convex slag cake which builds up under the tuyère hole (the hottest area, where the air from the bellows enters the hearth),

smithing generates micro-slags. The latter can be silver-grey hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) and/or tiny silver-grey 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 the immediate area of smithing, i.e. in the vicinity of the anvil and between it and the smithing hearth.

Other finds which provide support for smithing are iron objects in the form of unfinished objects, waste pieces and or iron objects with hammerscale from smithing still adhering to their surfaces.

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.

The assemblage

The following slag types are represented in this assemblage:

Slag type	Wt. (g)	Process
cinder	31	non-diagnostic
fired clay	321	non-diagnostic
fuel ash slag	162	non-diagnostic
iron	113	non-diagnostic
vitrified hearth lining	541	non-diagnostic
furnace slag	511	smelting
ore?	971	smelting
undiagnostic	2,206	smelting or smithing
smithing hearth bottom	1,636	smithing
hammerscale	10 +	smithing
ferruginous concretion	16	undiagnostic
iron-rich undiagnostic	922	undiagnostic
slag dribbles	9	undiagnostic

Table 21. Breakdown of slag types present

In addition there are six examples of smithing hearth bottoms, broad details of which are shown below.

	Range	Median	Standard deviation
Weight (g)	101 - 689	237	215
Length (mm)	70 - 111	105	22
Breadth (mm)	70 - 100	80	15
Depth (mm)	15 - 30	23	5

Table 22. Smithing hearth bottoms

Discussion of the assemblage

Dating for the site, at the time of writing, has not been finalised, with phasing being incomplete for this assessment. In view of the lack of these two aids to assigning dates or periods for the ironmaking and ironworking activity, this discussion will concentrate on the material itself, the processes it represents, and what we are able to deduce from those.

What is noticeable is not the size of the assemblage but its distribution over the site in a way that suggest the smelting – the primary smithing of blooms? – and ordinary smithing may have been limited and perhaps a one-off activity.

Ore roasting

Ore/possible ore was found in a number of contexts (Appendix III.i) but identification by a geologist is necessary before they can be definitively described as ore.

Some of the potential ore just resembles stone, but is magnetic. When the same type of stone is seen to have been heated or roasted, it is even more magnetised and is highly likely to be roasted ore that was prepared in advance for smelting. This was done to maximise the iron content and produce more iron during the smelting process.

The following pits are currently thought to be early Roman in date: 091:0781, 091:1041, 091:1097, 091:1199, 091:1225 and 091:1283. Possible ores from pits currently dated to the prehistoric period are from the following contexts: 091:1946, 091:1952, 091:1969 and from 091:1843.

Smelting

The slag most easily identifiable as furnace (i.e. smelting) slag is currently dated to the early Roman period.

An iron-rich undiagnostic slag which has voids from burnt-out charcoal came from the fill 091:1710 of a pit 091:1709 currently dated to the Early Iron Age. By its type, it is likely to be Iron Age.

Smelting runs from fill 091:1040 of pit 091:1039 are likely to be Iron Age or later.

Smithing

There were six identifiable smithing hearth bottoms; most are incomplete and only the depths are available. Most are currently early Roman in date.

Hammerscale

Hammerscale recovered is also presently dated to the early Roman period. It was found in fill 091:1140 of pit 091:1139 and fill 091:1284 of pit 091:1283.

Fragments of iron were found in several pits dating to the early Roman period: fill 091:1140 of pit 091:1139, fill 091:1226 of pit 091:1225, fill 091:1277 of pit 091:1276 and fill 091:1284 of pit 091:1283.

5.3.10 Iron nails

A total of 59 fragments of iron nails were collected overall, including parts of nails present in the samples. The nails are variable in condition, with some almost complete examples, and others which are extremely fragmentary. The nails are listed below by quantity and context.

Three of the nails are likely to be post-medieval and were recovered from fills 091:0643 and 091:1473 of ditch 091:0642.

The majority of the remainder of the nails are associated with Roman finds and are likely to date to this period. Amongst this material are two iron artefacts, from fill

091:1096 of pit 091:1095 and fill 091:1229 of pit 091:1227, which may not be nails, and which require radiography to clarify their identification. It is possible that the iron object from 091:1229 may be a goad.

Context	No	Wt. (g)	Feature
091:0296	6	39	MD finds from surface of ditch 091:0294
091:0643	2	46	Fill of ditch 091:0642
091:1096	1	19	Fill of pit 091:1095
091:1200	2	15	Fill of pit 091:1199
091:1226	2	8	Fill of pit 091:1225
091:1229	5	35	Fill of pit 091:1227
091:1284	24	68	Fill of pit 091:1283
091:1473	1	22	Fill of ditch 091:0642
091:1534	1	30	Fill of pit 091:1532
091:1544	1	4	Fill of pit 091:1541
091:1677	1	3	Finds from surface of pit 091:1676
091:1900	6	42	Fill of pit 091:1899
091:2474	3	34	Fill of post-hole 091:2473
091:2481	3	57	Fill of post-hole 091:2481
091:2495	1	5	Fill of pit 091:2493
Total	59	427	

Table 23. Distribution of nails by feature

5.4 Quantification and assessment of the small finds archive

5.4.1 Introduction

A total of 147 objects were assigned small find numbers. The majority of the finds which have so far been dated belong to the Late Iron Age and early Roman period, but a number of the iron items have not been fully assigned to type or date. Table 24 shows a breakdown of the artefacts so far identified by period, together with those which are currently undated.

Period	No of small finds
Prehistoric	30
Late Iron Age	7
LIA/ER	10
Roman	6
Med	3
Late med	2
Post-med	7
Undated	82
Total	147

Table 24. Breakdown of small finds by major chronological period

The small finds include a good collection of ceramic loomweights, alongside a number of ceramic, iron and stone objects, all probably of late Iron Age to early Roman date. There is also a small assemblage of material of late medieval and post-medieval date, and a few modern objects, one of which is of particular interest. In some cases the precise dating of objects is not yet possible, but the majority of objects can be identified and, in most cases, assigned to type.

5.4.2 Methodology

The small finds were initially recorded on the site MS access database, with basic descriptions including weights and dimensions. Stratified iron and non-ferrous artefacts have been x-rayed, and the numbers of the x-ray plates added to the database for future reference. The exception to this are the Roman and later coins, which have not received radiography.

The fragments of loomweights were examined with a hand lens and details of their fabric and dimensions were recorded. The fabrics were collated with the existing sequence for Flixton Park Quarry. All of the fragments were weighed and identifiable features allowing them to be assigned to broad type were noted. Where several fragments come from the same context an attempt has been made to fit them together and to assess the minimum number of loomweights present. The remaining objects, of ceramics, copper alloy, glass, iron and stone, have been recorded with the aid of a hand lens and the use of X-radiographs. An attempt has been made to identify all of the objects and to assign them to type, where possible.

The Roman coins have been catalogued by Jude Plouviez, who also recorded the Roman brooches for the assessment. The other small finds have been assessed by Ian Riddler.

5.4.3 Small finds by period

Introduction

The assemblage consists of objects of late Iron Age, early Roman, late medieval and post-medieval date. A number of objects, principally nails, come from contexts that have not been dated, as yet, but it is likely that most of them are post-medieval in date. The objects are described within each of these broad period bands.

Late Iron Age and early Roman

The assemblage of objects of late Iron Age to early Roman date is dominated by fragments of triangular loomweights, but also includes two slingshots, a spindle whorl, several heat-altered pebbles, two quernstone fragments and a number of iron items.

Loomweights

A minimum number of twenty loomweights, sixteen of which are fired, were retrieved from fourteen separate contexts; one of the loomweight fragments is unstratified (Table 25). The assemblage has a total weight of 13.97kg, much of which is provided by four unfired loomweights.

Feature	Context	SF	Feature Type	Wt. (g)	No. of frags	Fabric Code	Firing
	0001	2004	Unstratified	95.3	1	Ms	Fired
0183	0184	2149	Pit Fill	399.0	43	Ms	Fired
0187	0189	2006	Pit Fill	1,062.0	81	Ms	Fired
0183	0191	2150	Pit Fill	139.7	1	Ms	Fired
0183	0192	2151	Pit Fill	66.7	1	Ms	Fired
0196	0197	2152	Pit Fill	141.6	1	Ms	Fired
0214	0215	2153	Pit Fill	62.9	1	Ms	Fired
0807	0808	2037	Pit Fill	2,117.0	11	Msc	Unfired
0807	0808	2038	Pit Fill	1,655.0	14	Msc	Unfired
0807	0808	2039	Pit Fill	3,811.0	16	Msc	Unfired
0807	0808	2043	Pit Fill	1,915.0	8	Msc	Unfired
0807	0808	2044	Pit Fill	158.2	1	Msc	Fired
0807	0808	2046	Pit Fill	153.6	1	Msc	Fired
0812	0813	2132	Pit Fill	235.0	6	Ms	Fired
1102	1223	2058	Ditch Fill	367.0	1	Msf	Fired
1227	1229	2133	Pit Fill	539.0	45	Msc	Fired
1389	1390	2086	Pit Fill	332.0	1	Ms	Fired
1528	1529	2135	Pit Fill	591.0	26	Msf	Fired
1899	1900	2136	Pit Fill	61.7	3	Ms	Fired
1914	1915	2134	Pit Fill	71.7	2	Msf	Fired

Table 25. Ceramic loomweights

All of the loomweights appear to have been triangular in shape. The fired loomweight fragments survive in good condition, enabling fabrics to be identified and measurements to be taken in some cases, mainly of the thickness of each piece. The unfired loomweights are very fragile and can only be handled with care. They were examined whilst retained in their packaging.

The fragments of fired loomweights are generally quite small and only three of them weigh more than 0.5kg. Four of them provide thickness measurements, ranging from

48mm to 74mm, but no other dimensions can be reconstructed for them. Several fragments had been perforated, with diameters of 9-13mm. They were mostly produced in a medium sandy fabric (**ms** or **msv**), with a few examples of **msf** (flint temper) and **msc** (chalk temper). In one case (SF 091:2046) a triangular loomweight has been neatly sliced to remove one corner. A further fragment (SF 091:2133) is decorated with three near-parallel grooves across the surviving surface, another unusual circumstance for a loomweight.

In contrast, the four unfired loomweights, all of which come from the same context, are substantially complete, although not necessarily finished and ready for firing. They have all been formed from a medium sandy fabric with noticeable chalk inclusions (**msc**). They range from 1.66kg to 3.81kg in weight, but three of the four examples weigh around 2kg, or a little less. The heaviest loomweight (SF 091:2039) is larger and thicker than any of the others, and substantially thicker than any of the fired loomweight fragments. All four of the loomweights have been shaped and smoothed but only one of them (SF 091:2037) includes any lateral perforations, suggesting that they are largely unfinished. The perforations would have been created with a wooden dowel whilst the loomweights were still unfired and relatively wet and it appears that in this case the loomweights were discarded before this process had been completed.

Other Ceramic Objects

In addition to the loomweights, the other ceramic objects of Late Iron Age date include two sling shots, a spindle whorl, several unfired fragments of shaped clay and an enigmatic clay disc.

The sling shots (SF's 091:2002 and 2056) are oval in form and have been fired, as is usually (but not invariably) the case. Fired clay sling shot tends to be found in Middle or Late Iron Age contexts and is normally associated with hillforts, although it can occur in other contexts; fragments from three examples were previously recovered at Flixton (Boulter and Walton Rogers 2012, 71, Fig. 4.7) and five examples were retrieved from Fison Way at Thetford (Gregory 1991, 148). They have been separated in the past into smaller, lightweight examples, possibly used in hunting game, and heavier examples interpreted as objects of warfare (Poole 1984, 398). The earlier and recent two examples from Flixton fall into the smaller, lightweight category.

The spindle whorl (SF 091:2075) is biconical in section and weighs just under 12g. Whorls of this section were assigned to Type 3 at Danebury (Poole 1984, 401). The form is a common one for the period and it is interesting to note that this is a relatively lightweight spindle whorl, equating with the lightest of the ceramic whorls from Cadbury Castle and Danebury (Poole 1984, 401; 2000, 179). For the Anglo-Saxon period, a whorl of this weight would be associated with the spinning of fine, lightweight fabrics (Henry 1999; Walton Rogers 2007, 26). Lighter whorls were used to produce thinner threads (Andersson Strand and Mannering 2011, 79).

The context (091:0808) that produced the unfired loomweights also included several fragments of unfired clay. One of these (SF 091:2042) is roughly square with an indentation near the centre. A second fragment (SF 091:2040) approaches the shape of a triangular loomweight but is quite small and light, with an overall weight of 686g. Both pieces are a little enigmatic. It is possible that they were intended to be formed into loomweights and belong to the early stages of production, before they were fully shaped. Equally, they may have been intended as kiln furniture. A fired clay object of triangular section (SF 091:2103) is probably a piece of kiln furniture. An unstratified object (SF 091:2157) is a fired ceramic fragment of a large and thick circular disc. It has been burnt on one side and is either a piece of kiln furniture or briquetage.

Objects of other materials

The small assemblage of late prehistoric objects of other materials includes two heat-altered pebbles (SFs 091:2003 and 2089), several iron nails and fragments of iron sheet, one of which (SF 091:2064) includes a large central perforation, a thin iron rod (SF 091:2079), fragments of an iron ferrule (SF 091:2060), a hooked mount (SF 091:2077) that may originally have formed part of a hinge and the lower part of an iron pin or needle (SF 091:2067). A fragment of smithing slag (SF 091:2009) also came from a context of late prehistoric or early Roman date. The most impressive object of this group is an iron rod (SF 091:2115) that extends to 262mm in length. It is square in section and may represent a late Iron Age file, but there are no lateral grooves visible on its faces. Similar objects from Danebury were regarded as awls or punches (Sellwood 1984, 354 and fig 7.13.266-7), an interpretation that doesn't quite fit this large implement. It is likely to have been used in craft working, probably in wood working.

It is possible that a small number of iron implements will be added to this list. Their dating depends on the phasing to be established for the site, but in some cases they were recovered from pit fills located close to structures or in the area of other late prehistoric finds. A near complete iron chisel (SF 091:2130) is a substantial item probably used in woodworking; it came from the same context as an incomplete iron staple (SF 091:2131). A second chisel (SF 091:2014) is substantially complete whilst a third example (SF 091:2050) is incomplete but much smaller in size. Two iron awls (SF's 091:2049 and 2057) are complete or near-complete and may have been used in leatherworking. Another intriguing object is a cast copper alloy handle (SF 091:2054) that retains part of an iron blade. It appears to be part of a razor of late Iron Age or early Roman date.

Hertfordshire Puddingstone quern

SF 091:2120, fill 091:1900 of pit 091:1899

Small irregular fragment, weighing 71g, of a conglomerate known as Hertfordshire puddingstone. The only diagnostic feature is that one surface is extremely smooth, through use-wear.

SF 091:2101, fill 091:1727 of pit 091:1726

Large fragment of Hertfordshire puddingstone, weighing 5,630g. The stone is hemispherical in profile although some of the top part appears to have broken off; it has a smooth flat working surface. The quern has a sub-conical central perforation 40mm in depth which does not penetrate the entire height of the stone. The outer diameter is in the region of 300mm.

Evidence from Elms Farm Heybridge (Major 2004) suggests that the use of Puddingstone rotary querns may date from as early as the late Iron age (c.AD 40) through to the middle of the second century (c.AD 160), although they were by their nature extremely durable and could have been used for a long period of time after they were fashioned, or re-used for another purpose. Whilst the pottery from fill 091:1900 dates to the early Roman period, the ceramics from fill 091:1727 are early Roman with a residual sherd of possible later Bronze Age/Early Iron Age date.

The Late Iron Age and Roman coins and brooches

A small assemblage of four copper-alloy coins was recovered. 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.

Context: three derive from 091:1260, a general layer below the topsoil and over the late Iron Age and Roman features. However one of the Claudian copies, SF 091:2113, was found in pit 091:1899.

Ten Roman brooches were recovered, consisting of two made of iron with the remaining eight being made of copper alloy. The brooches have been described, measured and weighed and given broad dates. The information has been inputted into the site database and the catalogue can be seen in Appendix III.j.

The types represented include:

- One probable Rosette and one Léontomorphe Rosette type
- Two iron drahtfibeln (probably derivatives) and one copper alloy Nauheim derivative
- One Aucissa
- Three Colchester derivative rear hook types
- One undiagnostic spring/pin fragment (context information suggests that this might derive from brooch SF 091:2104)

All of the brooches above were probably made and used in the 1st century. The Colchester derivatives were produced between AD 43 and 60 and none are definitively later than AD 60. The relative balance of types differs from previous Flixton material where there was a predominance of Harlow type Colchester derivatives.

Most of the brooches are nearly complete except for the Rosette fragment (SF 091:2035) and the iron brooches (where the loss is perhaps largely due to corrosion).

SF 091:2114 is unusually large and flamboyantly decorated with Celtic curvilinear motifs which are generally rare on post-Conquest brooches.

The context data shows that most brooches were found in pits, one in a ditch, one in a general subsoil layer and one (SF 091:2112) which was unstratified. Of particular note is the association of three brooches (and the pin fragment) in a single pit (091:1746).

Late medieval objects

The assemblage of medieval objects is limited to four items, three of copper alloy and one of lead, all recovered from layer 091:1260. They consist of a sheet metal buckle plate (SF 091:2082), a copper alloy ring (SF 091:2084), a fragment of the body of a copper alloy vessel (SF 091:2094) and a lead spindle whorl (SF 091:2093). The last two items are of late medieval or early post-medieval date.

Post-medieval objects

The assemblage of post-medieval objects comes largely from several ditch fills, as well as the layer 091:1260. It consists of objects of copper alloy, glass, iron and lead. A number of distinctive object types are present and other items from the same contexts are likely to be of a similar date. A glass cameo within a copper alloy frame (SF 091:2096) is unstratified, as is a fragmentary cast copper alloy furniture mount (SF 091:2053). All of the other items come from stratified contexts. The assemblage includes part of a thimble, buckle frames of copper alloy and iron, musket balls, a cloth seal and a lead weight.

One further item that should be mentioned is an American Dog-tag (SF 091:2080) in the name of Robert A Lipp. The American authorities could be notified about this object and it might be possible to reunite it with the family of its original owner.

5.5 Quantification and assessment of the biological evidence

5.5.1 Cremated bone

Twelve groups of cremated or calcined bone deposits were recovered from ten features. The cremations have been processed prior to assessment, but have not yet been sieved into fractions. Bone from each context was rapidly scanned to assess condition,

age and sex, and any immediately obvious pathological conditions. Table 26 shows the quantities and observations about each context.

Feature	Context	Wt. (g)	Notes
Pit 091:0028	091:0029, 091:0032	511.0	Unurned cremation burial. Large identifiable fragments, including skull, of adult human.
Pit 091:0088	091:0089	553.0	Unurned cremation burial. Some large fragments, adult human.
Pit 091:0130	091:0132	0.5	Tiny fragments, nothing identifiable, probably animal?
Pit 091:0179	091:0180	91.5	Fragments of calcined bone and burnt flint, nothing certainly identifiable as human, possibly animal.
Pit 091:0290	091:0291	242.0	Unurned cremation burial. Some large fragments of skull, axial and long bone of adult.
Pit 091:0331	091:0332	58.7	Unurned cremation burial. Some large fragments of long bone, adult human?
Pit 091:0345	091:0346, 091:0347	1.5	Small fragments including a piece of animal phalanx, all animal?
Pit 091:0471	091:0473	6.2	Small fragments, some or all probably animal.
Ditch 091:0500	091:0479	12.1	Abraded small fragments, at least one fragment of animal bone.
Pit 091:0536	091:0537	123.2	Unurned cremation burial. Some large fragments of long bone and skull.?adult human.

Table 26. Cremated and calcined bone

5.5.2 Animal bone

Methodology

The assessment was carried out following a modified version of guidelines by English Heritage (Davis, 1992). All of the bone was examined to determine range of species and elements present. Species were identified wherever possible using a variety of paper, digital and comparative bone reference material. Where species identification was not possible, an attempt was made to determine if the remains were those of large mammals, small to medium mammals, small mammals, birds, fish and herpetofauna. A note was also made of butchering and any indications of skinning and other modifications. When possible a record was made of ages and any other relevant information, such as pathologies. Counts and weights were noted for each context with additional counts for each species identified, counts were also taken of bone classed as 'countable' (Davis, 1992) and measureable bone (following Von Den Driesch, 1976).

All information was recorded directly into MS Excel for quantification and assessment. A basic catalogue of the hand-collected material is included in the written report and the full assessment data, with more detailed counts and information is available in the digital archive.

The bone assemblage

Quantification, provenance and preservation

A total of 3,818g of animal bone, consisting of 1,275 pieces, was recovered with these totals including both the hand-collected and sieved sample material. The assemblage is quantified by feature type, date range and weight (in grams) in Table 27 and by fragment count in Table 28. A variety of pit fills produced the greatest amount of bone, amounting to over 86% of the remains. Ditch fills yielded 12.5% and the remaining 0.8% was recovered from a grave, a hearth and other features. The bulk of the dated assemblage suggests material of an Iron-Age to Roman date, with some post-medieval remains, the later including one goat burial.

Date	Feature type and weight in grams									Total by date
	Ditch	Drain	Finds	Grave	Gully	Hearth	Layer	Pit	U/S	
Pre/IA			2					134		136
?IA								6		6
IA								68		68
Prehistoric	66							144	3	213
IA/Roman								205		205
LIA/Roman								11		11
Pre/Roman	4							27		31
Roman	46		5		2		2	293		348
Post-Med	110							602		712
Undated	252	3		1		10		1,822		2,088
Total by feature type	478	3	7	1	2	10	2	3,312	3	3,818

Table 27. Faunal remains quantification by feature, broad date range and weight

The bone in this assemblage is generally in a poor and fragmented state. Many fragments have been burnt, with some lightly charred, but most a pale grey in colour or fully oxidised and white. Some fragments show weathering, suggesting some time exposed to the elements prior to burial. Gnawing (either dog or pig) was seen in pit 091:0807 (context 091:0808); the poor condition and deterioration of many bones may have led to the loss of other gnawing evidence. Butchering was recorded on several bones, but as with the gnawing, wear on the bones has undoubtedly destroyed more butchering marks. The weathering, butchering and wear in this assemblage has resulted in just nineteen bones (less than 1.5% by element count) that can be measured to provide estimation of age, sex and stature.

Date	Feature type and fragment count									Total by date
	Ditch	Drain	Flnds	Grave	Gully	Hearth	Layer	Pit	U/S	
Pre/IA			1					35		36
?IA								15		15
IA								50		50
Prehistoric	90							164	1	255
IA/Roman								139		139
LIA/Roman								2		2
Pre/Roman	6							23		29
Roman	79		4		3		1	329		416
Post-Med	8							156		164
Undated	30	1		2		16		120		162
Total by feature type	213	1	5	2	3	16	1	1,033	1	1,275

Table 28. Faunal remains quantification by feature type, broad date range and fragment count

Species range and modifications and other observation

Eight species were identified during the assessment these are quantified by species, NISP and date in Table 29 and by feature type in Table 30. In terms of NISP (202 elements), the greatest number of elements were from sheep/goat, although the NISP is increased by a partial skeleton of a goat (156 elements) from one pit fill. The goat skeleton from pit 091:1936, fill 091:1937 is that of a sub-adult animal with fusion lines on the bones still visible, the remains are associated with a range of finds, including those of a post-medieval date. The skeleton is only a partial one with the spine, scapulas, pelvic bones, femur, humeri, radius, ulna, and tibias, sparse lower limb elements are present. Notable with this goat is that the skull, metapodials and foot bones are missing, this along with some knife cuts on one tibia would suggest the goat was skinned, the pelt kept and the main carcass discarded. No other butchering was seen on any of the other bones, which suggest the animal was not eaten. Other sheep/goat remains included adult and juvenile bones from prehistoric to Roman deposits, some have been butchered. Three Iron Age to Roman pit fills produced heavily burnt fragments of sheep/goat.

The ovicaprid were recovered from ten contexts, while cattle were identified with 146 elements from twenty contexts. The cattle remains were represented by adults and juveniles. Many fills contained only tooth fragments that are in poor condition and heavily fragmented, some fills contained limb, scapula and foot bones. The pit

091:1192, fill 091:1194, produced articulated cattle remains (091:1193) including a radius, humerus, metacarpal, carpals, a talus and calcaneus, with some elements sufficiently complete to provide metrical data for stature estimation, pathologies were also noted. The remains in pit 091:1192 showed some weathering and flaking which would suggest the remains had been exposed for a while before full burial. Heavily burnt cattle remains were seen in two deposits, one from pit 091:1255, fill 091:1256 and from ditch 091:1646, fill 091:1827.

Pig were produced from six deposits; two of an Iron Age date, one Roman and one post-medieval. All of the porcine remains were of juveniles, with elements consisting of head and limb bones. The Iron Age porcine finds from 091:0133 and the talus and carpal from the IA/Roman pit 091:1606, fill 091:1654 had been heavily burnt.

Species	Date and NISP										Total by species	
	Pre/IA	?IA	IA	Prehistoric	IA/Roman	LIA/Roman	Pre/Roman	Roman	Post-Med	Undated		
Bird - Bantam											1	1
Bird - Fowl											1	1
Bird - Partridge											2	2
Cattle	14		6	67	12		3	22	1	21		146
Mammal	20	15	44	187	121		24	353	1	140		905
Pig/boar	1					2		2	1			6
Sheep/goat	1			1	6		2	33	156	3		202
SM - Hare								6	5			11
SM - Stoat											1	1
Total by date	36	15	50	255	139	2	29	416	164	169		1,275

Table 29. Species quantification by date and NISP

Small mammals were represented by Brown Hare in three fills. The post-medieval ditch 091:0642, fill 091:0643 produced limb and metapodials that represent two individuals. The post-medieval pits 091:1532, fill 091:1533 and 091:1676, fill 091:1677, produced further hare limb bones. No butchering was observed on any of the hare during the assessment, but given that these animals are often cooked whole, little butchering would be required and any cuts made to remove the meat from the bone once it is cooked would be fine.

A humerus from a Stoat was recovered from the ditch 091:1531, fill 091:1569. Ditches, hedgerows and banks are natural homes for the Stoat, so this may be from a natural

death or predation, but the possibility that this animal was used, perhaps for fur, cannot be ruled out.

Bird bones were found in three ditch fills. Small fowl (Bantam) was seen in ditch 091:1266, fill 091:1431, a larger fowl in ditch 091:1433, fill 1442 and two bones, a tibiotarsus and tarsometatarsus) from a partridge were produced from ditch 091:0294, fill 091:0348. The partridge has a small knife cut on the distal tibiotarsus and the same bone shows slight arthritis on the proximal end.

Species	Feature type and NISP									Total by species
	Ditch	Drain	Finds	Grave	Gully	Hearth	Layer	Pit	U/S	
Bird - Bantam	1									1
Bird - Fowl	1									1
Bird - Partridge	2									2
Cattle	15							131		146
Mammal	183	1	4	2	3	16	1	694	1	905
Pig/boar	3		1					2		6
Sheep/goat	2							200		202
SM - Hare	5							6		11
SM - Stoat	1									1
Total by feature type	213	1	5	2	3	16	1	1,033	1	1,275

Table 30. Species type by feature and NISP

Just over 70% of the assemblage (by NISP) was so heavily fragmented and damaged that the remains could only be identified as 'mammal'. Many of these unidentified fragments were derived from prehistoric and Roman pit and ditch fills, with one fill from a hearth and another from a grave. Numerous fragments of the mammal bone had been heavily burnt.

Butchering

Weathering, fragmentation, burning and general wear has undoubtedly led to the loss of some butchering evidence in this assemblage. Butchering evidence was largely seen with the main domestic mammals – cattle and sheep/goat. Chops were seen from dismemberment and division of the carcass and fine knife cuts were seen from skinning and meat removal. One bird bone, a partridge tibiotarsus, showed a small knife cut from meat removal.

The partial goat skeleton from pit 091:1936 showed minimal butchering, with just cuts on one tibia shaft; this probably represents unskilled skinning of the animal rather than meat removal as there was no other butchering seen that suggested the animal was eaten.

5.5.3 Shell

Very small quantities of terrestrial and marine shell were collected (12 fragments weighing 19g). The majority of the assemblage consists of terrestrial shells, some of which are very fragmentary. An oyster shell was recovered from fill 091:1708 of Roman pit 091:1706, and a tiny fragment of mussel was found in fill 091:0843 of pit 091:0842. The distribution of the shell is shown by context in Appendix III.a.

5.5.4 Charcoal

Fragments of charcoal were collected from sixty-five contexts, as listed in Appendix III.a. This material supplements any additional charcoal recorded in the appendices of the plant macrofossils and other remains.

5.5.5 Charred plant macrofossils and other remains

Introduction

Sixty-three bulk samples were taken from archaeological features during this phase of excavation. Features sampled included pits, ditches, hearths, cremations and graves dating from the prehistoric to Roman periods. The samples were all processed in full to assess the preservation of any plant remains present and their potential to provide useful data at the analysis stage of the project.

Methodology

The 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 the Tables forming Appendix IV. Identification of plant remains is with reference to *New Flora of the British Isles*, (Stace, 1997).

For the purposes of this initial assessment either a subsample of 100ml or the total volume of flot, whichever was least, were examined. Many of the samples contained fibrous rootlet fragments in small to medium quantities, these are modern contaminants and are considered intrusive within the archaeological deposits, when rootlets were present in larger quantities they were removed prior to the remaining flot material being scanned, the volume of flot recorded in the appendix exclude any removed root material.

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.

For the purpose of this initial assessment, items such as seeds, cereal grains and small animal bones have been scanned and recorded qualitatively 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

Plant macrofossils

Preservation of the plant macrofossils present is through charring and is generally fair to poor. Wood charcoal fragments are present in all of the samples and made up the majority of the material present. Generally, the charcoal is comminuted but where the fragments are large enough to allow species identification or its use for radiocarbon dating, this is noted in Appendix IV.

Charred cereal grains are present in many of the samples, mostly however, in very small numbers or as individual grains. Many of the grains present were puffed and distorted, as though they had been exposed to combustion at high temperatures (Fryer,

2012). The majority of the caryopses were also very fragmented and abraded making identification to species difficult or impossible. The counts recorded in Appendix IV include fragments as well as whole caryopses. Pulses are also present in small numbers, again as with cereal grains, fragments are included in the total count. Other than a single, rather abraded, specimen, no chaff elements, rachis fragments, glume bases or spikelet forks were observed.

Charred weed seeds were rare, and consisted mainly of possible charred grass (Poaceae) seeds, such as Brome (*Bromus* sp.). Brome is a common weed of arable fields and was often harvested along with the crop. The seeds are a similar size to cereal grains and Brome fruits were often left within the crop during processing as they do not affect the palatability of the grain (Fryer 2012). Due to their fragmented nature, many of the charred caryopses present within the flots, could not be distinguished between cultivated cereals and wild grass (Poaceae) species. Charred Knotweed family (Polygonaceae), Bedstraw (*Galium* sp.) and possible Cabbage family (Brassicaceae) being observed, but again in very small numbers.

Un-charred weed seeds were more common but still only present in small numbers. Knotweed family (Polygonaceae), Cabbage family (Brassicaceae), Clover/Medicks (*Trifolium/Mediago* sp.), Docks (*Rumex* sp.), Goosefoot family (Chenopodiaceae) and Speedwells (*Veronica* sp.) were all present, but as less than ten specimens at a time.

Scrubby species such as Elder (*Sambucus* sp.) and Bramble (*Rubus* sp.) were also observed, but again under ten specimens each time. Many of the species present are common weeds of cultivated or rough, open ground, however, as none of them were either charred or mineralized it is possible that they are modern contaminants, part of the background soil seed bank, and that they are intrusive within the archaeological contexts sampled.

Other materials

Insect remains were observed within nine samples, terrestrial snails, amphibian or small mammal bones were present within twenty-one, no attempt has been made identified this material for the purposes of this report.

The presence of bone fragments, some calcined, were observed and recorded, as were fired clay fragments, flake or spheroidal hammerstone and slag droplets or fragments.

Small fragments of an unidentified resin like substance, possibly ?amber, were observed within ditch fill 091:0613.

Coal fragments were present in a number of the samples, these are considered to be modern and intrusive within the contexts sampled, possibly the result of steam powered agricultural machinery being used within the vicinity.

Discussion

Neolithic features

The flots recovered from the Neolithic features were relatively small at 200ml or less; the majority of this material was made up from highly fragmented wood charcoal. The composition of the current assemblages is consistent with previous Neolithic samples from Flixton quarry (Fryer, 2012). Most of the flots contained Hazel (*Corylus* sp.) nutshell fragments in moderate to medium densities, with additional nutshell fragments being recovered from the non-floating residues. Cereal remains, although sparse, were present in majority of the Late Neolithic features. Many of the caryopses were highly fragmented and beyond accurate identification. However, small numbers of Wheat (*Triticum* sp.) grains were observed, both the rounded grains of a free threshing wheat and the dropped shaped grains, possibly, of Emmer. A small number of possible Barley (*Hordeum* sp.) grain fragments were also recovered. Although present in a number of the samples, cereal remains were generally sparse, mainly fragments of caryopses with whole grains numbering fewer than five or ten within many of the samples, and often only single specimens being present. No chaff was present other than a single possible spikelet fork from 091:0121, this was highly abraded and difficult to identify to species.

Pulses were also present in small numbers, in a few of the samples, mainly as fragments of cotyledon too small to identify to species. Some complete or larger fragments of pea (*Pisum* sp.) were identified within a small number of samples, namely cremation 091:0291 and ditch fill 091:1169.

The presence of cereal grains, pulses and Hazel nutshell together within Late Neolithic features, is of interest in relation to the transition from a hunter-gatherer to a more agrarian lifestyle that took place within this period.

Bronze Age features

The flots recovered from Bronze Age features were particularly small at 100ml or less, the majority of this material was formed from wood charcoal and Hazel nutshell fragments. Cereal grains again, were very sparse and fragmented. None of the caryopses present were identifiable to species.

Pulses were present within two of the samples of Bronze Age date. Pulses 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.

Prehistoric cremations and graves

Again, the material recovered during this phase of work is consistent with material previously examined from cremations at Flixton quarry. The flots are generally larger than those recovered from the other prehistoric features, ranging between 250 – 1000ml. Wood charcoal is most common, the majority of this material is highly comminuted but occasionally there are fragments present that may be large enough for species identification or radiocarbon dating, should that be required, see Appendix IV. Small fragments possibly of Heather family (*Erciacaea*) were observed within a number of the flots and may represent material used as fuel/tinder within the cremation pyre. Charred weed seeds and cereal grains were also present in very small numbers, and again may represent material either burnt *in situ* or used as tinder or incorporated within the pyre fuel (Fryer, 2012). Cremation 091:0291 contained a small number of charred peas (*Pisum* sp.) along with a few possible wheat caryopsis fragments. It is unclear at this stage whether this is material that was deliberately placed or accidentally incorporated within the pyre material.

Iron Age and early Roman features

Charred cereal grains were present in small numbers within many of the samples from

Iron Age and early Roman features. The elongated grain of possible Spelt wheat (*T. spelta*) were observed along with a very small number of Barley (*Hordeum* sp.) grains. The cereal grains present were generally very fragmented and too sparse in numbers to quantify; fewer than ten grains or fragments being present in any one sample. However, pit fill 091:1794 contained numerous cereal caryopses and fragments, to a degree that quantification would be possible.

Hazel nutshell fragments were common within the samples. A small number of possible ?Prunus (Prunoideae) endocarp fragments and a single unidentified endocarp/nutshell fragment were also observed. It is not clear whether this material represents gathered food or material incorporated within fuel material.

Possibly more significant than the archaeobotanical remains recovered from the early Roman features, are the quantities of hammerscale and slag recovered from the non-floating residues of a number of the samples. Pit fill 091:1284 is particularly significant, with approximately 1.6kg of flake and spheroidal hammerscale recovered from the non-floating residue through the use of a magnet. Spheroidal hammerscale was extremely abundant within the flots of 091:1284 and was also common within the flots of adjacent feature, pit fill 091:1229. Hammerscale is produced during smithing and the high concentration of material recovered from these adjacent features suggests metal working was taking place in the vicinity and waste material was deliberately disposed of within these features. The non-floating residue of 091:1284 was retained in full and it is recommended that the entirety of this material, along with any slag recovered from the sample, is submitted to the relevant metal working specialist to be examined along with any material hand collected from this context during excavation.

Conclusions and recommendations for further work

In general, the samples 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).

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. Only Sample 091:1794 contains sufficient density of material (c.+100 specimens) to allow for quantification, however, analysis of the single sample would probably add little information to the current understanding and interpretation of the site.

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 recommended above has been included in the material 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. A summary of the results above should be prepared for inclusion in publication.

6 Significance of the data and potential for analysis

6.1 Realisation of the Original Research Aims

The following section considers how the excavation and subsequent assessment has 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.

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 and monumental structures were assessed and treated at a level congruent to their perceived archaeological significance.

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.

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), Late Neolithic and Early

Bronze Age (pits and ring-ditches), Bronze Age/Iron Age (extensive occupation deposits) and Early Roman (occupation deposits).

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.

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).

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 this assessment comprise pits, arguably domestic in character, and a long enclosure. 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 this assessment is peripheral to the main, previously recorded concentrations, 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. While undated, the possible grave 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 during this phase of fieldwork. However, these 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.

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 this assessment effectively comprises a series of pits of which the majority contained finds assemblages which were domestic in character and erred on the side of Early Iron Age rather than Late Bronze Age. 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. The location of these features was effectively isolated from the Early Iron Age and Late Iron Age/Early Roman occupation areas.

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 flint cobble filled penannular ring ditches. 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.

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 and Roman archaeology has been excavated (Medlycott (ed.) 2011, 33 and 36).

Within the 091 area the deposits effectively span the Iron Age and 1st century AD with the majority 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. The Revised Regional Framework recognizes the difference between broadly the north and south of the region (Medlycott (ed.) 2011, 32). Flixton lies 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.

No obvious structural deposits were identified, with the finds assemblage essentially domestic, but including 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 Period II.c.; Late Roman

Only a single feature was identified as Late Roman and there is no scope for further work other than including the data in the wider Flixton archive.

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 are 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 were interpreted as post-holes associated with fence lines along with a few more isolated pits and tree-holes and have no archaeological significance. The ceramic drain and electric cable relate to a World War II military installation which has since been further explored in the 2016/17 091 excavation and may have some local and regional significance.

However, 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

This phase 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 (the pottery, flint) relating to the Early to Middle Neolithic period features, principally the 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 recent work, adding to the continuity of occupation within the wider area of the quarry site.

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 Grooved Ware from the current 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 current assemblage is the very large number of sherd links occurring within the Grooved Ware pit circle 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, Deverel-Rimbury and post-Deverel-Rimbury assemblages are only of local significance because they represent fairly small groups with a limited amount of diagnostic material. There is little potential for further analysis on this material, other than the potential of one pot sherd with an attached residue that could be C14 dated,

but it would be worth including a brief description and quantifications of fabrics and forms with illustrations of the most diagnostic sherds in the final publication report in order to provide comparative data for specialists working in the area in the future.

The Iron Age assemblage 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 Late Iron Age/early Roman assemblage 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 & 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 & 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).

Post-Roman pottery

The post-Roman pottery assemblage consists of a small quantity of sherds dating mainly from the medieval to late post-medieval period, with one sherd of Late Saxon date. It consists of twenty-seven sherds weighing 137g in total. 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 CBM

Like the post-Roman pottery, the majority of the ceramic building material was recovered from ditches and pits, and a post-hole. The generally small quantities of both Roman and post-Roman CBM spread across this large area do not indicate that any major buildings of these periods were present. Small fragments of CBM probably reached the site through manuring and other agricultural activity from the Roman period onwards.

6.3.4 Fired clay

The structural and undiagnostic fired clay derives mainly from ditches or gullies, with some from layers and post-holes. The diagnostic material includes some structural daub, possible hearth lining and fragments of a possible kiln bar which may be associated with the Roman pottery production in the area (Boulter in prep.). There is also some evidence for briquetage, including a circular slab of fired clay which was assigned a small find number (see small finds assessment).

Although the fired clay has been initially recorded and catalogued, a study of the spatial and temporal distribution of this material will enable provide further information on the activities that were taking place during the prehistoric and Roman periods.

6.3.5 Lava quern

Lavastone quern fragments such as those present in fill 091:1226 of pit 091:1111 are commonly found in Roman assemblages and were imported in large quantities during this period. The presence of the quernstone shows evidence of settlement and food preparation, but as it is in a variable condition and fragmentary it has little potential for further study and no further work is recommended.

6.3.6 Worked flint

The present assemblage 091 will be analysed and reported on alongside the material from 088 and 090. Analysis of the flint from these three 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). The present 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, 086, Bates in prep.).

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 can 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 was that 091 produced relatively few retouched tools. 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.

There is also the potential for comparison of the present assemblages with those previously excavated at Flixton, and elsewhere. Comparison with flint from the other Flixton areas 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, where ceramic evidence is absent.

6.3.7 Heat-altered flint and stone

The original quantification of heat-altered flint and stone shows that domestic activities are likely to have taken place in the broader area of the site, most likely during

prehistoric and early Roman periods. The presence of such material in graves, post-holes and hearth fills raises interesting questions for future work, even though the quantities that were recovered from such contexts are by far less compared to those found in ordinary pit and ditch fills. Even though the presence of heat-altered flint and stones in gullies, hearths and post-holes is expected, their presence in graves has not been so far fully understood. Future analysis of the same material may reveal broader connections in the deposition of heat-altered flint and stone in relation to burial and domestic contexts, particularly if such study is combined with the analysis of pottery and worked flint coming from the same contexts.

6.3.8 Metalworking waste

The assemblage 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 ore sometimes requiring pre-treatment to extract as much as possible of the iron within it during the smelt.

6.3.9 Iron nails

The small assemblage of iron nails should be considered in terms of distribution on site and association with other more closely datable finds. The nails can be reviewed along

with the metal small finds to be recorded more closely, if their condition merits it. Following on from radiography, any non-nails will require full identification and recording.

6.3.10 Small finds

Late Iron Age/Roman

The potential significance of the objects is described here, beginning with the late Iron Age material and the 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 31 and they emphasise the contribution that this latest group makes to the overall assemblage of triangular loomweights from Flixton.

Site	No of fragments	Wt. (g)	Percentage by Wt.
008, 013, 053	153	5,033	17.2%
057, 059, 061, 062, 068	101	10,079	34.3%
088	10	224	0.8%
090	1	36	0.1%
091	264	13,974	47.6%
Totals	529	29,346	100%

Table 31. Triangular loomweights from Flixton Quarry

The significance of this group of triangular loomweights from the various sites at Flixton can be appreciated when the weights of Table 31 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. Within this new 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 the earlier discoveries, 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.

In addition to the loomweights, there is a small but interesting assemblage of objects of ceramics, copper alloy, iron and stone from 091. They are mostly craft working objects or structural ironwork and are generally comparable with the larger assemblage from Fison Way at Thetford, amongst other sites. The range of iron implements used in woodworking and leatherworking is of particular interest although, intriguingly, there is an absence of simple objects like knives, which might have been expected. To put it another way, the brooches (see below) provide a balance to an assemblage that is otherwise heavily centred on craft production.

Late Iron Age/Roman brooches and coins

Most of the brooches are nearly complete except for the Rosette fragment (SF 091:2035) and the iron brooches (where the loss is perhaps largely due to corrosion).

SF 091:2114 is unusually large and flamboyantly decorated with Celtic curvilinear motifs which are generally rare on post-Conquest brooches.

The context data shows that most brooches were found in pits, one in a ditch, one in a general subsoil layer and one (SF 091:2112) which was effectively unstratified. Of particular note is the association of three brooches (and the pin fragment) in a single pit (091:1746).

Hertfordshire puddingstone querns

The large fragment of puddingstone quern (SF 091:2101) 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 quern requires photography combined with an illustration of its profile.

Late Medieval Objects

The four objects of this period all represent common forms. They come from a layer that includes both late medieval and post-medieval objects. No further work is recommended for them.

Post-medieval objects

The assemblage of post-medieval objects consists largely of iron nails, alongside a small number of items of recognisable types belonging to the 16th and 17th centuries. No further work is recommended for them.

6.4 The potential and significance of the biological evidence

6.4.1 Cremated bone

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 five cremation 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.

6.4.2 Animal bone

The animal bone assemblage from this site is highly fragmented, with some in quite poor condition, which limits the evidence and the potential to interpret the 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 fuelling fires.

A notable difference between this 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.

Hare was noted in the faunal remains from another site at Flixton, where it had been found in a ring-ditch (Curl, 2015). Because of the hare's natural habit of spending resting time in depressions on the ground surface (including perhaps a ring ditch), it is likely that individual could have had a natural death. The hares at 091 show no signs of butchering and this may be an explanation for the hare in ditch fill 091:1532. However, two finds of hare at this site were found in pit fills, where a disposal of food waste is perhaps more likely as an explanation for their inclusion in these features.

6.4.3 Charred plant macrofossils and other remains

In general, the samples are 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 ritualistic activities were taking place in the vicinity. 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 has been 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 as part of this project. However, the flots will be retained as part of the site archive and will be available for future study if required.

7 Updated Project Design

7.1 Introduction

The following section presents the updated research aims and required analysis tasks, both stratigraphic and finds, by period.

7.2 Updated research aims

RA 1: To develop an understanding of the archaeology of the 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 an East Anglian Archaeology monograph publication in conjunction with sites 088 and 090 (Volume III of the Flixton series).

7.3 Stratigraphic analysis

Analysis tasks will include:

- Prepare publication synopsis for EAA (to include Assessments 3a, 4 and 4a).
- 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 to help understand the character of the Late Bronze Age/early Iron Age, Middle Iron Age and Late Iron Age/Early Roman occupation with particular regard to the apparent mobility/shift in activity currency of each phase.
- Using available information from specialist finds analysis and stratigraphy to help target samples for radiocarbon dating (estimate five determinations to include long enclosure contexts, Grooved Ware 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 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 EAA.
- Update site archive as required.

7.4 Bulk finds analysis

7.4.1 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?

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?

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.

- Comparative research on Iron Age assemblages from the region.
- Spatial analysis of Late Iron Age/Roman assemblage.
- Submit the two pot sherds with stamps to a Gallo-Belgic stamp specialist for further identification.
- Prepare publication text.
- Illustration related tasks (catalogue, extraction/reintegration, checking).
- Illustration: It is estimated that around 100 pottery illustrations will be required (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.

7.4.2 CBM

The CBM has been fully recorded and catalogued, apart from a small bag of additional fragments recovered from 091:1062. A note will be prepared for publication, taking into account the phasing of the site when this is available. The assemblage does not have any great intrinsic value and could be discarded.

7.4.3 Fired clay

The fired clay has been fully recorded and catalogued. Further work is required to analyse the fired clay 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.

7.4.4 Lava quern

The small assemblage of lava stone is minimal and the surviving fragments are in poor condition. Apart from including the presence of the quern in pit fill 091:1226 in any consideration of the finds assemblage, no further work is necessary.

7.4.5 Worked flint

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

Analysis tasks will include:

- Flints from multi-bag contexts 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.
- 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 relevant 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 50 of the 091 pieces have been provisionally identified for possible illustration. This should be considered to be a maximum number as it is envisaged that this number 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.

7.4.6 Heat-altered flint and stone

The quantification of the material has shown that heat-altered stones 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.

7.4.7 Metalworking waste

Geological identification of the stone and possible ore is required. Further work is required to establish whether there are parallels for the ore from the region.

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.

Any additional fragments of hammerscale or metalworking debris present in the samples should be examined and the information added to the overall report.

7.4.8 Small finds

Analysis tasks will include:

- Catalogue of late prehistoric small finds (including loomweights and puddingstone quern).
- Discussion text on loomweights.
- Discussion text on remaining late prehistoric small finds.
- Further work on the late Iron Age/Roman brooches will include:
 - a) The iron brooches (SF's 091:2097 and 2098) should be x-rayed again to show front, back and profile detail for the record as they are deteriorating.
 - b) All the complete or near complete copper-alloy brooches (six of) require cleaning and conservation to stabilise the current areas of corrosion.
 - c) 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).
 - d) The existing catalogue will need to be expanded to include full Mackreth (2011) brooch types and other comparative information.
 - e) The distribution of the assemblage should be examined against the site plans (and the previous adjacent area 062) and site phasing.
 - f) The implications of the brooches in terms of status and contacts should be discussed, with comparisons to adjacent Flixton material and other regional groups.
 - g) Eight of the brooches should be considered for drawing for publication.
- Further work on the Roman coins will include:
 - h) All the coins are in poor condition; the two Claudian ones could be cleaned and stabilised. All should be photographed for the record.

- i) If the locations within layer 091:1260 are recorded these should be examined against the recorded features, particularly to examine the proximity of SF 091:2052 to pit 091:1899. The distribution should also be viewed against the more numerous coins from the adjacent 062 area.
- j) 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.

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

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.

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

7.5.3 Shell

Only very small quantities of terrestrial and marine shell were recovered from this phase of work, 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 included in the publication.

8 Publication strategy

The general principles of an analysis and publication strategy have already been 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 and 090. The publication (Flixton Volume III) will combine the results from the 088 and 090 sites with those from the remaining area of the current permission (excavated as 091). After the initiation of Assessment 4 (this document), 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 will form the basis of another assessment (Assessment 4a).

It is proposed that Flixton Volume III will include the analysis of the archaeology covered in Assessments 3B, 4 and 4a. On that basis it would be potentially wastefully expensive to produce even a preliminary publication synopsis at this juncture, which would then be superseded when the Assessment 4a data is added.

Assessment 4a will include a fully integrated task list covering all of the analysis and publication work (up to draft submission) for the three sites and also provision for a synopsis document that will subsequently be submitted to EAA. Costs will be submitted separately to the client via their representative (Guildhouse Consultancy). However, specialists have provided an estimate of the number of days required to undertake the 088, 090 and part 091 analysis tasks, and these have been inserted into an 'uncosted' task list (Section 9.2 below) which forms the framework on which to the Assessment 4a 091 work will be added.

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:	Ruth Parkin (RP), Gemma Bowen (GB), Ellie Cox and TBA
Prehistoric pottery and Roman pottery:	Anna Doherty (AD)
Roman pottery stamps:	TBA
Post-Roman pottery:	Sue Anderson (SA)
Work flint:	Sarah Bates (SB2)
Heat altered flint and stone:	Steve Benfield (SB3)
Fired clay (bulk):	Sue Anderson (SA)
CBM:	Sue Anderson (SA)
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)
Human skeletal remains:	Sue Anderson (SA)
Animal Bone:	Julie Curl (JC)
Plant macrofossils and C14 sample extraction:	Anna West (AW)

9.2 Task list

The following tasks have been identified as necessary to complete the project to draft publication level. No costs have been set against the tasks, but 'man-days' have been included where these are available. These apply to the 088, 090 and part of 091 sites only. An updated table will be constructed when Assessment 4a has been completed with the remainder of the 091 site included. It has also been requested that archive information should be included as this will have a cost, although 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	091 No. days
General management and publication tasks, meetings, staff liaison etc.	SB1, RG +	20	20
Preparation and submission of EAA synopsis	SB	1	1
Stratigraphic analysis + text	SB	45	45
Prehistoric and Roman pottery analysis	AD	7	16
Post-Roman pottery	SA	0.25	0.25
Roman pottery stamps	TBA	-	0.5
Worked flint analysis	SB2	10	26
Fired clay (bulk)	SA	1	1
Heat-altered stone analysis	SB3	3	4
Metalworking waste	LK	-	1.5
Geological identification of possible ore	TBA	-	0.5
Summary report on CBM	SA	0.5	0.25
Human skeletal remains analysis	SA	2	3
Animal bone	JC	0.5	2
Plant Macrofossils + retrieval of samples for C14 dating	AW	1	1
EBA burial report update	AS	1	-
Loomweight and spindle whorl analysis + misc. SF reports	IR + SB3	2.5	11
Analysis of possible mould	TBA	0.25	-
IA/Roman brooches and coins	JP	-	1
Description of jetton	AB	0.25	-
Prepare general illustrations	GA + EC	TBA	TBA
Cleaning and conservation of selected SF's	TBA	-	1
Illustration + photography of c.45 prehistoric vessels (088 + 090), c.100 (091)	GA + EC + TBA	15	20
Illustration small finds, c.3 (088 and 090), c.40 (091)	RP + TBA	1.5	15
Photography of small finds	GB	0.5	1
Illustration of c.30 struck flints (088 and 090), c.50 (091)	RP	7	14
Provision of C14 dates		x 8 costs TBA	x 5 costs TBA
Other non-staff costs (consumables, finds transport, x-ray plate etc.)	RB	2 staff time, other costs TBA	2 staff time, other costs TBA
Preparation of archive and delivery to SCCAS (staff time)	RB	3	3
Description		No boxes	No boxes
Bulk finds boxes (@ £50.00 each)		x 21	x 51
Stewart boxes (SF's) (@ £50.00 each)		x 3	x 4
Paper archive (@ £50.00 each)		x 1	x 2
Box costs @ £5.00 each		x 26	x 57

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 was carried out by Preston Boyles, Hannah Cutler, Tony Fisher, Steve Manthorpe, Jez Meredith, Simon Picard, and was directed by Stuart Boulter.

Overall project management was undertaken by Stuart Boulter with finds 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. Finds assessments were prepared by Sue Anderson (Post-Roman pottery, CBM, fired clay, cremated bone), Sarah Bates (worked flint), Ruth Beveridge (small finds), Julie Curl (animal bone), Anna Doherty (Prehistoric and Roman pottery), Richenda Goffin (iron objects, Hertfordshire Pudding Stone), Jude Plouviez (small finds), Ian Riddler (small finds), Loannis Smyrnaiois (heat-altered flint and stone). Finds reports were collated by Richenda Goffin. Soil sample processing and the plant macrofossil assessment were undertaken by Anna West.

The report illustrations were created by Gemma Adams and Stuart Boulter and the report was edited by Rhodri Gardner.

11 Bibliography

- Albarella, U., 1997 *Iron-Age and Roman Animal Bones Excavated in 1996 from Normon Cross, Tort Hill East, Tort Hill West and Vinegar Hill, Cambridgeshire*. English Heritage Ancient Monuments Laboratory Report 108/97
- Anderson, S., 2012 Fired Clay, in Boulter, S. and Walton Rogers, P., *Circles and Cemeteries: Excavations at Flixton Volume I*, E. Anglian Archaeol. 147, 71-73
- Andersson Strand, E., and Mannering, U., 2011 'Textile Production in the Late Roman Iron Age – A Case Study of Textile Production in Vorbasse, Denmark', in Boye, L., Ethelberg, P., Heidemann Lutz, L., Kleingärtner, S., Kruse, P., Matthes, L. and Sørensen, A. B., *Archaeology in Schleswig. Sonderband „Det 61. Internationale Sachsen-symposium 2010“*, Haderslev, Danmark, Neumünster, 77-84
- Baker, P. and Worley, F., 2014, *Animal Bones and Archaeology, Guidelines for best practice*, English Heritage
- Ballin, T. B., 2002, Later Bronze Age flint technology: a presentation and discussion of post-barrow debitage from monuments in the Raunds Area, Northamptonshire, *Lithics: The Journal of the Lithics Studies Society* 23: 3-28
- Bates, S., 2012, 'Worked flint' in Boulter, S., and Walton Rogers, P., *Circles and Cemeteries: Excavations at Flixton Volume I*, E. Anglian Archaeol. 147, 33-42
- Bates, S., forthcoming Flixton flint analysis FLN 056-086, report prepared for SCCAS
- Bond, J., 1995 'The Animal Bone from Early-Saxon Sunken-Featured Buildings and Pits' in Ricket, R., 1995, *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VII: The Iron-Age Roman and Early Saxon Settlement*. E. Anglian Archaeol. 73, 142-6
- Boulter forthcoming Excavations at Flixton Park Quarry: Volume II, EAA
- Boulter, S. P., 2008 Flixton Park Quarry: Archaeological Assessment 2 & 3a, Revised/updated Chapter 6 & 7 Text & Figures (SCCAS Grey Lit. Rpt. No. 2006/54a)
- Boulter, S. P., 2011a Former Tarmac Quarry, Flixton (FLN 009), Archaeological Excavation Archive Report (SCCAS Grey Lit. Rpt. No. 2011/111)
- Boulter, S. P., 2011b Flixton Quarry Cartwrights Covert Extension), South Elmham St. Mary, alias Homersfield, SEY 035 (SCCAS Grey Lit. Rpt. No. 2011/191)
- Boulter, S. P., 2015 Flixton Park Quarry, Flixton, Suffolk, FLN 088 and FLN 090, Assessment 3b (SCCAS and SACIC grey lit. rpt. No. 2013/099)
- Boulter, S. P. and Walton Rogers, P., 2012 *Circles and Cemeteries: Excavations at Flixton Volume I*, E. Anglian Archaeol. 147, Archaeological Service Suffolk County Council

- British Geological Survey, 2016 Information obtained from <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> and reproduced with the permission of the British Geological Survey ©NERC. All rights reserved
- Brodribb, G., 1987 *Roman Brick and Tile*. Alan Sutton, Gloucester
- Brown, A., 2007 Dating the onset of cereal cultivation in Britain and Ireland: The evidence from charred cereal grains, *Antiquity* 81:1042-1052
- Brown, N., and Glazebrook, J., (eds), 2000 *Research and archaeology: a framework for the eastern counties, 2. research agenda and strategy*, E. Anglian Archaeol. Occasional Paper 8
- Butler, C., 2005 *Prehistoric flintwork*, Tempus
- Cappers, R. T. J., Bekker, R. M. and Jans J. E. A., 2006 *Digital Seed Atlas of the Netherlands* Groningen Archaeological Studies 4, Barkhuis Publishing, Eelde, The Netherlands
- Clark, J. G. D., Higgs, E. S., and Longworth, I. H., 1960 Flint Industry, Excavations of the Neolithic Site at Hurst Fen, Mildenhall, Suffolk (1954, 1957 and 1958), *Proc. Prehist. Soc.* 26, 214-224
- Crabtree, P., 1990 The Faunal remains from Iron Age and Romano-British Features' in West, S., *West Stow, Suffolk: The Prehistoric and Romano-British occupations*, E. Anglian Archaeol. 48
- Creighton J., 2000 *Coins and Power in Late Iron Age Britain*, Routledge
- Crummy, N., 2016 'Small Finds', in O'Brien, L., *Bronze Age Barrow, Early to Middle Iron Age Settlement and Burials, and Early Anglo-Saxon Settlement at Harston Mill, Cambridgeshire*, E. Anglian Archaeol. 157, 59-64
- Curl, J., 2015, 'Animal bone' in Boulter, S. P., 2015, *Flixton Park Quarry, Flixton, Suffolk, FLN 088 and FLN 090, Assessment 3b* (SCCAS and SACIC grey lit. rpt. No. 2013/099)
- Davis, S., 1992 *A rapid method for recording information about mammal bones from archaeological sites*, English Heritage AML report 71/92
- Drury, P., 1993 'Ceramic Building Materials', in Margeson, S., *Norwich Households*, E. Anglian Archaeol. 58, Norwich Survey
- Fryer, V., 2012 'Charred plant macrofossils and other remains' in Boulter, S. P. and Walton, Rogers, P., *Circles and Cemeteries: Excavations at Flixton Volume I*, E. Anglian Archaeol. 147, p.45 and 76
- Garrow, D., Lucy, S., and Gibson, S., 2006 *Excavations at Kilverstone, Norfolk: an episodic landscape*, E. Anglian Archaeol. 113

- Going, C. J., 1987 *The Mansio and other sites in the south-eastern sector of Caesaromagus: the Roman pottery*, CBA Res. Rep. 62: London
- Gregory, T., 1991 *Excavations in Thetford, 1980-1982, Fison Way*, E. Anglian Archaeol. 53
- Hawkes, C. F. C., and Hull, M. R., 1947 *Camulodunum: first report on the excavations at Colchester, 1930-1939*. Society of Antiquities Research Report XIV: Oxford
- Healy, F., 1988 *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VI: Occupation during the Seventh to Second Millennium*, E. Anglian Archaeol. 39
- Heirmann, K., 2006 Early and Middle Pleistocene Sedimentology and Lithostratigraphy at Flixton, northern Suffolk UK (unpublished MSc project submission, Royal Holloway, University of London)
- Henry, P., 1999 Development and Change in Late Saxon Textile production: an analysis of the evidence, *Durham Archaeological Journal* 14–15, 69–76
- Hillson, S., 1992 *Mammal bones and teeth*, The Institute of Archaeology, University College, London
- Historic England, 2010 Draft Research Strategy for Prehistory
- Jacomet, S. et al., 2006 *Identification of cereal remains from archaeological sites*, Second Edition, Archaeobotany Lab IPAS, Basel University
- Lithic Studies Society, 2004 *Research frameworks for Holocene lithics in Britain*
- Major, H., 2004 'The dating of Puddingstone querns' in *Lucerna* 27, 2-4
- McClatchie, M. et al., 2014 Neolithic farming in north-western Europe: archaeobotanical evidence from Ireland. *Journal of Archaeological Science*, 51, 206-215. 10.1016/j.jas.2012.10.022
- Medlycott, M., (ed), 2011 *Research and archaeology revisited: a revised framework for the east of England*, EAA occasional paper 24, Association of Local Government Archaeological Officers: East of England
- PCRG, 2010 The study of later prehistoric pottery: general policies and guidelines for analysis and publication. Prehistoric Ceramic Research Group Occasional Papers 1 & 2, 3rd edition
http://www.pcrq.org.uk/News_pages/PCRG%20Guidelines%203rd%20Edition%20%282010%29.pdf
- Percival, S., 2012 Prehistoric pottery, in Boulter, S, and Walton Rogers, P, *Circles and cemeteries: excavations at Flixton, Volume I*, E. Anglian Archaeol. 147, 28-33
- Percival, S., in prep Prehistoric pottery, in Boulter, S, Excavations at Flixton, Volume II, *East Anglian Archaeology*

- Poole, C., 1984 Objects of Baked Clay, in Cunliffe, B. W., *Danebury. An Iron Age Hillfort in Hampshire. Volume 2. The Excavations, 1969-78: the Finds*, CBA Research Report 52, London, 398-407
- Poole, C., 1991 Objects of Baked Clay, in Cunliffe, B. and Poole, C., *Danebury: an Iron Age Hillfort in Hampshire. Volume 5: The Excavations, 1979-88: the Finds*, CBA Research Report 73, London, 370-382
- Poole, C., 2000 Fired Clay Spindle Whorls, in Barrett, J. C., Freeman, P. W. M. and Woodward, A., *Cadbury Castle, Somerset. The Later Prehistoric and early Historic Archaeology*, English Heritage Archaeological Report 20, London, 179-181
- Riddler, I. D., 2013 'Loomweights' in Boulter, S. P., 2015, *Flixton Park Quarry, Flixton, Suffolk, FLN 088 and FLN 090, Assessment 3b* (SCCAS and SACIC grey lit. rpt. No. 2013/099)
- Riddler, I. D., forthcoming 'Late Bronze Age/Early Iron Age Small Finds', in Boulter, S. P., *Excavations at Flixton Park Quarry, Volume II*, E. Anglian Archaeol.
- Sellwood, L., 1984 Objects of Iron, in Cunliffe, B, W, *Danebury. An Iron Age Hillfort in Hampshire. Volume 2. The Excavations, 1969-78: the Finds*, CBA Research Report 52, London, 346-371
- Stace, C. 1997 *New Flora of the British Isles*, Second Edition, Cambridge University Press
- Tester, C., 2012, Late Iron Age and Roman pottery, in Boulter, S. P., and Walton Rogers, P., *Circles and cemeteries: excavations at Flixton, Volume I*, E. Anglian Archaeol. 147, 66-71
- Tester, C., in prep 'Late Iron Age and Roman pottery', in Boulter, S. P., *Excavations at Flixton, Volume II*, E. Anglian Archaeol.
- Timby, J., and Rigby, V., 2007 *Gallo-Belgic Pottery Database: Internet Edition* <http://www.ox.ac.uk>
- Von Den Driesch, A., 1976 *A guide to the measurements of animal bones from archaeological sites*. Peabody Museum Bulletin 1, Cambridge Mass., Harvard University
- Wainwright, G. J., 1972 Flint, The excavation of a Neolithic Settlement on Broome Heath, Ditchingham, Norfolk, *Proc. Prehist. Soc* 38, 46-67
- Walton Rogers, P., 2007 *Cloth and Clothing in Early Anglo-Saxon England, AD 450-700*, CBA Research Report 145, York
- Whittaker, J. C., 1994 *Flintknapping, Making & understanding stone tools*, Texas



www.suffolkarchaeology.co.uk



www.facebook.com/SuffolkArchCIC



Suffolk Archaeology CIC

Unit 5 | Plot 11 | Maitland Road | Lion Barn Industrial Estate
Needham Market | Suffolk | IP6 8NZ

Rhodri.Gardner@suffolkarchaeology.co.uk
01449 900120

