SUFFOLK ARCHAEOLOGY
• A HISTORY OF EXPERTISE •

Suffolk County Council

Flixton Park Quarry, Flixton, Suffolk
FLN 088 and FLN 090
Assessment 3b

(Volume I; Text, Figures and Plates)

Post-Excavation Assessment Report

SCCAS Report No. 2013/099

Client: Cemex (UK) Materials Ltd.

Principal Author: Stuart Boulter

February/2015

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HER Information

Site Code:	**FLN 088 and FLN 090**
Site Name:	**Flixton Park Quarry, Flixton, Suffolk**
Report Number	**2013/099**
Planning Application No:	**W/10999/10**
Date of Fieldwork:	**2009 - 2011**
Grid Reference:	**TM 3075 8680**
Oasis Reference:	**suffolkc1-154978**
Curatorial Officer:	**Edward Martin (superseded by Dr. Matt Brudenell)**
Senior Project Officer:	**Stuart Boulter**
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Summary

This document covers the assessment of the archaeology excavated by Suffolk County Council's Archaeological Service Field Projects Team within a *c*.3.15 area of Flixton Park Quarry under the HER codes FLN 088 and FLN 090, the field work for which was undertaken between 2009 and early 2012.

The principle periods represented were as follows:

Palaeolithic: worked flints

Early Neolithic: pits

Early Bronze Age: four funerary monuments; two with associated burials

Late Bronze Age/Early Iron Age: extensive occupation deposits including five roundhouses and a number of four and six post structures.

Post-medieval: various features including ditches, the former Flixton to Homersfield road, quarry pits, tree-holes and a fence-line. A number of the ditches and the former road 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.

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 two adjoining sites (FLN 088 and 090) covered by this assessment are centred at TM 3075 8680 (Fig. 1).

1.2 The scope of the project

Suffolk County Council's 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 report covers the archaeological deposits revealed in the areas of the quarry stripped between the summer of 2009 and spring 2012 which were excavated under the Historic Environment Record (hereafter HER) codes FLN 088 and FLN 090 (equating to the southern end of quarry Phase 15 and part of the southern ends of Phases 14 and 16).

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 two relevant Brief and Specification documents.

- 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)

1.3 Circumstances and dates of fieldwork

The archaeological excavation works were triggered by a condition on planning application W/10999/10 covering the ongoing expansion of the working area of the Quarry.

HER code FLN 088 was allocated to an area of approximately *c.*1.54 hectares within a parcel of land locally known as School Wood and was excavated in two similar sized plots in the summers of 2009 and 2010 (Fig. 1). This area was covered by a Brief and Specification document prepared by Suffolk County Council Conservation Team (hereafter SCCAS/CT) Archaeologist Edward Martin and dated 17th May 1999 (Appendix I.a). The excavation methodology was based on this document and was also detailed in a Project Design prepared by SCCAS/FPT and dated May 1999 (Appendix I.b).

FLN 090 was allocated to an area of *c.*1.61 hectares excavated in three separate tranches: one in the spring of 2011, another in the autumn of 2011 and the third in the spring of 2012 (Fig. 1). This area was covered by a revised Brief and Specification document prepared by SCCAS/CT Archaeologist Edward Martin and dated 18th February 2011 (Appendix I.c). The excavation methodology was based on this document and was also detailed in a revised Project Design/Written Scheme of Investigation document prepared by SCCAS/FPT in February 2011 (Appendix I.d).

The majority of this document was prepared by SCCAS/FPT. However, their recent divestment from Suffolk County Council resulted in the formation of a new company (Suffolk Archaeology CIC) and it is this organisation which completed the assessment report.

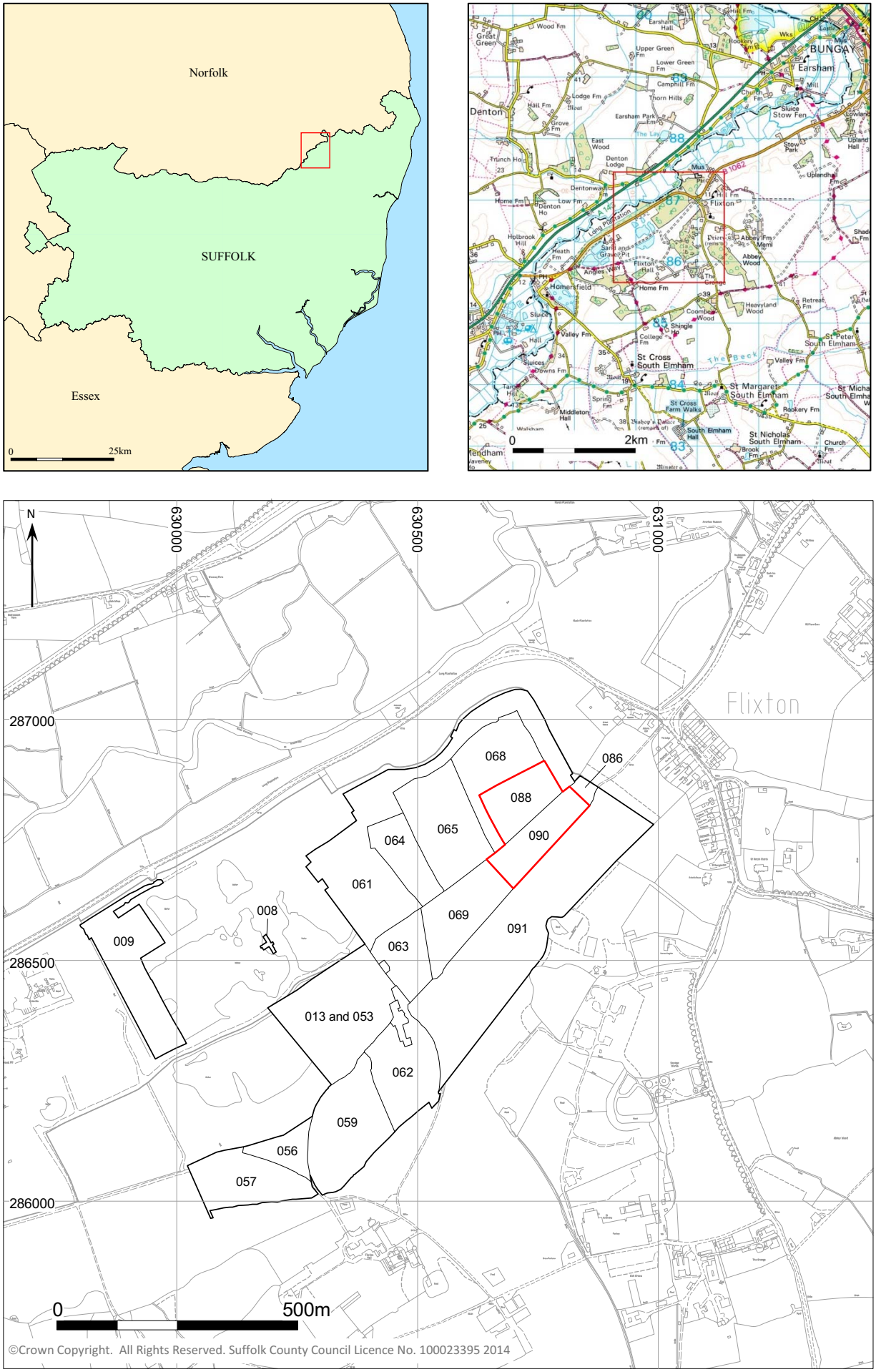


Figure 1. Site location and excavation areas

2 Geological, topographic and archaeological background

2.1 Geology, topography and recent land use

Topographically, the sites occupied part of a gently undulating, generally north-east to south-west orientated, gravel ridge on the south side of the Waveney Valley that lies between the river flood plain to the north and the Lowestoft Till plateau to the south. On a more local basis, the FLN 088 and FLN 090 sites sloped gently down from a height of *c.*16mOD towards the north-west corner of FLN 088 to a low of *c.*13.00mOD towards the south-east corner of FLN 090 (all measurements taken on the surface of the natural subsoil after removal of the topsoil).

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 deposits recognised included Early Pleistocene marine sediments overlain by Anglian and post-Anglian deposits including tills, fluvial sediments and outwash deposits (Heirman 2006).

The FLN 088 area was part of a plot of land known as School Wood. The majority of this area was planted with trees after the First World War, previously having been part of the deer-park associated with Flixton Hall. FLN 090 had also been part of the deer-park, but was turned over to arable cultivation early in the 20th century.

2.2 Archaeological background

Prior to soil-stripping, the only known archaeology within the FLN 088 and FLN 090 areas was a ring-ditch visible on aerial photographs as a cropmark and presumed to be Early Bronze Age in date. A similar feature (FLN 011) located immediately to the east was previously excavated as part of FLN 086.

However, extensive excavations undertaken by SCCAS/FPT within the quarry to the north and west of FLN 088 and FLN 090, between 1996 and 2008 (Figs. 1 and 2), revealed significant multi-period archaeology. These deposits were expected to continue into the new areas. 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 flake from the quarry gravels. Another handaxe was recovered from an Early Anglo-Saxon Sunken Featured Building (SFB).

Mesolithic: small number of flint tools, mostly unstratified.

Neolithic: Early Neolithic features included a long barrow, elongated enclosure and pits.

Late Neolithic 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 are considered to be funerary monuments, although burials were not recorded with every ring-ditch. One of these 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 circle and associated four and six post-structures. These were recorded immediately adjacent to the FLN 088 and FLN 090 sites and the area of settlement was subsequently found to continue into these areas.

Iron Age: Iron Age occupation deposits, mainly represented by pitting, were identified along with a ditched field system 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, while the small finds hint 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, while an extensive area of occupation with Hall-type buildings and Sunken Featured Buildings (SFB's) was recorded in the area immediately north of the FLN 088 site.

Medieval: deposits of medieval date have rarely been encountered 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 which in this assessment effectively formed the boundary between the FLN 088 and FLN 090 areas. In addition, a series of ditches and post-holes of indeterminate function were identified during the evaluation of an extension to the existing quarry permission and recent analysis of a rectilinear enclosure located to the north of the FLN 088 site revealed a medieval rather than the previously supposed Early Anglo-Saxon date.

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 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

The original research aims were presented in a Brief and Specification document prepared by Edward Martin and dated 17th May 1999. This document remained current for all of the archaeological works undertaken up to and including the FLN 088 area. A revised Brief and Specification was written by Edward Martin and dated 18th February 2011. This document covered the FLN 090 site, which forms part of this assessment, and will remain current for all archaeological monitoring works until the end of the present permission (to be excavated as FLN 091) which will form the basis of Assessment 4.

The research aims presented in these two documents were as follows:

Brief and Specification dated 17th May 1999

RA1: The academic objective will centre upon the high potential for the site to produce evidence for settlement and funerary activities from prehistoric through to medieval times.

Brief and Specification 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.

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.

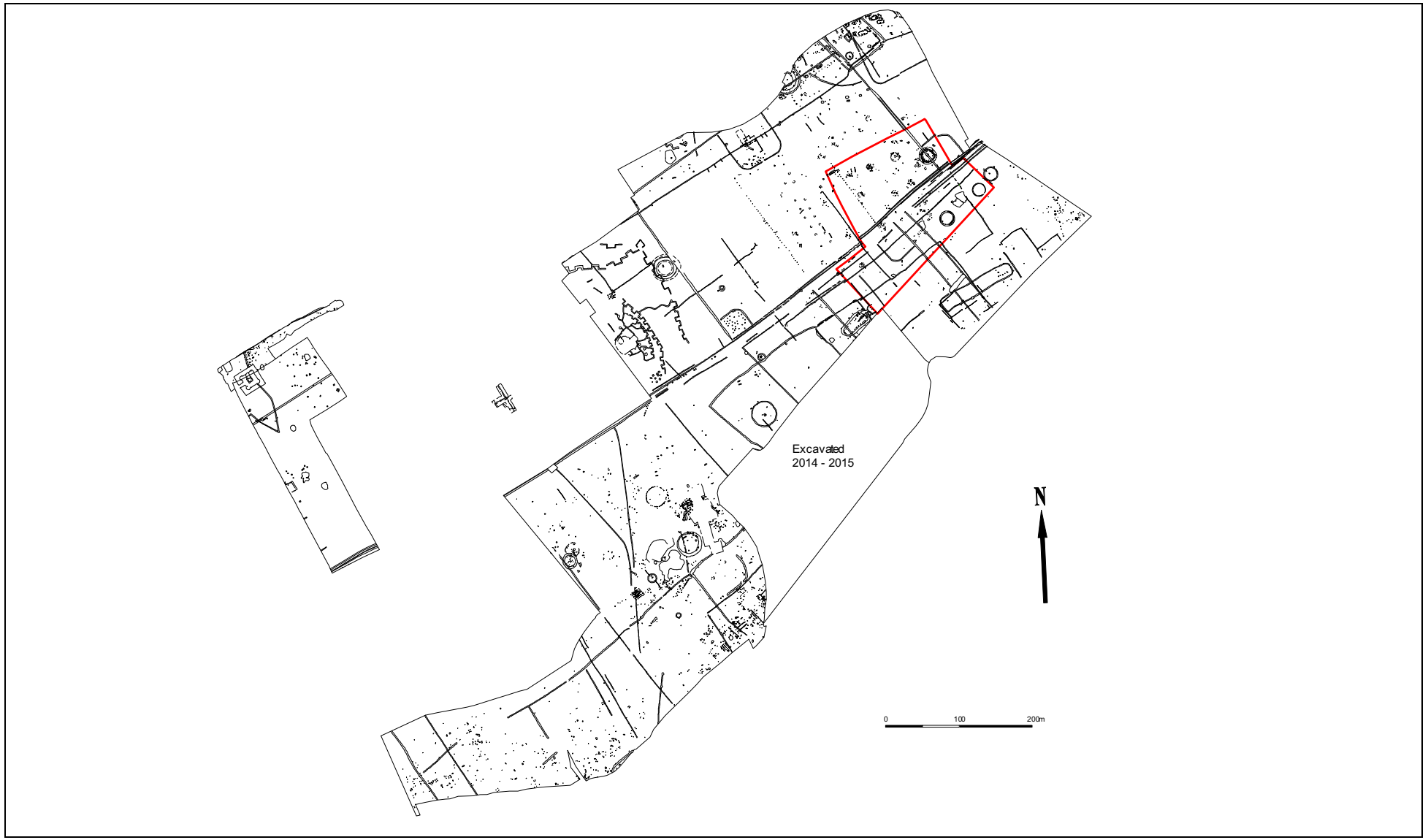


Figure 2. Flixton Quarry all features (sites 088 and 090 bounded in red)

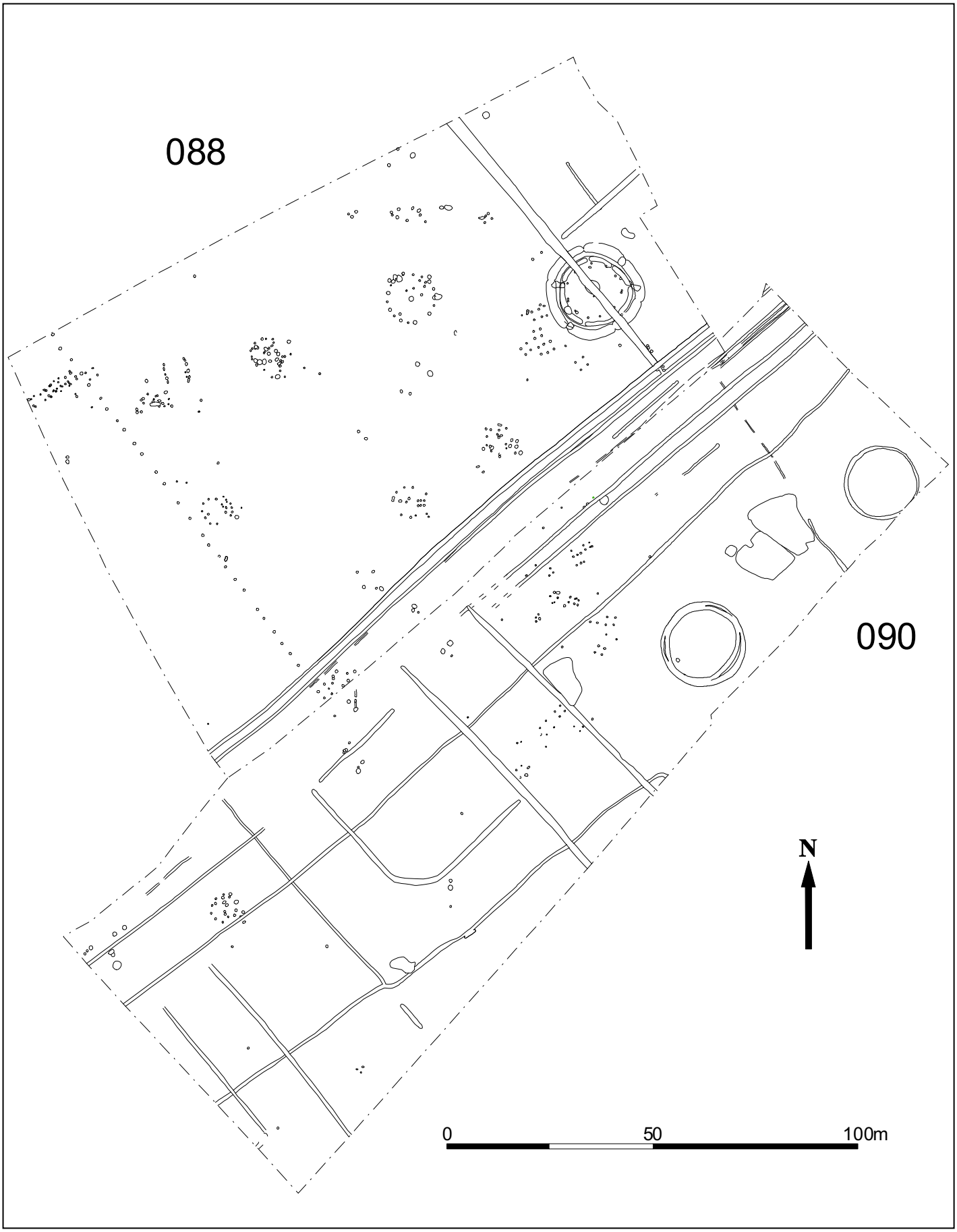


Figure 3. 088 and 090 all features plan

4 Site sequence: results of the fieldwork

4.1 Introduction

The integrated presentation of context information within this publication posed problems due to the fact that data from the two adjoining sites, both with their own individual HER code and hierarchy of OP/context numbers, often needed to be included in the same section of text.

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. 088:*0001*). It was not considered necessary to always prefix the site code number with the Flixton code letters FLN as both of the excavated areas were within that parish. In addition, where, for example, all of the information in a Table or Figure relates to one of the discrete sites already included in the caption, or a group of OP/context numbers from the same site are presented in brackets, then the site number has been omitted from in front of the individual context numbers.

For site 088 a total of 1,098 Observed Phenomena (hereafter OP) numbers were allocated to 222 discrete features or multiple feature structures or monuments and their stratigraphic elements while for 090 a total of 465 OP numbers were allocated to 125 discrete features or multiple feature structures or monuments and their stratigraphic elements.

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 looking at 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.

Period	Site phase	Date range	Features
Prehistoric	Phase I.a.	Palaeolithic;	Site 088:
		*c.*10,000+ BP	**Finds:** SF's *1026*, *1027*, *1028* **: Total 3**
			Site 090: (None)
	Phase I.b.	Mesolithic;	No features or finds
		*c.*8000 – 4000 BC	
	Phase I.c.	Early Neolithic;	Site 088
		*c.*4000 – 3200 BC	**Pits:** *0002*, *0005*, *0009*, *0019*, *0059*, *0085* **: Total 6**
			Site 090 (None)
	Phase I.d.	Late Neolithic;	Site 088: (None)
		*c.*3200 – 2400 BC	Site 090:
			Finds: *0101* : Total 1
	Phase I.e.	Early Bronze Age;	Site 088
		*c.*2400 – 1500 BC	**Funerary monuments:** post-hole circle *0065* with central cremation *0113* and composite monument *0789*/*0788*/*0821*/*0856* with central grave *0809* **: Total 2**
			Site 090
			Funerary monuments: ring-ditches *0020* (also FLN 012) and *0102* **: Total 2**
	Phase I.f.	Middle Bronze Age;	No features or finds
		*c.*1500 – 1000 BC	
	Phase I.g.	Late Bronze Age;	Site 088
		*c.*1000 – 650 BC	Round-house buildings: *0502*, *0559*, *0610*, *1096* **: Total 4**
			Four post structures: *0024*, *0325*, *0446*, *0447*, *0709*, *0727*, *0787*, *1097*, *1098* **:Total 9**
			Six post structures: *0714*, *0738* **: Total 2**
			Misc. structures: *1095* **: Total 1**
			Pits: *0012*, *0015*, *0017*, *0057*, *0063*, *0072*, *0082*, *0118*, *0120*, *0122*, *0126*, *0132*, *0136*, *0138*, *0140*, *0150*, *0168*, *0177*, *0184*, *0192*, *0195*, *0204*, *0206*, *0208*, *0222*, *0227*, *0229*, *0246*, *0248*, *0254*, *0256*, *0270*, *0272*, *0274*, *0276*, *0282*, *0287*, *0292*, *0298*, *0302*, *0342*, *0353*, *0379*, *0387*, *0393*, *0437*, *0529*, *0533*, *0537*, *0545*, *0577*, *0579*, *0599*, *0605*, *0607*, *0611*, *0622*, *0645*, *0675*, *0677*, *0681*, *0683*, *0693*, *0695*, *0710*, *0712*, *0755* **: Total 67**
			Post-holes: *0156*, *0160*, *0162*, *0202*, *0266*, *0268*, *0278*, *0307*, *0309*, *0311*, *0323*, *0336*, *0349*, *0351*, *0383*, *0385*, *0403*, *0410*, *0412*, *0416*, *0418*, *0420*, *0422*, *0424*, *0428*, *0430*, *0432*, *0438*, *0444*, *0509*, *0511*, *0519*, *0523*, *0527*, *0539*, *0555*, *0557*, *0560*, *0562*, *0564*, *0568*, *0615*, *0617*, *0628*, *0631*, *0639*, *0647*, *0649*, *0657*, *0660*, *0663*, *0666*, *0668*, *0679*, *0697*, *0736*, *0764*, *0768*, *0779* **: Total 59**
			Hearth: *0603* **: Total 1**
			Site 090 (None)
	Phase I.h.	Early Iron Age;	Site 088 (None)
		*c.*650 – 400 BC	Site 090
			Round-house structures: *0414* **: Total 1**
			Four post structures: *0090*, *0125*, *0209*, *0242*, *0261*, *0466* **: Total 6**
			Six post structures: *0075*, *0153* **: Total 2**
			Slots: *0301*, *0308* **: Total 2**
			Pits: *0054*, *0056*, *0059*, *0175*, *0178*, *0188*, *0289*, *0291*, *0297*, *0299*, *0311*, *0315*, *0317*, *0323*, *0327*, *0333*, *0336*, *0376*, *0383*, *0385*, *0387*, *0389*, *0391*, *0393*, *0397*, *0406*, *0409*, *0438*, *0440*, *0444*, *0446* **: Total 31**
			Post-holes: *0141*, *0166*, *0168*, *0170*, *0180*, *0182*, *0207* **: Total 7**
	Phase I.I.	Middle Iron Age;	No features or finds
		*c.*400 BC – 100 BC	
	Phase I.0.	Prehistoric;	Site 088
		unspecified date	**Pits:** *0043*, *0045*, *0047*, *0049*, *0051*, *0053*, *0055*, *0070*, *0074*, *0124*, *0128*, *0130*, *0144*, *0146*, *0240*, *0399*, *0401*, 0492 **: Total 18**
			Site 090
			Pits: *0065*, *0117*, *0196*, *0198*, *0200*, *0202*, *0395* **: Total 7**

Roman	Phase II.a.	Late Iron Age/Early Roman; *c.*1st BC – E.2nd century AD	No features or finds
	Phase II.b.	Roman, *c.*E.2nd – L.3rd century AD	No features or finds
	Phase II.c.	Roman; *c.*L.3rd – 4th century AD	No features or finds
	Phase II.0	Roman; unspecified date	No features or finds
Saxon	Phase III	Early Anglo–Saxon; *c.*410 – E. 7th century	No features or finds
Medieval	Phase IV	*c.*1066 – 1480	No features or finds
Post-medieval	Phase V.a.	L.15th – 17th centuries	No features or finds
	Phase V.b.	*c.*17th – 19th centuries	Site 088 **Ditches:** *0038*, *0041*, *0673*, *0689*, *0691* **: Total 5** **Fence line:** *0348* **: Total 1** **Metalled road:** *0601* **: Total 1** Site 090 **Quarry pits:** *0031*, *0033*, *0142*, *0233*, *0350* **: Total 5** **Ditches:** *0008*, *0010*, *0029*, *0190*, *0219*, *0295*, *0305*, *0325*, *0364*, *0367*, *0448*, *0458* **: Total 12** **Pits:** *0454*, *0456* **: Total 2** **Post-holes:** *0236*, *0238* **: Total 2** **Metalled road:** *0044* **: Total 1**
	Phase V.c.	*c.*1914 – 1918	No features or finds
	Phase V.d.	*c.*20th century	Site 088 **Tree-holes:** *0087*, *0134*, *0135*, *0791*, *0807*, *0813*, *0935*, *0940* **: Total 8** Site 090 (None)
Undated	Phase 0	Undated and naturally derived features	Site 088 Ditches: *0034*, *0643* : Total 2 **Pits:** *0007*, *0084*, *0182*, *0200*, *0242*, *0280*, *0313*, *0317*, *0319*, *0478*, *0480*, *0482*, *0484*, *0486*, *0494*, *0496*, *0498*, *0500*, *0525*, *0685*, *0687*, *0760*, *0762*, *0770*, *0774*, *1073* **: Total 26** **Tree-holes:** *0025*, *0294*, *0321*, *0449*, *0466*, *0468*, *0488*, *0637*, *0849*, *0892* **: Total 10** Site 090 **Ditches:** *0012*, *0016*, *0023*, *0221*, *0225*, *0352*, *0341*, *0361* **: Total 8** **Pits:** *0051*, *0061*, *0073*, *0088*, *0119*, *0145*, *0184*, *0186*, *0192*, *0194*, *0205*, *0231*, *0240*, *0251*, *0253*, *0255*, *0257*, *0259*, *0270*, *0272*, *0274*, *0276*, *0278*, *0280*, *0282*, *0284*, *0286*, *0321*, *0331*, *0370*, *0372*, *0374*, *0400*, *0442*, *0452* **: Total 35** **Layer:** *0218* **: Total 1** **Misc:** *0464* **: Total 1**

Table 1. Provisional site phasing

4.2 Prehistoric

4.2.1 Period/Phase I.a. (Palaeolithic)

Three possible Palaeolithic flints were recovered as residual finds from 088 features.

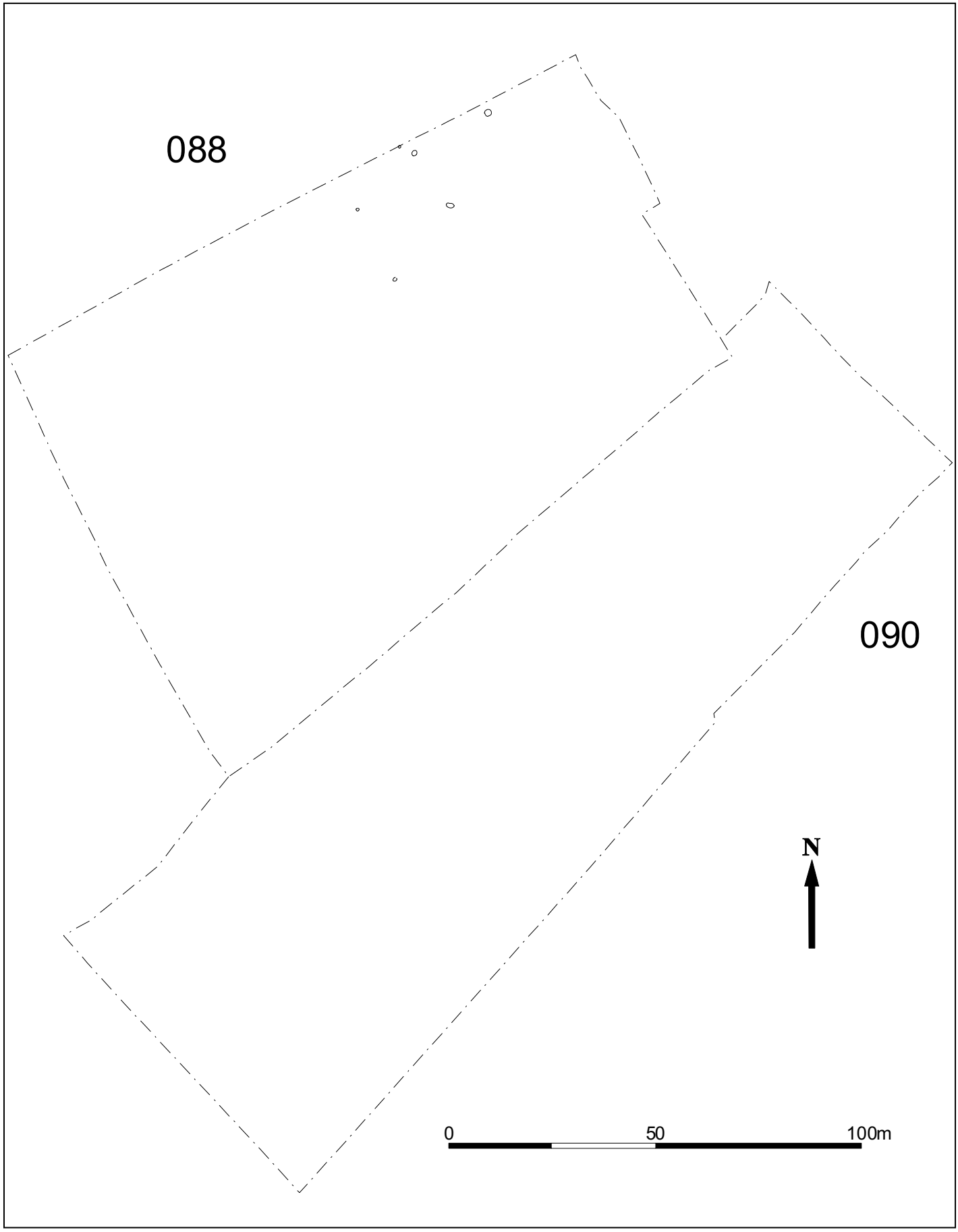


Figure 4. 088 and 090; Period/Phase I.c. (Early Neolithic)

SF 088:*1027* came from fill 088:*0086* in Early Neolithic pit 088:*0085* while two flints were recovered from contexts associated with Early Bronze Age funerary monument 088:*0065*; SF 088:*1026* in fill 088:*0069* of post-hole 088:*0068* and SF 088:*1028* in fill 088:*0117* in the central cremation pit 088:*0113*.

4.2.2 Period/Phase I.c. (Early Neolithic)

Six features of Early Neolithic date, all pits (088: *0002*, *0005*, *0009*, *0019*, *0059* and *0085*) (Table 1), were recorded forming a loose cluster towards the north-east corner of 088 (Fig. 3). Dating was provided primarily from ceramic finds although worked flint was also present with some broadly diagnostic pieces.

The pits varied considerably in their dimension, shape and the character of their fills.

The smallest, 088:*0005* was circular, 0.50m in diameter with a depth of 0.26m and a fill (088:*0006*) which included dark brown/grey sand with frequent charcoal flecks and lenses of orange sand, the latter possibly due to post-depositional root/animal disturbance. Calcined bone was present and subsequent examination confirmed that this was probably a cremation, although incomplete, with only a small amount of what could have been a juvenile recovered (see below). Given that the dating for this feature was based on one small sherd of pottery, inclusion in this phase is not secure.

Pit 088:*0059* was the largest, oval in shape measuring 1.20m by 1.90m with a depth of 0.60m, steep to vertical sides and a flat base. The three stratified fills varied, comprising upper and lower fills of brown stony, silty sand (088:*0060* and *0062* respectively) with an intervening layer (088:*0061*) of very dark grey/brown stony silty sand. In addition, there was a considerable deposit of slumped sand around the base of the pit which was derived directly from the naturally occurring subsoil forming the sides of the feature. A significant quantity of pottery and worked flint was recovered.

Also meriting description at this stage was pit 088:*0019* which at 1.40m in diameter with a depth of 0.68m was the second largest in the group. The feature exhibited relatively steeply sloping sides giving way to a rounded base and, similarly to 088:*0059*, had a markedly stratified fill. The uppermost two fills (088:*0020* and *0021*) comprised grey to

brown stony silty sand while the lower fills (088:*0022* and *0023*) were darker and particularly in the case of 088:*0022* included charcoal. Ceramic finds were concentrated in the lower fills, particularly 088:*0022*, while worked flint was more evenly distributed throughout.

4.2.3 Period/Phase I.d. (Late Neolithic)

Evidence for the later Neolithic was limited to a discrete spread pottery (090:*0101*) comprising nine sherds of Peterborough Ware pottery within the upper fill of the presumably Early Bronze Age ring-ditch 090:*0102*. This was almost certainly not the primary context of deposition and the process by which this material entered the deposit is unclear.

4.2.4 Period/Phase I.e. (Early Bronze Age)

The features attributed an Early Bronze Age date were all associated with four funerary monuments: a post-hole circle (088:*0065*), a composite structure including a post-hole circle, ring-ditch and two segmented rings (088:*0789*/*0788*/*0821*/*0856*) and two ring-ditches (090:*0020* and *0102*) (Table 2, Figs. 2 and 4).

Post-hole circle 088:*0065* and cremation burial *0113*

Monument 088:*0065* was located relatively central to the 088 site *c.*44.00m immediately west of composite monument 088:*0789*/*0788*/*0821*/*0856* (measured between the central burials) (Figs. 4 and 5). While no artefactual evidence that could provide secure dating was recovered from features considered to be integral to the structure, its juxta position to the second monument, which also incorporates a similar sized post-hole circle, is considered compelling evidence with which to provisionally attribute 088:*0065* an Early Bronze Age date.

The monument itself described a near perfect circle with a diameter of *c.*12.50m, comprising sixteen individual near circular post-holes (088:*0066*, *0068*, *0076*, *0078*, *0080*, *0088*, *0091*, *0093*, *0096*, *0098*, *0100*, *0102*, *0105*, *0108*, *0110* and *0234*) arranged in two arcs of eight curving away from two opposed entrances: that to the north-west measuring *c.*3.45m wide, while that to the south-east was *c.*3.25m wide (Fig. 5; Plate 1).

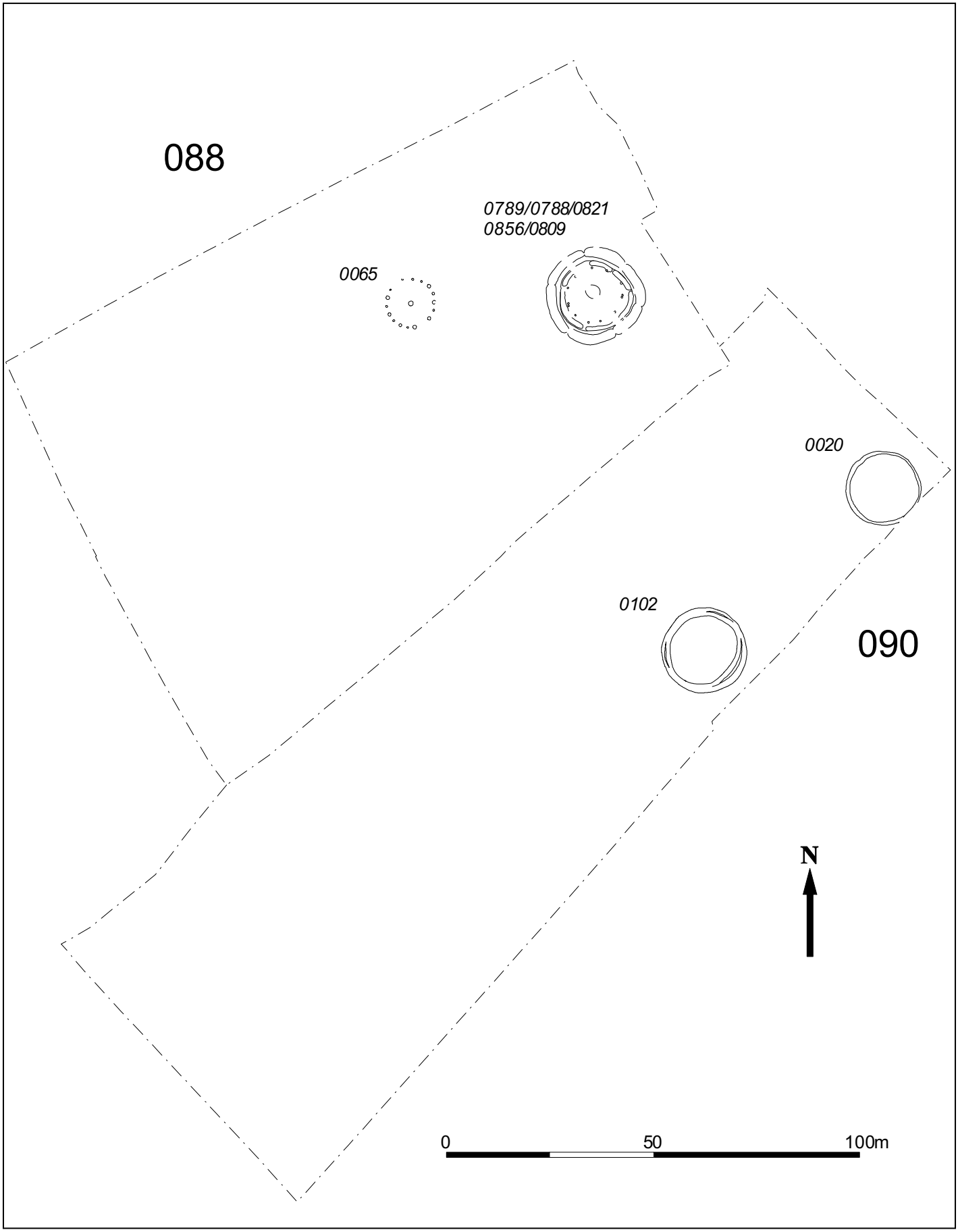
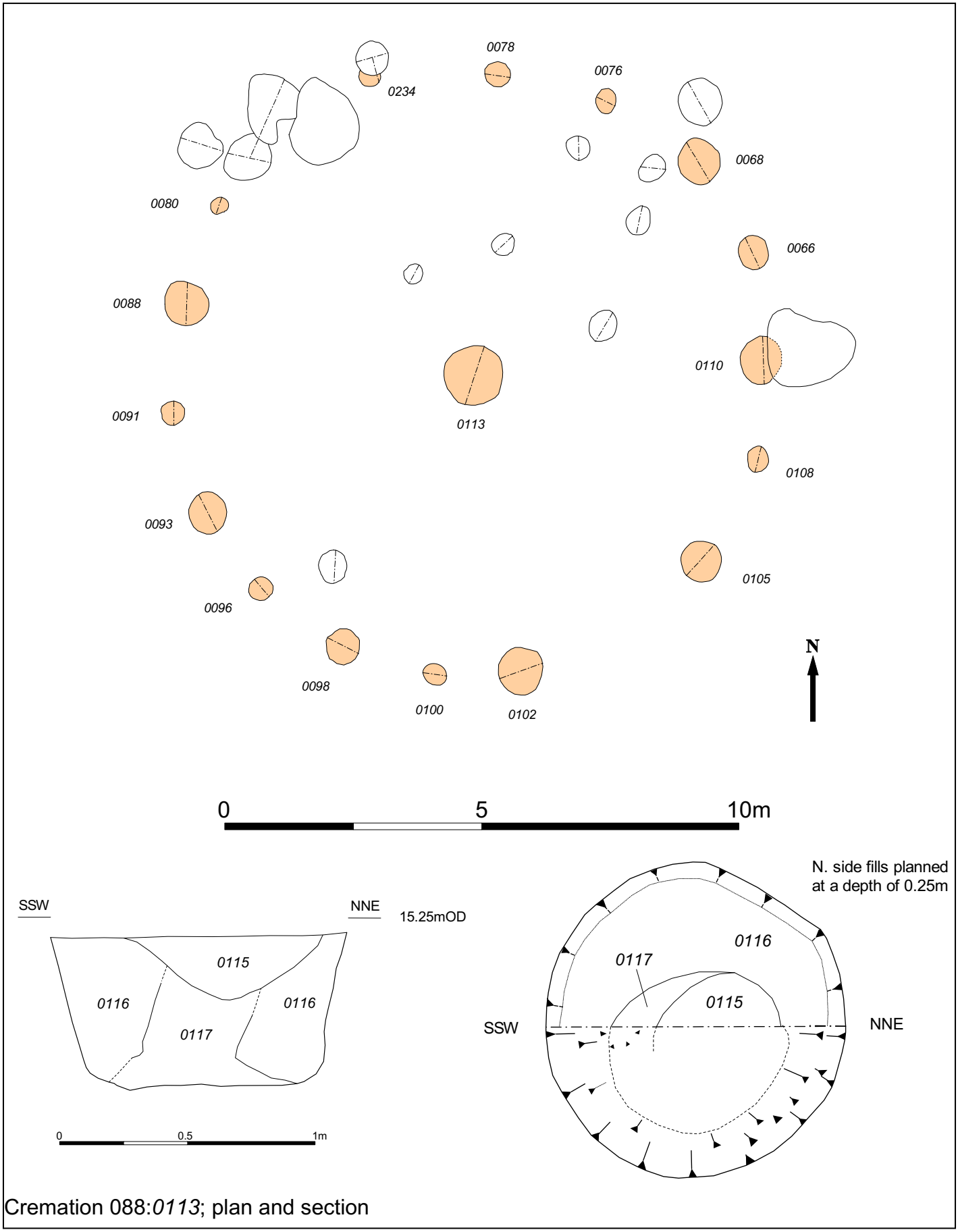


Figure 5. 088 and 090; Period/Phase I.e. (Early Bronze Age)



Cremation 088:*0113*; plan and section

Figure 6. Monument 088:*0065*

Plate 1. Post-hole circle 088:*0065* and cremation pit 088:*0113* (from W.)

Plate 2. Cremation pit 088:*0113*

The intervals between the individual post-holes forming the circle varied between *c.*1.00m and *c.*2.00m while the dimensions of the post-holes themselves fell within two ranges: either *c.*0.30m to 0.40m or *c.*0.65m to 0.90m in diameter. Depths varied between 0.08m and 0.48m with the deeper examples usually conforming to those with the larger diameter. Of significance, particularly evident in the western arc, was the fact that the large and small post-holes alternated. Post-pipes were evident in eight of the post-holes, all four of the larger ones in the western arc and the three largest and one intervening post-hole in the eastern arc. Generally, single fills and outer fills comprised mid brown stony silty sand with less stony, darker coloured post-pipes which also often included charcoal flecks.

Artefactual evidence included undiagnostic worked flint from six contexts and heat-altered flint also from six contexts. One tiny fragment of indeterminate prehistoric pottery was recovered from fill 088:*0095* in post-hole 088:*0093*.

One feature, circular pit 088:*0113*, due to its location absolutely central to the post-hole circle, was considered to be directly associated with the monument. Indeed, when an unurned cremation was revealed at the base of the feature, it became clear that this was actually the focal point of the monument.

Pit 088:*0113* was circular, 1.20m in diameter, 0.70m deep with steeply sloping sides and a flat base (Fig. 5; Plate 2). In addition to a central upper fill (088:*0115*), probably representing the downward subsidence of overlying subsoil, there was an outer fill (088:*0116*) comprising slightly silty brown stony sand with a well-defined vertical central component (088:*0117*). During the excavation process 088:*0117* was considered to represent a post-pipe. However, as excavation continued towards the base of the feature this fill expanded out to its full width and included a high concentration of calcined bone 088:*0114*. This does not entirely discredit the interpretation of 088:*0117* representing a post-pipe as the cremation may have been marked within the monument by the insertion of a central post over the burial.

Other features in close proximity to the monument included three modern tree-pits (088:*0087*, *0134* and *0135*) amorphous area (088:*0084*) possibly associated with tree-hole 088:*0135*, and ten pits (088:*0082*, *0085*, *0118*, *0120*, *0122*, *0124*, *0126*, *0128*,

0130 and *0132*) (Fig. 5). With the exception of 088:*0124* and 088:*0128*, all of these pits included Early Neolithic or Late Bronze Age pottery in their fills which suggest that if the proposed Early Bronze Age date for the monument is correct, then none of these adjacent features were contemporary and directly related to the monument. Pit 088:*0082*, which included two sherds of Late Bronze Age pottery, cut post-hole 088:*0234* while pit 088:*0085*, which contained fifteen sherds of Early Neolithic pottery, was located within the gap forming the north-west entrance of the monument. A third pit, 088:*0120* contained fifty six sherds of Late Bronze Age pottery was located immediately outside the post-holed circle to the north-east. Of the pits located internal to the circle, 088:*0120*, had two sherds, 088:*0122*, had one sherd, 088:*0126*, had three sherds, 088:*0130*, had two sherds and 088:*0132* had six sherds, all of Late Bronze Age date.

Composite monument 088:*0789*/*0788*/*0821*/*0856* and inhumation burial *0809*

During soil-stripping the initial impression suggested that the monument was a simple ring-ditch with a central burial (088:*0809*), the latter partly truncated by post-medieval ditch 088:*0041*. However, as the feature weathered out, major differentiations within the fills became apparent which suggested that a more complex arrangement of features was present (Fig. 6; Plates 3 and 4).

The overall diameter of the circular monument was *c*.23.00m with a central clear area *c*.14.50m in diameter. However, rather than the ring-feature comprising one continuous ditch, three concentric elements were recognised, with each successive element expanding the monument out from its predecessor. In addition, a ring of post-holes was recognised towards the edge of the enclosed circular area which, arguably, represented an earlier, fourth, stage of the monument.

Ten other features were recorded either cutting elements of the monument or located within the area confined by it. None of these were considered to be contemporary with or in any way related to the monument. These features comprised five modern tree-pits (088:*0891*, *0807*, *0813*, *0935* and *0940*), all cutting components of the monument's ditches, a post-medieval ditch (088:*0041*) which cut through all elements of the monument and four undated features (088:*0892*, *0902*, *0849* and *1073*) that were probably all naturally derived.

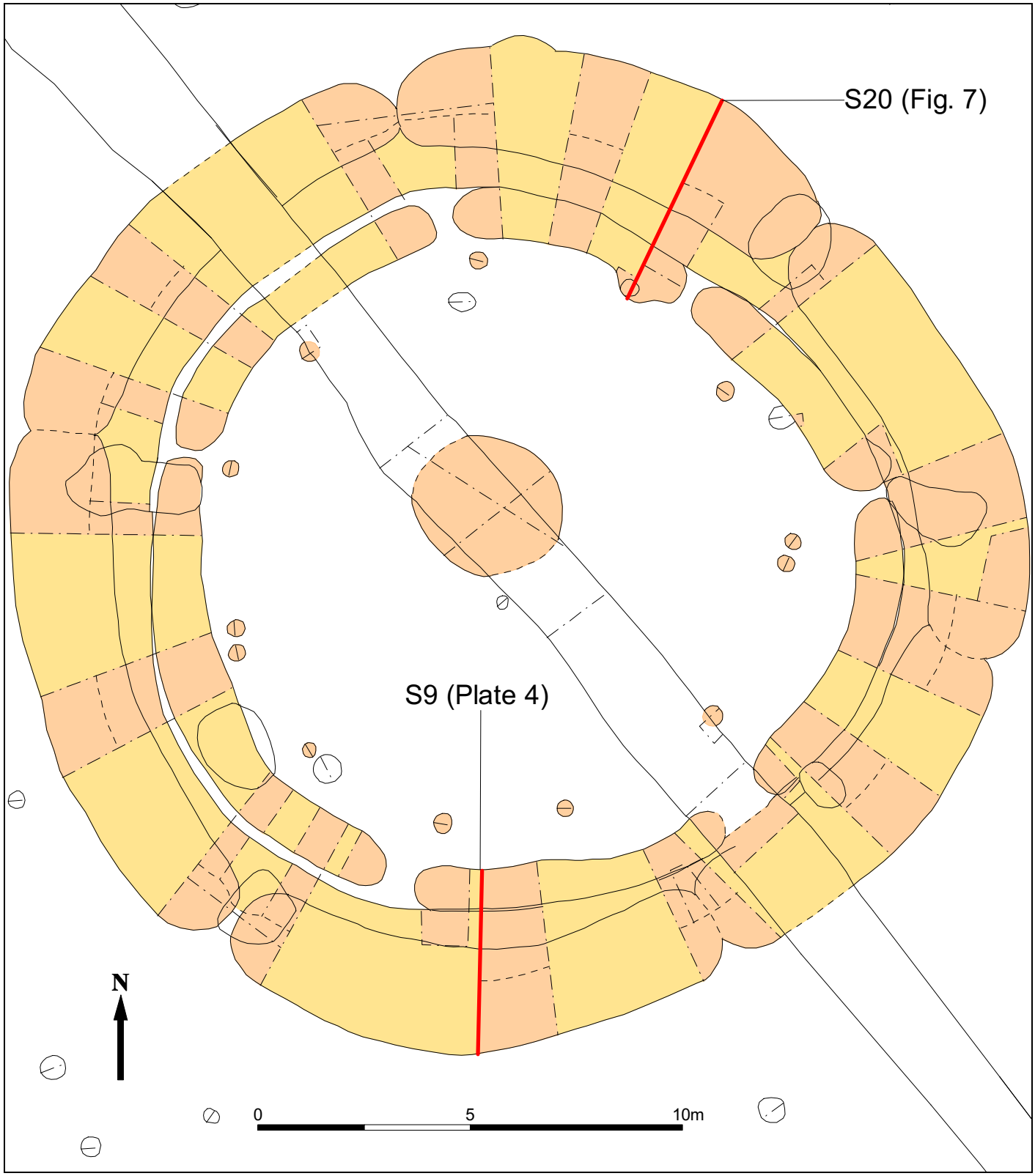


Figure 7. Composite monument 088:*0789*/*0788*/*0821*/*0856*/*0809*; plan

Plate 3. Composite Early Bronze Age Monument (from SW.)

Plate 4. Representative section (S9) through composite monument (from E.)

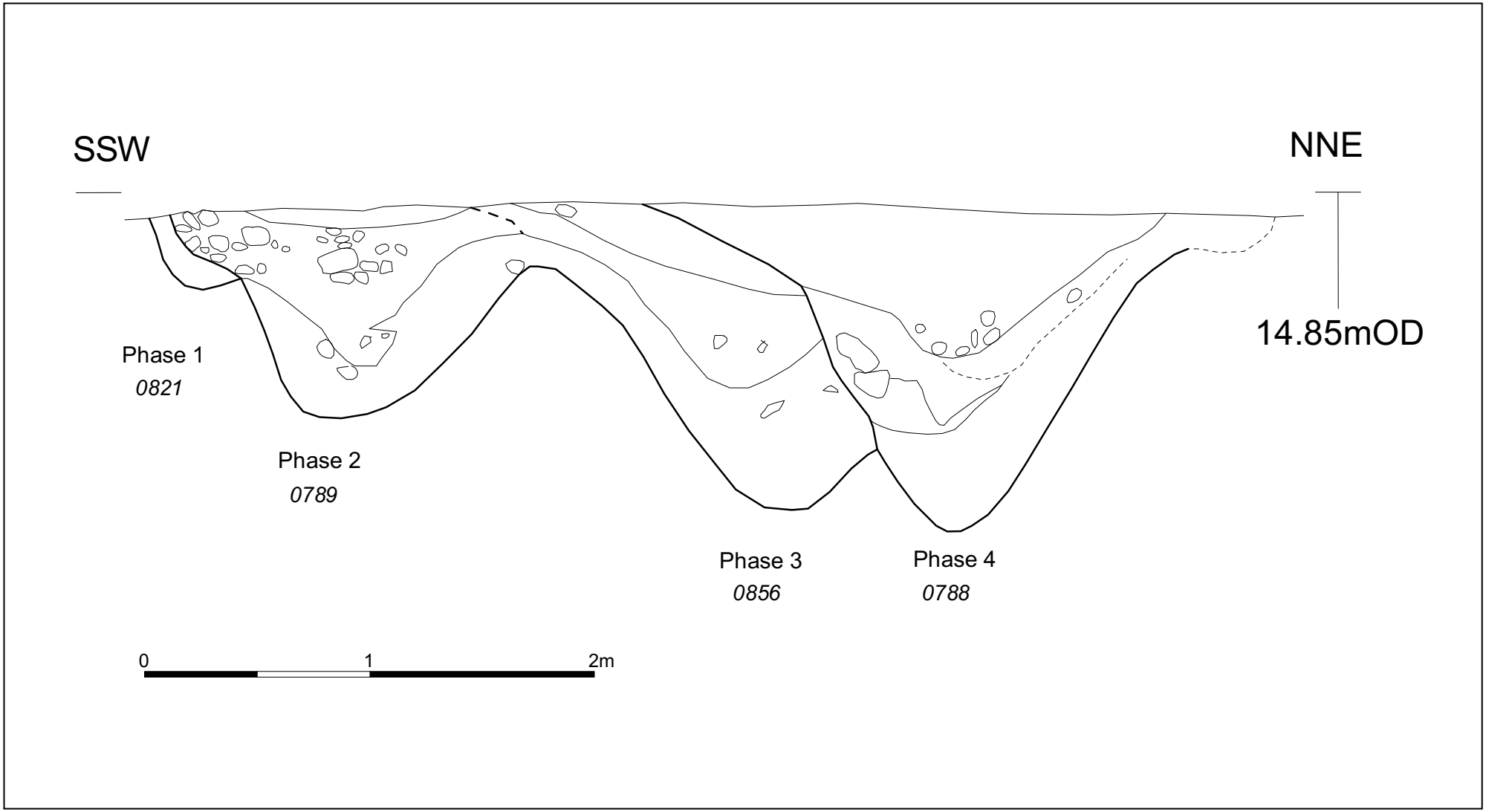


Figure 8. Composite monument 088:*0789*/*0788*/*0821*/*0856*; section (S20)

Each of the four phases recognised in the monument are described below:

Post-hole circle 088:*0821* (Monument Phase 1): comprising thirteen individual post-holes (088:*0805*, *0822*, *0824*, *0826*, *0828*, *0830*, *0835*, *0840*, *0842*, *0845*, *0847*, *0859* and *0929*) describing a near perfect circle with a diameter of *c*.13.00m (Fig. 6).

On both the west-south-west and east-north-east sides of the circle, although not directly opposite, there were two post-holes adjacent to each other (088:*0822* with *0824* and *0840* with *0859* respectively) (Fig. 6). To the south of the double settings, the ring was completed by four post-holes, while to the north there were five. The intervals between the post-holes varied from *c*.2.92m (between 088:*0824* and *0826* to the south-west) and *c*.4.30m (between 088:*0385* and *0849* to the north-north-west). There was no obvious formal pattern to these inconsistencies. The post-holes themselves were remarkably consistent in both their size and character. All were circular, varying between *c*.0.30m (088:*0826*) and *c*.0.42m (088:*0847*) in diameter and *c*.0.14m (088:*0835*) and *c*.0.42m (088:*0847*) in depth and exhibiting single relatively homogenous fills. No datable artefactual evidence was recovered.

Only one of the post-holes (088:*0929*) had a direct stratigraphic relationship with the innermost component of the ditched phases of the monument. The excavated section (S20) suggests that the post-hole was cut by segment 088:*0832* of the Phase 2 ditch (088:*0789*) (Figs. 6 and 7). While not incontrovertible, this could be viewed as evidence to suggest that the post-hole circle represented an initial phase in the construction of the monument that was subsequently superseded by the segmented Phase 2 ditch 088:*0789*. However, the merit of basing this interpretation on one stratigraphic relationship is open to debate as it could also be argued that Phases 1 and 2 of the monument were contemporary. By extension, using the same argument, the Phase 1 post-holes could in fact have continued in use beyond the redundancy of the Phase 2, 3 and 4 ditches, although this cannot be proven.

Segmented ditch 088:*0789* (Monument Phase 2): comprising six individual ditch segments (088:*0798*, *0815*, *0819*, *0832*, *0862* and *0867*) that together described a circle of *c*.16.00m in diameter (Fig. 6). For approximately two thirds of the circuit, at the level of the site strip, the Phase 2 ditches did not have physical relationship with the succeeding Phase 3 ditch (088:*0856*) with a narrow strip of naturally occurring subsoil

visible separating the two elements. Where a stratigraphic relationship was present, it was limited to the just the lips of the ditches. However, the relationship was sufficiently clear to indicate that ditch 088:*0856* was the cutting feature (Fig. 7).

The six curving sections of ditch varied in their length (088:*0798* @ *c.*6.20m, *0815* @ *c.*11.73m, *0819* @ *c.*7.81m, *0832* @ *c.*5.78m, *0862* @ *c.*7.70m and *0867* @ *c.*7.95m), but were more consistent in width, varying only between *c*1.00m and *c.*1.50m. The largest gap between the opposing butt-ends of the individual sections was only *c.*0.77m (to the south-south-west between segments 088:*0815* and *0867*, the other all being less than 0.50m) and while these did form narrow causeways between the exterior and interior of the monument, they were not considered to represent formal entrances.

While there were variations in its profile, these tended to be the result of differences in the character of the immediately adjacent natural drift geology which determined the degree of erosion/weathering to the ditch sides. Generally, the profiles were V-shaped, slightly more rounded where the natural geology was sandy rather than stony, with a depth of between *c.*0.60m and *c.*0.90m.

Although minor local variations were encountered, the ditch sections usually exhibited three distinct fill components (Fig. 7). In addition to a basal/outer primary component derived directly from slumped natural subsoil, there was a central upper fill, never more than 0.10m thick, comprising clean yellow/orange stony sand that had the appearance of redeposited natural subsoil. However, the bulk of the fill was made up of the middle component that usually comprised mid brown silty sand with frequent stones. Of great significance was the universal presence of large quantities of flint cobbles. In one 1.50m wide section excavated through ditch segment 088:*0815*, middle fill 088:*0817* was found to contain *c.*400 flint cobbles. While the naturally occurring drift geology does include material of this type, sometimes in concentrated bands, it is unlikely that any conceivable natural mechanism could be responsible for the translocation of that quantity of cobbles into the ditch. Given that the ditch was almost certainly filled, either naturally or deliberately, with immediately available material, it can be argued that the earlier phase of the monument incorporated a large quantity of flint cobbles in its structure. Two possibilities are that they were built into a curb around a central mound, or even as a formal cladding layer placed over the mound itself.

Artefactual evidence recovered from ditch 088:*0789* included undiagnostic worked flint in thirteen contexts and heat-altered flint and stone in five contexts. Two sherds of later Neolithic/earlier Bronze Age pottery were recovered from fill 088:*0817* in ditch segment 088:*0815* on the west side of the monument.

Continuous ditch 088:*0856* (Monument Phase 3): comprising a continuous ring-ditch that appeared, in the sections where there was a stratigraphic relationship with 088:*0789* ditch segments, to have been excavated after the Phase 2 features had become redundant (Fig. 7). Measured from its internal, untruncated edge, the ditch described a circle *c.*17.00m in diameter (Fig. 6).

Ditch 088:*0856* exhibited a slightly rounded, somewhat open rounded V-shaped profile, although its external edge was never seen in its entirety as it had been truncated by the subsequent Phase 4 ditch segments. However by projecting the slope of its external edge up it can be deduced that it would have been in the region of 2.20m in width with a depth that varied between *c.*0.90m on the north-west side of the monument and *c.*1.35m to the south-west. The fill generally exhibited clear stratification with a primary deposit generated from the immediately adjacent naturally occurring sand and gravel subsoil, with upper layers comprising various mixes of sand gravel and silt, some of which were clearly introduced from the direction of the interior of the monument.

Artefactual evidence included undiagnostic worked flint from fourteen contexts, one of which also contained a few heat-altered flints.

Segmented ditch 088:*0788* (Monument Phase 4): similarly to the Phase 1 ditches, 088:*0788* comprised six individual segments (088:*0793*, *0795*, *0802*, *0879*, *0886* and *0964*) (Fig. 6). However, in this instance the opposed butt-ends tightly abutted their neighbours with no intervening causeways. Only one of the junctions between two adjacent segments (088:*0793* and *0879* on the eastern side of the monument) corresponded to a Phase 2 junction; the others all being off-set to some degree. The width varied between *c.*1.80m and *c.*2.80m while the individual segment lengths (088:*0793* @ *c.*12.50m, *0795* @ *c.*11.80m, *0802* @ *c.*9.10m, *0879* @ *c.*11.40m, *0886* @ *c.*10.50m and *0964* @ *c.*10.50m) exhibited some variation, but were more uniform than those in the Phase 2 ring.

In the excavated sections, the stratigraphic relationship between the Phase 4 ditch segments and the Phase 3 ring-ditch 088:*0856* was usually clear (Fig. 7). On the north side of the monument the Phase 4 ditch only truncated a relatively small amount of 088:*0856*, while on the south side approximately 75% of the Phase 3 ditch had been cut away. The implication being that the Phase 4 monument was not exactly concentric to the earlier ditch. The ditch profile varied between sharply V-shaped to more rounded, dependent largely on the character of the adjacent naturally occurring sands and gravels. Depths usually varied between *c*.1.00m to *c*.1.20m, although segment 088:*0886* to the north-west reached *c*.1.50m in depth. Its relationship depth-wise with the adjacent 088:*0856* ditch varied between sections; in some sections the Phase 3 ditch was deeper, in others the Phase 4 ditch was deeper, while in other instances the depths were similar.

Generally at least three separate fill components were found to be present; a primary fill derived from the sides of the ditch, including slumped material from the adjacent Phase 3 ditch, a locally stratified middle fill comprising various mixes of sand gravel/stones and dark brown silty sand, and a thick upper fill comprising homogenous dark brown silty, moderately stony, sand.

Artefactual evidence included twenty three sherds of later Bronze Age pottery recovered during surface cleaning over the ditch. In addition, twenty four contexts contained worked flints and four contexts produced heat-altered flint and stone. Two contexts had small quantities of animal bone. A large fragment of a cylindrical loomweight (SF 088:*1007*) of middle to later Bronze Age date was recovered from the upper fill (088:*0882*) of Phase 4 ditch segment 088:*0793* on the west side of the monument.

Inhumation burial 088:*0809*: located centrally within the area enclosed by the monuments post-hole circle and ditches was a large approximately circular grave measuring *c*.3.20m in diameter (Figs. 6 and 8; Plate 3). While the *c*.0.70m deep north-west to south east orientated post-medieval ditch 088:*0041* cut through the middle of the grave, there was no damage to the burial which was encountered at a depth of *c*.2.20m (Fig. 8). The grave pit itself appeared to continue on down to at least 2.35m (Fig. 8; Plate 8), possibly even as deep as *c*.3.00m, although this was by no means certain. The grave pit was vertically sided for the top *c*.1.40m before tapering in quite sharply.

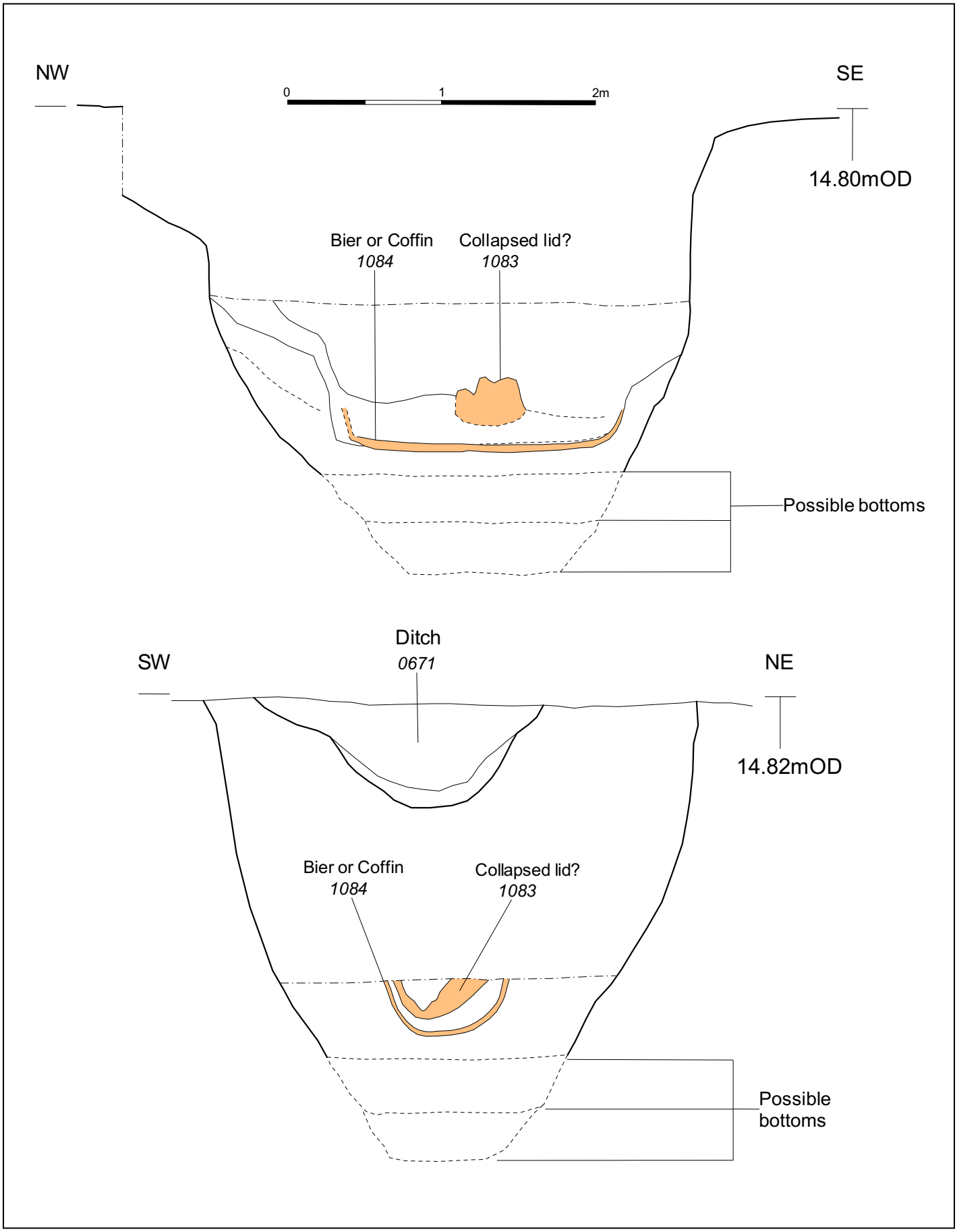


Figure 9. Grave 088:*0809*; sections

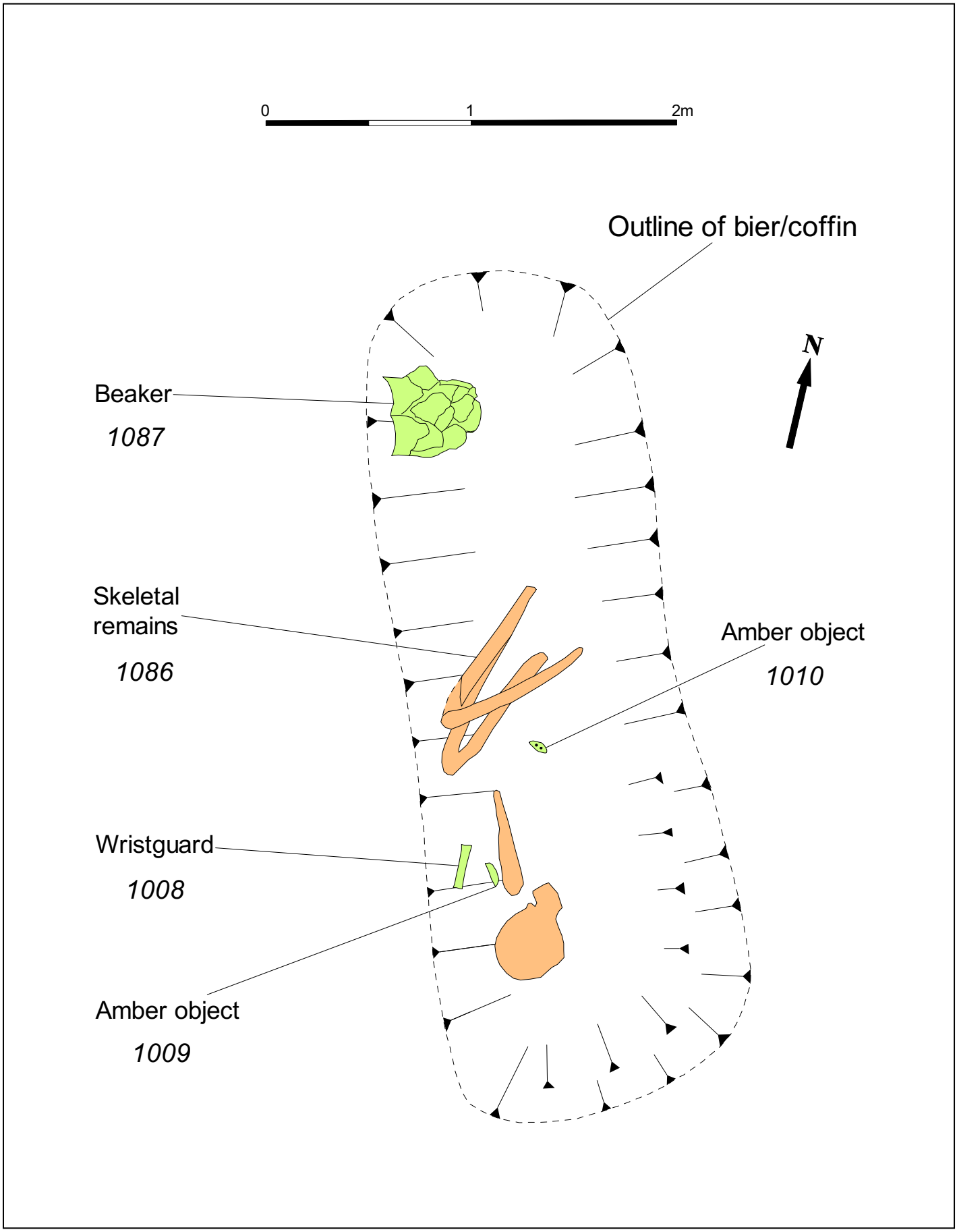


Figure 10. Grave 088:*0809*; detailed plan

Plate 5. Crouched inhumation burial in grave 088:*0809* (from SE.)

Plate 6. Beaker 088:*1087* in grave 088:*0809* (from SE)

Plate 7. Grave 088:*0809*; bier/coffin (from SW.)

Plate 8. Grave 088:*0809*, full excavated depth (from SE.)

A series of plans were made at intervals starting where the first variations in the grave fill were encountered. The evidence suggests that the grave was occupied by a single inhumation burial with no later insertions. Staining in the soil suggested that the body had been buried within a round bottomed container (088:*1084*), either a tray-like wooden bier or a hollowed out tree-trunk (Fig. 8). The latter seems more likely due to the depth of the container and that the staining suggested that a covering or lid (088:*1083*) had been present and collapsed down into the chamber on top of the body. Given that the sides of the grave pit continued on down beyond the base of the burial container, it seems likely that there had been some deliberate backfilling prior to the insertion of the burial.

The burial container measure *c*.1.80m by *c*.0.80m and was orientated north-west to south-east with the head of the burial to the south-east. Bone preservation was very poor, but the outline of a crouched inhumation (088:*1086*) was clearly preserved as tiny bone fragments and soil stains (Fig. 9; Plate 5). The body had been laid on its left side and placed towards the southernmost end of the container. Surviving grave goods included a stone wristguard (SF 088:*1008*) (Figs. 9 and 25; Plate 21), two amber toggles (088:*1009* and *1010*) (Figs. 27 and 28), all reported fully in this document, and a complete, but collapsed Beaker (088:*1087*) (Fig. 9; Plates 5 and 6).

Ring-ditch 090:*0020* (also FLN 012)

The ring-ditch feature revealed towards the eastern end of the 090 area (Fig. 4) had previously been allocated the HER code FLN 012 when it was recognised as a circular cropmark on aerial photographs. Excavation was undertaken under the 090 site code and attributed the overall context number 090:*0020*.

The feature described a near perfect circle of *c*.18.00m in diameter (measured from external edge to external edge (Fig. 10; Plate 9). The ditch varied in width between *c*.0.55m and *c*.1.10m while its depth varied between *c*.0.32m and *c*.0.82m and exhibited a V-shaped profile, sometimes slightly rounded at its base (Plate 10). Essentially there were two principal fill components, although there were minor variations locally. A basal primary fill comprised stony, only slightly silty, sand derived directly from the edges of the ditch, with an overlying darker, siltier, less stony component.

Plate 9. Ring-ditch 090:*0020* (from E.)

Plate 10. Ring-ditch 090:*0020*, representative section (from N.)

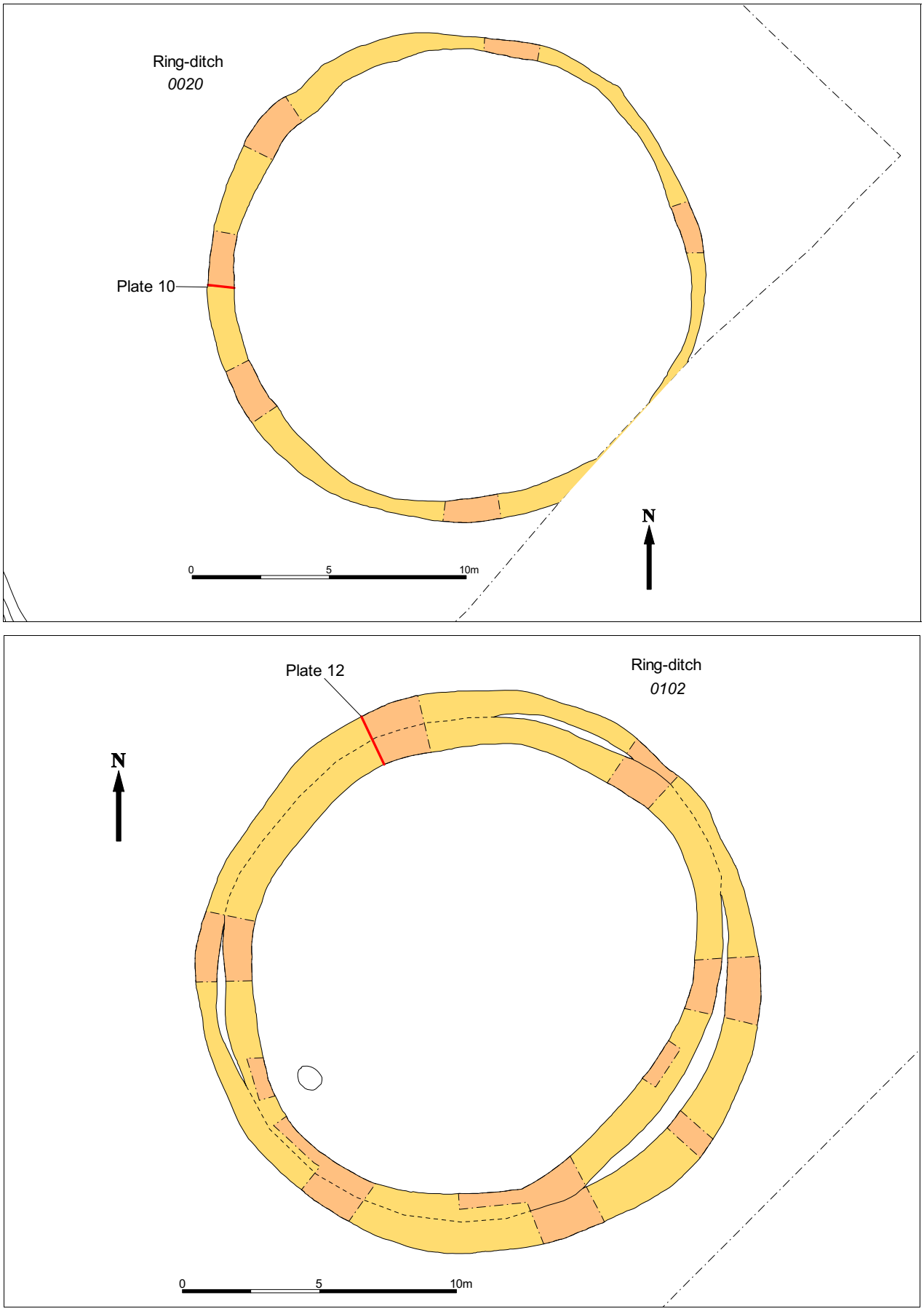


Figure 11. Ring-ditches 090:*0020* and 090:*0102*

Artefactual evidence was limited to relatively undiagnostic worked flint recovered from four contexts and heat-altered flints from three contexts, all upper fills of the ditch.

Surface cleaning failed to identify any features within the area enclosed by the ditch. However, it is considered likely on typological grounds alone that this was a funerary monument and probably Early Bronze Age in date.

Ring-ditch 090:*0102*

Double ring-ditch 090:*0102* was located *c*.60.00m to the south-west of 090:*0020* (measured from centre to centre of the areas enclosed by the monument (Fig. 4). The naturally occurring subsoil at this juncture comprised principally of very fine sand which clearly had led to the ditch silting up quickly resulting in the need to re-cut it. For the approximately half of the monument the re-cut (088:*0104*) could only be seen in the excavated sections, but in three areas the eccentricity exhibited by the slightly smaller re-cut ditch, particularly on the south-east side, resulted in natural subsoil to be exposed between it and the original cut (090:*0103*) (Fig. 10). The original, slightly larger ditch was *c*.20.50m in diameter while the re-cut ditch (090:*0104*) varied between *c.*17.50m, from north-west to south-east, and *c.*19.00m, from south-west to north-east (Fig. 10).

Original ditch 090:*0103* varied in width between *c*.0.60m and *c*.1.50m with depths of between *c*.0.30m and *c*.0.55m (Plate 12) and a profile that was sometimes open V-shaped but becoming more rounded, almost open U-shaped where the adjacent natural subsoil was sandy and soft. In section, where the ditch cut through the light soft sandy subsoil, only one fill component was recognised comprising light brown very silty sand with very few stones. In contrast, locally, where the underlying natural subsoil was stony, a second, basal, fill was found to be present comprising stony sand.

The re-cut ditch 090:*0104* varied between *c*.0.90m and *c*.1.35m with depths of between *c*.0.20m and *c*.0.60m (Plate 12). As with ditch 090:*0103*, the profile varied between open V-shaped and more rounded dependent on the character of the adjacent natural subsoil. Similarly, one or two fill components were recognised with a secondary, stony basal fill only present beneath the sandy upper fill when the adjacent natural subsoil became locally stonier.

Plate 11. Double ring-ditch 090:*0102* (from NW.)

Plate 12. Double ring-ditch 090:*0102*, representative section (from E.)

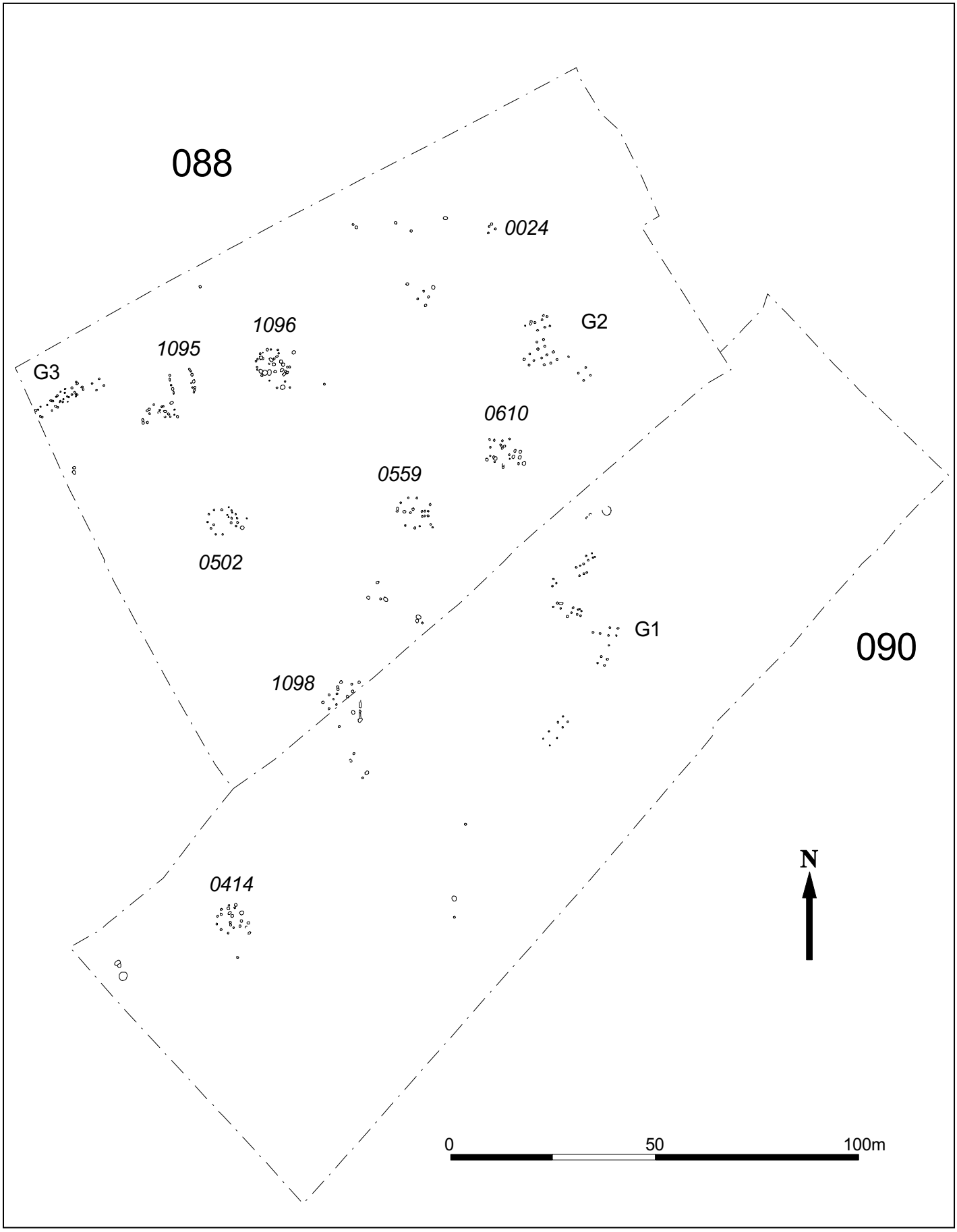


Figure 12. 088 and 090; Period/Phase I.g/I.h. (Late Bronze Age/Early Iron Age)

During cleaning over the ditches on the south-east side of the monument, a small concentration of nine sherds of, presumably residual, later Neolithic Peterborough Ware pottery was recorded. Other artefactual evidence was limited to relatively undiagnostic worked flint in ten contexts and heat-altered flint from three contexts.

4.2.5 Period/Phase I.g. and I.h. (Late Bronze Age and Early Iron Age)

The assessment of the prehistoric pottery (see below) has tentatively identified potential chronological differences between the 088 and 090 assemblages, with a possible later element in 090, which is not obviously confirmed by the stratigraphic evidence or the typological and spatial relationships between the associated structures. The evidence from the ceramic loomweights also adds some credence to this hypothesis and it is an avenue that can be further explored during the analysis stage of the project. For the purposes of this report, however, the features attributed to these two periods/phases will be described together as one entity. Indeed, while the currency of the occupation may straddle the perceived boundary between the Bronze Age and Iron Age, it is clearly one coherent phase of activity.

A total of 133 structures and individual features were attributed to this phase (Table 1) based primarily on artefactual evidence, but also the spatial associations between features. The area occupied by these structures/features covers the majority of the 088 area, extending southwards into 090 (Fig. 11). When looked at in conjunction with the previously excavated sites 065 and 068 it is clear that the 088 and 090 features represent nearly two thirds of a wider area of occupation covering approximately five hectares, with its eastern and southern margin running through 088 and 090.

The structural evidence

The structural evidence was represented by five round-houses, at least nineteen four and six post structures and one possible miscellaneous structure (Fig. 11).

Round-houses: four roundhouses were recorded in the 088 area (088:*0502*, *0559*, *0610* and *1096*) and one in 090 (090:*0414*) (Table 1; Figs. 11 - 16; Plates 13-17). In addition, a further group of features in 088, located *c*.30m west-south-west of

roundhouse 088:*1096*, could be interpreted as the vestiges of a sixth roundhouse with its southern side missing, probably truncated by ploughing, as there was sufficient formality in the arrangement of the surviving features to suggest the presence of a circular structure. However, at this, the assessment stage, no attempt has been made to include this partial structure with the securely identified roundhouses.

These structures were spatially isolated from each other with the closest at a distance of 25m from their immediate neighbour (088:*0599* and *0610*). This made it difficult to assess the chronological development of these, the principle structural elements of the settlement, on a stratigraphic basis, as all, some or none of the roundhouses could have existed contemporaneously.

The groundplans of the five buildings were remarkably consistent (Figs 12 – 16). While occasionally a post-hole was missing due to truncation by later features, usually tree-throws, there presence could be deduced from the other examples. If complete, each of would have comprised an arc of seven post-holes (with some additional, possibly repair features, e.g. in 088:*1096*) (Fig. 15) forming a semicircle on the western side of the structure which, if projected into a full circle, would have a diameter of 7.00m - 7.50m. To the east or east-south-east there was a porch comprising either four post-holes (088:*0502*, *0610* and 090:*0414*) or six post-holes (088:*0599* and *1096*). The projected arc of the eastern post-holes passed through the middle of the area occupied by the porch which, in the case of 088:*0599* and 088:*1096*, coincided with the middle two post-holes of the six.

Generally, the post-holes forming the western arcs were smaller than those in the porch. Typically these were circular, measuring *c*.0.30m in diameter with a depth of 0.20m - 0.30m and a vertical sided, flat-bottomed profile. The fills comprised homogenous brown silty, sometimes stony, sand. Only occasionally was there evidence for differentiation within the fills that defined a central post-pipe and external packing material. Very little artefactual evidence was recovered from these features.

In contrast, the post-holes forming the porches were often larger, although subject to greater variation than those in the arcs. In the six post-hole porch of 088:*1096* and the four post-hole porch of 088:*0610* the post-holes were oval in shape with their long axis coinciding with the round of the building.

Plate 13. Roundhouse 088:*0502* (from E.)

Plate 14. Roundhouse 088:*0559* (from E.)

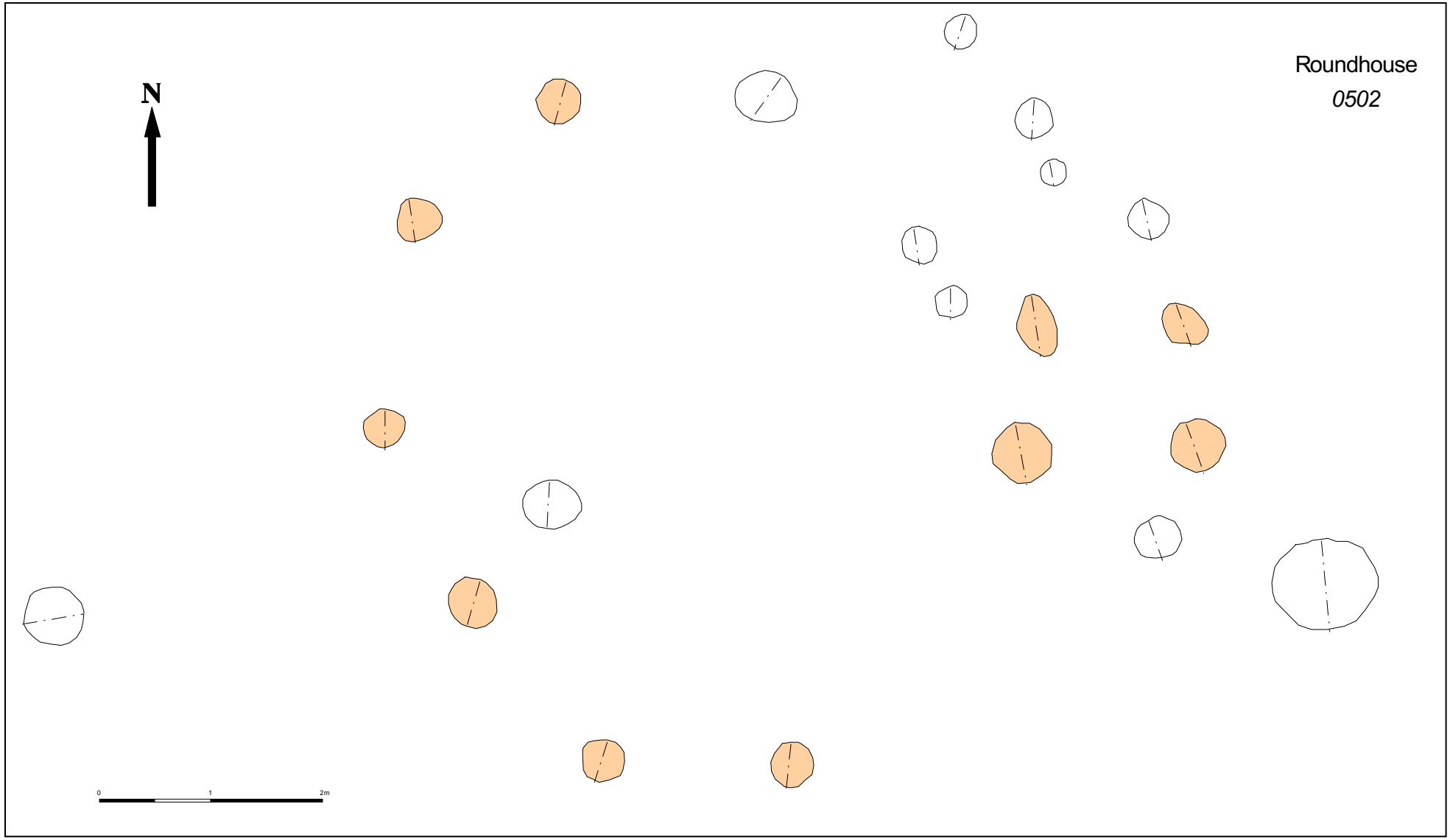


Figure 13. Roundhouse 088:*0502*; plan

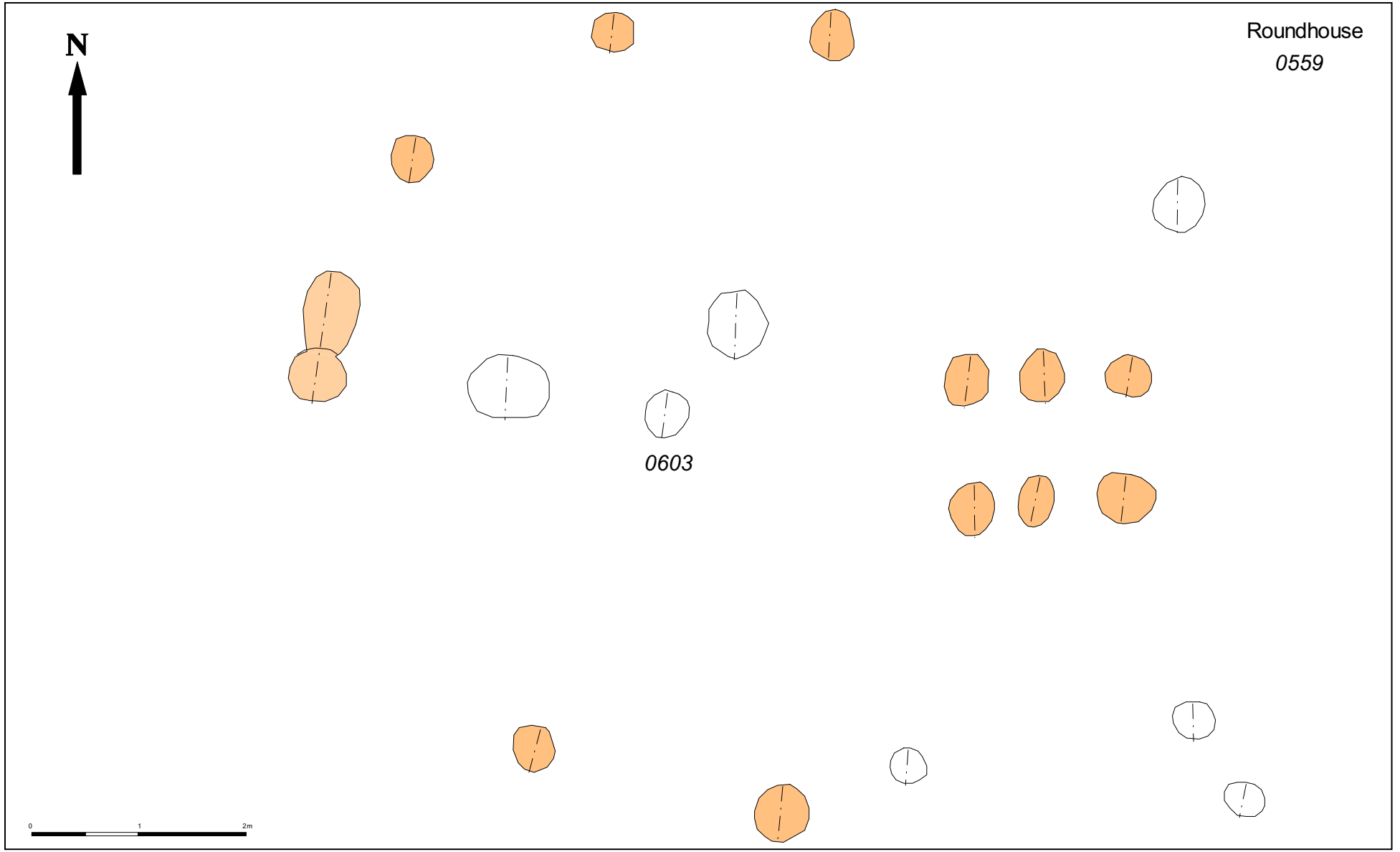


Figure 14. Roundhouse 088:*0559*; plan

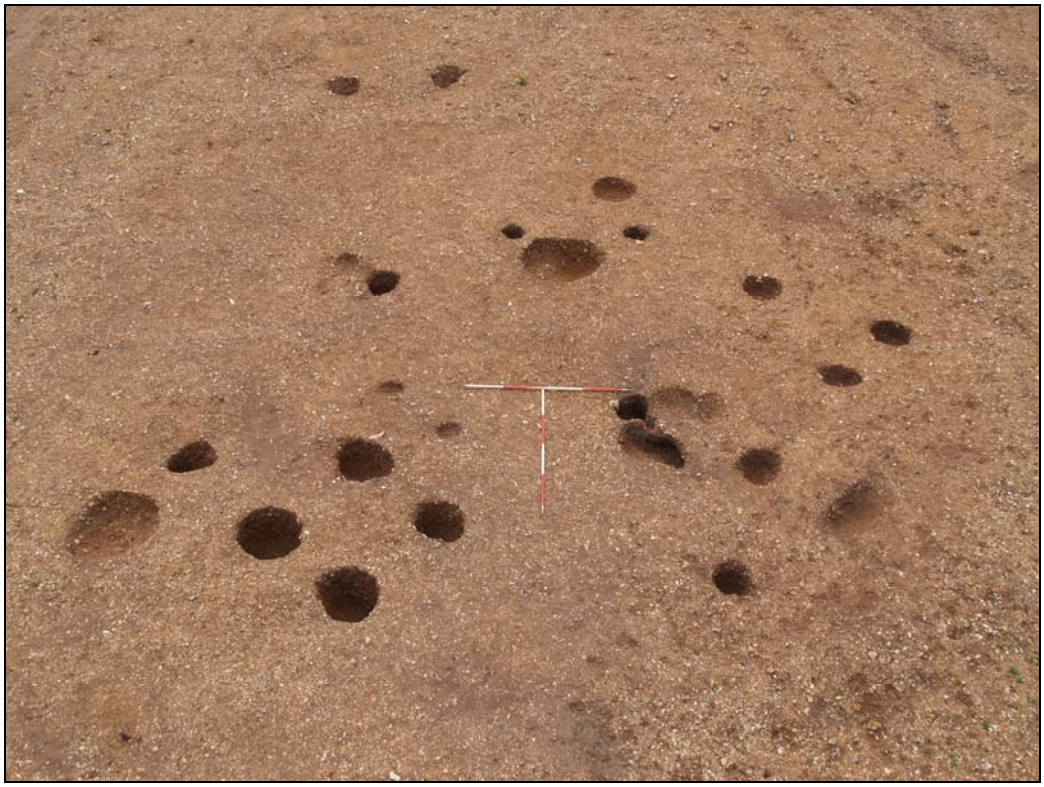


Plate 15. Roundhouse 088:*0610* (from NE.)

Plate 16. Roundhouse 088:*1096* (from E.)

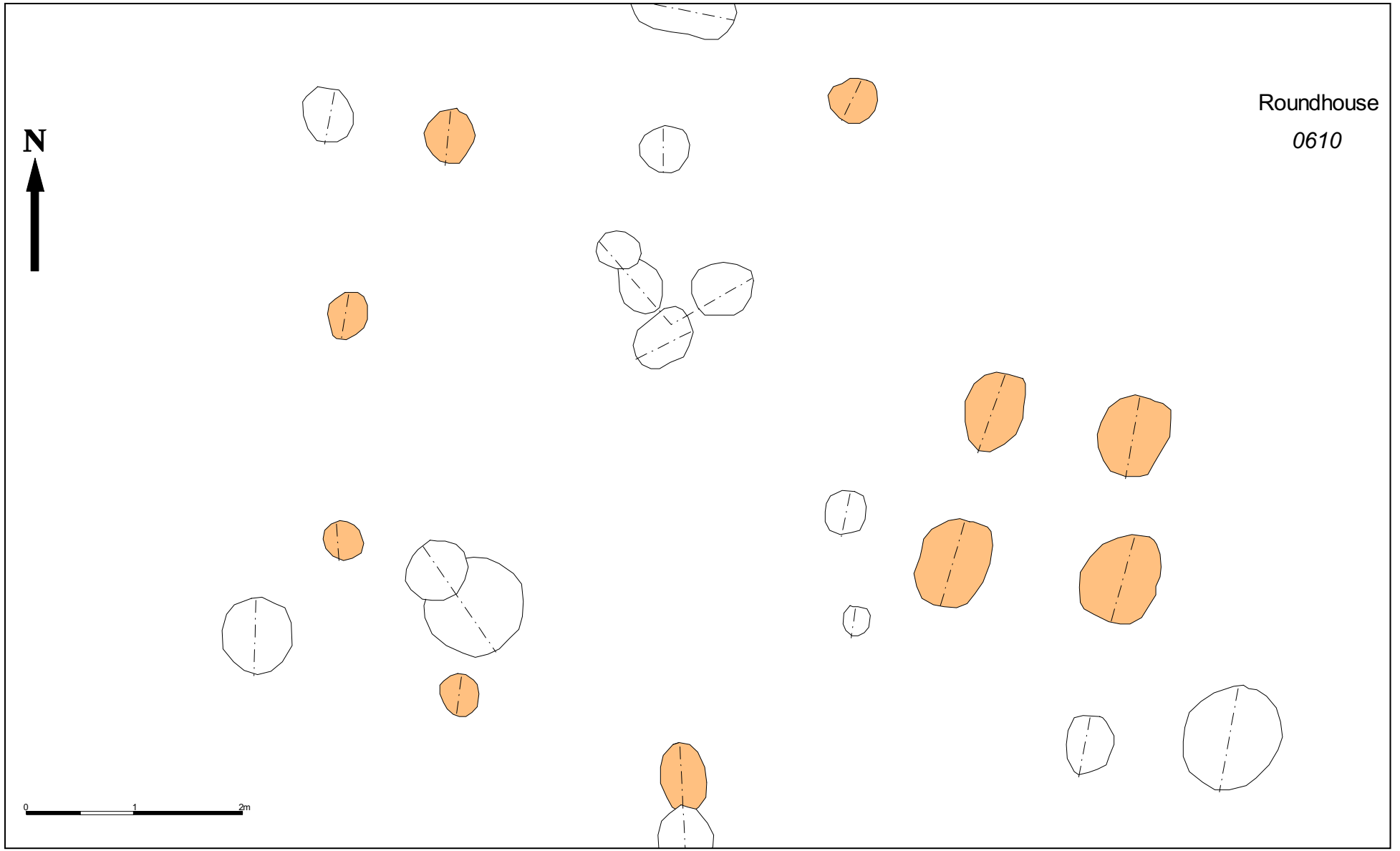


Figure 15. Roundhouse 088:*0610*; plan

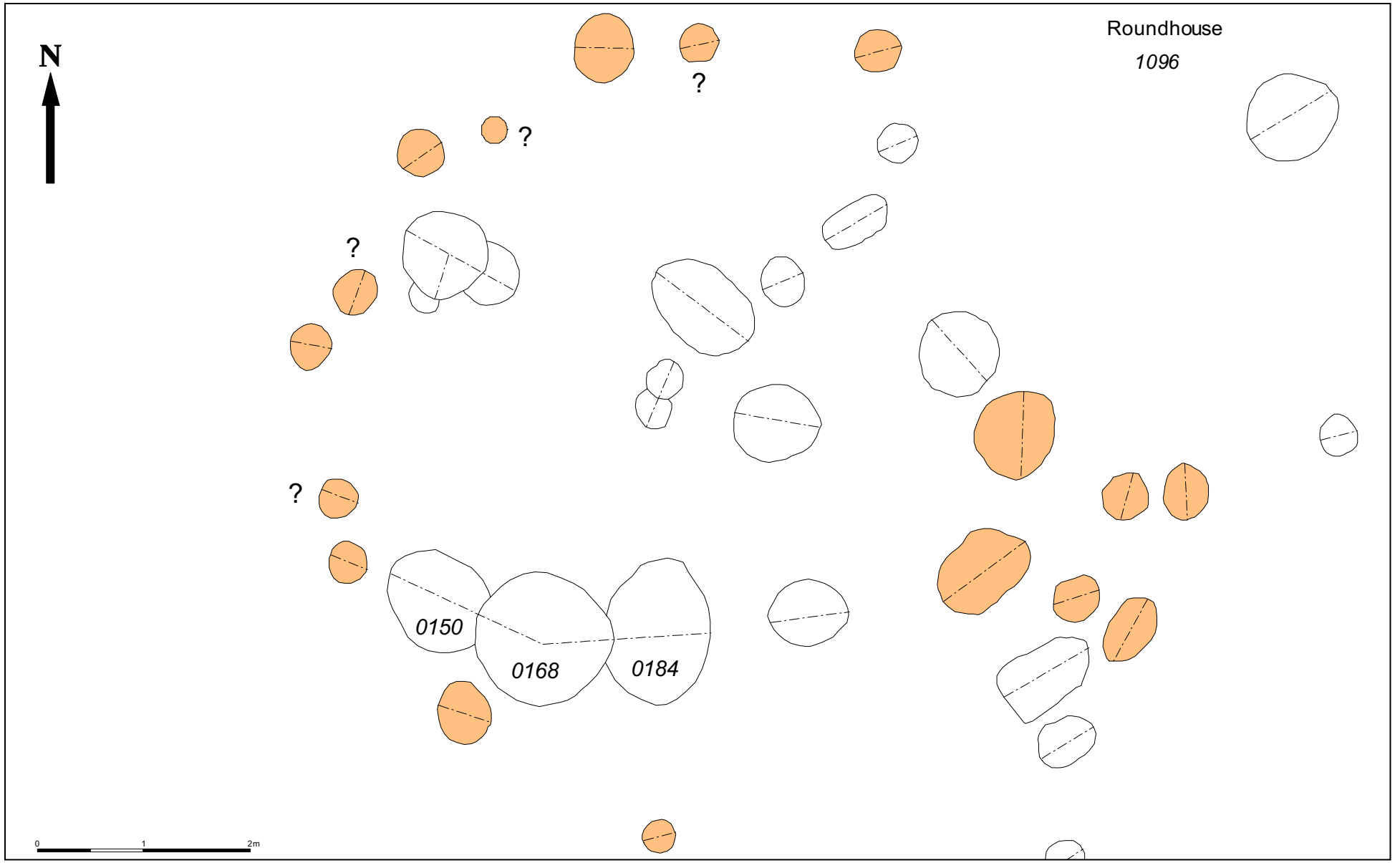


Figure 16. Roundhouse 088:*1096*; plan

The largest post-holes were those forming the porch of 088:*0610* (088:*0613*, *0620*, *0624* and *0633*) (Fig. 14) which measured *c*.0.70m by *c*.0.60m with depths in excess of 0.50m and steep sides and either a rounded or flat bottom. Those in the six post-hole porch of building 099:*0559* (088:*0566*, *0573*, *0581*, *0583*, *0585* and *0593*) (Fig. 13) were smaller, measuring *c*.0.40m in diameter with depths in the region of 0.15m. Fills varied between homogenous dark grey/brown silty, sand with occasional small stones, e.g. fill 088:*0552* in post-hole 088:*0551* of building 088:*0502*, through to examples with more differentiated fills such as 088:*0180* and 088:*0181* in post-hole 088:*0179* in building 088:*1096*.

Artefactual evidence was more frequent within the porch post-holes than those of the western arcs, particularly the larger ones such as fill 088:*0634* in post-hole 088:*0633* of building 088:*0610* which produced twenty five sherds of later Bronze Age pottery.

Other features that could be interpreted as directly associated with the buildings were limited. No floor surfaces had survived, having almost certainly been truncated by agricultural activity such as ploughing. One small, *c*.0.40m in diameter, pit (088:*0603*) in building 088:*0559* (Fig. 13) had a fill (088:*0604*) comprising almost entirely of small compacted lumps of heat-altered clay with an *in-situ* heat-reddened base and was thought possibly to represent a small hearth. In addition, some features recorded adjacent to post-holes forming the main/standard groundplan could indicate repairs to the structure. Building 088:*1096* in particular exhibited four small post-holes close to the line of the eastern arc.

Building 088:*1096* also had a group of intercutting pits within it, notably 088:*0150*, 088:*0168* and 088:*0184* (Fig. 15), which produced a large finds assemblage thought to be broadly contemporary with the structure. However, while it seems unlikely that the building was properly occupied when these features were excavated, it seems reasonable to suggest that their tight grouping within the structure was influenced by its presence, possibly after it had been abandoned as a formal dwelling.

Four and six post structures: a total of nineteen structures with groundplans comprising four and six post-holes have been identified (Table 1; Figs. 11, 17-19; Plates

18 and 19), although it is likely that further structures are concealed within groups of multiple post-holes or have been partially truncated by later features or ploughing and may be defined during analysis. It is now generally understood these structures provided elevated protected storage for perishable goods on an enclosed platform.

Essentially, these structures formed three discrete groups within the overall occupation area: two of these groups were on the periphery (hereafter G1 and G2) while the third (hereafter G3), when taken in context with adjacent sites 065 and 068, located more towards the central core (Fig. 11). None of the structures could be related directly to an individual roundhouse with the tight grouping suggesting some general zoning of activity within the settlement. In addition, there were two isolated examples in 088; one (088:*0024*) was located *c*.25m to the north-north-east of G2 on the eastern edge of the settlement area and the other (088:*1098*) was located close to the south-west corner of 088 *c*.55m west of G1.

The two groups located on the periphery of the settlement area, one to the south-east in 090 (G1) (Fig. 17) and the other to the east in 088 (G2) (Fig. 18; Plate 18), exhibited no overlap between the individual structures and those within each group could either have been contemporary or represented a staged replacement in the same general area of the occupied site. However, the third group (G3) (Fig. 19; Plate 19), located towards the north-west corner of 088 was more compact with some evidence for repair and rebuilding with overlapping groundplans.

The dimensions of the individual structures exhibited a degree of variation with the four-posted examples arranged in a square with sides generally measuring between 2.00m - 2.50m. The six-posted examples were rectangular with their shorter sides measuring between 1.50m and 2.50m and the long sides between 2.40m and 3.60m. The slightly eccentric arrangement of the two post-holes forming one end of some of the six post structures (for example 088:*0714* and *0738* in G2) suggests that they originally could have been constructed as four posters with two posts added at a later date (Fig. 18).

Individual post-holes also varied in both size and morphology, but were generally consistent within each structure.

Plate 17. Roundhouse 090:*0414* (from ESE.)

Plate 18. Four and six post structures; G2 (from S.)

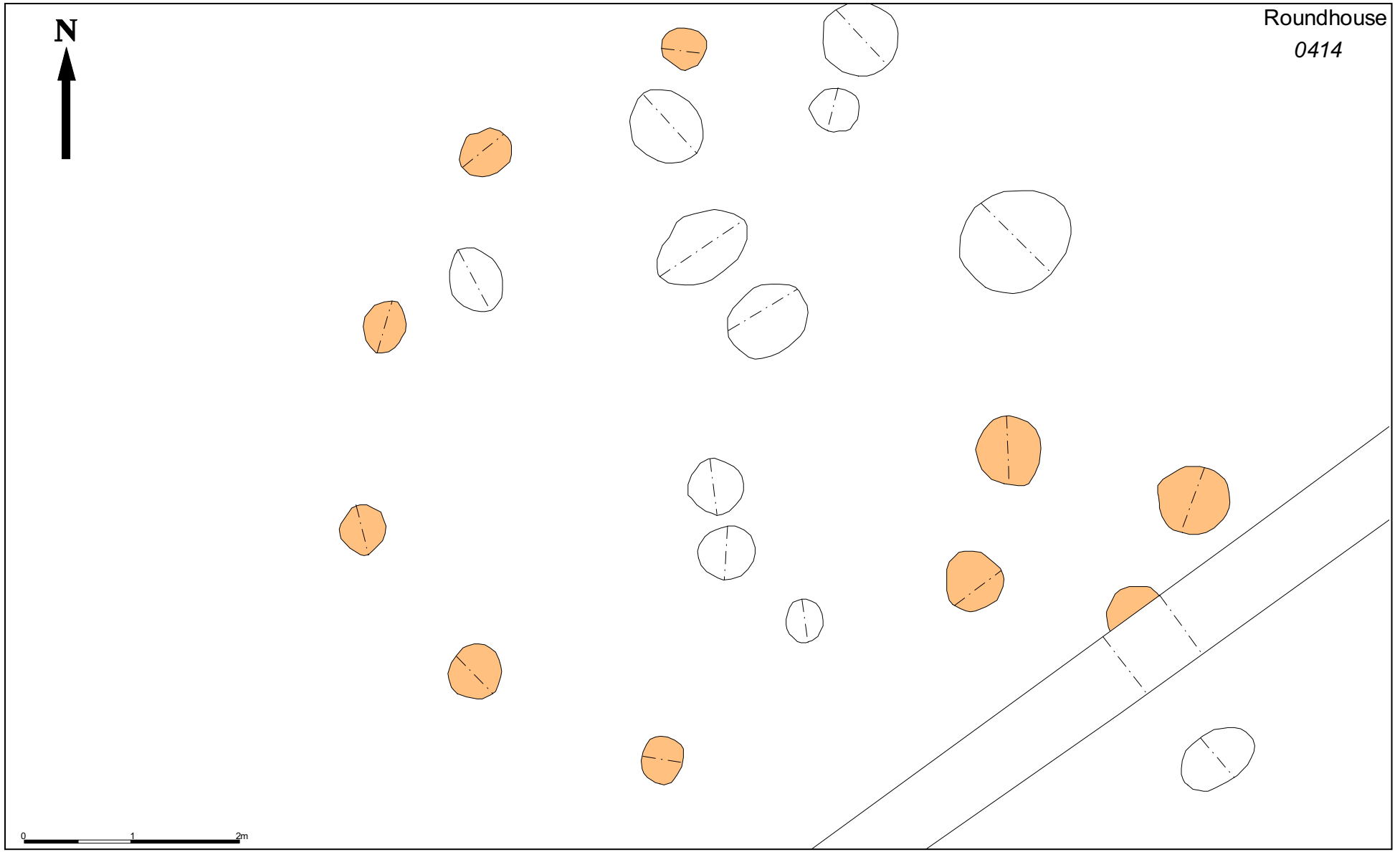


Figure 17. Roundhouse 090:*0414*; plan

Post-hole diameters were consistently 0.40m to 0.50m with depths ranging between 0.20m and 0.40m. Post-pipes were occasionally evident, but more often than not the post-hole fills comprised homogenous brown silty sand with inclusions of gravel to pebble-sized stones in variable concentrations.

Artefactual evidence was limited, but pottery and worked flints were recovered from a number of contexts, the former providing the evidence that indicated that these structures were contemporary with the roundhouses.

The general characteristics of three individual groups of structures were as follows:

- **G1:** comprising a loose cluster of two six post structures (090:*0075* and *0153*) and six four post structures (090:*0090*, *0125*, *0209*, *0242*, *0261* and *0466*) on the south-east side of the occupation area spread over an area of approximately 20.00m (east to west) by 50.00m (north to south) (Figs. 11 and 17). Within the overall cluster three subdivisions could be recognised; two pairs of four post structures (088:*0242* adjacent to *0261* and 088:*0125* adjacent to *0209*) to the south and a third group to the north which included the remaining four post structures and the two six post structures. The four post structures within each of the two pairs shared a similar alignment to its neighbour with 088:*0242* and 088:*0261* aligned north-east to south-west and 088:*0125* and 088:*0209* aligned north-north-east to south-south-west.

- **G2:** comprising a relatively tight cluster of two six post structures (088:*0714* and 0738) and three four post structures (088:*0709*, *0727* and *0787*) all similarly aligned and located immediately to the south-west of the composite Early Bronze Age funerary monument where they occupied an area covering approximately 10.00m from south-east to north-west and 20.00m from north-west to south-east (Figs. 11 and 18; Plate 18).

- **G3:** comprised four positively identified similarly aligned four post structures (088:*0325*, *0446*, *0447* and *1097*) along with a further approximately twenty features that did not immediately stand out as being part of a discrete structure or repair (Figs. 11 and 19 ; Plate 19).

Figure 18. Four and six post structures (G1); plan

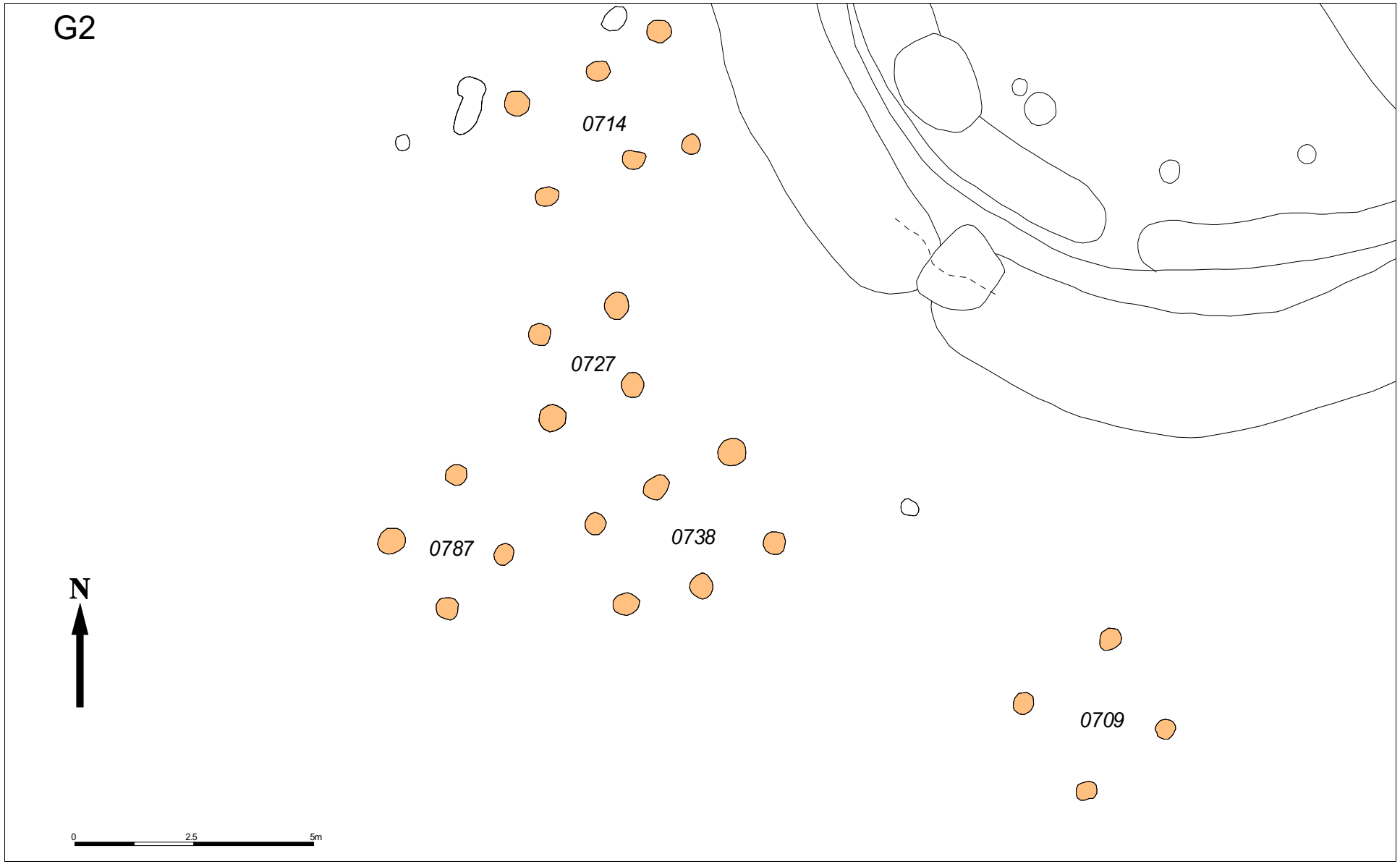


Figure 19. Four and six post structures (G2); plan

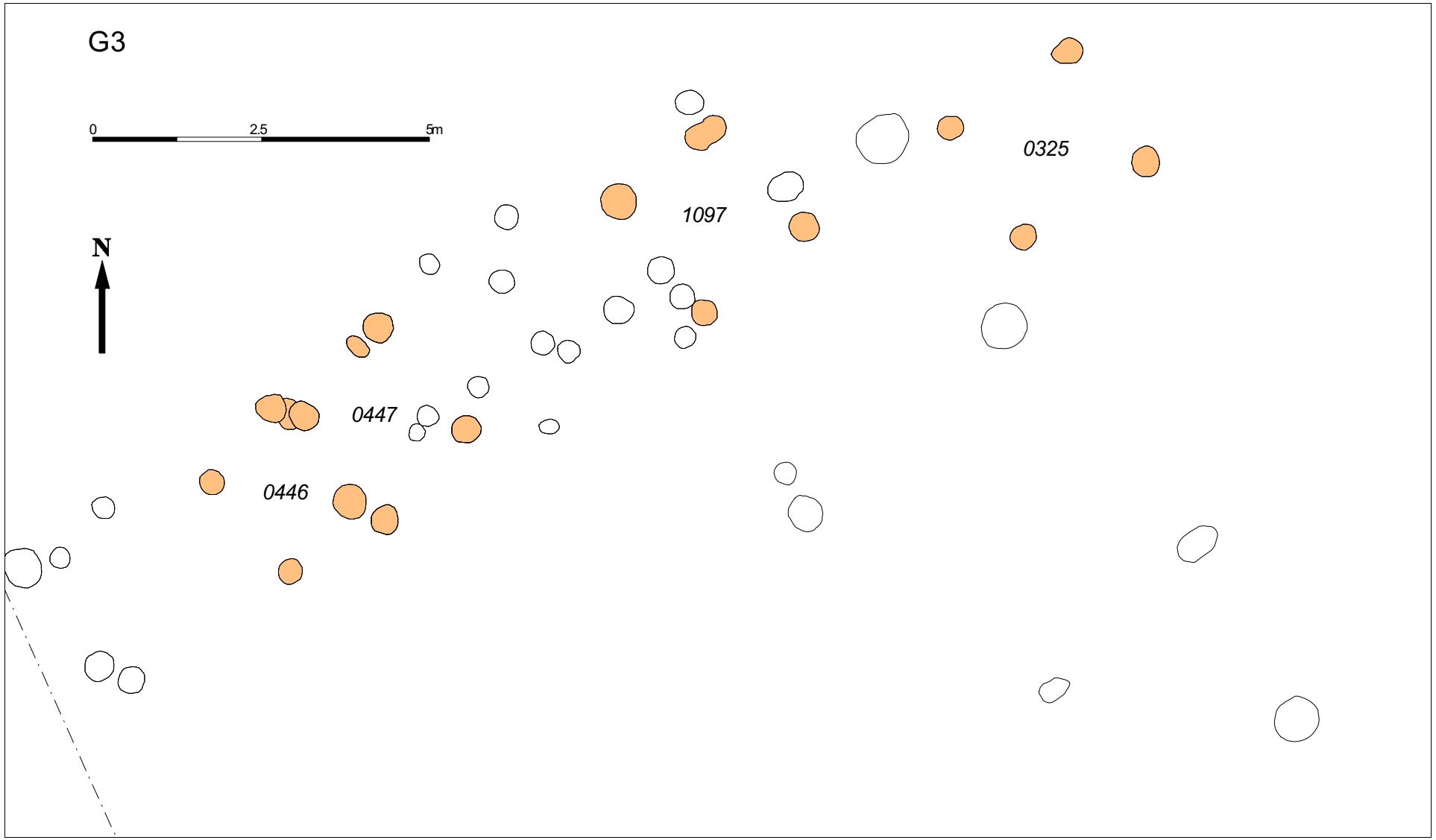


Figure 20. Four post structures (G3); plan

Plate 19. Four and six post structures; G3 (from NE.)

Plate 20. Miscellaneous structure 088:*1095* (from NW.)

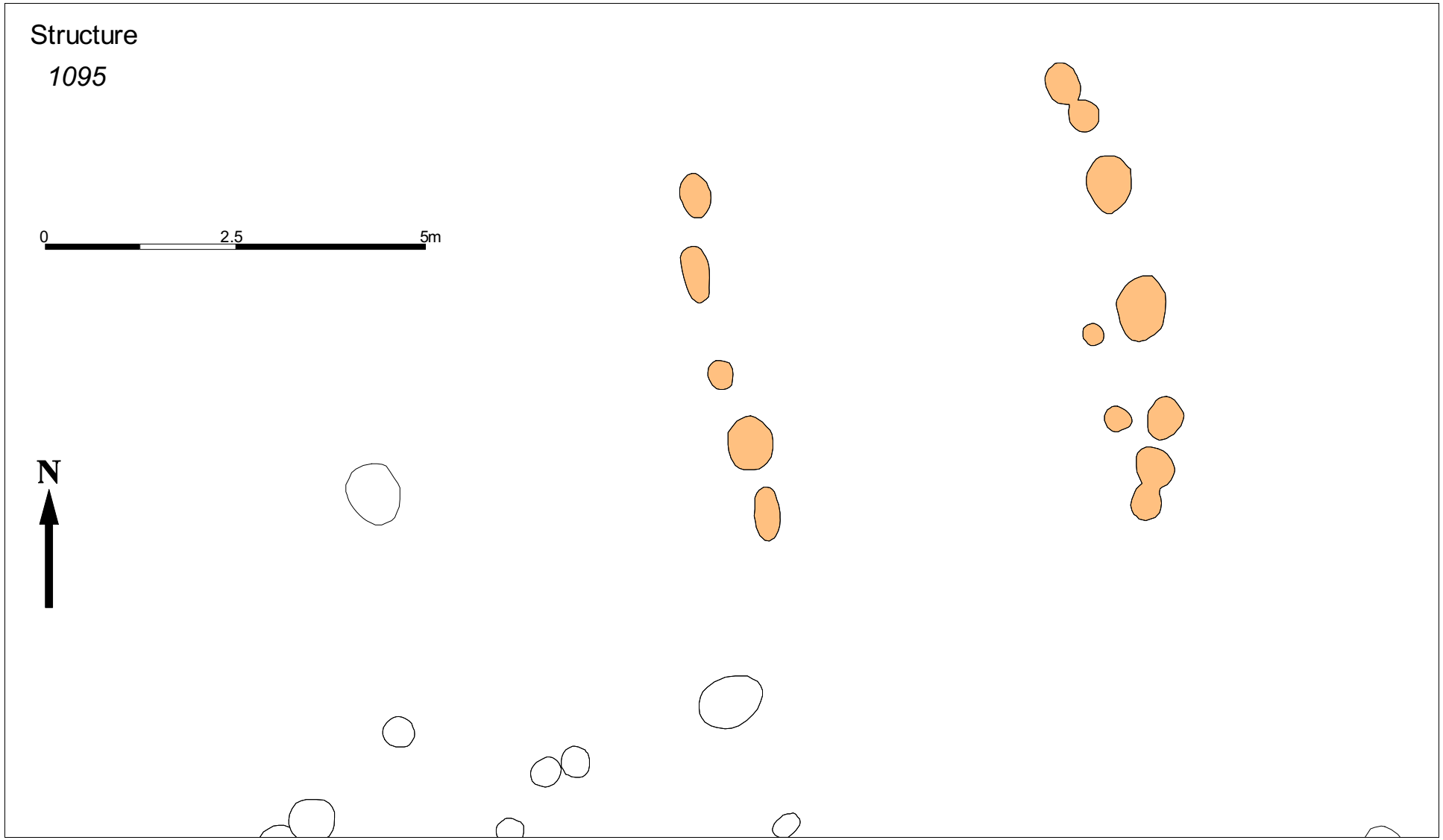


Figure 21. Miscellaneous structure 088:*1095*; plan

However, given their similarity to and their juxtaposition with the four definite structures, then it seems reasonable to assume that at least some of them represent parts of other imperfectly preserved structures. The G3 structures occupied a tightly defined linear area measuring only 3.50m from north-west to south-east and 18.00m from north-east to south-west that was located towards the north-east corner of 088 (Fig. 11).

Miscellaneous structure: an enigmatic arrangement of fourteen features (088:*1095*) located *c.*20.00m directly east of G3 was tentatively described as a structure (Figs. 11 and 20; Plate 20). The groundplan covered an area of approximately 6.00m by 6.00m.

The possible structure was defined by two slightly curving lines of features; five forming the west side (088:*0285*, *0289*, *0296*, *0300* and *0305*) and seven in the eastern side (088:*0236*, *0238*, *0244*, *0250*, *0252*, *0262* and *0264*) with a further two small features internal the structure close to its eastern side (Fig. 20). The features making up the structure exhibited a wide variation in size, morphology and character. A number of the features were described as pits during excavation because their character was not typical of other post-holes on the site.

The largest three features were 088:*0236* and 088:*0238* forming the central part of the eastern alignment and 088:*0289* towards the southern end of the western alignment. These were all circular or sub-circular in shape with diameters in the region of 0.70m and depths of between 0.20m (088:*0236*) and 0.40m (088:*0289*) and exhibited varying profiles and fills. The smallest of the features was 088:*0300*, located central to the western alignment, which was circular with a diameter of 0.30m and a depth of only 0.15m.

Artefactual evidence, principally earlier Bronze Age pottery and worked flint, was recovered from five of the seven post-holes in the eastern alignment, the only absence being the two features at the northern end (088:*0262* and *0264*). Only two features in the western alignment produced finds (088:*0289* and *0305*).

It is possible that the arrangement of features does not represent the groundplan of a building or structure at all. The surviving pattern may simply reflect the presence of a structure of which no evidence survives that had a confining influence on the

position/location of these features. Alternatively the features may have been associated with an unknown process or activity which resulted in this arrangement.

Other features

A total of 167 other features were attributed a Late Bronze Age/Early Iron Age date; 117 in 088 and forty in 090. Of these, ninety eight were described as pits (sixty seven in 088 and thirty one in 090), sixty six as post-holes (fifty nine in 088 and seven in 090), two slots (both 090) and a hearth (088) (Table 1; Fig. 11).

Pits and post-holes: a total of 164 features described as pits and post-holes were recorded across the two sites. However, the features described as post-holes were those which could not be assigned to one of the formal buildings or other structures and the descriptive term post-hole must be regarded with caution as there was no evidence to indicate that the feature had actually performed this function. It is for this reason that for the purposes of this assessment, these unassigned 'post-holes' have been considered with the features attributed the more general classification of 'pit'.

The majority of the pits/post-holes attributed a later Bronze Age/earlier Iron Age date produced datable finds of that period, principally pottery, although the fired clay loomweights were also diagnostic. A number, however, were included due entirely to their direct spatial association with similar more securely dated features. In addition, some of the Period/Phase I.0. (unspecified prehistoric) features and Period/Phase 0 (undated) features almost certainly are also later Bronze Age/earlier Iron Age in date, but there was no direct evidence on which they could be included. However, even taking into account that the actual feature count for this phase is probably higher and the location bias of the attributed features is towards those closely associated with structures/buildings, it is clear that there is a correlation; the later Bronze Age/earlier Iron Age pits/post-holes do appear to be concentrated close to structures or form small discrete clusters in their own right.

There was a large degree of variation in size, morphology and character exhibited with these features, partly due to the inclusion of the smaller ones described as post-holes. Sizes ranged from *c.*0.10m in diameter with a depth of only 0.08m (e.g. 088:*0523*) through to *c.*2.20m in diameter with a depth of *c.*1.60m (090:*0059*), although the latter

was an exception, with the next largest only *c.*1.35m in diameter with a depth in the region of 0.50m (e.g. 088:*0168*). The fills were also somewhat diverse in character.

Smaller features tended, although not exclusively, to have single fills of relatively homogenous brown/grey silty sand with variable concentrations of gravel to small cobble-sized stones. Larger pits often exhibited multiple fills with distinct stratification and were more likely to include deposits of slumped naturally occurring subsoil derived directly from the sides of the feature. Where multiple fills were present, these were more likely to include darker layers with concentrations of charcoal flecks. Analysis of five samples taken from these darker layers suggest that the colour is the result of the inclusion of a high concentration of organic matter in the original material, possibly derived from midden deposits (Crowther 2010, 3). In addition, the quantities of artefactual evidence were also proportionally higher in the larger features with stratified fills, often concentrated within the darker coloured layers.

Slots: two features were described as slots (090:*0301* and *0308*), both located close to the northern edge of 090 and associated with a cluster of later Bronze Age/early Iron Age pits/post-holes and four post structure 088:*1098* (Table 1; Fig. 11).

Slot 090:*0301* was 1.30m long with a maximum width of 0.50m, a depth of 0.28m and a north to south orientation with both of its ends truncated by pits; 090:*0297*, to the south and 090:*0299* to the north. The fill (088:*0302*) comprised relatively homogenous brown silty sand with frequent stones and included pottery sherds of early Iron Age date and a few worked flints.

Slot 090:*0308* was located immediately to the north of 088:*0301* on a similar north to south orientation, butt-ending *c.*0.50m north of truncating pit 088:*0299*. The feature was recorded for a distance of 1.60m up to the edge of the 090 site. While it clearly continued on into site 088, it had not been recognised during the excavation of that area. The feature was generally 0.45m wide with a depth of 0.30m, although it did exhibit a slightly wider, bulbous butt-end which also had a marginally darker fill. Fill 090:*0309* comprised relatively homogenous brown silty sand with moderate stones and included a small quantity of early Iron Age pottery and a few worked flints.

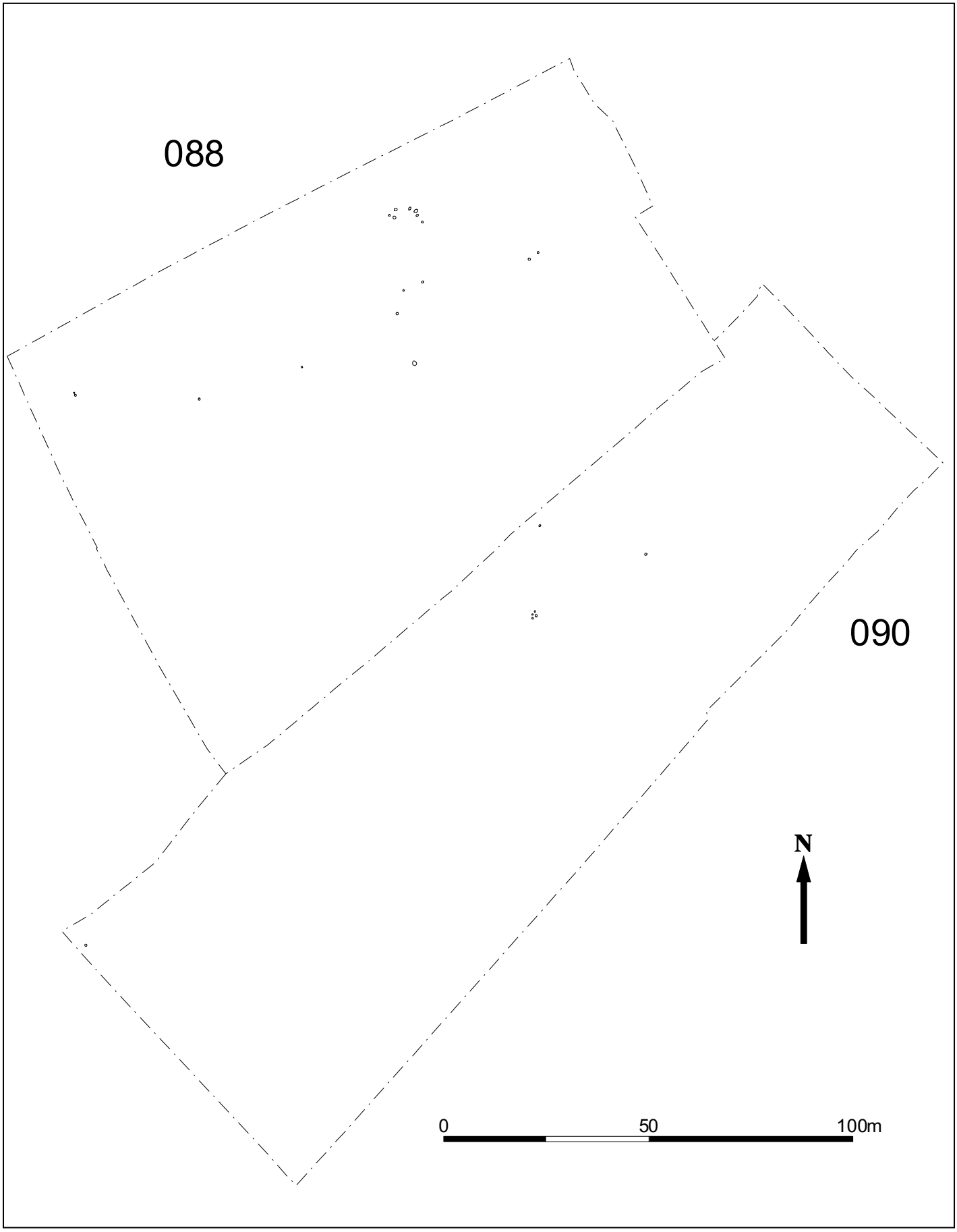


Figure 22. 088 and 090; Period/Phase I.0 (prehistoric unspecified date)

Hearth: possible hearth 088:*0603* was *c.*0.40m in diameter with a depth of only 0.12m, had a rounded profile and a fill (088:*0604*) comprising almost entirely of small compacted lumps of heat-altered clay with an *in-situ* heat-reddened base. The feature was located centrally within roundhouse 088:*0559* (Fig. 13).

4.2.6 Period/Phase I.0. (prehistoric unspecified date)

A total of twenty five features were attributed an unspecified prehistoric date, all described as pits; eighteen in 088 and seven in 090 (Table 1; Fig. 21).

The rationale for the assigning a prehistoric date to these features was generally the absence of secure dating evidence, but the presence of undiagnostic worked flint, heat-altered flint or, in the case of 090:*0065*, calcined bone, the latter subsequently found to be animal rather than human.

The majority of these features were located within area 088 with a loose concentration towards the north-east that broadly coincided with the spread of Early Neolithic features, but was also mostly within the general area of the later Bronze Age/earlier Iron Age occupation. On that basis it is considered that these features are most likely to date to one of these phases, although other dates cannot entirely be ruled out and some may be naturally derived.

Almost all of these features were relatively small, with diameters/widths of less than 1.00m and depths of less than 0.50m. The majority of the features had single relatively homogenous fills comprising brown/grey silty sand with varying concentrations of gravel to small cobble-sized stones.

4.3 Post-medieval

4.3.1 Period/Phase V.b. (post-medieval, 17th – 19th centuries)

A total of twenty nine features and multiple context structures were attributed rather loosely to the 17th to 19th centuries (Table 1; Fig. 22).

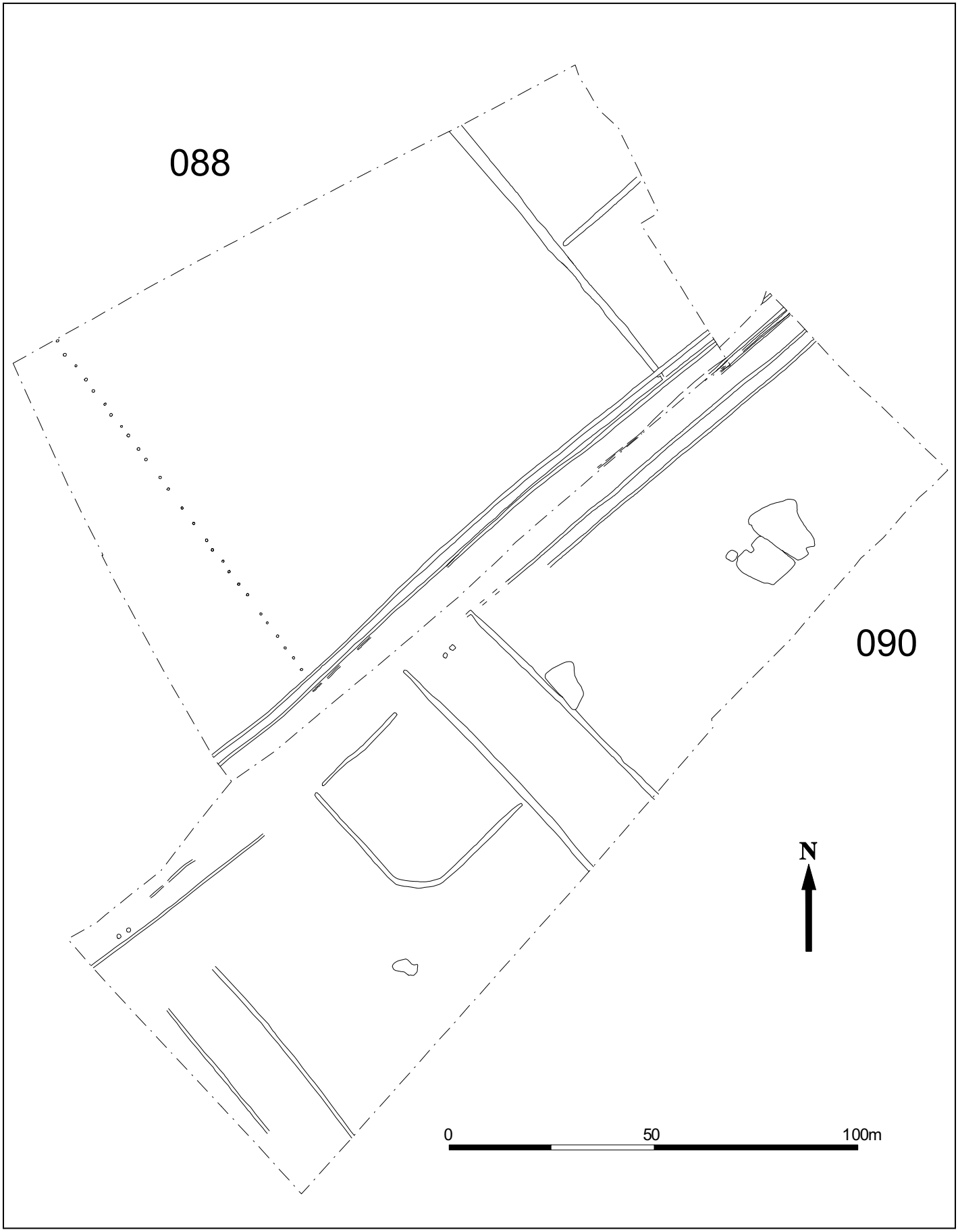


Figure 23. 088 and 090; Period/Phase V.b. (post-medieval, 17th – 19th centuries)

Essentially, the majority of these features relate to boundaries (ditches 088:*0038*, *0041*, *0673*, *0689*, *0691*, 090:*0008*, *0010*, *0029*, *0190*, *0219*, *0295*, *0305*, *0325*, *0364*, *0367*, *0448*, *0458* and fence line 088:*0348*) either side of the former Flixton to Homersfield road (088:*0601* and 090:*0044*), the latter effectively corresponding with the junction between the 088 and 090 sites.

Other features assigned to this phase were limited to two large post-holes (088:*0236* and *0238*), two probable tree planting pits (088:*0454* and *0456*) and five irregular shaped quarry pits (090:*0031*, *0033*, *0142*, *0233* and *0350*).

Most of the ditch features coincide with field and plot boundaries that were extant on the late 18th century Estate Map or had subsequently developed as part of the park landscape, becoming evident on the early Ordnance Survey maps of the later 19th century. The road itself became redundant in the second half of the 19th century when it was moved to its present location to the north. Generally these features were relatively regular in their alignments when compared with the stratigraphically earlier ditches which tended to exhibit localised irregularities in their direction. Given that the underlying sand and gravel subsoil is well draining, it seems likely that the prime function of the ditches would have been the division of the land, possibly for stock management, although those flanking the road would have helped take water away from its surface.

None of these features exhibited overly imposing dimensions, with a maximum width of 1.50m and depths not exceeding 0.70m, and were likely to have been accompanied by hedges; indeed the intervening area between the double flanking ditches each side of the former roadway was probably occupied by a bank formed from the upcast ditch digging material and would have been topped by a hedge.

Post-holes 088:*0236* and 088:*0238* almost certainly marked the position of a gate fronting onto the former road at the northern end of a droveway that on the early estate map could be seen to provide access to the pastures on the clay upland to the south. The ditches flanking this droveway were also present (090:*0190* and *0219*).

Two pits (090:*0454* and *0456*) located towards the north-west corner of 090 in the intervening area between the two ditches on the southern side of the former road were interpreted as tree-pits, possibly formally planted.

Five irregular shaped pits (090:*0031*, *0033*, *0142*, *0233* and *0350*) all located within the 090 area were interpreted as quarry pits. Similar features having been recorded in other areas of Flixton Quarry. The fills of these features comprised stratified loamy material interspersed with layers of loosely compacted sand and gravel, suggesting that the stone component had been sieved out, possibly for use as metalling on the adjacent road.

4.3.2 Period/Phases V.d. (post-medieval, 20th century)

A total of eight features were attributed a 20th century date in the 088 area (088:*0087*, *0134*, *0135*, *0791*, *0807*, *0813*, *0935* and *0940*), all interpreted as tree-holes from which the stumps had only recently been removed and probably associated with the School Wood tree plantings of the *c*.1920's (Table 1; Fig. 23).

4.4 Undated

4.4.1 Period/Phases 0 (undated)

A total of eighty three features remained undated due primarily to the lack of secure artefactual dating and meaningful stratigraphic relationships (Table 1; Fig. 24). Of these, thirty six were in 088 and forty five in 090. The main categories of feature represented were ditches (two in 088, eight in 090), pits (twenty six in 088, thirty five in 090) and tree holes (ten in 088), along with one miscellaneous feature in 090 and a number allocated to the intervening subsoil layer between the topsoil and the underlying naturally occurring sand and gravels, also in 090. Details of each feature type are presented below.

Ditches

While remaining undated, a number of assertions can be made about the ditches that have been attributed to this phase.

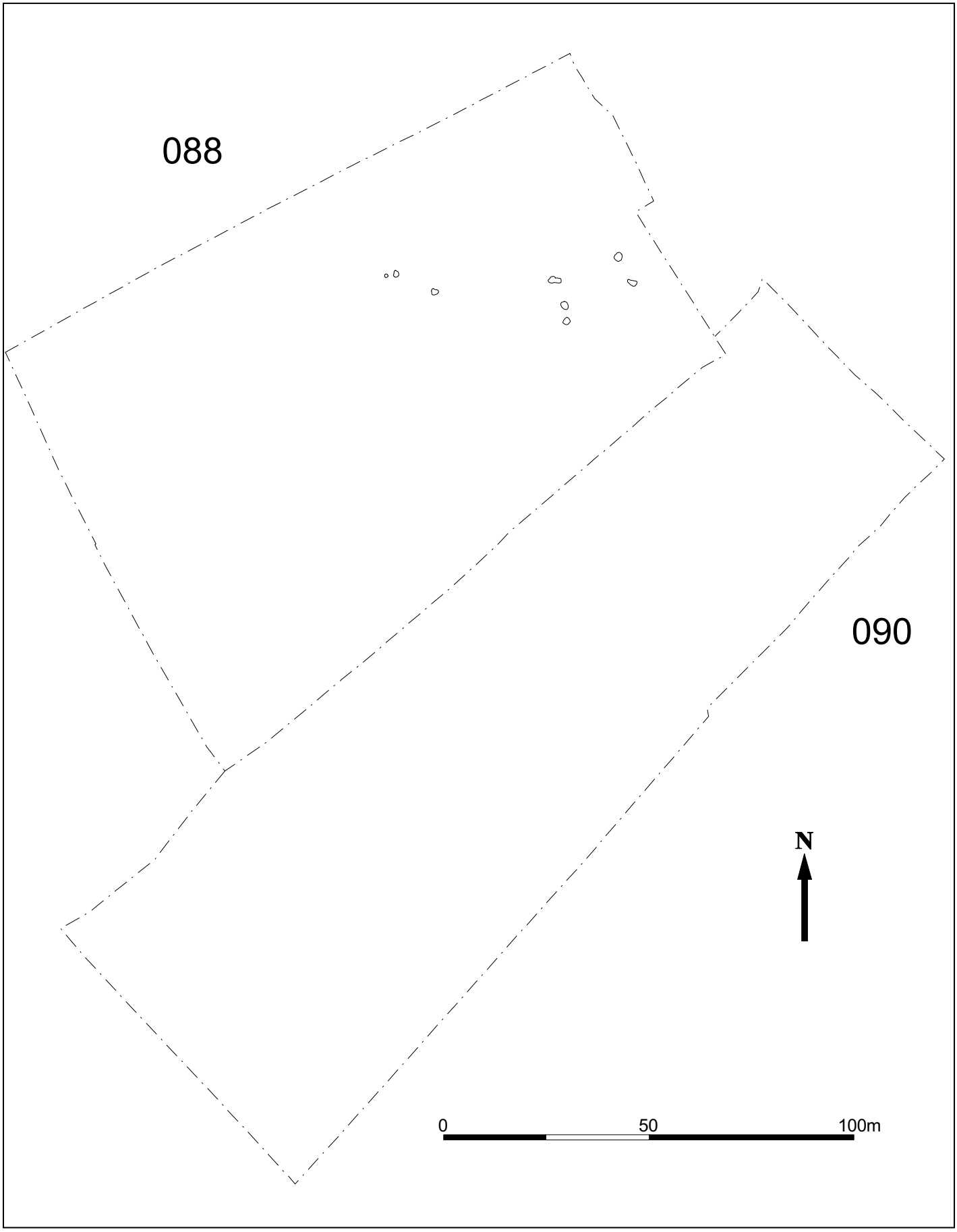


Figure 24. 088 and 090; Period/Phase V.d. (post-medieval, 20th century)

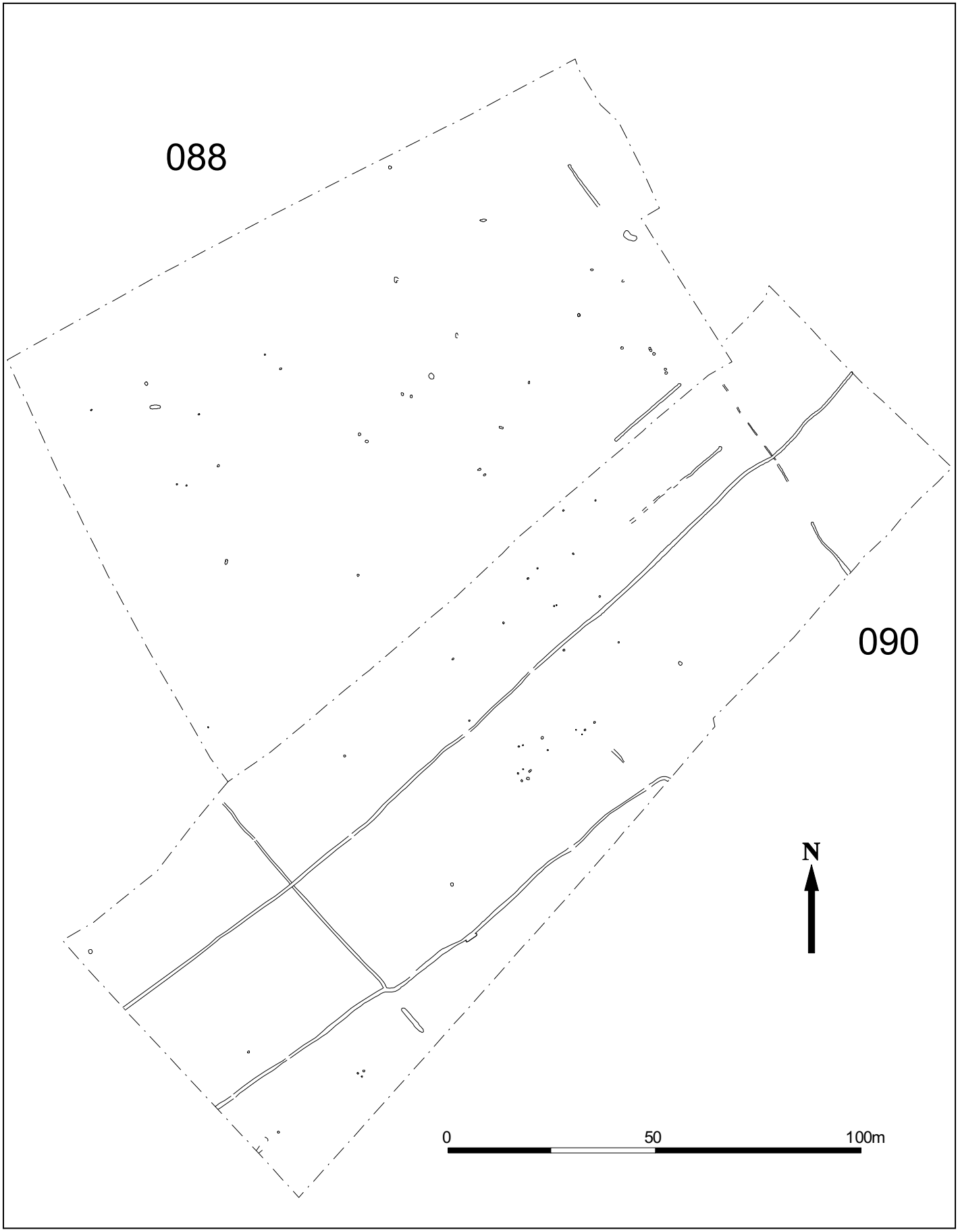


Figure 25. 088 and 090; Period/Phase 0. (undated)

Ditches 088:*0034* and 090:*0023*, the latter almost certainly representing the southwards continuation of the former, along with 090:*0221*, 090:*0352*, 090:*0341* and 090:*0361*, were all part of a rectilinear field system which had previously been identified extensively throughout the excavated area of the quarry. Unfortunately, very little artefactual dating has ever been recovered, although a tentative Late Iron Age/Early Roman (Period/Phase II.a.) date had at one time proposed. However, this is now the subject of some debate with an earlier, even Middle Bronze date being postulated by Matt Brudenell (SCCAS/CT).

Stratigraphically, these ditches were clearly early in the feature sequence, they were sealed by the subsoil layer and were cut by the later ditches associated with Flixton Park and the former Flixton to Homersfield road. In addition, the slight sinuosity/irregularity recorded in the alignments of the ditches and the character of their fills, well-leached with often ill-defined interfaces with the adjacent naturally occurring subsoil, does suggest that they were of some antiquity.

None of these ditches were particularly imposing in terms of their dimensions with a maximum width of 1.25m and depths not exceeding 0.50m, their prime function would almost certainly have been simply to divide the land into various working elements; drainage would not have been a concern at this juncture due to the nature of the underlying naturally occurring sands and gravels. However, it is possible that these features would have been accompanied by flanking hedges which would have made the boundary a more imposing obstacle that would have been capable confining livestock.

Ditches 088:*0643*, 090:*0012*, 090:*0016* and 090:*0225* were all thought to post-date the ditches of the rectilinear field system.

North-east to south-east orientated ditch 090:*0012*, which was tentatively thought to cut subsoil, clearly cut ditches 090:*0023* and 090:*0352*, but was itself cut by all of the post-medieval (Period/Phase V.b.) ditches with which it had a relationship. Given that it was located some 14.00m south-west of the latest ditches directly associated with the former road, it seems unlikely that it related to the final incarnation of road itself. However, the general route probably had some antiquity, with its origins in the later Saxon or medieval periods and it is reasonable to suggest this feature could relate to its earlier

phases, possibly in the form of a wider droveway rather than a more formally metalled road.

Similarly to 090:*0012*, ditches 088:*0643*, 090:*0016* were aligned parallel to the most recent ditches associated with the former road. Ditch 088:*0643* was only 21.00m long, butt-ending to both the northeast and south-west and was located close to, but just north of the wheel ruts of the road itself. Ditch 090:*0016* was only recorded for a distance of *c*.28.00 and was located 5.00m south-east of the southernmost of the later road ditches (090:*0008*). The feature was very shallow and had an indeterminate relationship with the subsoil. It seems reasonable to suggest that both these features were associated with earlier phases of the former road.

Ditch 090:*0225* was only seen in one section excavated through post-medieval (Period/Phase V.b.) ditch 090:*0190*. The leached character of its fill suggested a greater antiquity than 090:*0190*, but given that it clearly followed a similar alignment it seems likely that it represented an earlier phase of a ditch recut as 088:*0190*.

Pits

Sixty one of the undated features were described as pits, twenty six in 088 and thirty five in 090 and relatively evenly spread over the two areas. The pits exhibited a considerable variation in their size, morphology and the character of their fills. However, the majority were small, circular or sub-circular, with diameters not exceeding 0.75m and depths of less than 0.50m. Some of the pits were described as possibly/probably being 'naturally derived' but were recorded due to their juxtaposition to more genuine features or simply that the feature had good edges.

Clearly, the inclusion of these features in the undated phase is the result of the lack of secure artefactual and stratigraphic evidence. It is, however, considered likely that the features were likely to have been generated by the more securely dated phases of activity that have been recognised.

Tree-holes

Ten undated features described as tree-holes were recorded in the 088 area (088:*0025*, *0294*, *0321*, *0449*, *0466*, *0468*, *0488*, *0637*, *0849* and *0892*). While all located in the

area previously occupied by School Wood, only planted in the early 20th century, these features were those which exhibited all the attributes of a tree-hole, but were clearly not recently disturbed as would be the case with those relating to the stump removal undertaken immediately prior to the 088 soil-strip.

These features were often irregular in shape with indistinct edges and exhibited evidence of radiating roots.

Layer

The context number 090:*0218* was allocated to the intervening subsoil layer between the topsoil and the underlying naturally occurring sands and gravels in area 090. The layer generally comprised homogenous mid brown very silty sand with a variable stone content. The layer varied in thickness from only a few centimetres to *c.*0.50m and was thought to be a colluvial/hillwash deposit generated over time by mass soil movement.

Miscellaneous feature

Particular care was undertaken during the stripping of area 090 towards the south-west corner of the site as the previous excavation works in area 069 directly to the south had identified a possible curving feature that appeared to continue under the then site edge. However, repeated mechanical and manual cleaning in the 090 area failed to positively identify the feature. A linear variation in the underlying sand and gravel subsoil was assigned the context number 090:*0464* in order for it to be recorded on the site plan and it was the southward continuation of this which had probably been identified as a genuine feature on the earlier site.

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
- Cataloguing and archiving of monochrome prints
- Preparation of provisional phasing (Table 1)
- Discussion/description of principal 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

5.2 Quantification of the stratigraphic archive

The stratigraphic archive is quantified in Table 2:

Type	Format	Site 088	Site 090
Context register sheets	A4 paper	13	11
Context recording sheets	A4 paper	462	240
Environmental sample register sheets	A4 paper	1	-
Environmental sample record sheets	A4 paper	5	2
Small finds register	A4 paper	1	1
1:20 scale plan and section sheets	A1 plastic drafting film	4	-
	A3 plastic drafting film	33	16
1:100 scale site plans	A1 plastic drafting film	8	5
1:50 scale site plan	A1 plastic drafting film	1	1
Site photo book	Hardback 155 x 110mm note book	1	1
Digital images	2592 x 1944 pixel .jpeg	750	318
B/W contact sheets	Contact sheet & negatives	16	5
Site survey/level book	Hardback 190 x 120mm note book	1	1

Table 2. Quantification of the stratigraphic archive

5.3 Quantification and assessment of the bulk finds archive

5.3.1 Introduction

A summary of quantities and overall weight of the bulk finds categories recovered from both sites is shown below:

	088		090	
Material	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**
Pottery	5,960	50,766	1,233	10,765
CBM	50	983	10	3,331
Fired clay	307	1,979	92	701
Worked flint	2,612	37,955	351	8,769
Heat-altered stone	6,154	146,018	1,893	41,055
P-med bottle glass	-	-	1	18
Animal bone	-	44	-	306

Table 3. Finds quantities

5.3.2 Pottery

Prehistoric pottery

Introduction

A combined total of 7,193 sherds weighing 61,531g was recovered from the two sites (Table 4). A variety of periods are represented spanning the Early Neolithic to the Early Iron Age. The range of Early Neolithic, later Neolithic early Bronze Age Beaker and Post Deverel-Rimbury pottery broadly corresponds with styles found during previous excavations at the site. However, the small quantity of later Neolithic Peterborough Ware is unique within the pottery assemblage from Flixton Quarry examined so far.

Site code	**Pottery date**	**No.**	**Wt.(g)**
088	Earlier Neolithic	1,777	10,153
	Later Neolithic Early Bronze Age	69	683
	Later Bronze Age	4,087	39,876
	Not closely datable	27	54
Total		**5,960**	**50,766**
090	Later Neolithic	9	293
	Early Iron Age	1,221	10,465
	Not closely datable	3	7
Total		**1,233**	**10,765**
Combined Total		**7,193**	**61,531**

Table 4. Quantity and weight of prehistoric pottery by site and date

The assemblage is fragmentary and almost all represents incomplete vessels with the exception of the complete, though crushed, Beaker from central grave (088:*0809*) within the composite funerary monument. The condition of the pottery varies but is poor to moderately well-preserved. Average sherd weight is 8.5g but sherd size varies. A small number of sherds from each site have been described as prehistoric but are otherwise not closely datable. These sherds are listed in the catalogue but are not discussed in this assessment.

Methodology

The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010 Methodology.doc). The PDR pottery is catalogued using the form series devised by M. Brudenell (Brudenell 2012). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion identified (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. Forty five sherds have been recommended for illustration.

Earlier Neolithic

Earlier Neolithic Plain Bowl was recovered from a series of seven pits and a post-hole in the 088 site (Table 5). Three pits (088:*0002*, *0019* and *0059*) contained especially large assemblages of between 430 and 793 sherds. Pit 088:*0019* also contained a leaf-shaped flint arrowhead.

Feature type	Feature	No.	Wt.(g)
Pit	088:*0002*	424	2,845
	088:*0005*	1	1
	088:*0009*	9	51
	088:*0019*	530	2,105
	088:*0059*	793	5,011
	088:*0085*	16	102
	088:*0289*	3	28
Post-hole	088:*0026*	1	10
Total		**1,777**	**10,153**

Table 5. Earlier Neolithic pottery

The Earlier Neolithic assemblage represents 16.5% of the total assemblage (10,153g). A minimum of fifty three plain bowls are present within the assemblage including Classic Carinated, Straight-necked Carinated and Neutral/ Bag-shaped Bowls and cups (Cleal 2004, fig.5). The vessels are principally made of flint-tempered fabrics, of which four fabric types have been identified (Appendix III.a). Less than 2% of the assemblage is made of sandy fabrics.

The form, fabric and deposition of the Earlier Neolithic assemblage is similar to contemporary pottery found elsewhere within the quarry especially sites 057, 059 and the more adjacent areas 068 and 069, although no Mildenhall Ware vessels, such as those found at 069, were present.

Later Neolithic

A total of nine unstratified sherds of Later Neolithic pottery weighing 293g were recovered during cleaning over the south-east side of the double ring-ditch 090:*0102*. The body sherds are made of flint-tempered fabric (F1). One sherd is decorated with fingernail-impressions all over and is possibly of the Fengate tradition (Pryor 1998, fig.203, FG3, FG8). A further four sherds are curved suggesting a round-bodied vessel and have cord-maggot impressed decoration above an undecorated zone. Peterborough Ware dates to *c*.3400 – 2500 cal. BC (Gibson and Kinnes 1997, 65).

Later Neolithic/early Bronze Age Beaker

A complete but fragmentary Beaker (Fig. 9; Plates 5 and 6) was recovered as an accessory vessel within grave 088:*0809*, located centrally within the composite funerary monument, which also contained a wristguard, and two amber ornaments (see below). The Long-Necked Beaker is made of fine, grog-tempered fabric and has elaborate, comb-impressed decoration. The long, straight neck is decorated with panels of comb-impressed triangles and tool impressed circles, whilst the globular lower body has alternating plain and decorated bands, the broadest of which encircles the girth of the vessel and contains filled lozenge shapes and bands of herring-bone motif. The Beaker is similar to an example from Eriswell (Clarke 1970 941.877).

A further scrap of undecorated grog-tempered pottery from the fill of ring ditch 088:*0789* may be early Bronze Age.

The accessory Beaker found in grave 088:*0809* is of a form which was most commonly in use later in the Beaker currency. Needham suggests that Long-Necked Beaker dates focus on 2200-2000 BC (Needham 2012, 9). It is of note that no domestic Beaker or Grooved Ware pit deposits were found in areas 088 and 090 though these are abundant elsewhere within the excavated areas of the quarry.

Post Deverel-Rimbury

A total of 5,308 sherds weighing 50,3416g have been spot-dated as being of Post Deverel-Rimbury (hereafter PDR) date (Table 6). The assemblage is almost all flint-tempered (98%; 49,723g) with a very small quantity in sandy or grog tempered fabrics (Appendix III.a). The assemblage includes rims from 139 vessels including ninety eight jars, ten bowls and nineteen cups. The most common form present is the ellipsoid jar, commonly with rounded rim. Twelve rims are too small to identify to a particular form. Two fragments from handles or lugs were also found. Almost all of the pottery is undecorated with the exception of three vessels which have fingertip-impressed decoration to the rim top or interior edge and four which have diagonal slashes to the shoulder. More frequent within the assemblage is the use of rows of holes pushed into or through the vessel wall below the rim of which there are twenty three examples. One further decorated vessel has a double incised band marking the neck. The sherds show a range of surface finishes including burnishing (found on twelve vessels), rough or finger-wiping (six vessels) and smoothing (ten vessels).

In common with previous finds from the site the PDR pottery was almost exclusively found in pits, which contained *c.*91% of the total assemblage (45,652g). Sherds found in pits tended to be moderately well preserved with an ASW of 10g. Post-holes produced a little less than 7% (3,395g) with an ASW of 6g. Ditches and linear features contained less than 1% of the PDR assemblage (338g: ASW 8g) and unstratified surface collection produced the remaining 1.9% (956g ASW 5g). This suggests that, whilst the pits did not represent the primary place of deposition for pottery, most sherds were placed into the pits in fair, though fragmentary, condition. Those found in the other feature types, however, are small and more abraded indicating that they had been much more broken up by longer surface exposure.

The pottery is almost all Plainware similar to pottery from sites 059, 065 and 068, the latter situated immediately adjacent to 088. The PDR assemblage has been tentatively

divided into Later Bronze Age Plainware forms, predominating on site 088, and possible 'Early Decorated' Later Bronze Age/earlier Iron Age types from 090 from where almost all of the decorated sherds were retrieved. However, given that the 088 and 090 sites are adjacent, this proposed temporal difference between the two sites may not actually be as clear-cut. Overall, the bulk of the PDR assemblage can be broadly dated to *c.*1000 - 800BC (Brudenell 2012, 163).

Feature type	Site:Feature/Context[s]	No.	Wt.(g)
U/S Finds	088:*0001*/*0001*	2	23
Ring-ditch	088:*0788*/*0790*	23	357
Ditch	088:*0034*/*0035*	1	8
Pits	088:*0012*/*0014*	36	84
	088:*0015*/*0016*	11	92
	088:*0017*/*0018*	11	128
	088:*0057*/*0058*	6	221
	088:*0063*/*0064*	26	81
	088:*0072*/*0073*	2	23
	088:*0082*/*0083*	2	2
	088:*0118*/*0119*	2	27
	088:*0120*/*0121*	46	339
	088:*0122*/*0123*	1	9
	088:*0126*/*0127*	3	23
	088:*0132*/*0133*	8	83
	088:*0136*/*0137*	1	15
	088:*0138*/*0139*	70	1,068
	088:*0140*/*0141*, *0142*, *0143*	366	4,551
	088:*0150*/*0151*, *0152*	58	701
	088:*0153*/*0154*	5	26
	088:*0164*/*0165*	37	388
	088:*0166*/*0167*	21	177
	088:*0168*/*0170*, 0171, *0172*, *0173*, *0174*	196	3,389
	088:*0177*/*0178*	134	566
	088:*0179*/*0180*	53	534
	088:*0184*/*0186*	9	37
	088:*0192*/*0193*	14	164
	088:*0195*/*0196*, *0197*, *0198*	162	1,536
	088:*0208*/*0210*, *0211*	142	484
	088:*0222*/*0223*, *0224*	18	159
	088:*0227*/*0228*	2	20
	088:*0229*/*0230*, *0231*	31	300
	088:0236/*0237*	1	5
	088:*0238*/*0239*	54	250
	088:*0244*/*0245*	4	88
	088:*0246*/*0247*	1	9
	088:*0248*/*0249*	7	12
	088:*0250*/*0251*	2	144
	088:*0252*/*0253*	5	66
	088:*0254*/*0255*	538	6,006
Post-holes	088:*0509*/*0510*	1	17
	088:*0511*/*0512*	4	28
	088:*0521*/*0522*	1	15
	088:*0535*/*0536*	6	22
	088:*0549*/*0550*	1	6
	088:*0551*/*0552*	2	19
	088:*0557*/*0558*	89	160
	088:*0583*/*0584*	5	61
	088:*0568*/*0569*	3	25
	088:*0613*/*0614*	36	120
	088:*0615*/*0616*	20	75
	088:*0620*/*0621*	78	739
	088:*0624*/0625	24	218
	088:*0626*/*0627*	44	270
	088:*0633*/*0634*	25	244
	088:*0635*/*0636*	18	16
	088:*0647*/*0648*	10	89
	088:*0649*/*0650*	18	47
	088:*0655*/*0656*	2	3
	088:*0657*/*0658*	4	8
	088:*0660*/*0661*, *0662*	17	197
	088:*0681*/*0682*	21	50
	088:*0697*/*0698*	14	53
	088:*0699*/*0700*	3	56
	088:*0717*/*0718*	3	1
	088:*0719*/*0720*	1	40
	088:*0723*/*0724*	1	12
	088:*0751*/*0752*	7	33
	088:*0779*/*0780*	4	22
	088:0772/*0773*	2	4
U/S Finds	090:*0001*/*0144*, *0310*, *0314*, *0378*	13	96
Slots	090:*0301*/*0302*	36	301
	090:*0308*/*0309*	2	29
Pits	090:*0054*/*0055*	7	25
	090:*0056*/*0057*	21	119
	090:*0059*/*0060*, *0063*	254	1,458
	090:*0178*/*0179*	4	34
	090:*0188*/*0189*	430	3,874
	090:*0291*/*0292*	7	23
	090:*0297*/*0298*	28	248

Feature type	Site:Feature/Context[s]	No.	Wt.(g)	Feature type	Site:Feature/Context[s]	No.	Wt.(g)
	088:*0256*/*0257*	3	4	Pits	090:*0299*/*0300*	15	214
	088:*0270*/*0271*	6	58		090:*0315*/*0316*	3	24
	088:*0276*/*0277*	1	13		090:*0317*/*0318*	3	48
	088:*0298*/*0299*	25	164		090:*0319*/*0320*	1	8
	088:*0302*/*0303*	1	3		090:*0323*/*0324*	10	94
	088:*0305*/*0306*	3	39		090:*0327*/*0328*	12	216
	088:*0387*/*0388*	3	33		090:*0329*/*0330*	9	106
	088:*0437*/*0187*	10	143		090:*0333*/*0334*, *0335*	79	1,151
	088:*0444*/*0445*	1	8		090:*0336*/*0337*	1	29
	088:*0533*/*0534*	227	885		090:*0376*/*0377*	37	484
	088:*0537*/*0538*	825	5,850		090:*0379*/*0380*	1	26
	088:*0577*/*0578*	1	5		090:*0383*/*0384*	30	351
	088:*0579*/*0580*	22	114		090:*0385*/*0386*	31	318
	088:*0599*/*0600*	22	40		090:*0387*/*0388*	1	7
	088:*0605*/*0606*	63	711		090:*0389*/*0390*	3	6
	088:*0607*/*0608*, *0609*, *0619*	97	1,167		090:*0391*/*0392*	1	15
	088:*0611*/*0612*	58	876		090:*0409*/*0411*, *0413*	24	319
	088:*0611*/*0612*	58	876		090:*0438*/*0439*	3	6
	088:*0677*/*0678*	22	219		090:*0440*/*0441*	62	420
	088:*0683*/*0684*	11	51		090:*0444*/*0445*	2	14
	088:*0693*/*0694*	21	126		090:*0462*/*0463*	12	60
	088:*0695*/*0696*	25	264	Post-holes	090:*0099*/*0100*	2	14
	088:*0755*/*0757*	31	3,611		090:*0158*/*0159*	1	26
Post-holes	088:*0162*/*0163*	1	8		090:0289/0290	51	82
	088:*0202*/*0203*	2	12		090:*0402*/*0403*	6	51
	088:*0212*/*0213*	4	22		090:*0404*/*0405*	4	29
	088:*0220*/*0221*	1	9		090:*0418*/*0419*	1	2
	088:*0326*/*0327*	2	15		090:*0421*/*0422*	3	20
	088:*0422*/*0423*	3	29		090:*0430*/*0431*	1	2
	088:0426/*0427*	1	29		090:*0433*/*0434*	7	66
	088:*0381*/*0382*	2	17		090:*0435*/*0436*	2	40
	088:*0503*/*0504*	5	5	Spot-find	090:*0352*/*0353*	1	10
				Overall Totals		**1,221**	**10,465**

Table 6. Quantity and weight of PDR pottery by feature

5.3.3 Ceramic building material (CBM)

Introduction

Table 7 shows the quantities of CBM from the two sites.

Site	No.	Wt.(g)
088	25	962
090	10	3,310
Total	**35**	**4,272**

Table 7. CBM quantities by site

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 Brodribb (1987), and post-medieval forms are based on Drury (1993). The presence of burning, combing, finger marks, mortar and other surface treatments was recorded. Data was input into an MS Access database, and a full catalogue forms Appendix III.b of this report.

The assemblage

Table 8 shows the basic fabric types identified in this assemblage, and the total quantities of CBM forms for each.

		088		090		
Fabric	**Description**	**LB**	**RTP**	**LB**	**FB**	**RTP**
fs	fine sandy, no obvious inclusions		1			1
fscp	fine sandy with clay pellets			4		
fsfe	fine sandy with ferrous inclusions			1		
ms	medium sandy, no obvious inclusions		2			
msf	medium sandy with flint	1	3	2		
msffe	medium sandy with flint and ferrous	18				
wfs	white fine sandy				1	
wfg	white fine sandy with coarse grog				1	
Totals		**19**	**6**	**7**	**2**	**1**

Table 8. CBM fabric descriptions and quantities (sherd count) by form

All CBM recovered from these sites was post-medieval in date and was in fabrics found elsewhere on the quarry site in previous seasons.

Fragments of late brick (LB) were the most frequent finds at both sites. Eighteen fragments from ditch 088:*0673* (fill 088:*0674*) were identical in terms of fabric and firing and probably represented less than eighteen bricks, but no joining fragments were identified. They were overfired to a dark red and were covered in white lime mortar. None of the fragments from 088 was measurable. The late bricks from 090 included a half-brick from pit 090:*0031*(fill 090:*0032*) which measured 111 x 51mm, and a fragment from ditch 090:*0219* (fill 090:*0293*) which was 49mm thick. Other fragments were generally small and abraded. Although in some cases the bricks in this assemblage are relatively thin, all are in fabrics which suggest a later post-medieval date (18th-20th c.).

Two white-firing floor bricks (FB) were also recovered from 090. Both were 118mm wide and ranged between 38–48mm thick, although both showed signs of wear on the upper surface. They were found in pit 090:*0031* (fill 090:*0032*) and as a surface find (090:*0191*) on ditch 090:*0190*.

A small quantity of post-medieval plain roof tile (RTP) was collected from both sites, but fragments were generally small and unremarkable. The piece from 090 had a circular peg hole.

CBM by context type

Table 9 shows the quantities of CBM by feature.

Context	Feature	Identifier	Fabric	Form	No.	Wt.(g)	Date
088							
0020	*0019*	Pit	msf	RTP	1	4	pmed
0035	*0034*	Ditch	msf	RTP	1	36	pmed
0039	*0038*	Ditch	msf	RTP	1	68	pmed
0370	*0369*	Post-hole	ms	RTP	1	46	pmed
0674	*0673*	Ditch	msffe	LB	18	719	18-20?
0713	*0712*	Pit	ms	RTP	1	3	pmed
0797	*0671*	Ditch	fs	RTP	1	63	pmed
0803	*0802*	Ring-ditch	msf	LB	1	23	pmed
090							
0032	*0031*	Pit	wfs	FB	1	690	18/19
0032	*0031*	Pit	fscp	LB	1	1,107	18/19
0191	*0190*	Ditch	wfg	FB	1	1,131	18/19
0228	*0190*	Ditch	fscp	LB	3	23	18/19
0293	*0219*	Ditch	msf	LB	2	40	pmed
0293	*0219*	Ditch	fsfe	LB	1	275	pmed
0340	*0325*	Ditch	fs	RTP	1	44	pmed

Table 9. CBM by feature with spotdates

The majority of fragments were recovered from ditches. A small fragment of late brick from the ring-ditch is likely to be intrusive. The generally small quantities of post-Roman CBM spread across this large area do not indicate that any major buildings of the period were present. Small fragments of CBM probably reached the site through manuring and other agricultural activity from the medieval period onwards.

5.3.4 Fired clay

Introduction

Table 10 shows the quantities of undiagnostic fired clay. This does not include the small finds, or fragments of possible or certain loomweights and other objects which were extracted during recording for inclusion with the small finds assemblage (see below).

Site	No.	Wt.(g)	Ave. frag. wt.(g)
088	278	1,162	4.2
090	206	617	3.0
Total	**484**	**1,779**	**3.7**

Table 10. Fired clay quantities by site

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 and forms Appendix III.c of this report.

The assemblage

Table 11 shows the basic fabric types identified in this assemblage, and the total quantities of fired clay for each.

		088		090	
Fabric	**Description**	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**
ms	medium sandy, few other inclusions, occasional fine flint and clay pellets	9	25	6	45
fs	fine sandy with few other inclusions, usually soft and oxidised	227	720	3	1
msv	medium sandy with voids which are probably the result of leaching of chalk inclusions	11	61	5	23
fsv	fine sandy version of msv	11	109	34	142
msf	medium sandy with moderate to common coarse flint/quartz inclusions, often hard and red	7	91	6	82
fsf	fine sandy with moderate to common coarse flint/quartz inclusions	8	113		
fsvf	fine sandy with voids and coarse flint inclusions	3	28	17	75
msvf	medium sandy with voids and coarse flint inclusions			135	249
org	abundant grass tempering, often highly fired, possibly kiln dome fragments	1	12		
vit	vitrified, uncertain	1	3		

Table 11. Fired clay fabrics and quantities

Fine sandy fabrics were by far the most common type at 088, whilst fragments with voids (probably representing leached chalk) were most frequent at 090. This may represent a difference in periods of use, but phasing and spotdating were not available at the time of writing. Fragments of loomweights, which were more frequently identified and removed from the 088 assemblage, were commonly flint-tempered, sometimes with voids, and it is possible that much of the undiagnostic material from 090 also represents loomweights from which the surfaces had been lost.

Other than the few fragments extracted for assessment by the small finds specialist, none of the pieces in the bulk fired clay was diagnostic and no functions could be ascribed. Many fragments were small, abraded, amorphous lumps. Where surfaces were present, these were generally slightly convex and it seems likely that most of this material was used to form objects, particularly loomweights, rather than being used for structural purposes. There were no definite fragments of daub or render. One organic-tempered fragment from pit 088:*0533* (fill 088:*0534*) had a right-angled corner and was similar to material, possibly kiln waste, from the previously excavated 062 site (Anderson 2011).

Fired clay by context type

All fragments from both sites were recovered from pits or post-holes. At the time of writing site phasing was not available, but clearly the majority of the material was prehistoric in date. Investigation into the spatial and temporal distribution will form part of the subsequent analysis phase of the project.

5.3.5 Worked flint

Introduction

A total of 3,388 struck, shattered or utilised flints were recovered from 088 and 090. The flint assemblages from each site is summarised in Tables 12 and 14 and described by site and flint type. A summary description of the context of the flint is included by site, the potential of the material from the two sites is explained and recommendations for analysis are made. The flint is listed by site and context in Appendix III.d.

Methodology

Each piece of flint was examined and recorded by context in an ACCESS database table. The material was classified by *category* and *type* (see archive) with numbers of pieces and numbers of complete, corticated, hinge fractured and patinated pieces being recorded and relative degrees of edge damage and sharpness being noted. Additional descriptive comments were made as necessary. Non-struck flint has been discarded (It is included in the database but not in this report). Retouched and utilised flints 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.

Site 088: The assemblage

Type	No.	Type	No.
multi platform flake core	16	spurred piece	4
single platform flake core	9	backed knife	3
multi platform blade core	1	notched flake	6
single platform blade core	3	notched blade	1
keeled core	9	denticulate	3
discoidal core	1	serrated flake	1
core fragment	15	leaf-shaped arrowhead	1
core/tool	6	microlith	1
tested piece	20	flaked tool	1
struck fragment	65	polished flake	1
shatter	455	retouched flake	34
core tablet	2	retouched blade	1
core trimming flake	2	retouched fragment	5
flake	1,374	utilised flake	23
blade	231	utilised blade	10
blade-like flake	169	utilised fragment	5
spall	412	hammerstone	3
chip	36	hammerstone flake/shatter	6
end scraper	11	?quern fragment	5
end/side scraper	2	**Total**	**2,977**
double end scraper	1		
subcircular scraper	1	stone hammerstone	2
other scraper	15	utilised/ground stone	6
piercer	7	burnt fragment	36

Table 12. Summary of the flint by type from 088

There are sixteen multi-platform, and nine single platform, flake cores. They are mostly irregular and include some minimally struck pieces, although there are also one or two small 'exhausted' examples (contexts 088:*0794* and *0864*). There is a range of sizes; one core (context 088:*0817*) is quite large, many are small. Several have patinated former surfaces or patinated or cortical platforms. One multi-platform core may have also been used as a hammer (context 088:*0448*). Various cortex types include grey white 'nodule' type cortex, a thin grey cortex and some brownish and slightly iron-stained surfaces.

There are three single platform, and one single platform, quite irregular blade cores. Nine cores are classified as keeled types; they have flakes struck from each side of a ridge (and sometimes also from another edge). They are mostly quite irregular but there is one neat example (context 088:*0021*). A discoidal core has flakes from around its edge from both faces (context 088:*0915*).

Fifteen core fragments are mostly undiagnostic but include one or two from quite regular, possible blade type, cores.

Twenty tested pieces are present; these are mostly irregular cortical fragments which have minimal working, usually a single or small number of removals from one end. Included is an unusual long piece with one cortical face and blade type removals from its other side (context 088:*0987*). Another piece may have been used as a crude scraper (context 088:*0818*) and a couple of pieces are heat-affected which may have made them unsuitable for use (contexts 088:*0178* and *1094*). Sixty five irregular struck fragments were also found and a total of 455 irregular shatter pieces are present. These are often angular, 63% have cortex and a small number are burnt or heat-affected. Some may be from the initial breaking of flint lumps, others may represent the failed use of unsuitable material.

There are five quite squat or chunky pieces which have flaking and are possibly cores or may have been used as scrapers or in one case, possibly, as a piercer. A thickish flake with some flakes struck from its ventral face is another 'core/tool' (context 088:*0382*).

Two pieces have been classified as core tablets (contexts 088:*0003* and *1074*) although it may be that were not deliberate platform rejuvenation pieces. They both, however, have part of the former platform edge on part of their side and represent the selection of a new platform and thus a degree of care in the use of the core. Two other 'core trimming' flakes from the sides of cores also suggest this and show that cores were not simply discarded once a platform was exhausted.

A total of 1,374 unmodified flakes are present and there is a range of types with some thin slightly curving or tapering flakes, sometimes with regular dorsal scars but, predominantly, the flakes are irregular, often thick cortical pieces. Cortex varies; including off-white, various cream and grey-coloured pieces and with occasional iron staining. Of the flakes, 74% (by number) are complete and 71% have cortex. Of the cortical flakes 10% are primary pieces with entirely cortical dorsal faces. Thirteen percent of the flakes have cortical platforms and in quite a few cases the cortex extends around the proximal side of the piece (i.e. there was no real platform but the flake was struck from a cortical face of the 'core'). Only 3% of flakes exhibit evidence for platform edge abrasion. Six percent of the flakes have hinge terminations. Most of the flakes are sharp or quite sharp but some edge damaged pieces are also present. Nine percent of the flint is patinated to some degree. Some refitting pieces are present (contexts 088:*0022*, *0467*, *0796* and *0255*) and other contexts include flakes of very similar distinctive flint/cortex (contexts 088:*0061*, *0606* and *0811*).

A total of 169 flakes are classified as 'blade-like'. This means that they 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. They are mostly quite small. Some of them are quite neat and thirty (18% by number) have some evidence of platform edge abrasion. Only three have cortical platforms. Almost all of them are sharp or quite sharp.

Totals of 412 and thirty six spalls and small chips respectively are also present.

A total of 231 blades were found. They are often small and quite neat thin slightly curving and/or tapering pieces. Seventy-five percent are complete and 40% have at least some cortex. Forty six percent of the blades have abraded platform edges

showing they were struck from cores with prepared platforms and only one blade has a cortical platform and one blade a hinge termination. Blades are concentrated in distribution with large numbers occurring in a few contexts and although refits were not identified at assessment blades of very similar flint were seen in several context assemblages (e.g. contexts 088:*0022*, *0060* and *0061*).

A very small thin flake fragment has a highly polished glassy surface (context 088:*0061*). It is clearly from a polished tool such as an axe.

A total of thirty scrapers were found. Eleven pieces are classified as end scrapers. These include some long examples (three from context 088:*0022* and one from *0021*) shorter more squat pieces (single pieces from contexts 088:*0022*, *0020* and *0060*) some ovate pieces (contexts 088:*0021* and *0658*) and a small teardrop shaped flake with distal retouch (context 088:*0797*). The ovate scraper (context 088:*0658*) is irregular with its platform at one long side (the retouch actually around one side) and a flake from its patinated cortical face forming a useful holding area (for the left-handed). A double end scraper is made on a very squat, almost subcircular, flake with a wide thick platform (context 088:*0022*). Its proximal and distal edges are retouched. Two more scrapers are retouched around a side and end. One is on an irregular patinated fragment (context 088:*0868*), the other is ovate (context 088:*0915*). A quite small subcircular scraper has retouch around all but its proximal edge (context 088:*0022*).

Fifteen other, miscellaneous, scrapers are also present. They include several small irregular or thickish pieces (several on primary flakes) (contexts 088:*0003*, *0021*, *0022*, *0231*, *0448* and *0790*), an irregular retouched thermal fragment (context 088:*0119*) and a small fragment which might be from a small thumbnail type scraper (context 088:*0851*).

Seven piercers are present. These are all quite irregular. Pointed thickish non-cortical pieces (contexts 088:*0230* and *0231*), cortical flakes (contexts 088:*0022* and *0612*) and a thermal fragment (context 088:*0887*) have all been utilised. Additionally, three flakes (contexts 088:*0550*, *0790* and *0797*) and a thermal fragment (context 088:*0790*) have been retouched to form slight protruding spurs on their edges.

There are three backed knives in the assemblage and although they are rather irregular/minimally retouched they may well be of earlier Neolithic date. An elongate D-shaped piece has shallow retouch of its convex edge and evidence for utilisation of the straight edge (context 088:*0004*) and another D-shaped flake has minimal retouch of both sides (context 088:*0022*). A quite large blade-like flake has cortex and retouch backing one side and shallow retouch of its other side and distal end (context 088:*0060*).

A small blade (context 088:*0224*) and six flakes have possible retouched notches. The flakes include one with cortex along one side and over its dorsal face which could have provided 'backing' (context 088:*0880*) and a small flake with a shallow notch forming a hook-like distal end (context 088:*0966*). Others are irregular or minimally retouched (context 088:*0178*, *0534*, *0927* and *0978*).

Three irregular pieces have denticular edges formed by retouch (context 088:*0035*, *0534* and *0797*) and a small fragment from a flake has a more finely serrated edge (context 088:*0800*).

A slender ogival type leaf-shaped arrowhead of earlier Neolithic date has part of its original flake surface surviving on both faces but is finely flaked (SF *1001* in context 080:*0020*).

A very small thin narrow fragment with possible retouch along one side may be part of a microlith (context 088:*0965*).

Thirty four flakes, five fragments and a blade have retouched edges. The blade is quite large, possibly broken and with a notch in one side. Many of the flakes are irregular and retouch is slight. A small number have retouch to their points which may have been utilised. Retouched irregular fragments include three of thermal origin.

Twenty three flakes, ten blades and four fragments are utilised. A range of flake types are edge utilised. The blades include three thin slightly curving pieces and other thicker more irregular types. All have utilised edges and one has possible slight serrations. Three thermal fragments and a heat-affected fragment also shows signs of edge utilisation, two of them as scraper type tools.

A number of flint probable hammerstones were found. A large and fractured cortical lump has a battered ridge which appears to have been used as a hammer (context 088:*0060*), a small rounded fragment has a battered cortical end which may have been utilised (context 088:*0915*), an irregular cortical piece has two battered areas (context 088:*0003*). There is also a shatter fragment and five flakes which have pitted and battered surface areas and are probably from flint hammerstones.

Five flint fragments, at least two of which fit together, have flat probable grinding surface areas and are probably from some type of quern (SF 088:*1029* in context 088:*0178*).

Possible Palaeolithic flints

Three flints separated out as small finds were assigned a provisional Palaeolithic date. An abraded patinated flake has possible retouch along its left lateral edge (SF 088:*1026* in context 088:*0069*). The same slightly yellowish mottled grey patina extends over its platform and ventral face. The possible retouch may post-date the patina although other edge damage partly obscures the edge. This might be a reused older (?Palaeolithic) flake.

A shattered fragment (in four pieces) is patinated with one abraded and slightly stained surface (SF 088:*1027* in context 088:*0086*). Some (most) surfaces appear to be of thermal origin. Possibly it is fractured from the face of a heavily abraded flake.

A very small subcircular flake has a battered or abraded platform edge and a slightly yellowish stained dorsal surface (SF 088:*1028* in context 088:*0117*).

Non-flint stone

A long ovate smooth stone pebble has one end ground bifacially to a very symmetrical blunt and obtuse-angled edge (SF 088:*1006* in context 088:*0636*). The other end is slightly battered and might have been used as a hammer. The chamfered edge is unbattered and it is difficult to tell whether the slight wear is due to use or resulted from its manufacture.

An asymmetrical oval pebble (SF 088:*1021* in context 088:*0061*), and two irregular lumps with some flattish surfaces (SF 088:*1022* in context 088:*0003* and SF 088:*1024*

in context 088:*0178*), – all of sandstone (?) – appear to have been used as hammers. Another quite large irregular sandstone lump might also be a hammerstone (SF 088:*1020* in context 088:*0060*).

A smaller subcircular fine sandstone pebble with one flattish and one slightly convex surface may be a rubbing or polishing stone, although two small side areas are slightly battered so it may also have been used as a hammer (SF 088:*1025* in context 088:*0003*). Another much larger and smoother stone lump also has some smooth surfaces and a slight trace of 'polish' on one edge, as well as a very slightly battered side. It was probably used as a hammer and for polishing and is reddish-coloured from being burnt (SF 088:*1023* in context 088:*0062*).

A large slab of sandstone has one flat surface (very slightly concave) with the other face having slight indentations. It is probably part of a quernstone?

A small rounded sandstone pebble is reddish in colour and possibly burnt although apparently not utilised (context 088:*0926*).

Flint (and stone) by context

Table 13 presents the numbers of flint by context type.

Context type	No.
Pit	2,193
Ring-ditch	522
Post-hole	166
Grave	47
Ditch	21
Finds	24
Pot fill	8
U/S	72

Table 13. Flint by context type from 088

The majority of the flint from 088 was found in pits (Table 13), almost all of which also contained prehistoric pottery, although at the time of writing the ceramic dates were unknown. Flint was also found in fills of ring ditches, post-holes, a grave and other ditches. Eight flints were found in a part of a pottery vessel within a pit. Of seventy two

unstratified pieces, thirty two flints, mainly relatively large irregular flakes and shatter pieces, are in an unlabelled bag.

Flint was found in 117 different 'component' contexts with fifty features containing more than ten pieces and twenty with more than thirty pieces. Particularly large assemblages with cores, debitage and tools, and including significant numbers of blades came from three pits (088:*0002*, *0019* and *0059* with between approximately 250-500 pieces). Many other pits contained lesser numbers of pieces and blade types were few or, largely, absent.

The second largest number of flints was from the ring ditch contexts and these include a mixture of types but with very few blades and relatively few formal tool types.

Site 090: The assemblage

Type	No.
multi-platform flake core	3
single platform flake core	4
multi-platform blade core	1
discoidal core	1
core fragment	2
core/tool	1
tested piece	1
struck fragment	8
shatter	49
flake	196
blade-like flake	11
spall	38
chip	13
blade	6
bladelet	1
scraper	1
piercer	1
spurred piece	1
backed knife	1
fabricator	1
notched blade	1
retouched flake	6
utilised flake	5
utilised blade	2
utilised fragment	1
hammerstone	1
?quern fragments	10
Total	**367**
heat-altered fragment	**1**

Table 14. Summary of the flint by type from 090

Three multi-platform, and four single platform, flake cores were found. They are irregular with several quite chunky pieces and one irregular jagged fragment which has been struck from one end. There is evidence for the use of patinated flint as well as cortical lumps. Many of the flakes struck from the flints would have been short and squat.

One multi-platform small irregular blade core was found (context 090:*0345*) and an irregular discoidal core has flakes struck from both faces (context 090:*0314*).

Two core fragments are also present. One is from the side of a blade core (context 090:*0130*) and the other also has some possible blade type scars (context 090:*0108*).

A fragment of flint with thick cortex on one side is heavily battered around a 'platform' at one end (context 090:*0290*). It appears to have been an unsuccessfully 'tested' piece.

Eight irregular struck fragments were found although several of them are noted as being possible core fragments (one with some blade type scars). The irregular nature of the cores from the site makes it quite hard to differentiate between them and miscellaneous struck pieces. Forty-nine irregular shatter pieces are present. It is notable that several are described as flake-like in some way or another, this is another indication of the irregular nature of the debitage from the site; it is difficult to differentiate between the different types of very irregular knapping debris.

An irregular struck fragment has some coarse retouch or flaking which forms an irregular spur or blunt point (context 090:*0425*). It has been classified at assessment as a core/tool.

A total of 196 unmodified flakes were found. They are mostly irregular and, most often, small although in a few cases larger flakes are present showing that a range of different sized flint was used. Flakes are often thick with wide or thick platforms and pronounced hard hammer struck type bulbs. Angular jagged pieces are present and from one context (090:*0312*) these are almost 'blocky' in nature and over half are heat-altered. There is an occasional more regular flake – sometimes thin and/or tapering in nature. Seventy five percent of the flakes (by number) are complete and 66% have cortex. Of the cortical flakes 5% are primary pieces with entirely cortical dorsal faces. Sixteen

percent of the flakes have cortical platforms and, as at 088, in a few cases the cortex extends around the proximal side of the piece. Only one flake shows evidence for platform edge abrasion and this has blade type dorsal scars. Four percent of the flakes have hinge terminations. Most of the flakes are sharp or quite sharp but some edge damaged pieces are also present. Five percent of the flint is patinated to some degree. No refitting pieces were identified at assessment although a few contexts include flakes of very similar flint (contexts 090:*0126*, *0130* and *0392*).

Eleven unremarkable blade-like flakes were found as well as thirty eight spalls and thirteen small chips.

Only six blades and part of a small bladelet were found. The blades are mostly quite small and regular. Three of them have abraded platform edges. One larger blade (>95mm in length) has its proximal end missing. The blades are all unpatinated.

There are very few formal tools included in the 090 assemblage. A single scraper is made on a small primary flake (context 090:*0001*), and another largely cortical flake has an irregular hinge fractured point at its proximal end which has been utilised as a piercer (context 090:*0434*). A flake or fragment has abrupt retouch forming a spurred point on one side (context 090:*0118*). A possible fabricator is made on a small thermal fragment (context 090:*0001*), a small blade has a possibly retouched notch (context 090:*0314*) and quite large ovate piece, classified as a backed knife, has cortex along one side and probably use-related damage to the other side (context 090:*0461*).

Six edge-retouched flakes are present as well as five flakes and two blades with utilised edges. Another possibly utilised fragment is an unusual thin slab of cortical tabular flint (context 090:*0441*). Part of one edge is slightly battered but the fragment is abraded and it might just be a natural fragment.

A large lump of flint has much of its surface battered and was probably used as hammer (context 090:*0001*).

Ten pieces of flint have flat pecked surfaces and are probably from a quern or other grinding surfaces (contexts 090:*0060* [SF 088:*1024*], *0312*, *0334* and *0377*).

Flint by context

Context type	No.
Post-hole	194
Pit	127
Ditch (Fill)	4
U/S	10

Table 15. Flint by context type from 090

The largest number of flints from 090 came from post-holes (Table 15). Only one post-hole appears to contain pottery (of prehistoric date). The second largest number of flints was from pits and about half of these pits contain prehistoric pottery. Flint was found in fifty one different 'component' contexts with only ten features containing more than ten pieces and only two with more than thirty pieces. Very small numbers of flints were found in ditch or unstratified contexts.

The largest assemblages came from two pits (090:*0059* and *0311*) which in both cases include possible flint quern. The features also contain flint debitage and at least one or two retouched or utilised pieces.

5.3.6 Heat-altered stone

Introduction and methodology

In total, 8,047 fragments of heat-altered (HA) flint and other stone pebbles weighing 187,073g were recovered from the 088 and 090 sites. The quantities by site area and stone type are summarised in Table 16 below and the quantities by context are available presented in Appendix III.e.

Site	Flint		Other stone types		Total	
	No.	Wt.(g)	No.	Wt.(g)	No.	Wt.(g)
088	4,464	76,619	1,690	69,399	6,154	14,6018
090	1,451	21,216	442	19,839	1,893	41,055
Total	**5,915**	**97,835**	**2,132**	**89,238**	**8,047**	**187,073**

Table 16. Heat altered flint and other stone quantities by site areas

Heat-altered stone was initially identified and quantified by fragment count and weight by context and recorded within the bulk finds tables. Flint and other stone types were recorded as separate categories and all of the material was retained at this initial quantification stage. It is considered informative to record more details as it may reveal something about the material's function and how it came to be in these deposits. The size and proportion of stone types is often of note as it may reflect an element of 'selection' of stones suitable for specific purposes such as 'pot-boiling'.

For this assessment, further recording of the stone included identification of the other stone types and a record was made of the degree of heat alteration (FR = fire-reddened, FC = fire-cracked, HA = heat-altered, PB = flint pot boiler). Notes were recorded in additional fields in the Access Bulk finds database tables. Once the material was recorded, most of it was discarded with just small representative sample retained.

The assemblage

A total of 5,915 fragments of heat-altered flint weighing 97,835g was mainly hand-collected. Almost all of the flint can be described as pot-boiler debris, blue-grey to white and extremely fire cracked. Very few pieces were merely fire-reddened.

A total of 2,132 fragments of non-flint other stone, weighing 89,238g was collected. The stone was identified mainly as sandstone (SS) and quartzite (QZ) pebbles or fragments with just a few other erratic stone types such as granite also present. The majority of the pieces are fire-reddened and cracked and more often than not they were found in association with flint pot-boiler debris and are very likely to have had the same function as the flint pot-boilers. Quartzite and sandstones are known to have better thermal qualities and higher resistance to fracture than flint and may even have been deliberately selected for these properties.

Deposition

Overall, nearly 80% of the total assemblage weight was collected from the 088 area (see Table 16). The quantities of all heat-altered stone within the total assemblages of both site areas by feature type are shown in Table 17.

Feature type	No.	Wt.(g)	% Wt
Ditches and other linear features	17	1,054	0.6
Grave	92	855	0.5
Pits	7,131	173,011	92.5
Post-holes	681	7811	4.2
Ring-ditch	122	4,302	2.3
Unstratified	4	40	0.0
Total	**8,047**	**187,073**	**100.0**

Table 17. Heat-altered stone distribution by feature type (both 088 and 090)

The largest proportion of the heat-altered stone assemblage by weight was recovered from pits (92.5%) with the remaining 7.5% recovered from all other feature types or from unstratified collections. The distribution in pits probably represents the deliberate disposal of the material into open features close to areas of occupation rather its association with *in situ* heating/burning.

5.4 Quantification and assessment of the small finds archive

5.4.1 Introduction

A total of fifty six small finds was recovered from the 088 and 090 excavation areas. Thirty nine artefacts date to the prehistoric period, with the remainder being post-medieval and modern. Table 18 shows the breakdown of small finds by site.

Site	Copper	Iron	Flint	Stone	Amber	Bone	Ceramic	Total
088	3		5	10	2	2	8	**30**
090	8	6	1				11	**26**
Total	**11**	**6**	**6**	**10**	**2**	**2**	**19**	**56**

Table 18. Small finds by material type by site

5.4.2 Methodology

The small finds were assigned individual numbers and catalogued on an Access database. Individual metal artefacts were x-rayed to enable identification. Certain

categories of small finds were examined by particular specialists in order to complete the initial catalogues and assessments.

5.4.3 Small finds by period

Twelve prehistoric artefacts were identified, and there were fourteen post-medieval and modern metal finds. The small finds have been preliminarily recorded and the data input onto the site database (Appendix III.f).

Prehistoric

Stone wristguard and amber ornaments

Introduction

A slender, waisted, two-holed stone wristguard with straight ends and elongated D-shaped section (088: SF 088:*1008*, Fig. 25; Plate 21) was found in association with an inhumation burial (088:*0809*) located centrally within a complex multi-phased circular monument, along with a complete Beaker (Fig. 9; Plates 5 and 6) and two objects made from amber (SF 088:*1009* and SF 088:*1010*) (Figures 27 and 28). In view of the unstable condition of the small finds and their considerable significance, full reports were undertaken on both the wristguard and the amber artefacts and are included below.

The wristguard (SF 088:*1008*, Fig. 25; Plates 21)

Slender, waisted, two-holed wristguard with straight ends and elongated D-shaped section; length 111.7mm; maximum width 22.5mm, narrowing to 19.1mm at mid-length; maximum thickness 7.9mm (at one end); weight 36.3g; complete but for three small chips (see below). The upper surface is convex and the lower surface is minimally dished; the junction between the two is crisply defined. The two transverse holes are located at 14.3mm and 19.8mm respectively from the ends, and have been drilled from both sides; on the upper surface the maximum diameter is 6.0mm in one case, and 6.4mm in the other, narrowing to *c* 2.8mm. Both ends have a carefully made, rounded lip which projects above the upper surface. One end also has a pair of hemispherical hollows, each 2.25mm in diameter, while the other end has diagonal, hourglass-drilled holes at the same positions, which exit through the upper surface on the inner edge of the lip and are 1.2mm wide at their narrowest point. Extending from the upper end of each of these perforations to the nearest transverse borehole is a narrow (0.75mm and

0.8mm wide respectively), diagonal incised line; together they create a V-shape. It may be that the hollows on the other end of the wristguard had represented the first step in an abandoned process of creating a similar feature.

The raw material is a very fine-grained, greenish-grey stone which contains a few dark, probably iron-rich inclusions and a few small patches of lighter-grey mottling. The finished item had been carefully polished, all over, to a medium sheen. Traces of the manufacturing process are visible in the form of very faint striations on the upper and lower surfaces, mostly longitudinal (but also running across the underside); some rilling is also visible in the two transverse boreholes and in the smaller holes. There are a few signs of ancient damage, in the form of small chip scars on the long edges, one on each side, close to the end; and the drilling of one of the small diagonal boreholes had led to chipping to the upper surface. There are no obvious signs of wear; while the outer edges of the main boreholes are rounded, this does not necessarily result from use-wear. In comparison to some wristguards, this example looks relatively 'fresh', as if not worn for long before burial.

When found, the wristguard was covered in a thin layer of compacted, fine-grained material that was especially crust-like on the underside, and the holes were choked (the two transverse boreholes were choked with sandy sediment, differing from the material coating the upper and lower surfaces). Before cleaning, the wristguard was examined using an ordinary binocular microscope at x10 magnification, and also using a scanning electron microscope (SEM) (Fig. 26), in order to determine the nature of the material coating the wristguard (and in particular, to check for any traces of a hide strap attaching to the underside) and to check for possible traces of metal residue (from rivets) in the transverse boreholes.

Plate 21. Wristguard SF 088:*1008*, part cleaned; actual size

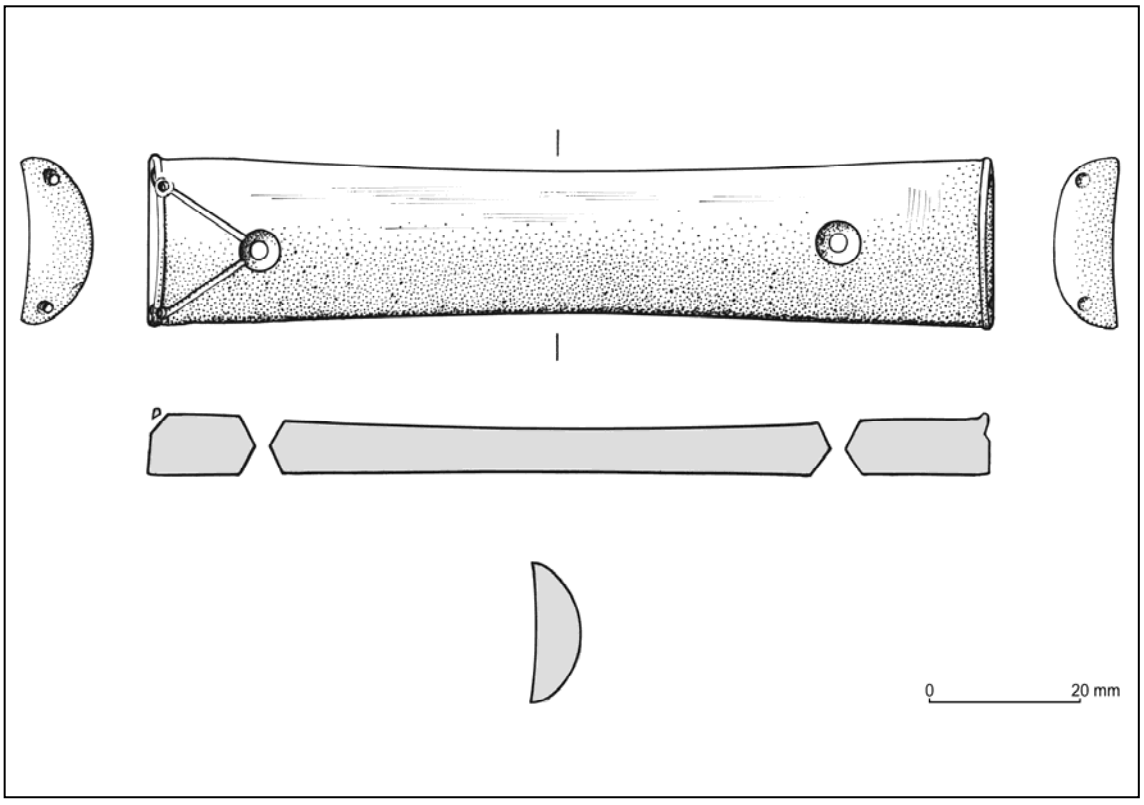


Figure 26. Wristguard SF 088:*1008*; actual size

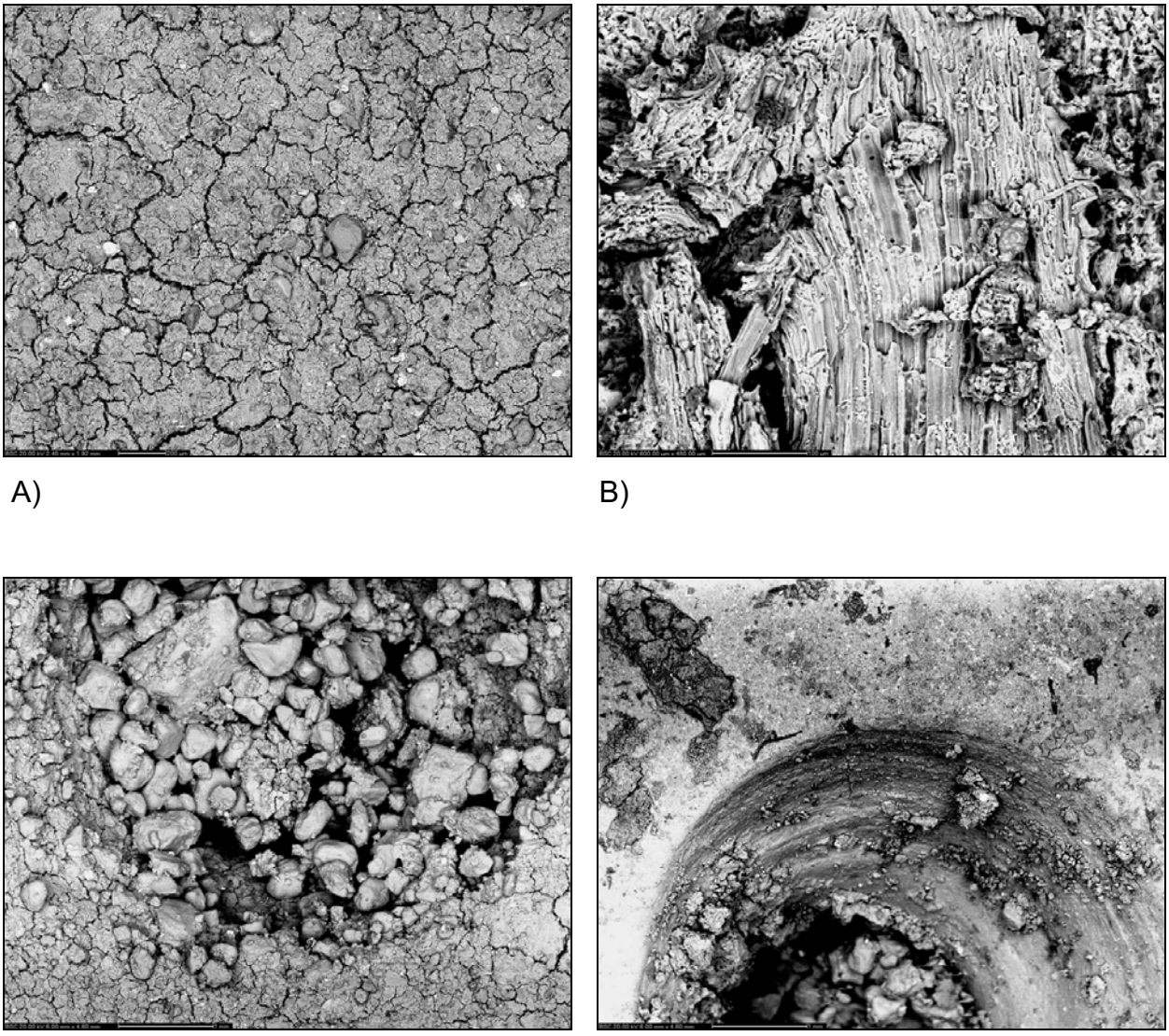


Figure 27. Scanning electron microscope images:

A) Encrusted sediment (x 5)

B) Plant fibre attaching to sediment on top of the wristguard (x 200)

C) Sandy sediment in transverse borehole (x 20)

D) Partly-cleaned borehole showing traces of rilling (x 20)

(images by Suzy Kirk, National Museum of Scotland)

The SEM investigation was undertaken by Dr Susy Kirk, and it confirmed that the material coating both sides was fine-grained sediment, with no traces of any hide present. Plant rootlets were present on the upper surface but not on the underside; also present on the upper side was an insect pupa case, whose presence may indicate the season of interment (i.e. presumably early summer). The SEM microprobe analysis showed that there were no traces of metallic residue from rivets, as is sometimes found in wristguard holes. The incised lines and small holes and hollows on the ends were only found once cleaning had commenced; examination under a binocular microscope during cleaning failed to reveal any traces of cord or any other material in the holes and grooves, and the sediment in them was no different from that noted elsewhere on the surface. Part of the encrusted sediment on the underside was left intact, and the removed sediment was retained.

The wristguard was also inspected by mineralogist Simon Howard, along with a raw material sample of Great Langdale tuff plus two axeheads of this material whose identification as Langdale tuff had been confirmed by petrological thin-sectioning. Macro- and microscopic inspection revealed that the material used for the wristguard was consistent with this. The presence of a few iron-rich inclusions in the stone is consistent with other wristguards made of this material (Roe and Woodward 2007).

Discussion

The practice of using stone 'wristguards' appeared in Britain and Ireland as part of the 'package' of Chalcolithic Beaker novelties around the 25th century BC, being associated with high-status male graves and forming part of the expression of a funerary persona that emphasised prowess in archery (whether it be for warfare or hunting, or both). The use of wristguards as grave goods continued for several centuries (see below). That the Flixton grave's occupant had been a male is suggested by the fact that the body was buried on its left side, following widespread Beaker practice (Shepherd 1986; Tuckwell 1975).

In terms of wristguard typologies (as summarised by Fokkens *et al*. 2008), the Flixton example would count as a Sangmeister type F (albeit with a D-shaped, rather than rectangular section) and as an Atkinson type C2; it does not conform with the typology proposed by Fokkens *et al*. In general, there appears to be a chronological progression

in Britain and Ireland from early, narrow, straight- or convex-sided, flat or flattish two-holed wristguards to later, sometimes broader and more curved versions with four or more holes (although two-holed examples continued to be made). The later variants include elaborations such as gold-capped copper rivets (as is the case at Culduthel, Highland: Clarke *et al*. 1985, fig. 4.16) and lipped ends (ditto). The Flixton wristguard is similar in its size, material and design to the Culduthel example, the main difference being in the number of transverse holes (i.e. two, rather than four). It also differs in having 'blind perforations' or dimples at one end and the narrow perforations plus channels at the other. The significance of these features is unclear, as the tiny diagonal holes would scarcely have assisted in the attachment of the wristguard, either to a hide strap or to the wrist. The grooves and perforations could, however, have been used to house an embellishment – possibly an amulet – fixed on a narrow organic thread; the object would have dangled from that end of the wristguard. Could it be that the large amber boat-shaped object SF 088:*1009*, found close by, had been used in that manner? This possibility is discussed below. The attachment thread would have been anchored to the wristguard not only by being run through the holes, but also by the grooves and presumably also by being looped around the rivet or thong that passed through the transverse hole. As regards the manner of the wristguard's attachment to the wrist, it is possible that it had indeed been riveted to a strap, despite the absence of any trace of rivets. At any rate, there are no signs of the kind of cord wear that could indicate that the piece had been tied directly to the wrist, with a double thong running up and along the top of the wristguard. Regarding the function of wristguards, Fokkens *et al*. have argued persuasively that, since many have been found on the outside of the wrist, they are more likely to have been prestigious adornments mounted onto a functioning hide strap – analogous to north American silver *ketoh* – than functioning bracers in their own right (Fokkens *et al*. 2008). The preservation of the Flixton skeleton was not good enough to show whether the wristguard had been on the outside of the wrist in this case, but, given its position in the grave, this is a clear possibility.

In terms of its dating, the associated Beaker (Plate 6) is of a type – Needham's 'short-necked' (2005); cf. Clarke's 'S2' (Clarke 1970) (*contra*. Percival this volume) – which suggests that the individual was probably buried during the last quarter of the third millennium BC. This places the wristguard chronologically among the later variants; and the fact that it seems to have been made from Langdale tuff offers a further point of comparison with them. The Culduthel wristguard which it resembles has been dated to

3735±35 BP (SUERC-26462, 2280–2030 cal BC at 2σ: Curtis pers. comm.), and a very similar example from Ferry Fryston, West Yorkshire produced an identical date of 3732±27 BP (KIA-25326, 2200–2035 cal BC at 2σ: Roe and Woodward 2007, 300; both dates calibrated using OxCal 4.1). A further Langdale tuff example from Kellythorpe, Driffield, East Riding of Yorkshire, which is virtually identical to the Culduthel example, was associated with three amber ornaments, of which at least two were V-perforated (as discussed below). Recent analysis of a large number of British and Irish wristguards by Ann Woodward and colleagues (Woodward *et al.* 2006; cf. Roe and Woodward 2007; Woodward and Hunter 2011) has highlighted the selectivity of stones – in terms both of colour and of texture – used to make wristguards in Britain and Ireland (as indeed is the case on the Continent). In addition to the Flixton wristguard, some twenty examples made from Langdale tuff are now known (Roe and Woodward 2007), including all the examples that have gold-capped rivets (i.e. those from Culduthel, from Driffield and from Barnack, Cambridgeshire, the last with 18 such rivets: ibid., 301). This could be taken to indicate that Langdale tuff was a particularly prized stone type. Despite some variation in design, there are several features that are shared among several of the Langdale tuff wristguards: the waisted shape, the presence of lipped ends, the length and proportions and the convex upper surface. Furthermore, even though such features need not necessarily relate to the initial manufacture of the wristguards, in three examples in addition to Flixton (namely Dorchester XII, Oxfordshire; Irthlingborough, Northamptonshire and Melton Quarry, Yorkshire, Roe pers. comm.), dimples are present; these are likely to relate to abandoned attempts to create additional rivet holes. A strong case could be made for the exploitation of this rock type by specialists, who produced small numbers of wristguards for elite male clients in various parts of Britain during the last quarter of the third millennium. Most of the Great Langdale wristguards have been found in northern Britain, but southern British examples include the aforementioned example from Barnack, and also examples from Hertfordshire (Tring), Wiltshire (Hemp Knoll and Calne) and Oxfordshire (Dorchester XII: ibid., 301).

Seven other wristguards have been found in Suffolk, Norfolk and Cambridgeshire, from the following findspots: Suffolk: Mildenhall and Brandon (the latter with two Beakers); Norfolk: Hockwold-cum-Wilton (x2), Walsingham; Cambridgeshire: Burnt Fen (Littleport) and Barnack (the latter with a Beaker; Woodward *et al*. 2006, project gallery website section, and Fiona Roe, pers. comm.). Flixton lies some distance to the east of these

other East Anglian findspots, and the Beaker does not resemble the examples from Barnack and Brandon, although that does not preclude the possibility that the owners of these wristguards had all participated in the same elite network.

The amber ornaments (SF's 088:*1009*, *1010*; Figs. 27 and 28)
These are both V-perforated and roughly boat-shaped, although SF 088:*1009* is larger and significantly heavier than SF 088:*1010*.

Ornament SF 088:*1009* (Fig. 27) is around 97% complete, missing only one corner which was lost in antiquity. Its surviving length is 46.2mm; its maximum width (just above the 'base') is 18.2mm; and its height, 21.5mm. It weighs 9.48g. It is roughly symmetrical in plan and profile. The elliptical 'base' is flat and the dome swells out slightly from it before curving up to a rounded ridge; in cross section it is a long, plump D. A pair of diagonal perforations had been drilled from the 'base' and extends almost to the highest point on the ornament, as is clear from the X-ray image (Fig. 27); the image also reveals that the drill tip had been broad and gently rounded. The outer ends of the holes are oval, measuring 4.6 x. 4.2mm and 4.9 x 4.4mm respectively (starting with the hole nearest the damaged end), and the lengths of the holes are *c.*21mm and *c.*19.8 mm respectively. One had been drilled in a single process, with no re-positioning of the drill; the other has traces of one re-positioning, again visible in the X-ray. Traces of the drilling can be seen as barely perceptible rilling. The distance between the holes, as measured between their inner edges, is 9.9mm. The area of intersection of the two holes is relatively small, and it would have been very difficult to pass a thread through the perforation. The ends of the perforations are relatively fresh, with no obvious signs of thread wear. The holes had been choked by the post-depositional ingress of sandy sediment – the same sediment as seen in the transverse holes of the wristguard.

Removal of this sediment revealed the presence of thin organic material; examination of this material using the SEM should reveal whether this represents rootlets that had colonised the ornament following its burial, or else the final traces of the thread which had once run through the ornament.

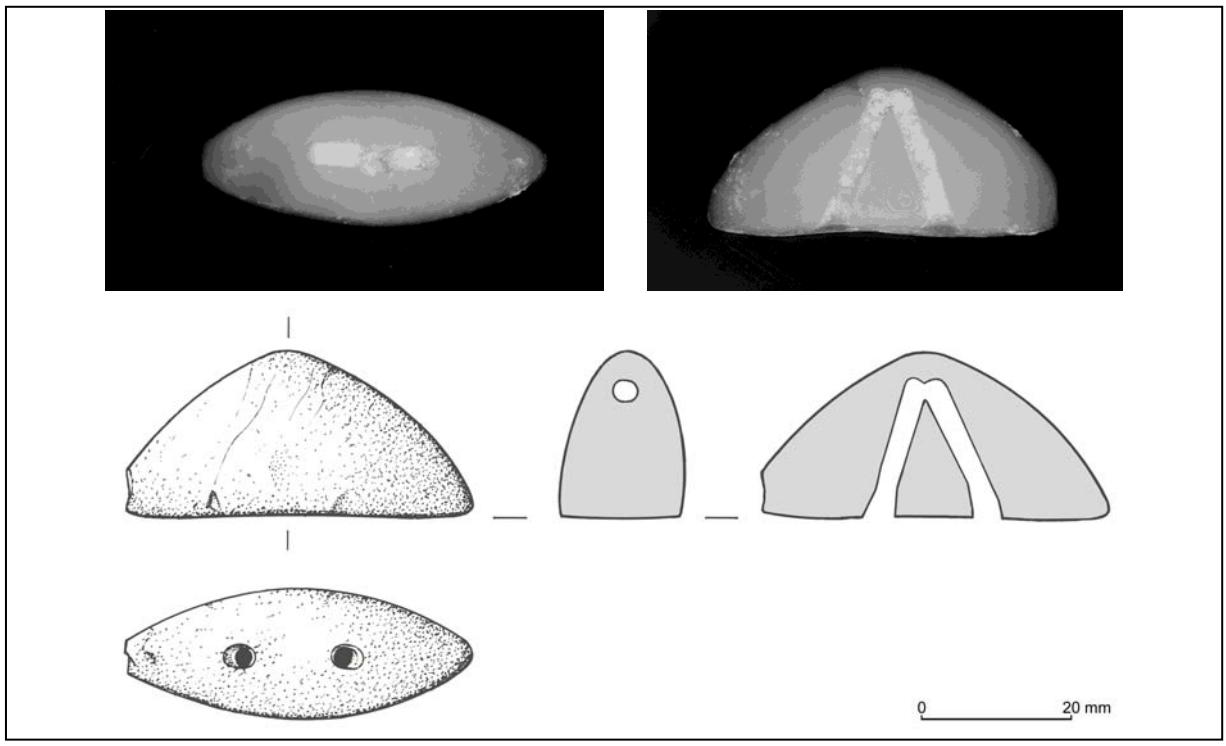


Figure 28. SF 088:*1009*; X-ray and drawing (actual size)

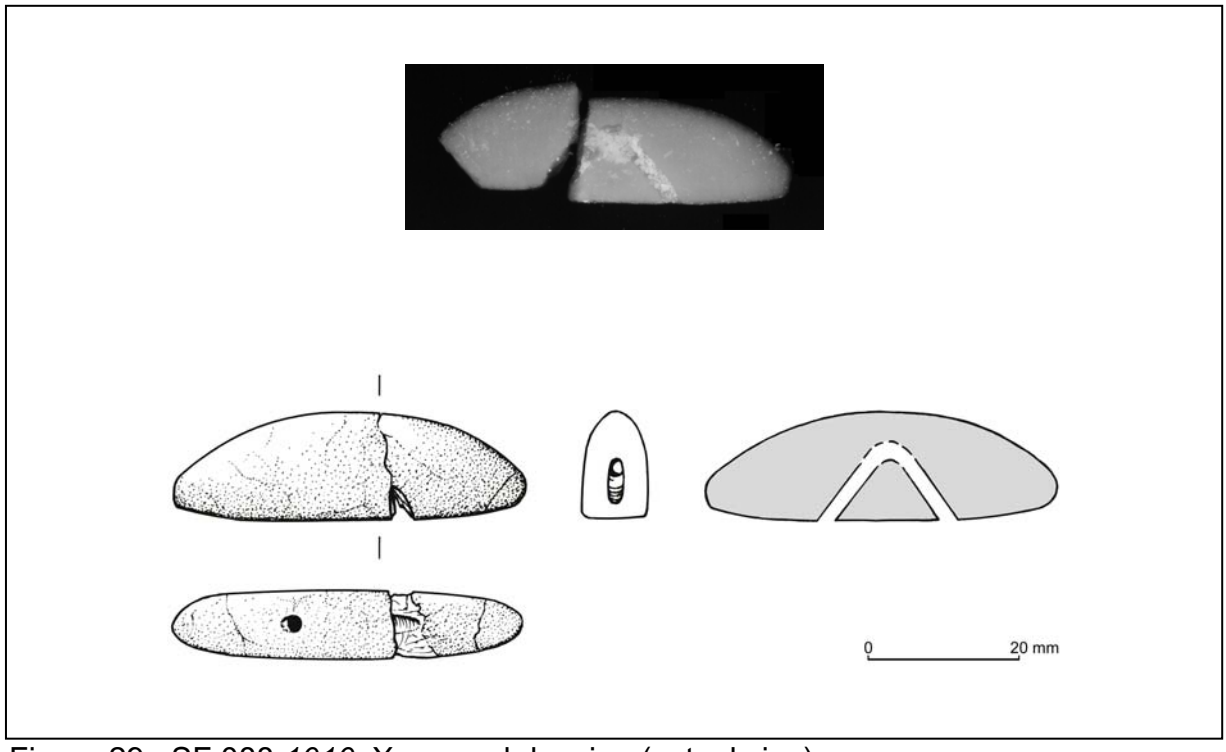


Figure 29. SF 088:*1010*; X-ray and drawing (actual size)

Ornament SF 088:*1010* (Fig. 28) survives as three main conjoining pieces and numerous crumbs and chips; whether these together constitute the entire object is unclear, but the three principal pieces form around 95% of the object. This is a slenderer object than the rather plump SF 088:*1009*, although of comparable length (47.1mm). Its maximum width, just above the 'base', is 9.2mm and the height, 14.0mm. It weighs 3.96g. Its 'base' is elliptical and the body rises steeply and smoothly to a rounded ridge; in profile it is shallower than SF 088:*1009*, and in cross-section it forms a long, narrow D. The V-perforation is also shallower than in SF 088:*1009*, and has a slightly larger area of intersection; the drill end appears to have been rounded, although the inner ends of the boreholes are not very clear on the X-ray. The object had broken across one perforation, to reveal a borehole 2.1 mm wide and with rilling clearly visible. The undamaged borehole measures 3.0 x 2.4mm at its outer end, and the edge appears unworn. Each hole had been drilled in a single action. There is a blob of white and black speckled material adhering to one side of the largest section. While the white material resembles bone, and while quartz grains are also incorporated within it, the identity of the material overall is unknown.

With both SF 088:*1009* and SF 088:*1010*, the current appearance of the amber is very different from its original appearance, due to post-depositional oxidation. Beneath the opaque, cracked, reddish butterscotch-coloured surface (which, on SF 088:*1010*, is *c.*0.6mm thick), the amber is dark red and translucent; whether it had originally been dark red, or a lighter red-orange colour that has subsequently darkened, is a matter for debate. The surface would have been smooth and no doubt polished, and the V-perforations would have been clearly visible.

Discussion

These V-perforated, boat-shaped amber objects belong to a well-known family of V-perforated ornaments, mostly made of jet (and its substitutes) and amber, that were popular among the elite in Britain during the late third and early second millennia BC (Shepherd 2009). Commonly referred to as buttons, only some of these will have been used as such, as Ian Shepherd has pointed out (ibid., 343–7); the possible function/s of the Flixton examples is discussed below. The Flixton objects are remarkable for their large size.

According to Shepherd's classification system for V-perforated ornaments, the Flixton examples would fall within his 'Type 4' (i.e. 'smoothly rounded profile...circular to oval in plan': Shepherd 2009, 341) although they are also comparable with the boat-shaped examples of his 'Type 8' ornaments ('more or less triangular in profile and have flat bases that range in shape from elliptical to rectangular': ibid., 342). Amber is the main material used for Type 4 ornaments, being known from twenty two of the thirty two examples in Shepherd's list; the distribution of this ornament type (ibid., fig. 3) shows clusters in Wessex, Yorkshire and southern Scotland, with scattered examples elsewhere. The currency of Type 4 ornaments spans the last quarter of the third millennium and the first quarter of the second (ibid., 341). Type 8 ornaments are mostly slenderer than the Flixton examples, are mostly of jet or jet-like material, have mostly been found in northern Britain (ibid., fig. 4) seem mostly to have been used as necklace fasteners, and almost all date to the last quarter of the third millennium.

Particularly relevant *comparanda* for the Flixton objects are the large V-perforated amber ornaments from two rich male graves in the East Riding of Yorkshire, at Acklam Wold 124 (burial 4) and at the aforementioned site of Kellythorpe, Driffield (ibid., 360, 362; Beck and Shennan 1991, 145–6, 154–5 and figs. 11.1.3 and 11.5.2). The boat-shaped ornament from Acklam Wold, 26.5 mm long and weighing 2g, was found in the thigh area and was part of a rich assemblage comprising a Beaker, a flint dagger and flint knife, a fire-making kit comprising a flint strike-a-light and lump of iron pyrites, a jet pulley belt ring, a jet button and a bone awl (Mortimer 1905, 90–2); Ian Shepherd has suggested that the amber object is likely to have been a fastener for a pouch, suspended from a belt, and it formed part of an 'established set of accoutrements for a specific purpose' (Shepherd 2009, 347). The body – of an exceptionally tall senior adult male – has recently produced a radiocarbon date of 3774±36 BP (OxA-V-2197-50 S-EVA 2155, 2333–2041 cal BC at 2σ: Shepherd 2009, 340; date produced for, and reproduced courtesy of, the Beaker People Project). The Kellythorpe grave has already been mentioned for having a Langdale tuff wristguard which, like the Culduthel example, has gold-capped rivets and which shares several features in common with the Flixton example. The adult male had been wrapped in linen, and also present was a Beaker, a copper knife-dagger and its sheath or scabbard, an object described as 'bronze buckle' for a wristguard (although no parallel for such an object is known from Bronze Age Britain) and the skull of a hawk. The persona of the deceased was therefore strongly phrased in terms of hunting prowess. Three amber ornaments were

found in the neck area, of which only one survives intact: this is chunky, oval in plan and profile, 28.5 mm long and weighing 8.9 g, and may have been a large pebble that has been minimally modified and V-perforated. The surviving fragment of the second ornament may originally have been of similar shape and size. Given their position at the neck, these three ornaments could have been worn as a necklace, although Shepherd has suggested a use for fastening a cloak (2009, 346). As for the possible function/s of the Flixton objects, the possibility that the one found near the wristguard could have been an amulet attached to it has been mentioned above; an alternative, given that it was found near the neck, is that it had been a cloak fastener. The other one, found in the waist area, could have been a pouch fastener, or perhaps a belt fitting. Neither shows signs of use – or at least, of use for long enough to have left obvious wear traces.

From the above discussion of *comparanda* for the Flixton grave goods it seems likely that this individual was buried during the last quarter (or last two centuries) of the third millennium. The remarkably large size of the Flixton ornaments suggests that their maker had access to sizeable chunks of amber, and given that this grave will have pre-dated the period (starting in the 20th century BC) when elites in Wessex were importing raw amber from Denmark (Sheridan and Shortland 2004), the most likely source of the amber is the coast of East Anglia, where this material is known to wash up, sometimes in large amounts. Some idea of the abundance of the coastal amber supply is given by a recent find of a composite amber-jet-?sperm whale tooth necklace, from a Beaker-associated grave, at Great Cornard, Suffolk: this contains a large number of amber components, some of them sizeable (Sheridan forthcoming). Indeed, given the similarities in grave goods discussed above, it is likely that the East Yorkshire finds – and most of the other Early Bronze Age amber finds in northern Britain, including a remarkable spacer plate necklace recently found at Shaw Cairn at the western edge of the Peak District, http://www.mellorarchaeology.org.uk/archaeology /finds/ amberbeads.htm – are made from amber collected from the East Anglian coast, moving northwards up the North Sea coast as part of an extensive network of elite contacts (See Needham 2009 on the concept of Bronze Age 'maritories' such as this). There is abundant evidence to support the idea that such a network existed; this includes the southwards movement of Whitby jet objects, and the copying of jet spacer plate necklaces in bone in East Anglia (Sheridan and Davis 2002). Amber, like jet, would have been a particularly prized material and it may have been attributed magical powers

on account of its special properties (as a stone that can float and be burnt, and as an electrostatic material: see Sheridan and Shortland 2003 and 2004 for a discussion of amuletic Early Bronze age ornaments).

Overall, then, the Flixton grave goods suggest that the deceased had been accorded elite status and was part of an extensive network of contacts, over which precious objects, ideas and people circulated.

Struck flints and-flint non-flint artefacts

A number of flint flakes possibly of Palaeolithic date were identified from 088, together with an unpatinated complete leaf-shaped arrowhead. Six stone hammer-stones were also collected from stratified features, and the remains of a flint quernstone from context 088:*0178*. A fragment of heat-altered fine-grained stone (SF 088:*1017*) from pit-fill 088:*0646* which has one smooth surface was probably used as a sharpening stone. An additional fragment of possible flint quern came from 090 (SF 090:*1024*). All of these artefacts have been included in the overall struck flint assessment.

Ceramic small finds

Introduction

The prehistoric ceramic small finds consist of a number of loomweights and spindle whorls, which have been assessed below. Table 19 shows the quantities of loomweights by site, whilst the subsequent tables present a breakdown of loomweight types within each site.

Site Code	No. of frags	Wt.(g)
088	97	3,249
090	53	1,055
Total	**150**	**4,304**

Table 19. Breakdown of loomweights by site

Methodology

The fragments of loomweights were examined with a hand lens and details of their fabric and dimensions were recorded in an Access database. All of the fragments were weighed and identifiable features allowing them to be assigned to broad type have been noted. The fabrics have been compared with previous fabric descriptions for fired clay

from Flixton. 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. Significant fragments have been photographed and these images will form a part of the site archive.

Loomweights from 088

The loomweight fragments largely survive in good condition, often as sizeable pieces of the original object. Just occasionally, as with contexts 088:*0151* and 088:*0223*, they are in poor condition and liable to fragment still further. Two forms of loomweight can be identified and a small number of fragments may possibly belong to a third type. Most of the fragments that can be identified to type come from cylindrical loomweights. They are drum–shaped with flat upper and lower surfaces and their size, shape and fabrics correspond well with earlier discoveries from Flixton. Approximately one third survives of two loomweights (SF's 088:*1014* and *1016*), and just over 50% of a third loomweight (SF 088:*1007*). These have estimated original weights of 1,420g, 1,175g and 1,096g respectively. All three loomweights came from separate contexts. Their dimensions have also been recorded (Table 20). All three loomweights were produced in a fine sandy fabric with some voids but no flint inclusions (fsv). All of the cylindrical loomweight fragments are buff coloured and have been produced in fine sandy fabrics, either with occasional flint (fsf) or with some voids (fsv) and sometimes with both of these inclusion types present. In general, they provide a homogeneous group of fragments in terms of their fabrics, which show little variation. One of the loomweights includes finger impressions close to a flat surface, whilst a second loomweight has smaller dimpled indentations across a flat surface. A third fragment has comb–point decoration on a flat surface.

Smaller fragments of cylindrical loomweights were recovered from five further contexts. The original weights of these fragments could not be determined, but their diameters have been measured. The cylindrical loomweights vary in height from 91–101mm (a slightly greater range than the figures for previous Flixton sites), and diameters extend from 99.5mm to 120mm, figures that lie within the previously established range. Smaller fragments probably from cylindrical loomweights came from a further three contexts.

An incomplete pyramidal loomweight of 'truncated cone' form (SF 088:*1015*) has a single lateral perforation close to the apex. This type of loomweight occurs also in fragmentary form at 090, but has not been seen previously at Flixton. The pyramidal form is thought to be slightly later in date than the cylindrical form, albeit with some overlap (Bond 1988, 37). A period of overlap appears also at Flixton. Context 088:*0606* produced a small fragment with a diameter of 75mm, which comes from a pyramidal loomweight of 'truncated cone' form, as well as three fragments from a cylindrical loomweight, and a fourth piece, probably also from a cylindrical loomweight, which has comb–point decoration running in a line across a flat surface. Comb–point decoration has been associated previously with Middle Bronze Age loomweights (Clarke and Lavender 2008, 38) but in this case the fragment is more redolent of a Late Bronze Age date.

Site	Context	SF No.	Loomweight type	Extent	No. of frags.	Wt.(g)	Estimated Original Wt.	Estimated Diameter (mm)
088	*0086*	-	Cylindrical	Fragment	3	93.9		102.0
088	*0193*	-	Cylindrical	Fragment	6	134.2		
088	*0534*	-	Cylindrical	Fragment	2	122.2		99.5
088	*0600*	*1013*	Cylindrical	Fragment	14	224.0		112.0
088	*0606*	*1012*	Cylindrical	Fragment	3	167.2		108.0
088	*0619*	*1016*	Cylindrical	Incomplete	1	606.0	1,175	110.0
088	*0783*	*1014*	Cylindrical	Incomplete	1	430.0	1,420	120.0
088	*0882*	*1007*	Cylindrical	Incomplete	1	392.0	1,096	112.0
088	*0223*	-	Cylindrical ?	Fragment	20	153.5		
088	*0607*	-	A	Fragment	1	51.9		
088	*0614*	-	Cylindrical ?	Fragment	1	45.6		
088	*0606*	*1012*	Cylindrical or Pyramidal	Fragment	2	50.1		
088	*0534*	*1019*	Cylindrical or Triangular	Fragment	2	44.7		
088	*0151*	-	Indeterminate	Fragment	2	41.7		
088	*0534*	-	Indeterminate	Fragment	25	164.5		
088	*0606*	*1012*	Pyramidal Truncated Cone	Fragment	1	14.7		75.0
088	*0696*	*1015*	Pyramidal Truncated Cone	Incomplete	1	273.0	327	71.2
088	*0534*	-	Poss slab?	Fragment	10	224.0		
088	*0022*	-	Triangular or Pyramidal	Fragment	1	15.5		

Table 20. Loomweight catalogue for site 088

The largest number of ceramic loomweight fragments came from context 088:*0534*, where two loomweights may be present. Twelve fragments include parts of two flat faces and this suggests that they derive from a triangular loomweight, although too little survives to be certain of this identification. Equally, they may possibly stem from a ceramic slab, conceivably of Late Bronze Age date (Hall 2000, 180). Three further fragments from the same context are undoubtedly from a cylindrical loomweight.

Loomweights from 090

The fifty three fragments of ceramic loomweight come from nine separate contexts. The fragments examined for the assessment are believed to be loomweights. Arguments have been presented to suggest that fired clay objects may not have been loomweights, but served instead as kiln furniture (Poole 1995; 2011, 137), but these are not unduly convincing assertions, and an interpretation of these objects as loomweights, in line with recent texts (Blin *et al* 2003; Champion 2011, 219), has been followed here.

All of the loomweight fragments have been fired and they have a buff–coloured exterior. Some have reduced or oxidised cores. Each context provided no more than a minimum number of a single loomweight, with the exception of 090:*0384*, where parts of two cylindrical loomweights could be identified. Most of the contexts provided a single fragment or a small number of fragments. Context 090:*0060* provided thirty five fragments, but most of them weigh only a few grammes. Four fragments from 090:*0384* could be fitted together to form part of the side of a cylindrical loomweight.

Almost all of the fragments have been produced in a relatively fine fabric with sparse pieces of quartz, mostly less than 1mm, and few other inclusions, although numerous voids are present. Occasional larger white flint and dark red clay pellet inclusions also occur, but no chalk is present at all, and they can be assigned generally to fabrics fsf and fsv, with occasional examples of fscq and fscp. The voids may be the result of the leaching of chalk inclusions and they can be quite large in some cases. Other ceramic loomweights from Flixton have been found in fabrics, fsv, ms or msv. In general, triangular loomweights from Flixton seem to have been fired in coarser fabrics than cylindrical loomweights.

The loomweights are summarised by type in Table 19. All of the fragments appear to be of prehistoric origin and none are recognisable as of Anglo–Saxon date. The

majority are fragments from cylindrical loomweights of Middle to Late Bronze Age date. An attempt was made to reconstruct as many original dimensions as possible for the cylindrical loomweights but unfortunately the fragments are too small to allow much to be said about them. Diameters were measured where possible but no overall heights for any loomweight could be established. Other cylindrical loomweights from Flixton are around 75 – 80mm in height. The four conjoined fragments (SF 090:*1019*) from context 090:*0384* extend to a little over 80mm in height, but part of just one flat face can be seen, and the original height was probably around 85–90mm.

Site	Context	SF No.	Loomweight type	Extent	No. of Frags.	Wt.(g)	Estimated Diam. (mm)
090	*0060*	*1025*	Cylindrical	Fragment	1	87.2	115.0
090	*0060*	-	Cylindrical	Fragment	34	190.8	
090	*0384*	*1018*	Cylindrical	Fragment	1	105.1	112.0
090	*0384*	*1019*	Cylindrical	Fragment	4	181.4	127.0
090	*0386*	*1022*	Cylindrical	Fragment	3	174.0	116.0
090	*0392*	*1021*	Cylindrical	Fragment	1	43.9	84.0
090	*0403*	*1023*	Cylindrical ?	Fragment	1	101.9	78.0
090	*0334*	*1016*	Cylindrical or Triangular	Fragment	1	33.2	
090	*0388*	*1020*	Triangular	Fragment	1	35.5	
090	*0377*	*1017*	Cylindrical ?	Fragment	4	75.0	
090	*0441*	-	Cylindrical or Triangular	Fragment	1	28.2	

Table 21. Loomweight catalogue for site 090

Most fragments have curved exteriors, accompanied in some cases by segments of flat surfaces. The diameters of the curved surfaces could be measured in six cases (Table 21). They range from 78mm to 128mm. Cylindrical loomweights from other sites at Flixton all have diameters in excess of 100mm, extending up to 140mm. Two fragments (SF 090:*1021* and 090:*1023*), from contexts 090:*0392* and 090:*0403* respectively, are slightly smaller than the sequences seen from other Flixton sites, and this is possibly because they derive from pyramidal loomweights of the 'truncated cone' form, a type of loomweight not previously encountered at Flixton. No central aperture can be seen on the larger of the two fragments (SF 090:*1023*), although it might be expected, given the extent of the surviving fragment, and that strongly suggests that it comes from a pyramidal loomweight. It should be noted that the range of Late Bronze Age loomweight diameters from Bestwall Quarry, Dorset, is 60–125mm (Woodward 2009, 296), indicating that diameters can vary across sites, as well as across periods of time,

but at Flixton it seems that four types of prehistoric loomweight can now be identified, and that each has a relatively restricted range of sizes.

No overall weights for individual loomweights could be established. Fragments weigh up to 181g (the weight of the four conjoined fragments from 090:*0384*) but even that weight is likely to be a small fraction of the original weight of the object. Cylindrical loomweights from Burghfield in Berkshire, for example, weighed around 1kg (Bradley *et al* 1980, 275). No overall weights have yet been established for any cylindrical loomweights from Flixton, and only two weights are known for individual triangular loomweights.

One fragment (SF 090:*1020*) includes part of a flat surface and has fractured across a perforation. It appears to come from a triangular loomweight and is the only fragment that can be securely assigned to this type. There are no pieces identifiable as pyramidal loomweights, which have been seen elsewhere at Flixton. Several fragments include parts of a flat surface but this characteristic, on its own, does not mean that they are of triangular form, given that cylindrical loomweights of Late Bronze Age date have flat upper and lower faces.

Spindle whorls and mould fragments

A complete ceramic spindle whorl (SF 088:*1018*) has a diameter of 34mm and weighs 17.5g. It is discoidal in section with lightly rounded upper and lower faces and resembles a Late Bronze Age example from Potterne (Hall 2000, fig 64.3). Alongside an example from 090, it could be the earliest spindle whorl to have been recovered, as yet, from Flixton. A small fragment of a second ceramic spindle whorl came from context 088:*0223*. It has a curved surface and part of a perforation, but is not identifiable to type.

An incomplete ceramic spindle whorl (SF 090:*1026*), surviving in poor condition, came from context 090:*0057*. It is biconical in form with a conical perforation set a little off–centre, and has rounded upper and lower faces. The form corresponds with Type 3b from Danebury, a form that is also found in Late Bronze Age contexts (Poole 1984, 401; Mepham 2000, 179). Around 40% of the whorl survives and it would originally have weighed around 34–35g. Few spindle whorls have been found in prehistoric contexts at

Flixton and this may be one of the earliest examples to be recovered so far. Previous spindle whorls recovered from the site are of Late Iron Age or Early Anglo–Saxon date.

A ceramic fragment from context 088:*0299*, produced in a fine sandy fragment with some flint, includes a rectangular slot which may be part of a one–piece mould. It is slightly fire reddened, with a lightly curved outer surface.

Post-medieval and modern

Three copper alloy finds of post-medieval date were identified from 088. A George III halfpenny dated 1799 (SF 088:*1002*) was recovered from context 088:*0042* and a very worn jetton (possibly from 16th century Nuremburg) (SF 088:*1004*) and button (SF 088:*1005*) were recovered from surface deposits from the NW/SE orientated ditch 088:*0219*.

The post-medieval metalwork from 090 was recovered from surface finds over features such as ditches of other features which cut the subsoil.

Two copper alloy coins of post-medieval date were identified from 090. One of these is a farthing (SF 090:*1003*) dating to the reign of James I (1603-25), whilst the other, which is very worn, is probably Georgian. A fragment of a copper alloy crotal bell (SF 090:*1008*) was also identified. Two iron horseshoes (SF 090:*1006* and 090:*1007*) were recovered from the fill of a post-hole 090:*0236* cutting the subsoil after initial stripping. One of these (SF 090:*1006*), which is almost complete, is likely to have come from a carthorse or shirehorse as it is so large. It has four rectangular nail holes each side arranged 4/4 with two tapering nails which are still *in-situ.* The horseshoe probably dates to the later part of the post-medieval period. A second almost complete horseshoe from the same context is smaller and earlier in date. It has four rectangular nail holes arranged 4/4, and is made of much thinner metal than SF 090:*1007*. The shoe is also post-medieval but is probably 17th century (Margeson, 1993, 227 nos. 1850/51). Two other copper alloy artefacts (SF 090:*1011* and 090:*1012*) have been only briefly described as they are modern, together with a piece of lead waste and iron nails.

5.5 Quantification and assessment of the environmental evidence

5.5.1 Human skeletal remains

Introduction

Grave 088:*0809* contained the poorly preserved remains of an inhumation burial. Cremated or calcined bone deposits of probable human origin were recovered from three other 088 contexts. Other small quantities of calcined bone were identified as animal and have been passed to the animal bone specialist for assessment.

Methodology

The cremations had been processed prior to analysis. Bone from each context was rapidly scanned to assess condition, age and sex, any immediately obvious pathological conditions.

Inhumation

Human bone was recovered from 088:*1086* (skeleton) and some other contexts within grave 088:*0809*. The bone is extremely poorly preserved and during rapid scanning only the pertous temporal of the skull was identifiable.

Cremated bone

The following pit fills from 088 produced calcined bone:

088:*0006*	130g	A cremation burial containing some large fragments including a piece of the pelvis. Possibly juvenile but very incomplete.
088:*0114*	640g	A cremation burial including lots of large fragments. There is some evidence for degeneration, suggesting an older adult.
088:*0142*	-	1 small fragment, not certainly human, although the presence of a near-complete pot in the pit may suggest a cremation burial.

5.5.2 Animal bone

Introduction

A combined total of 350g of bone was analysed for this report which were produced from sites 0088 and 0090. The remains consist of two domestic mammals and one wild species, along with heavily fragmented calcined bone.

Methodology

The analysis 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. A record was also made of butchering and any indications of skinning, hornworking and other modifications. When possible, ages were estimated along with any other relevant information, such as pathologies. Counts and weights were noted for each context and counts made for each species. Where bone could not be identified to species, they were grouped as, for example, 'large mammal', 'bird' or 'small mammal'. The results were input into an Excel database for quantification and analysis. A summary catalogue and a table of measurements is included with this report and a full catalogue (with additional counts) of the faunal remains is available in the digital archive.

The bone assemblage

Quantification, provenance and preservation

The combined assemblage from the 088 and 090 sites consists of 138 fragments of bone, weighing a total of 350g. An additional piece of mineralised bone was recovered from gravel at 090, but not included for analysis. Just over 12.5% of the bone in the analysis assemblage was found in features at 088, where it was recovered from a pit, a post-hole and a ring-ditch. The majority of the bone (just under 87.5%) was recovered from ditch and pit fills at 090. The faunal remains are associated with evidence suggesting a prehistoric date range. Quantification of the bone by site code, feature type and weight can be seen in Table 22 and by fragment count in Table 23.

Site	Feature type and weight				Site Total
	Ditch	Pit	Post-hole	Ring-ditch	
088	-	2g	1g	41g	**44g**
090	59g	247g	-	-	**306g**
Total	**59g**	**249g**	**1g**	**41g**	**350g**

Table 22. Faunal remains quantification by site, feature type and weight

The bone is generally in a poor and fragmented condition, resulting in an assemblage with no sufficiently complete bone that could allow measurements for estimation of stature or breed. Many pieces from both sites show eroded surfaces that suggest both age and more acidic soil conditions. A single sheep/goat humerus from the ditch 090:*0219* (context 090:*0293*) showed slight canid gnawing at either both the proximal and distal ends of the bone. Three features (090:*0059*, *0065* and *0333*) produced heavily calcined, fully oxidised bone.

Site	Feature type and fragment count				Site Total
	Ditch	Pit	Post-hole	Ring-ditch	
088		1	2	11	**14**
090	2	122			**124**
Total	**2**	**123**	**2**	**11**	**138**

Table 23. Faunal remains quantification by site, feature type and fragment count

Species range and modifications and other observations

Three species were identified in this assemblage. There are a number of fragments that were only identifiable as 'mammal'. However, the majority of these were tiny fragments of burnt bone that had been crushed and damaged in a fire, resulting in higher fragmentation. Quantification of the assemblage by site code, species and NISP is presented in Table 24 and by species, NISP and feature type in Table 25.

Site	Species and NISP				Total
	Equid	Mammal	Sheep/goat	SM - Hare	
088	11	3		1	**15**
090	8	114	1		**123**
Total	**19**	**117**	**1**	**1**	**138**

Table 24. Faunal remains quantification by site, species and NISP

Equid remains are the most frequent. Fragments of an equid metapodial were found in ring ditch 088:*0438* (context 088:*0803*); these showed quite eroded surfaces and no evidence of butchering (such as skinning) was seen. Equid upper molars and scapula fragments, from an adult animal, were recorded from pit 090:*0438* (context 090:*0439*). A single cut sheep/goat femur was produced from ditch 090:*0219* (context 090:*0293*), which is from an adult individual; this bone showed canid gnawing at both the proximal and distal end.

Wild species were represented by a tibia from a Brown Hare, which was yielded from ring-ditch 088:*0879* (context 088:*0901*). No butchering was seen on this bone.

	Species and NISP				Feature
Feature Type	**Equid**	**Mammal**	**Sheep/goat**	**SM - Hare**	**Total**
Ditch		1	1		**2**
Pit	8	114			**122**
Post-Hole		2			**2**
Ring-ditch	11			1	**12**
Species Total	**19**	**117**	**1**	**1**	**138**

Table 25. Faunal remains quantification by feature type, species and NISP

Three 090 pits (090:*0059*, *0065* and *0333*, contexts 090:*0060*/*0063*, *0066* and *0334* respectively) produced heavily calcined, fully oxidised bone. Much of this bone was highly fragmented and the slightly larger fragments had undergone some warping and cracking. None of these heavily burnt fragments showed any diagnostic zones that could allow species or element identification.

5.5.3 Charred plant macrofossils and other remains

Introduction and method statement

Samples for the retrieval of the plant macrofossil assemblages were taken from across the excavated areas and a total of fifty seven were submitted for assessment.

The samples were bulk floated by SCCAS and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed in Tables 26 – 31. Nomenclature within the tables follows Stace (1997). All plant

remains were charred. Modern roots, seeds and fungal sclerotia were also present throughout.

Results

Cereal grains/chaff, seeds of common weeds/grassland herbs and tree/shrub macrofossils were present at a low density within thirty eight of the assemblages studied. Preservation was generally poor, with many grains and seeds being both puffed/distorted (probably as a result of combustion at very high temperatures) and very fragmentary. However, occasional macrofossils were moderately well preserved.

Both barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, along with a number of cereals which were too poorly preserved for close identification. Of the identifiable cereals, wheat occurred most frequently, with the majority of the grains being of an elongated 'drop' form typical of both emmer (*T. dicoccum*) and spelt (*T. spelta*). Emmer and spelt glume bases were also recorded and, in addition, sample/context 088:*0003* (from Early Neolithic pit 088:*0002*) included a possible fragment of an indeterminate large legume (Fabaceae) of pea/bean type.

Weed seeds were generally scarce, occurring within only seventeen assemblages. Taxa noted included indeterminate small legumes (Fabaceae), black bindweed (*Fallopia convolvulus*), small grasses (Poaceae), buttercups (*Ranunculus* sp.) and vetch/vetchling (*Vicia/Lathyrus* sp.). Sample/context 088:*0983* (from Early Bronze Age ring-ditch 088:*0789*) also included at least one fragment of an onion-couch (*Arrhenatherum* sp.) type tuber. Hazel (*Corylus avellana*) nutshell fragments were noted within nineteen assemblages, being especially common within three Late Bronze Age/Early Iron Age pits (088:*0677*, 090:*0297* and *0387*; samples/contexts 088:*0678*, 090:*0298* and *0388* respectively). Charcoal/charred wood fragments, many of which were extremely comminuted, were present throughout, but other plant macrofossils were scarce.

Although many of the black porous and tarry residues were probably derived from the combustion of organic remains at very high temperatures, others were very hard and brittle and were possible bi-products of the combustion of coal, small fragments of which were noted within a number of assemblages. Both the brittle residues and the coal

were almost certainly intrusive within the features fills, having been introduced via root channels, animal disturbance or similar bioturbation.

Other remains were generally scarce, although fragments of bone (some of which were calcined), pellets of burnt or fired clay and splinters of heat shattered stone were recorded. Small fragments of what appeared to be amber or amber coloured glass were noted within two of the samples from Early Bronze Age grave 088:*0809* (contexts/samples 088:*1083* and *1085*).

Discussion

For the purposes of this discussion, the samples have been divided by date and feature type.

The key to the accompanying tables is presented below:

x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens xxxx = 100+ specimens
cf = compare b = burnt fg = fragment ph = post-hole Crem = cremation R.ditch = ring-ditch
ENEO = Early Neolithic EBA = Early Bronze Age LBA = Late Bronze Age LIA= Late Iron Age
Prehis = prehistoric

Early Bronze Age funerary monument 088:*0065* (Table 26): Four samples were taken, two from post-hole 088:*0110* (samples/contexts 088:*0111* and *0112*) and two from cremation pit 088:*0113* (samples/contexts 088:*0114* and *0117*).

The post-hole assemblages are relatively sparse, although both do contain charcoal/charred wood fragments.

The cremation assemblages are also limited, but fragments of charred root/stem, indeterminate tubers, porous residues and calcined bone fragments are recorded along with the charcoal/charred wood and a single possible small legume cotyledon. It is assumed that the plant remains are probable relicts of the flora burnt *in situ* beneath the pyre, whilst the porous residues are probably derived from the cremation process.

Context No.	***0111***	***0112***	***0114***	***0117***
Cut No.	***0110***	***0110***	***0113***	***0113***
Monument	***0065***	***0065***	***0065***	***0065***
Feature type	**ph**	**ph**	**Crem**	**Crem**
Date	**EBA**	**EBA**	**EBA**	**EBA**
Herbs				
Fabaceae indet.			xcf	
Other plant macrofossils				
Charcoal <2mm	xx	xxxx	xxxx	xxxx
Charcoal >2mm	x	xxx	xxx	xxx
Charcoal >5mm		xx		xx
Charcoal >10mm				x
Charred root/stem			x	
Indet.seeds			x	
Indet.tubers			x	x
Other remains				
Black porous 'cokey' material			x	x
Bone			xb	
Small coal frags.		x		
Sample volume (litres)	**20**	**10**	**10**	**20**
Volume of flot (litres)	**0.2**	**0.1**	**<0.1**	**0.2**
% flot sorted	**50%**	**100%**	**100%**	**50%**

Table 26. Samples from monument 088:*0065*

Early Bronze Age composite funerary monument 088:*0788*/*0789*/*0821*/*0856*/*0809* (Table 27): Fourteen samples were taken from ring-ditch, post-hole and grave fills associated with the composite Early Bronze Age monument 088:*0789*/*0788*/*0821*/*0856*/*0809*.

The ring-ditch and post-hole fills are particularly sparse, with most containing little other than fragments of charcoal/charred wood. However, the assemblage from segment 088:*0862* of ring-ditch 088:*0789* (sample/context 088:*0983*) does include charred root or stem fragments, a buttercup seed and tubers, including at least one specimen of onion-couch type. The similarity of this assemblage to those from the cremation deposits is possibly of note. Although the five fills within grave 088:*0809* do contain seeds, nutshell fragments and a possible cereal grain, the density of material is extremely low and it is considered most likely that all are derived from scattered detritus, which was accidentally incorporated within the grave fill. However, as stated above, two of the grave fills do contain what appear to be minute fragments of amber, which may be derived from the objects that were deliberately placed in the grave with the deceased (see small finds section).

Context No.	***0855***	***0917***	***0942***	***0965***	***0980***	***0983***	***0915***	***0918***	***0930***	***1068***	***1081***	***1083***	***1084***	***1085***
Cut No.	***0793***	***0879***	***0795***	***0802***	***0819***	***0862***	***0856***	***0856***	***0929***	***0809***	***0809***	***0809***	***0809***	***0809***
Part of	***0788***	***0788***	***0788***	***0788***	***0789***	***0789***	***0856***	***0856***	***0821***	***0809***	***0809***	***0809***	***0809***	***0809***
Feature type	**R.ditch**	**R.ditch**	**R.ditch**	**R.ditch**	**R.ditch**	**R.ditch**	**R.ditch**	**R.ditch**	**ph**	**Grave**	**Grave**	**Grave**	**Grave**	**Grave**
Date	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**	**?EBA**
Cereals and other food plants														
Cereal Indet. (grains)												xcffg		
Herbs														
Arrhenatherum sp. (tubers)						x								
Ranunculus acris/repens/bulbosus						x								
Vicia/Lathyrus sp.										x	x			xcf
Tree/shrub macrofossils														
Corylus avellana L.												xcf		
Other plant macrofossils														
Charcoal <2mm	x	xxxx	xx	xxx	x	xxxx	xx	xxxx	xxxx	xxxx	xxxx	xxxx	x	xxx
Charcoal >2mm	x	xxxx	xx	xx	x	xx	x	xx	x	xxx	xx	xxx	x	x
Charcoal >5mm	x	xx				x	x	x	x	xx	x	x		x
Charcoal >10mm		x				x				x				
Charred root/stem						x	x	x		x	x			
Indet.tubers						x								
Other remains														
Black porous 'cokey' material						x	x	x						
Black tarry material	x	x					x	x		x		x		
Bone												x xb	x	x
Burnt/fired clay				x				x		x		x		
Burnt soil concretions												x		x
Glass/amber frags.												x		x
Small coal frags.		x	x				x							x
Sample volume (litres)	**40**	**30**	**40**	**40**	**40**	**40**	**40**	**40**	**5**	**40**	**20**	**10**	**10**	**90**
Volume of flot (litres)	**0.2**	**<0.1**	**0.4**	**0.4**	**0.1**	**0.3**	**0.2**	**<0.1**	**<0.1**	**0.2**	**0.1**	**0.1**	**0.2**	**0.3**
% flot sorted	**50%**	**100%**	**25%**	**25%**	**100%**	**50%**	**50%**	**100%**	**100%**	**50%**	**50%**	**100%**	**50%**	**50%**

Table 27. Samples from monument 088:*0788*/*0789*/*0856*/*0821*/*0809*

Site 088 Early Neolithic and Late Bronze Age pit fills (Tables 28 and 29): Six Early Neolithic pit fills and ten Late Bronze Age pit fills were sampled (Table 28). All but three contain cereals, chaff, seeds or nutshell fragments. In addition, moderate to high densities of charcoal/charred wood are recorded throughout. It would, therefore, appear that by the later Bronze Age period, both agricultural and domestic activities were well established within the near vicinity. However, in the current instance, it is difficult to ascertain whether all of the assemblages are wholly indicative of the deliberate deposition of refuse within the pit fills, or whether some remains may be derived from the accidental inclusion of scattered detritus.

Context No.	***0003***	***0011***	***0022***	***0061***	***0086***	***0006***
Cut No.	***0002***	***0009***	***0019***	***0059***	***0085***	***0005***
Feature type	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**
Date	**ENEO**	**ENEO**	**ENEO**	**ENEO**	**ENEO**	**ENEO**
Cereals and other food plants						
Hordeum sp. (grains)					x	
Triticum sp. (grains)	xcf	x			x	
(spikelet bases)						
T. spelta L. (glume bases)						
Cereal Indet. (grains)	x		x			
Large Fabaceae indet.	x					
Herbs						
Chenopodiaceae indet.						
Fabaceae indet.						
Fallopia convolvulus (L.)A.Love						
Tree/shrub macrofossils						
Corylus avellana L.					x	
Other plant macrofossils						
Charcoal <2mm	xxxx	xxxx	xxxx	xxx	xxxx	xx
Charcoal >2mm	xxxx	xxxx	xxx	x	xxxx	xx
Charcoal >5mm	xx	xxx	xx	x	xx	xx
Charcoal >10mm	x	xx	xx			xx
Charred root/stem			x			x
Indet.seeds						
Other remains						
Black porous 'cokey' material	x	x	x		x	
Black tarry material						x
Bone				xb		xb
Burnt/fired clay		x		x		
Burnt organic concretions						
Burnt soil concretions				xxxx		
Burnt stone		x				
Small coal frags.						
Small mammal/amphibian bones				x		
Sample volume (litres)	**20**	**20**	**20**	**20**	**20**	**20**
Volume of flot (litres)	**0.2**	**0.2**	**0.2**	**0.2**	**0.4**	**0.3**
% flot sorted	**50%**	**50%**	**50%**	**50%**	**25%**	**50%**

Table 28. Site 088, samples from Early Neolithic pits

Context No.	***0083***	***0121***	***0142***	***0151***	***0186***	***0193***	***0534***	***0538***	***0609***	***0694***
Cut No.	***0082***	***0120***	***0140***	***0150***	***0184***	***0192***	***0533***	***0537***	***0607***	***0693***
Feature type	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**
Date	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**
Cereals and other food plants										
Hordeum sp. (grains)									x	
Triticum sp. (grains)			x						x	x
(spikelet bases)			x							
T. spelta L. (glume bases)					x				x	x
Cereal Indet. (grains)	x		x		x	xcf		x	xcffg	
Large Fabaceae indet.										
Herbs										
Chenopodiaceae indet.						x				x
Fabaceae indet.										
Fallopia convolvulus (L.)A.Love										
Tree/shrub macrofossils										
Corylus avellana L.	x	xcf				x	xcf	x		x
Other plant macrofossils										
Charcoal <2mm	xxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Charcoal >2mm	xx	xxxx	xxxx	xxxx	xxx	xxx	xxxx	xxxx	xxxx	xxxx
Charcoal >5mm	x	xxx	xx	xxx	xxx	x	xx	x	xxx	x
Charcoal >10mm		x	x	x	x	x	x	x	xx	
Charred root/stem						x				
Indet.seeds			xcf			x				x
Other remains										
Black porous 'cokey' material		x	x	x	x	xxxx	x	x	x	x
Black tarry material				x		xx		xx		
Bone										
Burnt/fired clay								x		
Burnt organic concretions						x				
Burnt soil concretions										
Burnt stone						x				x
Small coal frags.						x				x
Small mammal/amphibian bones										
Sample volume (litres)	**20**	**20**	**10**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
Volume of flot (litres)	**0.2**	**0.3**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**	**0.2**	**0.7**	**0.4**
% flot sorted	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**	**12.50%**	**25%**

Table 29. Site 088, samples from Late Bronze Age pits

Site 088 other Late Bronze Age features (Table 30): Ten samples were taken from post-holes within buildings 088:*0502* and 088:*0559*, from other possible pit/post-hole type features and from the fills of a pots within pits 088:*0208* and 088:*0755*.

As with the contemporary pit fills (see above), cereals, chaff, seeds and nutshell fragments are present within most assemblages along with moderate to high densities of charcoal/charred wood and again, it is assumed that in most instances, these remains are derived from scattered agricultural and/or domestic waste.

Context No.	***0211***	***0758***	***0510***	***0522***	***0567***	***0598***	***0604***	***0614***	***0678***	***0606***
Cut No.	***0210***	***0757***	***0509***	***0521***	***0566***	***0597***	***0603***	***0613***	***0677***	***0605***
Part of	***0208***	***0755***	***0502***	***0502***	***0559***	***0559***	***0603***	***0610***	***0677***	***0605***
Feature type	**Pot**	**Pot**	**ph**	**ph**	**ph**	**ph**	**Pit**	**ph**	**Pit/ph**	**Pit**
Date	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**	**LBA**
Cereals and other food plants										
Triticum sp. (grains)				xcffg	xcffg	x				
(glume base)								x		
(spikelet bases)				x						
T. dicoccum Schubl (glume bases)										xcf
T. spelta L. (glume bases)				x				x	x	
Cereal Indet. (grains)		xcf		x	x			x		xcffg
Herbs										
Fabaceae indet.		xcf							x	
Fallopian Convolvulus (L.)A.Love		x								
Galium sp.							xcffg			
Tree/shrub macrofossils										
Corylus avellana L.	xcf				xcf				xxx	x
Other plant macrofossils										
Charcoal <2mm	xxxx	xxxx	xx	xxx	xxxx	xxxx	x	xxxx	xxxx	xxxx
Charcoal >2mm	xxx	xxxx		xx	xxxx	xxxx	x	xxxx	xxxx	xxxx
Charcoal >5mm	xx	xxxx		x	xx	x		xx	x	xxx
Charcoal >10mm	x	xx			x	x		x	x	x
Charred root/stem				x	x	x				
Indet.seeds		x		x					x	x
Other remains										
Black porous 'cokey' material	x	x		x	x	xx	x	xxx	xx	
Black tarry material	x	x				x	x	xxx	x	
Burnt/fired clay	x									
Small coal frags.					x		x		x	x
Sample volume (litres)	**10**		**4**	**20**	**20**	**20**	**10**	**20**	**20**	**20**
Volume of flot (litres)	**0.3**		**<0.1**	**<0.1**	**0.3**	**0.2**	**<0.1**	**0.3**	**0.3**	**0.4**
% flot sorted	**50%**		**100%**	**100%**	**50%**	**50%**	**100%**	**50%**	**50%**	**25%**

Table 30. Site 088, samples from other Late Bronze Age features

Site 090, all samples (Table 31): Thirteen samples were taken; four from Early Bronze Age ring-ditch fills and the others from Early Iron Age/Late Bronze Age and prehistoric pits.

The ring-ditch assemblages are very small (<0.1 litres in volume), but all do include cereals and/or seeds along with charcoal/charred wood and occasional bone fragments. However, coal fragments are also present throughout, possibly indicating that these deposits have suffered some degree of post-depositional disturbance.

The Later Bronze Age/Early Iron Age pit assemblages are very similar to those from site 088. All contain cereals, chaff, weed seeds and/or nutshell fragments along with moderate to high densities of charcoal/charred wood. Some of the assemblages (for example that from pit 088:*0333*) are particularly large, and in these instances it is probably reasonable to assume that some, if not all of the material was deliberately placed within the pit fills. However, it is suggested that the smaller assemblages may still be largely derived from scattered detritus of agricultural or domestic origin.

Context No.	***0021***	***0022***	***0108***	***0111***	***0176***	***0298***	***0292***	***0060***	***0334***	***0388***	***0445***	***0066***	***0396***
Cut No.	***0020***	***0020***	***0103***	***0104***	***0175***	***0297***	***0291***	***0059***	***0333***	***0387***	***0444***	***0065***	***0395***
Feature type	**R.Ditch**	**R.Ditch**	**R.Ditch**	**R.Ditch**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**
Date	**EBA**	**EBA**	**EBA**	**EBA**	**LBA/EIA**	**LBA/EIA**	**LBA/EIA**	**LBA/EIA**	**LBA/EIA**	**LBA/EIA**	**LBA/EIA**	**Prehis**	**Prehis**
Cereals													
Avena sp. (grain)													x
Triticum sp. (grains)	x	x			x					xcf		x	x
(glume bases)					x								
T. dicoccum Schubl. (glume bases)					x								
T. spelta L. (glume bases)					x								
Cereal indet. (grains)	x	x		x	x			x	x	xfg	xcf		x
Herbs													
Anthemis cotula L.	x												
Fabaceae indet.						xcf							
Fallopia convolvulus (L.)A.Love					x							x	
Medicago/Trifolium/Lotus sp.	xcf												
Persicaria maculosa/lapathifolia					x						x		
Small Poaceae indet.	x		x										
Vicia/Lathyrus sp.	x	x											
Tree/shrub macrofossils													
Corylus avellana L.					xcf	xx	x	x	x	xx			x
Other plant macrofossils													
Charcoal <2mm	xxx	x	xxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Charcoal >2mm	xx	x	xx	xx	xxxx	xx	xxxx	xxxx	xxxx	xxxx	xxxx	xxx	xxxx
Charcoal >5mm				x	xx	x	xxxx	xx	xx	xxx	x	x	xx
Charcoal >10mm					x		xx	x	x	x	x	x	x
Charred root/stem	x				x			x		x			
Indet.seeds	x	x					x	x				x	
Other remains													
Black porous 'cokey' material	x		xx	x	xx		x	x	x	x	x	x	x
Black tarry material			xx	x			x			x	x	x	
Bone			x	xb							x	xb	
Burnt/fired clay				x	x	x					x		
Burnt stone						x							
Mineralised soil concretions						xx							
Small coal frags.	xx	x	x	x							x		
Sample volume (litres)	**40**	**40**	**40**	**40**	**20**	**20**	**20**	**40**	**10**	**40**	**40**	**10**	**30**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.8**	**0.3**	**0.2**	**<0.1**	**0.2**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**50%**	**50%**	**50%**	**50%**	**12.50%**	**50%**	**50%**	**100%**	**50%**

Table 31. Site 090, all samples

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 of the project.

Brief and Specification dated 17th May 1999

RA1: The academic objective will centre upon the high potential for the site to produce evidence for settlement and funerary activities from prehistoric through to medieval times.

Realisation: Significant prehistoric archaeology was recorded with the three principal phases being the Early Neolithic (pits), later Bronze Age/earlier Iron Age (extensive occupation deposits including buildings and structures) and Early Bronze Age (funerary deposits).

Other than the prehistoric archaeology, all features and deposits related to the post-medieval history of the site as part of the parklands associated with Flixton Hall.

Brief and Specification 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. While it was not always necessary to monitor the removal of topsoil as there was generally an underlying intervening layer of subsoil over the archaeological levels, a constant presence was maintained during the exposure of the archaeology.

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. All features, groups of features and monumental structures were assessed and treated according 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 three principal phases being the Early Neolithic (pits), later Bronze Age/earlier Iron Age (extensive occupation deposits including buildings and structures) and Early Bronze Age (funerary deposits).

Other than the prehistoric archaeology, all 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/Phase I.a. (Palaeolithic)

The Palaeolithic evidence was limited to residual worked flints recovered from later features and as such is of no stratigraphic significance. No further work is recommended other than a passing note in any subsequent publication.

6.2.3 Period/Phase I.c. (Early 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 Early Neolithic archaeology at Flixton includes both probable domestic type deposits and at least one funerary monument (a long barrow in 069). In addition, a long enclosure has more recently been recorded in site 091 to the south-east of the area covered by this assessment.

The Early Neolithic features in this assessment, essentially a loose cluster of arguably domestic-type pits located towards the northern-east corner of 088, included one feature that produced one of the largest and best preserved assemblages of pottery of that period from Flixton so far.

The research agenda states that future research would benefit from the exploration of the relationship between Neolithic and Bronze Age funerary landscapes and settlement (Medlycott (ed.) 2011, 13), an opportunity for which is afforded by the Flixton sites and should be considered to be of at least regional significance.

6.2.4 Period/Phase I.d. (Late Neolithic)

The Late Neolithic evidence was limited to presumably residual pottery recovered from a later feature and as such is of little stratigraphic significance. No further work is recommended other than a passing note in any subsequent publication.

6.2.5 Period/Phase 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 essentially relates to the funerary aspects of the landscape with two monuments in 088 and a further two in 090. One of the 088 monuments comprised a complex of four recognisable, concentric phases around the central which included high status grave goods. This burial alone is of national significance.

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 should be considered to be of at least regional significance.

6.2.6 Period/Phase I.g. and I.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 later Bronze Age/earlier Iron Age archaeology covered by this assessment effectively comprises two thirds of a discrete settlement area which overall covers approximately five hectares. Given that the whole settlement area has now been examined, the Flixton sites give the opportunity to study its development both spatially and temporally along with its relationship to other broadly contemporary areas of occupation previously excavated in the quarry. In addition, the structural evidence at Flixton is remarkably consistent. Potentially there is a locally distinctive type of roundhouse based on a semi-circular arc of seven post-holes to the west/west-north-west and a four or six post porch to the east/east-south-east.

Clearly the site has local significance and has the potential to be of regional or even national significance.

6.2.7 Period/Phases I.0. (prehistoric unspecified date)

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

6.2.8 Period/Phases V.b. (post-medieval, 17th – 19th centuries)

The features attributed to this phase essentially related to the development of the Flixton Park Estate during the 17th to 19th centuries, although the route of the former Flixton to Homersfield road and some of the field boundaries may have survived through from an earlier period. 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.

6.2.9 Period/Phases V.b. (post-medieval, 20th century)

All of the features attributed to this phase were interpreted as modern tree holes and have no archaeological significance. No further work is recommended other than a passing note in any subsequent publication.

6.2.10 Period/Phases 0 (undated)

The features attributed to this phase were generally unremarkable and not datable. However, at least some of the undated ditches form part of an integrated field system and all of the available evidence should be explored to try and ascertain at least a broad dating for these features.

6.3 The potential and significance of the finds data

6.3.1 Introduction

This finds assessment provides a summary of the cultural material from part one of the two projected assessments for the third phase of post-excavation analysis at Flixton Quarry. In contrast to the two previous stages of work on the site, the recorded archaeology is mainly prehistoric and post-medieval in date with no Roman or Early Anglo-Saxon features identified.

6.3.2 Pottery

The earlier Neolithic pottery, and especially that from pit 088:*0059*, represents one of the largest and best preserved assemblages of this date to be found so far at Flixton Quarry and contains a wide range of Plain Bowl forms. It would be of interest to undertake radiocarbon dating on material associated with this pottery and compare the dates with those achieved for other Earlier Neolithic pottery found at the quarry, in particular the Plain Bowl and Mildenhall Bowl found on site 069. If the resolution of the radiocarbon dates is reasonable it may be possible to use this data to refine bowl chronologies, as has been undertaken for earlier Neolithic forms in Wessex (Cleal 2004).

The Peterborough Ware is unstratified and cannot be easily dated from associated material. Peterborough Ware remains reasonably rare in East Anglia but has been found at Yarmouth Road, Broome, some 20 miles north-east of Flixton and at Carlton Colville *c.*23km to the east along the Waveney valley (CAC 030). A possible parallel for the Fengate style vessel was found at Cavenham CAM 029 (Dr Adam Tinsley pers. comm.).

Beaker (088:*1087*) from grave 088:*0809* adds another complete example to the three complete funerary Beakers excavated from the quarry to date and is of similar form to Beaker (061:*0473*). It would be of interest to compare radiocarbon dates between these funerary vessels and also with those for the Beaker from the non-funerary deposits. The area of the site forming 088 and 090 appears to be devoid of ‘domestic’ Beaker pit

deposits despite these occurring extensively elsewhere. It may be of interest to consider if such pit digging activity avoided areas where barrows were built.

The large PDR assemblage appears to represent an extension of domestic activity seen in previous areas at Flixton (059 and the adjacent sites 065 and 068). The pottery is principally a Plainware assemblage perhaps dating to *c.*1000-850BC. However, some of the decorated forms recovered from the 090 site may be slightly later in date, perhaps running through into the earlier Iron Age (*c.*7th/8th century BC). This possibility is arguably backed up by the presence of pyramidal loomweights within broadly contemporary contexts. It would be useful to compare the forms, fabrics and any decoration with those found on pottery within previously excavated assemblages from Flixton and thereby reveal any chronological or functional zoning identifiable across the whole quarry site. The pierced ellipsoid vessels are very interesting and have strong middle Bronze Age characteristics including a resemblance to the Deverel-Rimbury pottery found at Grimes Graves, though lacking the applied decorated cordons prevalent there (Ellison 1988). The pots are similar to those from Rhee Lake Side South examined by Dr Matt. Brudenell and identified by him as representing an early Plainware assemblage that may predate 1000BC (Brudenell 2012, fig. 5.5). Secure dating of the 088 and 090 pottery would be of help in clarifying the form and character of these early PDR assemblages which are still only vaguely known for the region (Medlycott (ed.) 2011, 29).

6.3.3 CBM

The small post-medieval assemblage was recovered mainly from ditches, and has little potential other than to provide dating evidence.

6.3.4 Fired clay

The fired clay assemblage from both sites has been catalogued, with few fragments showing diagnostic features to provide evidence of their function. However it seems likely that many are the fragmentary remains of loomweights, rather than being structural remnants from walling or ovens. If further stratigraphic analysis is undertaken, an examination of the provenance of the fired clay spatially and temporally is likely to be worthwhile, together with a closer study of the fired clay fabrics.

6.3.5 Worked Flint

In general the flint from 088 and 090 is irregular in nature suggesting that much of it is of later Neolithic or later date, although very few diagnostic or closely dateable tools are present. The very irregular nature of the primary knapping debris was particularly noted at 090 where differentiation between cores, struck fragments and shatter pieces was sometimes difficult. Retouched and utilised pieces are also irregular and there is evidence for the use of thermal fragments for tools. However, a few contexts, mainly at 088, contain relatively high numbers of blades, many of them small and neat. This suggests that occupation of the areas also occurred during the earlier Neolithic period. One fine leaf-shaped arrowhead also attests to activity during this period.

Analysis of the work from both sites will add to the corpus of material already published (Bates 2012 and in prep.) from other areas of Flixton Quarry. It has the potential to assist in forming a more complete dataset and providing further interpretation for the area of the quarry both topographically and chronologically. The present assemblage may have particular relevance in terms of identifying trends in flint-working during the Bronze Age (Medlycott 2011, 21).

There is also the potential for comparison of the present assemblages with those previously excavated – both at Flixton and elsewhere. Comparison with the other Flixton sites may identify similarities or differences between assemblages and associations in different parts of the site.

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

6.3.6 Heat-altered stone

The heat-altered stone has been initially catalogued by context and stone type and degree of heat alteration. No analysis of its spatial and chronological distribution has been undertaken, but a study of the distribution of this material should augment our

understanding of possible areas of prehistoric activity, which may not be represented by any other artefactual evidence.

Heat-altered stone should be considered in terms of its deposition and associated finds materials and summarised for inclusion in any subsequent publication. This further work will be done as part of the analysis phase of the project once context information and phasing is complete and dating of other associated finds materials is available.

It is important that a note about the on-site collection methodology should be included in a summary of the heat-altered stone. It may be of interest to plot densities of pot-boiler in relation to other finds materials such as prehistoric pottery and struck flint. However, the possibility of disproportionate sample sizes from different features would have to be taken into consideration. Once the material was brought off of site it became a finite quantity but it is not known what proportion of the material within the excavated feature fills it actually represents. 100% recovery is hardly likely and hand-collection introduces a well-known bias for larger pieces. Therefore, any decisions made about sample size and any information about the actual proportion recovered from specific contexts will be considered before using it for comparative purposes.

6.3.7 Small finds

Stone wristguard and amber ornaments

The grave goods associated with the burial in the ring ditch have been fully conserved, described, illustrated and photographed and their significance explored both in relation to the site and the wider national and international context and *comparanda* have been fully discussed.

Worked flint and other stone small finds

The examples of possible flint querns should be fully described and their provenance on site discussed, together with a consideration of their dating and comparisons with other examples. In addition more detailed analyses of the hammerstone and the possible sharpening stone (SF 088:*1017* from context 088:*0646*) and their spatial distribution

may contribute to the overall picture of the activities being undertaken during the Bronze Age/earlier Iron Age.

Bone bead

A tiny possible bone bead was identified in the initial assessment (SF 088:*1030* from context 088:*0022*). This requires fuller examination and a description by the worked bone specialist (Ian Riddler).

Ceramic loomweights

The manufacture of textiles has been identified as an important component of the Flixton landscape from the Bronze Age onwards. The emphasis of the first volume of the site publication lay with textiles and costume of the Early Anglo–Saxon period (Walton Rogers 2012a and b). A Late Iron Age loomweight has also been published (Anderson 2012), alongside an iron toothed implement that may have been used to score or provide comb–point decoration on leather or ceramics (Riddler 2012). Impressive assemblages of cylindrical, pyramidal and triangular loomweights have come from earlier sites and will be published in the next site volume, alongside a Late Iron Age spindle whorl and weaving equipment of Roman and Anglo–Saxon date.

The loomweight fragments from both Flixton sites are mainly of the later Bronze Age cylindrical form, which has been seen elsewhere at Flixton. These fragments add significant detail to previous discoveries and estimated weights have been established for them, for the first time. They include three fragments that represent the best–surviving cylindrical loomweights to have been recovered, as yet, from Flixton. As a group, therefore, they enhance previous discoveries and add significant detail to the earlier corpus.

The most significant loomweight finds from 090 are the two fragments (SF 090:*1021* and 090:*1023* from contexts 090:*0392* and 090:*0403* respectively) with smaller diameters than the remainder, and these are pyramidal loomweights of ‘truncated cone’ form, slightly later in date than the cylindrical loomweights of the Late Bronze Age. An assessment of the ceramics from the site will be important in this respect, alongside any

further indications of earlier settlement on this site. These two fragments are relatively small, but both should be published, although neither is worthy of illustration.

An incomplete pyramidal loomweight of 'truncated cone' type forms another important addition to the range of loomweights, this time from 088. It is the best–surviving example of the type, matched only by small fragments from 090. It probably belongs to the Early Iron Age although the type co–existed alongside cylindrical loomweights, and it may not be significantly later in date.

The loomweights are accompanied by three spindle whorls, one of which is complete. Within ceramic finds, loomweights continue to be much more common than spindle whorls. The new discoveries sit alongside the incomplete example from 090 as the earliest spindle whorls yet recovered from Flixton. The ceramic spindle whorl (SF 090:*1026*) survives in poor condition but both its fabric and form are recognisable, and its original weight can be estimated. It is likely to be the earliest spindle whorl discovered at Flixton to date, and is worth publishing and illustrating on that basis. A ceramic fragment from context 088:*0299* is also worthy of further examination.

The second volume of the site reports already has a lengthy section on ceramic loomweights, and weaving implements form an important part of the prehistoric section of that report. These new discoveries add important details to that text and extend the range of forms seen, as well as adding new details of fabrics, sizes and weights. Three of the cylindrical loomweights are decorated, two with finger impressions and one with comb–point decoration. These are the first decorated loomweights to have come from Flixton. For the Anglo–Saxon period, the decorating of loomweights has been firmly associated with women (Riddler and Trzaska–Nartowski forthcoming) and it is possible that the same situation occurred also in later prehistory, a subject that can be explored briefly in the final report.

The other consideration is that both sites are revealing different patterns of deposition, which can be linked in some cases to different on–site activities. In some cases, as at Potterne, spindle whorls are abundant but loomweights are scarce (Mepham 2000, 000), whilst at other sites, including Flixton, the reverse is the case. The assemblages from both sites contribute in a small way to our understanding of the quantity and

distribution of weaving equipment across the Flixton landscape in the Late Bronze Age and Early Iron Age. They form a part of that analysis, without providing a great deal of significant new data.

Post-medieval and modern metalwork

The coins and other metalwork recovered from both sites has been initially catalogued and selectively x-rayed. None of the identifiable metalwork dates to earlier than the post-medieval period. Apart from providing dating, they have no additional significance or potential.

6.4 The potential and significance of the environmental evidence

6.4.1 Human skeletal remains

More detailed analysis of the bone from the main burial in the ring-ditch accompanied by the stone wristguard, amber ornaments and Beaker pot may provide information on age and sex, particularly if there are any teeth surviving, but only a brief record and report will be possible. A fragment of burnt bone (SF 088:*1011*) from a layer 088:*1092* beneath grave 088:*0809* also requires further identification. It is unlikely that radiocarbon dating of this individual will be feasible.

6.4.2 Animal bone

Overall, the animal bone assemblage from both sites is highly fragmented and in quite poor condition, including eroded surfaces, which limits both the evidence and the ability to interpret the remains. The one cut mark on the sheep/goat bone certainly attests to this being used for food; the presence of gnaw marks show this food waste then became food for domestic dogs or scavengers. The equid elements and condition have produced limited evidence, these remains are likely to be from disposal of working animals at these sites.

The hare may have been used for food, but given that the hare's natural environment is open ground and they have a tendency to spend a lot of time in depressions on the ground, it is quite possible that this hare in a ring-ditch is what remains of a natural death.

The calcined bone in the assemblages was largely heavily fragmented and there were no diagnostic elements present. It is possible that some of the burnt bone is derived from human cremations, but equally possible that this burnt bone is the remains of larger or long-term fires that included animal bone waste, resulting in the fully oxidised fragments. Animal bone was sometimes used as a source of fuel, particularly with a high fat content and general butchering and food waste may often be disposed of on a fire.

6.4.3 Charred plant macrofossils and other remains

The composition of both the plant macrofossil assemblages closely parallels others recovered during the extended programme of works within Flixton Quarry (cf Fryer forthcoming). During the Early Bronze Age period, the local focus appears to have been predominantly ritual, with evidence largely coming from funerary monuments and other associated deposits. In the current instance, there is little to indicate how this activity impacted on the local environment, although it would appear that areas of open grassland may have provided the setting for the construction of cremation pyres, with the fuel for the pyres presumably coming from nearby woodland. Plants were burnt in situ beneath the pyres, with the charred remains then being dispersed, probably either by human agents (as the cremated remains were gathered/collected) or by natural processes. Contemporary evidence for sustained settlement or agriculture is extremely limited.

By the later Bronze Age period, the plant macrofossil evidence suggests that some land had been cleared for agricultural production. Cereals and seeds of segetal weeds are present within the Late Bronze Age assemblages where they are largely absent within the earlier contexts. This suggests at least a local expansion of agricultural production to the degree that there is sufficient burnt detritus to be included in features across the site. However, the evidence is sparse as the density of material is extremely low. The presence of hazel nutshell fragments, which are consistently more common that either

cereals or seeds, indicate that a limited range of foodstuffs were still being gathered from nearby woodland.

The plant macrofossil evidence for later Bronze Age/earlier Iron Age activity is limited, with the most productive samples coming from pit fills. However, a number of contemporary structures were identified, and as the assemblages are largely consistent with material derived from domestic refuse, it would appear that this was generated directly by the this occupation/settlement, possibly from associated midden deposits.

7 Updated research aims and task list

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 088 and 090 Flixton sites 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 (Volume III of the Flixton series)

7.3 Stratigraphic analysis; required tasks

Analysis tasks will include:

- Research the available literature for local, regional and national parallels for the Early Bronze Age funerary monuments; particularly the post-hole circle and associated cremation and the composite monument and its associated inhumation burial.
- Research the available literature for local, regional and national parallels to help understand the character of the Late Bronze Age/Early Iron Age occupation with particular regard to the detailed structure of the roundhouses and settlement layout and currency.
- Using available information from specialist finds analysis and stratigraphy to help target samples for radiocarbon dating (estimate eight determinations from combination of Early Bronze Age and later Bronze Age/earlier Iron Age contexts).
- Updating 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 and small finds analysis; required tasks

7.4.1 Prehistoric pottery

Further work on the prehistoric pottery will include:

- A full report is required for the assemblages from all periods represented.
- An updated catalogue will integrate any further phasing or extra dating information available and fully incorporate any enhanced site data.
- The report will investigate the relationship between the 088/090 assemblage and those previously recovered from the quarry. A full investigation of regional, and if appropriate, national parallels will also be undertaken.
- Spatial and temporal analysis of the pottery should be undertaken with the aid of full feature plans from the site.
- It would be of especial use to undertake radiocarbon dating on suitable short life samples associated the following contexts: - the Earlier Neolithic pit (088:*0059*); Beaker grave (088:*0809*) and PDR pits (088:*0140*), (088:*0164*), (088:*0168*), (088:*0195*), (088:*0254*), (088:*0537*), (088:*0611*), (090:*0323*) and (090:*0462*) which provided large assemblages of particular interest, including most of the forty five sherds recommended for illustration. Radiocarbon dating of the possible residue in the base of the Beaker pot from grave (088:*0809*) will be attempted although it is unlikely that it will be successful.
- Forty five sherds are recommended for illustration (See Appendix III.a).
- It may be valuable to compare the dating of the Beaker from (088:*0809*) with the dating of the associated grave goods such as the stone wrist clasp.

N.B. While full analysis of the grave goods has been undertaken (Sheridan this volume) the classification of the Beaker as either short or long-necked needs to be clarified.

- Additional comparative work could be undertaken comparing selected pottery assemblages from deposits containing diagnostic and datable loomweight fragments.

7.4.2 CBM

No further work is envisaged for this assemblage apart from a possible additional note for publication if required, following on from the completion of site phasing.

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, and which compares the fabrics to the more complete loomweights.

7.4.4 Worked flint

Further work on the worked flint will include:

- Twelve contexts had flint in multiple bags at assessment and the material was not looked at altogether. These flints will be re-examined as whole context assemblages. These, and a few other context assemblages, may also merit further examination for refitting pieces
- The flint should be considered in the light of ceramic, or other, dating evidence and, in more detail, in relation to the excavated deposits and features. Its association with other artefact types should also be considered.
- Consider the relationship between raw material, flint type and condition of material to see if there is any change in these in relation to types and date of its context.
- The present assemblages should also be compared to those from the previously excavated Flixton sites (Bates 2012 and in prep.) as well as to other relevant excavated sites of similar nature. Comparison with the other

Flixton material will include consideration of flint types and dates, technological aspects of flakes and distribution of material with the aim of increasing understanding of the patterns and development of the occupation of the site.

- A final report by period should be written for publication combining the two sites. The detail and length of the report will depend on the significance of the period and feature assemblages. Time should also be allowed for editing of the final report.
- Representative pieces or significant groups of flints will be selected for illustration. It is envisaged that approximately thirty pieces will be illustrated.
- An extra bag of flint from 090:*0334* should be recorded and added into the discussion.

7.4.5 Heat-altered stone

Further work on heat-altered stone will include:

- A note on methodology for on-site collection of heat-altered stone to be made by excavator.
- Tabulation of data recorded for assessment – (stone types & degree of heat alteration)
- Summary of heat-altered stone in terms of manner of deposition, spatial distribution, dating and associated finds materials.

7.4.6 Small finds

Stone wristguard and amber ornaments

The small finds associated with the central ring ditch burial (088:*0809*) have been fully described and discussed, but the specialists who have written the report should review the relevant parts of the site and finds analysis and any relevant radiocarbon dating evidence so they can revisit and adjust their comments, if necessary.

Loomweights, spindle whorls and mould fragment

The new discoveries should be described in a brief report, and two of the loomweights (088:*1007* and *1015*) should be illustrated, alongside a detail of the decorated pieces, which can be shown as photographs. The spindle whorls should also be noted in a report and the complete example is worthy of illustration. An extra spindle whorl (SF 090:*1001*) has not been seen by the specialist and requires cataloguing.

The mould fragment is a little enigmatic and provides a negative impression of a rectangular bar. This could be shown to a specialist of prehistoric non–ferrous metalwork.

Stone small finds including flint querns

Further examination of the hammerstones and possible flint querns are required, together with study of their spatial distribution, and a small report should be written.

Other small finds

A tiny ?bone ?bead (SF 088:*1030*) from context 088:*0022* has not yet been examined by any specialist. A fragment of ?calcined bone (SF 088:*1011*) from a layer 088:*1092* beneath grave 088:*0809* also requires examination to determine whether it has been worked and whether it is animal bone or human.

The three post-medieval small finds have been identified, although the jetton (SF 088:*1004*) should be fully recorded. No other work is required.

7.5 Environmental evidence

7.5.1 Human skeletal remains

The human skeleton from grave 088:*0809* requires further analysis to determine age and sex if possible. The two cremation burials (088:*0006* and *0114*) require full recording and analysis, and the preparation of a publication report. Radiocarbon samples will be extracted. No further work is required on the smaller quantity from 088:*0142*, although a note will be included in the report.

7.5.2 Animal bone

The small animal bone assemblage has been fully catalogued. A small quantity of calcined animal bone was identified when the cremated bone was being initially examined and this requires identification if possible by the faunal remains specialist.

7.5.3 Plant macrofossils and other remains

As none of the current assemblages contain a sufficient density of material for quantification (i.e. 100+ specimens), no further analysis is recommended. However, a summary of this assessment should be included within any publication of data from the sites. Some materials within the assemblages (for example the cereal grains and the nutshell fragments) may be suitable for dating determinations. These can be separated if required.

8 Publication strategy

An analysis and publication strategy has already been agreed between SCCAS/CT (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 FLN 091 between late 2012 – ongoing). In addition, an overview of the archaeology of the entire site (Volumes I - III) will be included in Volume III.

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 091 data is added.

It is proposed that an assessment of the 091 site will include the preliminary publication synopsis and a fully integrated task list covering all the analysis and publication work (up to draft submission) for all three sites. However, where specialists have provided an estimate of the number of days required to undertake the 088 and 090 analysis tasks, these have been inserted into an 'uncosted' task list (Section 9.2 below) which will form the framework on which to add the 091 work.

9 Analysis and publication; resources/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 this assessment. However, given that this work will not to be undertaken in the immediate future, some changes are likely in the interim.

Overall Project Manager and principal author:	Stuart Boulter (SB1)
Finds management + publication tasks:	Richenda Goffin (RG)
Graphics, illustration and photography:	Ruth Parkin (RP), Beata Wieczorek-Olesky (BWO) and TBA
Prehistoric pottery:	Anna Doherty (AD)
Post-Roman pottery:	Sue Anderson (SA)
Work flint:	Sarah Bates (SB2)
Heat altered stone:	Cathy Tester (CT)
Fired clay (bulk):	Sue Anderson (SA)
CBM:	Sue Anderson (SA)
EBA burial update:	Alison Sheridan (AS)
Loomweights and spindle whorls:	Ian Riddler (IR)
Mould fragment:	TBA
Jetton ID:	Andrew Brown (AB)
Human skeletal remains:	Sue Anderson (SA)
Animal Bone:	Julie Curl (JC)
Plant macrofossils and C14 sample extraction:	Val Fryer (VF)

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 and 090 sites only. Additional days will be added to accommodate site 091 when its excavation and assessment has been completed.

Task	Staff	No. of days
General management and publication tasks, meetings, staff liaison etc.	SB1, RG +	20
Stratigraphic analysis + text	SB	45
Prehistoric pottery analysis	AD	7
Post-Roman pottery	SA	0.25
Worked flint analysis	SB2	10
Fired clay (bulk)	SA	1
Heat-altered stone analysis	CT	3
Summary report on CBM	SA	0.5
Human skeletal remains analysis	SA	2
Animal bone	JC	0.5
Plant Macrofossils + retrieval of samples for C14 dating	VF	1
EBA burial report update	AS	1
Loomweight and spindle whorl analysis + misc. SF report	IR	2.5
Analysis of possible mould	TBA	0.25
Description of jetton	AB	0.25
Prepare general illustrations	BWO	TBA
Illustration + photography of *c.*45 prehistoric vessels	BWO + TBA	15
Illustration + photography of 2 loomweights + 1 spindle whorl	BWO + TBA	1.5
Illustration of *c.*30 struck flints	RP	7
Photographs of EBA grave goods	BWO	0.5
Provision for up to 8 C14 dates	Cost TBA	
Other non-staff costs (consumables, finds transport etc.)	Cost TBA	

9.3 Archive deposition

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

10 Acknowledgements

The fieldwork was carried out by various members of the SCCAS Field Team including Tim Browne, Phil Camps, Roy Damant, Tony Fisher, Steve Manthorpe, Simon Picard and was directed by Stuart Boulter. GPS survey was undertaken by Andy Beverton and Simon Picard.

Project management was undertaken by Stuart Boulter.

Post-excavation management was provided by Richenda Goffin and Stuart Boulter. Finds processing and quantification was undertaken by Jonathan Van Jenniens, Andy Fawcett and Cathy Tester.

Soil samples were processed by Anna West.

Internal specialist finds reports were compiled by Richenda Goffin (metal small finds), Cathy Tester (heat-altered stone). Additional reports were produced by external specialists (all independent unless otherwise stated); Sue Anderson (CBM and human skeletal remains), Sarah Bates (worked flint), John Crowther (pit fill analysis), Julie Curl (animal bone), Val Fryer (plant macrofossils and other remains), Sarah Percival (prehistoric pot), Ian Riddler (fired clay small finds), Alison Sheridan (with contributions by Susy Kirk and Simon Howard: all National Museums Scotland) (Early Bronze Age grave goods). The overall integrated specialist finds report was produced by Richenda Goffin and edited by Stuart Boulter.

The report illustrations were created by Stuart Boulter and Linzi Everett and the report was proof read by Rhodri Gardner.

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