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# A556 Knutsford to Bowdon Improvement, Cheshire

Archaeological Strip, Map and Excavation  
Post-excavation Assessment



Ref: 85632.04  
July 2017



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Post-excavation Assessment

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**July 2017**

**85632.04**



## Quality Assurance

<b>Project Code</b>	85632	<b>Accession Code</b>	TBC	<b>Client Ref.</b>	
<b>Planning Application Ref.</b>		<b>Ordnance Survey (OS) national grid reference (NGR)</b>	374931, 385036 to 372281, 379486		

<b>Version</b>	<b>Status*</b>	<b>Prepared by</b>	<b>Checked and Approved By</b>	<b>Approver's Signature</b>	<b>Date</b>
v1.0	I	PMRD	CS		03/05/2016
File:	S:\PROJECTS\85632_Reports\Strip, map and sample\v01				
V2.0	E	PMRD	CS		10/05/2016
File:	S:\PROJECTS\85632_Reports\Strip, map and sample\v02				
V3.0	F	PMRD	CS		17/02/2017
File:	S:\PROJECTS\85632_Reports\Strip, map and sample\v03				
V4.0	I	PMRD	CS		04/07/2017
File:	S:\PROJECTS\85632_Reports\Strip, map and sample\v04				

\* I = Internal Draft; E = External Draft; F = Final

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# A556 Knutsford to Bowdon Improvement, Cheshire

## Archaeological Strip, Map and Excavation Post-excavation Assessment

### Contents

Summary.....	vi
Acknowledgements.....	viii
<b>1 INTRODUCTION.....</b>	<b>1</b>
1.1 Project background .....	1
1.2 Site location and topography .....	3
<b>2 ARCHAEOLOGICAL BACKGROUND .....</b>	<b>3</b>
2.1 Introduction .....	3
2.2 Prehistoric (to c. AD 70).....	3
2.3 Romano-British (c. AD 70 to AD 410) .....	3
2.4 Medieval (AD 410 to AD 1540) .....	4
2.5 Post-medieval and modern (AD 1540 to Present) .....	4
<b>3 AIMS AND OBJECTIVES.....</b>	<b>5</b>
3.1 General aims.....	5
<b>4 FIELDWORK METHODOLOGY.....</b>	<b>5</b>
4.1 Summary.....	5
4.2 Monitoring .....	6
4.3 Specialist strategies .....	6
<b>5 ARCHAEOLOGICAL RESULTS .....</b>	<b>6</b>
5.1 Summary.....	6
5.2 Introduction .....	7
5.3 Prehistoric .....	7
5.4 Early medieval.....	13
5.5 Post-medieval .....	15
5.6 Undated .....	17
<b>6 FINDS .....</b>	<b>19</b>
6.1 Introduction .....	19
6.2 Pottery.....	19



6.3	Worked flint .....	20
6.4	Metalworking debris .....	21
6.5	Animal bone .....	21
6.6	Other finds .....	21
<b>7</b>	<b>HUMAN BONE .....</b>	<b>24</b>
7.1	Introduction .....	24
7.2	Methods .....	24
7.3	Results .....	24
<b>8</b>	<b>ENVIRONMENTAL EVIDENCE .....</b>	<b>32</b>
8.1	Introduction .....	32
8.2	Charred plant remains.....	32
8.3	Wood charcoal .....	35
8.4	Sediments .....	35
8.5	Phosphate analysis .....	36
8.6	Palynological assessment.....	38
<b>9</b>	<b>RADIOCARBON DATING .....</b>	<b>41</b>
9.1	Introduction .....	41
9.2	Methods and aims .....	41
9.3	Species identification .....	41
9.4	Results .....	42
<b>10</b>	<b>DISCUSSION.....</b>	<b>43</b>
10.1	Prehistoric .....	43
10.2	Possible Romano-British.....	46
10.3	Early medieval.....	46
<b>11</b>	<b>STATEMENT OF POTENTIAL.....</b>	<b>47</b>
11.1	Summary.....	47
11.2	Stratigraphic evidence.....	47
11.3	Artefactual evidence.....	48
11.4	Human bone .....	48
11.5	Environmental evidence.....	49
<b>12</b>	<b>RESEARCH AIMS .....</b>	<b>49</b>
12.1	Reappraisal of the project aims.....	49
12.2	Updated research aims .....	49
<b>13</b>	<b>RECOMMENDATIONS.....</b>	<b>51</b>
13.1	Stratigraphic and other archaeological evidence .....	51
13.2	Finds .....	51



13.3	Human bone .....	51
13.4	Environmental evidence.....	52
13.5	Radiocarbon.....	53
13.6	Additional research .....	55
13.7	Publication .....	56
13.8	Task list.....	57
13.9	Management structure .....	58
13.10	Performance monitoring and quality standards.....	59
13.11	Programme .....	59
<b>14</b>	<b>STORAGE AND CURATION.....</b>	<b>59</b>
14.1	Museum .....	59
14.2	Preparation of archive .....	60
14.3	Selection and retention .....	60
14.4	Security copy .....	60
<b>15</b>	<b>REFERENCES.....</b>	<b>61</b>
15.1	Bibliography .....	61
15.2	Primary sources .....	66
	<b>APPENDICES.....</b>	<b>67</b>
Appendix 1:	Context summary.....	67
Appendix 2:	Environmental data.....	82
Appendix 3:	Phosphate analysis tables .....	108
Appendix 4:	OASIS form.....	111
<b>Tables</b>		
Table 1:	Summary of possible early medieval features.....	14
Table 2:	All finds by context (number / weight in grammes).....	22
Table 3:	Pottery by context.....	23
Table 4:	Summary of assessment of human bone .....	27
Table 5:	Sample provenance summary.....	32
Table 6:	Sediment descriptions and sub-samples taken .....	36
Table 7:	Phosphate sample list .....	37
Table 8:	Results of pollen assessment from ring ditch 1111 (slot 829).....	40
Table 9:	Radiocarbon dates. The posterior density estimates derive from the models defined in Figure 23 .....	43
Table 10:	Proposed radiocarbon samples.....	53
Table 11:	Proposed formal publication ( <i>Archaeological Journal</i> ) .....	56
Table 12:	Task list table .....	57



## Figures

- Figure 1: Site location  
Figure 2: Plan of excavated remains  
Figure 3: Ring ditch 1111, inhumation graves and cremation-related deposits  
Figure 4: Sections across ring ditch 1111 and associated features: sections 1-4  
Figure 5: Sections across ring ditch 1111 and associated features: sections 5-7  
Figure 6: Sections across ring ditch 1111 and associated features: section 8  
Figure 7: Cremation-related deposits: eastern group  
Figure 8: Plan and section of pit 1033  
Figure 9: Plan and section of pit 1062  
Figure 10: Locations of possible and confirmed early medieval features  
Figure 11: Plan and section of curvilinear 'wind-break' 638  
Figure 12: Plan and section of ironsmithing pit 803  
Figure 13: Post-medieval field boundaries overlaid onto tithe mapping  
Figure 14: Enclosure 644 and associated field boundaries  
Figure 15: Sections across enclosure 644 and associated features: sections 15-20  
Figure 16: Cluster of pits with burnt stone  
Figure 17: Sections of burnt stone pits  
Figure 18: Results of the XRF analysis of major elements (wt%), Knutsford, Cheshire  
Figure 19: Results of the XRF analysis of major elements (ppm, m/kg), Knutsford, Cheshire  
Figure 20: Results of the XRF analysis of trace elements (ppm, m/kg), Knutsford, Cheshire  
Figure 21: Concentration of phosphorus, XRF analysis (ppm, m/kg), Knutsford, Cheshire  
Figure 22: Concentration of calcium, XRF analysis (ppm, m/kg), Knutsford, Cheshire  
Figure 23: Probability distributions for the dates from ring ditch 1111 and cremation burials  
Figure 24: Probability distributions for selected parameters taken from the model: First funerary use and First Build ring ditch 1111  
Figure 25: Probability distributions for selected parameters 'Span' taken from the model

## Plates

- Cover: Work commences on stripping the Site, camera looking north-west to the ridge where the cremation burials were found  
Plate 1: Western portion of ring ditch 1111 pre-excavation, camera facing north-east  
Plate 2: Ring ditch 1111 (slot 829), north-west facing section  
Plate 3: Ring ditch 1111 (slot 865), south-east facing section  
Plate 4: Ring ditch 1111 (slot 933), south-west facing section  
Plate 5: Ring ditch 1111 (slot 1074), south-west facing section  
Plate 6: Ring ditch 1111 (slot 1092) south-west facing section  
Plate 7: Ring ditch 1111 (slot 1092) cutting ditch 1082=1090, west-facing section  
Plate 8: Ditch 1113, east-facing section  
Plate 9: Ditch 1069=1100 cutting ring ditch 1111 (slot 1096), south-facing section



- Plate 10: Ditch 1069=1100, east-facing section. Note shallow topsoil overlying archaeological horizon, indicating likely plough truncation of remains
- Plate 11: Inhumation grave 849, east-facing section
- Plate 12: Inhumation grave 946 pre-excavation, camera facing west
- Plate 13: Inhumation grave 946, east-facing section
- Plate 14: Cremation grave 924 cutting inhumation grave 914 (partially excavated), camera facing west
- Plate 15: Cremation grave 924 containing bagged cremation 916, south-facing section
- Plate 16: Cremation grave 724 showing urn SF1, south-facing section
- Plate 17: Cremation urn SF1 prior to removal from Site
- Plate 18: Cremation grave 746 pre-excavation, showing the typical presentation of such features as first found. Camera facing west
- Plate 19: Cremation grave 746, south-facing section
- Plate 20: Work underway on quadrant excavation of cremation grave 825
- Plate 21: Cremation grave 825, south-facing section
- Plate 22: Cremation grave 930, south-facing section
- Plate 23: Pit 1062, south-facing section
- Plate 24: Heat-affected stones from fill of pit 1062
- Plate 25: Curvilinear wind-break 638, camera facing west
- Plate 26: Fire pit 536 cut to south by post-medieval ditch, east-facing section
- Plate 27: Ironsmithing pit 803, south-facing section
- Plate 28: Ditch 640, north-facing section
- Plate 29: Double-ditched boundary (ditches 639 and 640), camera facing south
- Plate 30: Ditch 506, west-facing section. Note land drain at base of ditch
- Plate 31: East terminal of ditch 643 (p/o enclosure 644), camera facing west
- Plate 32: Pit 984, north-facing section
- Plate 33: Pit 1016 pre-excavation, camera facing west
- Plate 34: Stone-filled hollow 1036 capped by burnt spread 1037, south-facing section
- Plate 35: Location of pollen sub-samples within fill profile of ring ditch 1111, slot 829





# **A556 Knutsford to Bowdon Improvement, Cheshire**

## **Archaeological Strip, Map and Excavation Post-excavation Assessment**

### **Summary**

Wessex Archaeology was commissioned by Costain Group PLC, on behalf of Highways England, to carry out a programme of archaeological investigations along the course of the proposed A556 Knutsford to Bowdon relief road. The archaeological investigations took the form of a 9 ha strip, map and excavation area, a programme of archaeological trial trenching, and a watching brief on additional areas within the proposed development.

This document presents the results of the 9 ha strip, map and excavation exercise; the other fieldwork elements have already been reported on elsewhere.

The strip, map and sample area measured some 850 m from north to south (National Grid References 372480, 383060 to 372350, 382240) and was bounded to the north by Bucklow Hill Lane and to the south by the A50. The work revealed remains of human activity dating from potentially as early as the Neolithic period: the earliest dated feature is an isolated pit containing heat-affected stone and two pottery sherds tentatively identified as Middle/Late Neolithic Peterborough ware. The most significant set of remains focussed on a 22 m-diameter penannular ditch. One urned burial with a broken flint blade, several unurned burials and numerous deposits of scattered cremated human bone and pyre debris were found within the area enclosed by the ring ditch and in its immediate vicinity. A group of 12 probable inhumation graves (any bone they may once have contained had completely disappeared) was focussed on the ring ditch. The dating of these is uncertain. A second set of cremation-related deposits was located 90 m to the east, focussed on a 30 m-diameter area, but lacking any surviving earthwork or monumental marker. A minimum of 15, more probably 21, individuals is represented within the cremated remains from the Site, including infants, youngsters and adults, both male and female.

Current radiocarbon dating evidence suggests the ring ditch was constructed and infilled at the end of the Early Bronze Age, with both of the groups of cremation-related remains being a little later, straddling the divide between the Early and Middle Bronze Age.

No Romano-British remains were recorded, either as buried features or unstratified artefacts, despite the nearby presence of two Roman roads. A set of field boundary ditches may belong to this period, although they are currently undated.

An early medieval date for several features is suggested by the types of cereal found within their fills. In two instances, this has been confirmed by radiocarbon assay, which reveals pits were dug on the Site in the 6th and 7th centuries cal. AD. One of the confirmed and several of the potential early medieval features focus on the ring ditch, including a pit containing evidence of ironsmelting. Away from the ring ditch, remains of a rudimentary circular structure with a central fire pit may also belong to the early medieval period. The environmental remains from this period are relatively rich, and are indicative of contemporary settlement in the area, set within a landscape of grassland and arable fields.



Numerous 'potboiler' pits were recorded across the excavation area, although most were artefactually sterile and could potentially belong to any one of a number of periods.

A post-medieval field system was also recorded; the majority of the boundaries correspond with features shown on the 1848 tithe map.

The value of the Site lies largely in its ability to provide detail on the archaeological character of funerary rituals occurring in the Early–Middle Bronze Age, and is amplified by the lack of similar sites from the region to have been excavated and published in the modern era. The remains also reveal how early medieval populations had an awareness of prehistoric monuments, with this potentially affecting ongoing landuse. This early medieval phase of activity on the Site is of considerable interest, given that remains of this date are extremely rare within the region. The value of the Site is also augmented by the fact that, due to the large extent of the road scheme as a whole, not only have funerary and other monuments been exposed, but it is possible to also say something of their wider landscape context.

This post-excavation assessment describes the archaeological results and discusses the remains in their local context. Updated questions to guide ongoing analysis are identified; recommendations for further work are presented, leading to the publication of the Site, and deposition of the archive at an appropriate local museum.



# **A556 Knutsford to Bowdon Improvement, Cheshire**

## **Archaeological Strip, Map and Excavation Post-excavation Assessment**

### **Acknowledgements**

The archaeological work along the course of the A556 Knutsford to Bowdon relief road was commissioned by Costain Group PLC, on behalf of Highways England. The assistance of Paul Sprague and Christopher Turner is gratefully acknowledged in this regard.

Thanks are extended to Sue Stallibrass, North West Regional Science Advisor for Historic England and Mark Leah, Development Control Archaeologist for Cheshire Archaeology Planning Advisory Service, who provided curatorial support and guidance.

Fieldwork was directed by Patrick Daniel and carried out by Jonathan Buttery, Emma Carter, Alex Cassels, Simon Evans, Mike Howarth, Gabrielle Kinney and Jonathan Landless. The months of soil stripping within the strip, map and sample excavation area were carried out by Geoff Andrews and Simon Brown.

This report was written by Patrick Daniel, with illustrations by Alix Sperr. The environmental samples were processed by Tony Scothern, Steve Winterton, Peter Fairclough and Holly Rodgers. The bulk samples were assessed by Sarah F. Wyles and Inés López-Dóriga. Wood charcoal for radiocarbon dating was examined by Dana Challinor. Soils, sediments and pollen were assessed by Alex Brown and Nicki Mulhall. Phosphate analysis was carried out by S.R. Cook and N.A.F. Marinin of Quest of the University of Reading. Radiocarbon sampling, liaison and reporting was carried out by Sarah F. Wyles and Alistair Barclay, with radiocarbon dates provided by the Scottish Universities Environmental Research Centre Radiocarbon Laboratory, University of Glasgow and by <sup>14</sup>Chrono Centre, Queen's University Belfast.

The pottery was assessed by Lorraine Mephram. Assessment of the human bone was undertaken by Jacqueline I. McKinley. Lorrain Higbee undertook the assessment of the animal bone, and Phil Andrews examined the metalworking waste. Other finds were assessed by Lorraine Mephram. Alistair Barclay provided advice on organic residue analysis. The project was managed for Wessex Archaeology by Chris Swales.



# A556 Knutsford to Bowdon Improvement, Cheshire

## Archaeological Strip, Map and Excavation Post-excavation Assessment

### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Costain Group PLC (hereafter the 'Client') to carry out a programme of archaeological investigations along the course of the proposed A556 Knutsford to Bowdon relief road, located between National Grid References (NGR) 374931, 385036 to 372281, 379486 (hereafter referred to as 'the Site'). The archaeological investigations took the form of a strip, map and excavation exercise focussing on 9 ha of land to the north of the A50, a programme of archaeological trial trenching along the course of the road scheme, and a watching brief on additional areas.
- 1.1.2 The strip, map and excavation exercise forms the subject of this report, and marked the culmination of a series of earlier investigations.
- 1.1.3 Preparatory fieldwork comprised three seasons of geophysical survey within the proposed route corridor (GSB 2009; ASWYAS 2010 and 2011). The conclusion of the combined geophysical surveys was that the archaeological potential of the proposed route was fairly low. Anomalies caused by utility pipes, field drains, former field boundaries, ploughing and modern activity predominated, with few indications of obvious archaeological significance. Those that were identified included the possible site of a brick clamp, a cluster of possible pit-type anomalies close to the A556 (Watling Street) and a possible infilled clay extraction pit.
- 1.1.4 The 2011 Scoping Report identified a total of 92 archaeological sites and historic buildings within its study area. Of particular significance was a group of eight ring ditches in the vicinity of Bucklow Hill which were identified from aerial photographs. These were thought likely to be the ploughed down remains of barrows forming part of a Bronze Age cemetery (Highways Agency 2011).
- 1.1.5 In 2012 a scheme of advanced trial trenching works targeted the results of the geophysical surveys (Wessex Archaeology 2012). The most significant result was the discovery of a cremation pit and associated gully terminals, located to the east of Hulmes Barn Farm, Bucklow Hill. These remains corresponded with the hitherto putative barrows at Bucklow Hill. Between that point and the A50, numerous drainage or boundary ditches were recorded. A post-medieval to modern date was proposed for these. Further south, to the west of Mere Hall, burnt brick fragments in the topsoil were



assumed to represent the remains of a ploughed out clamp kiln identified by the geophysical survey.

- 1.1.6 The 2013 Environmental Statement contained a desk-based assessment (hereafter 'DBA') which provided an overview of the archaeological potential of the land affected by the road scheme (Highways Agency 2013).
- 1.1.7 The DBA (Highways Agency 2013) incorporated the results of the earlier investigations. It identified 100 archaeological sites within its search area, and concluded that the overall significance of impact from the proposed scheme on archaeological remains would be 'slight adverse'. In terms of historic buildings, a total of 73 were identified within the DBA search area. It was concluded that 25 would suffer adverse impact on their setting during operation of the proposed road, whilst 15 buildings would enjoy beneficial impacts due to the reduction or removal of traffic. A total of 17 historic landscape areas were identified for assessment, of which nine would be affected. The overall significance of impacts on the historic landscape was judged to be 'slight adverse', with the greatest impact where the scheme passes through Mere Old Hall Park. Overall, the DBA considered that the overall significance of impacts from the proposed scheme on the cultural heritage resource was 'slight adverse'.
- 1.1.8 Following this work and discussions between the Client and the relevant national and local curatorial authorities, it was agreed that a programme of strip, map and excavation would mitigate the effect of road construction on any further archaeological features associated with the funerary remains recorded at Bucklow Hill. This took the form of a 9 ha area of land comprising the full width of the road corridor between the current A50 and Bucklow Hill Lane.
- 1.1.9 Wessex Archaeology produced a Written Scheme of Investigation (WSI) (Wessex Archaeology 2014) outlining how the work would be carried out. The WSI was approved by the Client, Historic England and Cheshire Archaeology Planning Advisory Service prior to work commencing. The WSI was prepared in accordance with current best practice and the guidance outlined in Management of Research Projects in the Historic Environment ('MoRPHE', English Heritage 2006), and guidance provided by the Chartered Institute for Archaeologists (CIfA 2014a, 2014b) and in accordance with the CIfA Code of Conduct (2015c).
- 1.1.10 Finally, the targeted evaluation trenching, which commenced in 2012, was completed whilst the strip, map and excavation exercise at Bucklow Hill was underway. A total of 87 evaluation trenches were excavated. Over half of the evaluation trenches were archaeologically sterile. The most archaeologically significant results were found at Yarwood Heath, close to the River Bollin, where a water management feature radiocarbon dated to the later medieval period with associated iron smelting slag were recorded. Roman pottery and an illegible Roman coin were also recovered from this location, albeit seemingly not from primary contexts. However, the remainder of the features recorded by the trenching represent a somewhat piecemeal scatter predominantly related to drainage, land boundary definition and clay extraction. Most were undated, although where artefacts were collected they



were overwhelmingly post-medieval or modern in date (Wessex Archaeology 2015).

## **1.2 Site location and topography**

1.2.1 The strip, map and excavation area is located approximately mid-way between Lymm and Knutsford within the Unitary Authority of Cheshire East. It measures some 850 m from north to south. It is bounded to the north by Bucklow Hill Lane and to the south by the A50. Open arable farmland lies to the east and west (**Figure 1**).

1.2.2 The northern limit of the Site lies at around 65 m above Ordnance Datum (aOD). Moving south, the ground level rises slightly but steadily, until a point some 500 m from the northern Site limit where it lies at around 70 m aOD. From here the ground surface descends relatively steeply. The A50, marking the southern Site limit, lies at around 62 m aOD.

1.2.3 From the foregoing description of the local topography it will be apparent that a slight ridge or scarp slope traverses the Site (see cover photo). This is part of a much larger topographical feature, the North Cheshire Ridge, which runs for some 45 km, descending from the Pennine uplands around Macclesfield to the Mersey Estuary at Runcorn. The ridge is bounded to the south by the River Weaver and to the north by the Bollin and Mersey basin.

1.2.4 The Site is underlain by Triassic Mudstone, Siltstone and Sandstone, with superficial deposits of glacial drift comprising till, with areas of sand and gravel (BGS 2015).

## **2 ARCHAEOLOGICAL BACKGROUND**

### **2.1 Introduction**

2.1.1 The following section summarises the local historical and archaeological background as presented in the DBA (Highways Agency 2013), which considered known heritage assets located up to 500 m from the proposed road scheme.

### **2.2 Prehistoric (to c. AD 70)**

2.2.1 Probable prehistoric activity within the study area is represented principally by a group of eight ring ditches in the vicinity of Bucklow Hill identified from aerial photographs. These are likely to be the ploughed down remains of barrows (burial mounds) which may have formed part of a barrow cemetery of Bronze Age (2500 – 700 BC) date. Located on the east side of the current A556 north of Rostherne Lane, is the site of another potential barrow, also identified by aerial photography.

### **2.3 Romano-British (c. AD 70 to AD 410)**

2.3.1 The modern A556 follows the line of the northern extension of a Roman road (Watling Street) for much of its course. In addition, the present A50 is believed to follow the approximate line of the North Cheshire Ridge Roman



road, although its precise alignment within the study area is yet to be established.

## **2.4 Medieval (AD 410 to AD 1540)**

- 2.4.1 The largely rural landscape of the study area was shaped during the medieval period and there are a number of sites of this period within and near the study area, including Watch Hill motte and bailey castle and Hough Hall moated site, both of which are Scheduled Monuments. Field name evidence from historic maps (such as 'Old Moat') indicates the possible presence of another moated site towards the south end of the study area, which could be a predecessor of Over Tabley Hall (a Grade II listed building). The medieval manors of Strettle and Millington may also have been located within the study area, but their exact locations are unknown. Ridge and furrow earthworks have been identified within the study area and represent the remains of a system of arable agriculture used in the medieval period and remaining in use in many areas well into the 18th or 19th centuries.
- 2.4.2 Results from the evaluation trenching suggest iron production was being carried out close to the River Bollin at Yarwood Heath during the later medieval period (Wessex Archaeology 2015, 6–8)

## **2.5 Post-medieval and modern (AD 1540 to Present)**

- 2.5.1 The archaeology of the study area is dominated by sites dating to the post-medieval and modern periods. Field name evidence from historic maps indicates extensive clay extraction, possibly for brickmaking, and it is likely that many of the ponds dotting the fields along the road scheme are the remains of marl pits.
- 2.5.2 The built heritage of the study area is characterised by buildings dating to the post-medieval period. These include halls such as Over Tabley Hall (Grade II Listed), Mere Old Hall (Grade II Listed), and Tabley House (Grade I Listed), farm buildings and cottages.
- 2.5.3 While the historic landscape character of most of the study area has been shaped by post-medieval or modern agricultural improvements, settlement, communications or industry, some areas retain visible evidence of their former use. The landscape in the immediate vicinity of Hough Hall Moated Site and Over Tabley Hall has been characterised as 'Ancient Field Systems', while immediately to the west and south-west of Rostherne Mere and to the west of Meremoss Wood are areas of 'Ancient Woodland' (Edwards 2007). Mere Old Hall Park was created in the 17th century and was improved during the 18th and 19th centuries to provide a suitable setting for the building of Mere Old Hall, which was remodelled from an earlier building in the late 18th century.



### **3 AIMS AND OBJECTIVES**

#### **3.1 General aims**

3.1.1 The general aims of the project were:

- *to establish the character, extent and date range of any archaeological deposits, features and/or structures to be affected by the proposed groundworks;*
- *to mitigate the impact of the development on the archaeological resource;*
- *to put the results of the excavation in context by comparing it with similar/related Sites within the local area as well as its regional and national contexts; and*
- *to analyse the Site records, artefacts and ecofacts and produce an archive, report and publication of the results.*

### **4 FIELDWORK METHODOLOGY**

#### **4.1 Summary**

4.1.1 The work was carried out in accordance with the approved WSI (Wessex Archaeology 2014) and Wessex Archaeology and industry standards and guidelines (CIfA 2014a-c). Fieldwork occurred between 24th November 2014 and 12th June 2015.

4.1.2 Areas to be excavated were scanned in advance using a Cable Avoidance Tool to check for uncharted services.

4.1.3 Topsoil and subsoil were removed using a mechanical excavator fitted with a toothless ditching bucket, working under the continuous direct supervision of a suitably experienced archaeologist. Topsoil or overburden was removed in a series of level spits down to the level of the upper archaeological horizon, or the level of the natural geology, whichever was reached first. Topsoil and subsoil were stored separately.

4.1.4 The exposed surfaces were hand-cleaned where necessary to clarify the extent of revealed archaeological remains. Where archaeological features and deposits were encountered, cleaning and excavation was carried out by hand. All features were investigated in order to establish their date, nature, extent and condition.

4.1.5 All archaeological features and deposits encountered were recorded using Wessex Archaeology *pro forma* recording sheets and a continuous unique numbering system.

4.1.6 The excavation focussed on a 9 ha area of land lying between the A50 and Bucklow Hill Lane. Within this 9 ha area, the footprints of a number of topsoil bunds were left unexcavated, as the surrounding stripped areas were devoid of significant archaeological remains, and so the probability of such remains



existing beneath the topsoil bunds was very low (**Figure 2**). This variation to the WSI was carried out with the agreement of Cheshire Archaeology Planning Advisory Service Mark Leah and Historic England. In total 6.35 ha was stripped to either the archaeological horizon or the natural geological substrate, with investigation of any remains revealed occurring immediately thereafter.

## **4.2 Monitoring**

- 4.2.1 The road scheme was constructed within the purview of the Highways Agency, whose archaeological advisors are Historic England. The archaeological fieldwork was monitored by Sue Stallibrass of Historic England, and Mark Leah of the Cheshire Archaeology Planning Advisory Service, acting as appointed representative of Historic England.

## **4.3 Specialist strategies**

### *Artefact*

- 4.3.1 Finds were treated in accordance with the relevant guidance (UKIC 2001; MGC 1992; English Heritage 2005, 2006).

### *Environmental*

- 4.3.2 Bulk environmental soil samples for plant macro-fossils, small animal and fish bones and other small artefacts were taken from appropriate well-sealed and dated/datable archaeological deposits. The collection and processing of environmental samples was undertaken in accordance with Historic England guidelines (English Heritage 2007, 2008, 2011).

## **5 ARCHAEOLOGICAL RESULTS**

### **5.1 Summary**

- 5.1.1 The excavation revealed a ring ditch with associated funerary remains, and a separate cluster of cremation-related deposits (located some 80 m to the east of the ring ditch). Radiocarbon dates indicate the features date to towards the end of the Early Bronze Age, although relatively few have been dated. Pits containing concentrations of charcoal and/or stone, usually heat-affected, were recorded across the Site, either isolated or in clusters. Most were undated; rare finds of prehistoric pottery from a few of the pits support the assumption that the group as a whole relates to prehistoric activity. Also revealed were an enclosure and associated field boundaries, also undated but potentially belonging to the prehistoric or Romano-British periods. An early medieval date for several features is suggested by the cereal species they were found to contain; in two instances this has been subsequently confirmed by radiocarbon dating. A later arrangement of field boundary ditches, some of which correspond with boundaries shown on the mid-19th-century tithe map of the area (Cheshire Record Office Ref. EDT 269/2) was also exposed.

## 5.2 Introduction

- 5.2.1 Around the crest of the ridge that traversed the Site, the natural geological deposits consisted of stony sands ranging in colour from dark orange to pale brown. In the lower lying portions of the Site, the natural material was a rather poorly drained yellow, orange and brownish pink silty clay.
- 5.2.2 In places along the ridge that traversed the Site, topsoil stripping exposed the upper surface of the mudstone bedrock.
- 5.2.3 Archaeological remains were typically found cut from the level of the uppermost natural geological deposits. These deposits were directly overlain by a dark brown topsoil, which was generally around 0.25 m–0.35 m thick. The proportion of clay to sand in this material varied in relation to the underlying substrate, with heavier soils in the southern part of the site, and sandier soils covering the ridge.

## 5.3 Prehistoric

### *Ring ditch*

- 5.3.1 A penannular feature, **1111**, was exposed close to the western edge of the strip, map and excavation area, situated on the southern brink of the ridge that traversed the Site, overlooking lower ground to the south, but with a clear line of sight to the Pennine uplands to the north and east (**Figure 3; Plate 1**).
- 5.3.2 Natural deposits in this part of the Site comprised pinkish sandy clay overlain by gritty, gravelly orange and brown sand with pockets of dark brownish grey loamy sand.
- 5.3.3 Ring ditch **1111** did not form a complete circle in plan: a very narrow (0.25 m wide) interruption lay in its north-east quadrant. The ditch terminals were reasonably well-defined, suggesting that the gap was an original feature, and not the product of plough truncation (**Figure 4.4**).
- 5.3.4 The outer edge of the ring ditch measured around 26 m in diameter, with the area enclosed by the ditch generally measuring 21–23 m in diameter. Where excavated, the ditch was between 1.23 m and 3.04 m wide; its depth varied between 0.11 m and 0.8 m. The profile of the ditch showed similar variation: on its eastern side it had a broad, shallow 'V'-shaped profile (**Figure 4.1; Plates 2-4**), with a more concave, bowl-shaped form on its western side (**Figures 4.2, 4.3 and 6.8; Plates 5-6**). No evidence of any recutting was recorded.
- 5.3.5 A total of fifteen sondages were dug across the ring ditch. Fill sequences were broadly similar, and generally commenced with a thin deposit of red/brown/orange sandy loam, interpreted as redeposited natural. This was overlain by a deposit of generally greyish or reddish brown sandy silt with frequent rounded pebbles and cobbles. In the western half of the ring ditch this completed the backfilling sequence. Relatively large amounts of charcoal were observed within this deposit in the southwestern quadrant of the ring ditch. In the eastern half of the ring ditch, the cobbly deposit was overlain by a relatively stone-free deposit of mid-brown loamy sand. In the

northeastern quadrant this was sealed by a layer of dark brown loamy sand that completed the infilling of the ditch hereabouts, overspilled its confines and formed a general subsoil layer in the wider area. The pollen analysis (**section 8.6**), radiocarbon dating (**section 9**) and analysis of sediments in the monolith taken from the ditch (**section 8.4**) are in accord in indicating that the ditch infilled fairly rapidly.

- 5.3.6 In the absence of readily datable artefacts, two samples from ring ditch **1111** were submitted for radiocarbon testing, in order to provide a preliminary indication for its construction date and duration of infilling (**section 9**, below). One sample was collected from the basal fill, and one from the uppermost fill (in different slots). Charred alder from the basal fill (slot **829**, fill **835**) produced a date of 1880-1610 cal BC (UBA-30660; 3416±46 BP). A piece of charred oak sapwood from a charcoal cluster in the uppermost fill (slot **1092**, fill **1098**) was dated to 1870-1520 cal BC (UBA-30661; 3372±51 BP). The construction of the ditch therefore appears to have occurred towards the end of the Early Bronze Age, with its infilling occurring over 0-185 years (at 95% probability (see **section 9** below).
- 5.3.7 Perhaps significantly, no burnt bone was recovered from the fills of ring ditch **1111**, suggesting that it had become backfilled before such material was being deposited hereabouts. This is in accordance with the current radiocarbon dating evidence, which suggests that funerary activity in the vicinity of the ring ditch post-dates its construction by up to a century (see **section 9** below).
- 5.3.8 A series of pollen samples taken from the ring ditch fill sequence indicate a predominantly open landscape in the vicinity of the feature in the past, with some evidence for arable and pastoral activity (**section 8.6**). Low pollen concentrations were recorded however, with pollen grains poorly to moderately preserved, meaning only a partial picture has been recorded.

#### *Possible bank*

- 5.3.9 It is possible that the cobbles observed within the fills originally formed a bank flanking the ring ditch. Certainly, they seemed too numerous (when compared with the surrounding geological substrate) to be naturally occurring within the fill deposits. Two sondages provided evidence of which side of the ditch this putative bank was situated on: within both intervention **829** and **1092** tip lines within the cobbles seemed to suggest they had fallen in from the inner lip of the ditch (**Figure 4.3**).
- 5.3.10 No convincing evidence of any *in situ* remains of the possible bank was recorded. A concentration of cobbles, **1108**, measuring some 4 m in length by 1 m wide was observed on the inner lip of the ditch in its western half. However, excavation of this material found it to be very shallow and of rather natural appearance. If a cobble bank had accompanied the ditch, then its slighting would seem to have been carried out with great thoroughness. This would at least account for the quantities of stones within the fills of the ring ditch.
- 5.3.11 No evidence of any mound within the area enclosed by the ring ditch was recorded. It was noted that the ploughsoil was relatively shallow, around

0.25 m to 0.3 m, in this part of the Site, and directly overlay the archaeological horizon. This would imply that the ring ditch and associated remains have suffered some degree of plough truncation. However the presence of the dark brown loamy sand filling the upper portion of the ring ditch and extending beyond its cut would suggest that plough truncation has not been severe enough to completely erase a mound, as this material would be expected to overlie any such mound, at least partially. This would imply that no substantial mound ever accompanied the ring ditch, and the remains instead represent a funerary ringwork monument rather than a typical upstanding barrow earthwork.

*Ditches associated with ring ditch 1111*

- 5.3.12 Two ditches were found in association with ring ditch **1111**. The first, numbered **1082=1090** was located just south of the ring ditch, and had been cut by the ring ditch **1111** (**Figure 5.7; Plate 7**). The relationship was reasonably clear in section. Ditch **1082=1090** was aligned north-west to south-east. It measured 1.77 m wide by 0.38 m deep and contained an artefactually sterile fill of gravelly pinkish orange loamy sand overlain by an upper fill of dark greyish brown loamy sand. The south-eastward orientation of ditch **1082=1090** was continued by an alignment of other features, ditch **938**, cremation burial **748**, ditch **796**, and ditch **1113** (**Plate 8**) and pit **871**. It is not known whether all of these features were contemporary, but their eventual arrangement forms a north-west to south-east running group of features framing the southern edge of the ring ditch and continuing across the Site for some 34 m.
- 5.3.13 The second ditch found in direct association with the ring ditch was **1069=1100** (**Figure 6.8; Plates 9 and 10**). This cut the ring ditch on its western side and continued beyond the western Site boundary on a westward orientation. The relationship in section was again clear. It had a visible length of 1.9 m, and was 1 m wide by 0.2 m deep. It had shallow bowl-shaped profile and contained a single deposit of mid-orangey brown sandy silt.
- 5.3.14 With so little exposed of **1069=1100** its function is unclear, but it may have been a later field boundary ditch. Although ditch **1069=1100** cut ring ditch **1111**, it did not continue across it, suggesting that it was deliberately situated to connect with the ring ditch, and that the original excavators of ditch **1069=1100** were aware of the presence of the ring ditch, and perhaps deliberately targeted it.
- 5.3.15 An alternative explanation for this feature would be that it represents a partially exposed inhumation grave (see below); its alignment and visible form would be compatible with this interpretation. However, with the full length of the feature not exposed, this cannot be confirmed. Its stratigraphic relationship with the ring ditch should nevertheless be borne in mind.

*Inhumation graves*

- 5.3.16 A group of twelve inhumation graves (**734, 849, 857, 852=860, 892, 914, 944, 946, 953, 955, 1067, and 1088**) was recorded in the vicinity of ring ditch **1111** (**Figures 3 and 5.6; Plates 11-13**). None contained any skeletal

remains; it is assumed that these have been lost in the acidic, sandy soil. Their interpretation as graves is based instead on the form of the features in plan, their common east-west alignment, and their clustering around the ring ditch and its associated funerary remains.

- 5.3.17 Ten of the graves were located close to the outer lip of the ring ditch; three on its northern side and a fairly orderly row of seven down its eastern side. The remaining two graves were located within the north-east quadrant of the area enclosed by the ring ditch.
- 5.3.18 The graves varied in length between 2.2 m and 1.34 m and in width between 0.56 m and 1.14 m. The shallowest was just 0.03 m deep, the deepest 0.25 m. Each contained a single fill, which typically consisted of a mid-brown or mid-greyish brown sandy silt loam.
- 5.3.19 All fills were artefactually sterile, and so the date of the graves is uncertain. One of the graves, **914**, had been cut by an unurned cremation burial (**924**), with the relationship reasonably clear in plan (**Plate 14**). A fragment of human femur was recovered from the cremated material and submitted for radiocarbon testing. It returned a date of 1600–1410 cal BC (SUERC-64513; 3208±37 BP), providing a potential 15th- to 16th-century *terminus ante quem* date for grave **914**. This would argue against, in this instance at least, the notion that the inhumation graves represent a much later funerary ritual at the Site.
- 5.3.20 The cereal species (small amounts of possible rye grain) present within grave **734** suggest an early medieval or later date for the feature, although this material may possibly be intrusive.
- 5.3.21 To ascertain the function of the features, phosphate analysis was carried out on two of the graves (see **Section 8.5** below). All samples show evidence of possible human and/or animal activity. In one instance, however, the control sample from the adjacent natural substrate showed similarly heightened chemical levels, so the analysis cannot be regarded as providing conclusive proof that the features contain decomposed human remains. Samples 345 and 378 showed the highest calcium and phosphorous concentrations and are most likely to contain bone-related debris. Sample 345 was taken from the eastern end of grave **914**; sample 378 derived from the centre of grave **946**.

*Cremation-related deposits: ring ditch group*

- 5.3.22 A number of deposits of cremated human bone were recorded in the area of the ring ditch, either from within the space enclosed by it, or just outside. The deposits presented either as concentrations of burnt bone and charcoal placed in small cuts, or lenses of similar material, in varying concentrations, within the subsoil. The material comprises an urned burial, exiguous traces of a second urned burial, several unurned burials, plus quantities of redeposited pyre debris. Some of the latter deposits probably represent the results of plough damage to *in situ* cremation burials (**Plates 15-22**).

- 5.3.23 In total, concentrations of burnt bone were recovered from approximately 34 locations within the area enclosed by ring ditch **1111** or in its immediate vicinity, with the total amount weighing some 4689<sup>1</sup>g.
- 5.3.24 One reasonably well-preserved urned cremation was present. This was located outside of the ring ditch, 2.1 m from the outer edge of the cut. The grave for the urned cremation was numbered **724** (**Figure 5.5; Plates 16-17**). The grave cut was roughly circular in plan, with a diameter of around 0.7 m. The grave contained a centrally placed, upright, undecorated pottery urn in a coarse rock-tempered fabric, SF1, which survived to a height of 0.24 m. The upper portion of the pot had been removed by plough truncation. The urn was removed from the Site intact and its contents excavated at Wessex Archaeology's facilities in Salisbury. The vessel was found to contain a dark reddish brown and black sandy clay silt sand with common inclusions of cremated human bone and fuel ash (**731**). The grave contained two backfills: a 0.13 m-thick lower deposit of pyre debris (**726**), overlain by a 0.21 m thick deposit of mid-brown sandy loam (**725**). A small broken flint blade segment was recovered from this material.
- 5.3.25 The urn contained 952g of cremated human bone, with this deriving from a possible male aged 23-35 years at death. A fragment of bone from the urn was submitted for radiocarbon testing, and returned a date of 1670–1490 cal BC (SUERC-64512; 3294±37 BP), positioning the individual within the transition between the Early and Middle Bronze Age.
- 5.3.26 Grave **724** appeared to have been cut into layer **905**, the dark brown loamy sand that completed the infilling of the ring ditch, overspilled its confines and formed a general subsoil layer in the wider area (**Figure 4.1**). This relationship was not particularly clear, however.
- 5.3.27 The plough-truncated traces of a second urned burial were present within the centre of the area enclosed by ring ditch **1111**, possibly representing the remains of the primary burial. Numbered **770**, this grave was aligned north-east to south-west, and measured 1 m long by 0.65 m wide and 0.11 m deep. The grave contained just 1.8g of cremated bone, with this deriving from an infant (0–5 years of age at death). A rim sherd and seven body sherds from an Early/Middle Bronze Age Food Vessel was recovered from the orangey brown sandy silt grave fill.
- 5.3.28 Immediately to the north-west of grave **770**, 765g of cremated human bone, was found distributed throughout a patch of subsoil (**741**) measuring 3 m by 2 m, and a modern plough scar which cut through layer **741**. The bone derives from an adult aged 18–40 years at death, although more than one individual may be represented. An edge flaked knife of Late Neolithic or Early Bronze Age date and a small grog-tempered pottery sherd were surface-collected from layer **741**.
- 5.3.29 Further details of the cremation-related deposits are presented in the human bone assessment (see **Section 7** below).

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<sup>1</sup> The total rises to 5060g when the cremated bone from cut 6903, excavated within the ring ditch during the 2012 evaluation work, is included.

*Cremation-related deposits: eastern group*

- 5.3.30 A second group of cremation-related deposits was present on the Site, located some 90 m to the east-south-east of ring ditch **1111** (**Figure 7**). The deposits formed a subcircular cluster some 30m in diameter, with a pair of outliers (**1056** and **1058**) 35 m to the north-north-west of its northern edge.
- 5.3.31 As at the ring ditch, the deposits presented either as concentrations of burnt bone and charcoal placed in small cuts, or varying concentrations of lenses of such material within the subsoil. Up to eight unurned burials were present, alongside amounts of redeposited pyre debris. Some of the latter deposits probably represent the results of plough damage to *in situ* cremation burials.
- 5.3.32 Cremation grave **917** measured 0.45 m–0.5 m in diameter and had an irregular, undercut profile. Two fills were recorded, a 0.3 m thick main fill of cremated human bone and ash in a matrix of dark grey/brown/black loamy sand, overlain by a 0.1 m thick capping layer of dark brown silty sand containing occasional fragments of cremated bone. A fragment of bone from the main fill was radiocarbon dated to 1610-1410 cal BC (SUERC-64514; 3210±37 BP). This date also belongs to the Early–Middle Bronze Age transition, and suggests that human remains were being disposed of in two distinct parts of the Site at broadly the same time.
- 5.3.33 In total, concentrations of burnt bone were recovered from approximately 14 locations in the second cluster, with the total amounting to some 3099g.
- 5.3.34 No inhumation graves were associated with these features, in contrast to those around ring ditch **1111**. All of the cremation burials in cluster 2 were unurned.

*Possible second ring ditch*

- 5.3.35 No ring ditch or similar feature was recorded in the vicinity of the second cluster of cremation-related deposits. A group of anomalies forming a vague ring some 23 m in diameter is, however, visible in the geophysical data in this area, although no correlating feature was observed on the ground. Should the geophysical data reflect archaeological remains, then it may be the case that a ring ditch was located here, but has been ploughed out, and present only as a relict signature within the ploughsoil. If a second ring ditch was present here, then it would have shared the same topographic location of the first, positioned on the southern brink of the ridge that traversed the Site.
- 5.3.36 Ring ditch **1111** did not have a corresponding geophysical signature.
- 5.3.37 Three concentrations of cobbles were recorded just to the north of the second cluster of cremation-related deposits, and within the area enclosed by the ring-shaped geophysical anomaly. The first, **855**, measured 4 m north-south by 1.44 m east-west and was 0.2 m deep. It contained a dense concentration of rounded cobbles in a matrix of pale brown loamy sand. No datable artefacts were present. The second cobble-filled feature lay 1.8 m to the north-east of the first and was numbered **856**. This was sub-circular in plan and measured 2.8 m north-east to south-west by 1.7 m north-west to south-east and was 0.45 m deep. The third, **926**, measured 1.76 m north–

south by 0.8 m east–west and was 0.2 m thick, with some of the constituent cobbles showing signs of scorching. No artefacts were recovered from any of these features. Their function is unclear. When excavated, they were thought to possibly be field clearance features, of up to post-medieval date. They may, however, represent the clearing away of a cobble bank from the putative ring ditch at this location. The presence of a possible bank was noted at ring ditch **1111**, where it seems to have been pushed into the ring ditch. A similar slighting may have occurred here, although carried out in a different way.

- 5.3.38 The cereal remains found within **926** are suggestive of a post-Romano-British date for this feature (see **Section 8** below), which would undermine a functional association with the cremations in this instance. The cremations appear to be of Bronze Age date, not least on the basis of SUERC-64514. The coarseness of the cobbles and the large voids between them meant the deposit was not well-sealed however, and the cereal remains may be intrusive.

*Pit 103*

- 5.3.39 Located over 250 m to the north-east of ring ditch **1111**, pit **1033** measured 0.95 m in diameter by 0.1 m deep and contained a single fill of loose, gritty very dark brown sand containing abundant angular cobbles, along with occasional fragments of charcoal (**Figure 8**). This feature was unusual in that it also contained datable artefacts. Two sherds tentatively identified as Middle/Late Neolithic Peterborough ware were recovered, representing perhaps the earliest material from the project area. A small amount (0.3g) of burnt human bone was recovered, deriving from an infant (less than five years old at death).

*Pit 1062*

- 5.3.40 Pit **1062** was located 120 m east-north-east of ring ditch **1111**. It was oval in plan and measured 2.24 m north-south by 1 m east-west (**Figure 9**; **Plates 23** and **24**). Excavation revealed it to be 0.32 m deep and contain a black, charcoal-enriched sand fill containing abundant heat-affected angular stones. Five sherds (15g) of rock-tempered pottery currently broadly dated as Neolithic to Bronze Age were present. This was an isolated feature, with no other associated remains recorded nearby.

## 5.4 Early medieval

- 5.4.1 An early medieval date for several features was suggested by the types of cereal present within environmental samples collected from their fills. In two instances, the suspected date was subsequently confirmed by radiocarbon assay (**Figure 10**). The first, pit **711**, lay 14 m to the south of the south edge of ring ditch **1111**. Pit **711** was sub-oval in plan, with a maximum diameter of 1.3 m and a depth of just 0.08 m. Two fills were recorded, a basal deposit of mid-grey sand, overlain by charcoal-rich uppermost fill of dark brown silty sand. Large amounts of charred cereal remains were present in this feature; one barley grain from the uppermost fill (**713**) was radiocarbon dated to 550-670 cal AD (UBA-30659; 1430±41 BP).



- 5.4.2 The second confirmed early medieval feature lay at some remove from pit **711**: 190 m to its north-east. Numbered **565**, this feature was oval in plan with a maximum diameter of 1.08 m. Excavation established the feature was 0.09 m deep and contained a single fill of mixed mottled dark brown and black loamy sand. Large amounts of charred cereal remains were again present, with one barley grain dated to 540-660 cal AD (UBA-30658; 1467±35 BP).
- 5.4.3 The cereal profile of the following features suggests an early medieval (or later) date, although this has not been confirmed by any other type of evidence:

**Table 1: Summary of possible early medieval features**

Feature	Description	Dimensions (L. x W. x D.) (m)	Interpretation
536	Cut with a semi-circular form in plan found to contain charcoal heat-affected stone and clay	0.7 x 0.35 x 0.07	Fire pit / hearth
638	Curvilinear gully (surrounds fire pit 536 – above)	7 x 0.75 x 0.25	Wind-break, drip gully, etc. (see below).
714	Cut with a sub-circular form in plan found to contain charcoal and small amount of burnt bone	1.6 x 1.2 x 0.2	Pit
727	Cut with a sub-oval form in plan	1.3 x 1.1 x 0.3	Pit
734	Cut with a lozenge-shaped form in plan	2.3 x 1.15 x 0.36	Inhumation grave
778	Lens of cremated bone	0.5 x 0.5 x 0.25	Redeposited cremated bone
803	Cut with an oval form in plan found to contain charcoal and slag	2.02 x 1.44 x 0.35	Ironsmithing pit (see below)
927	Cut with a sub-rectangular form in plan found to contain charcoal and hazelnut shell fragments	1.32 x 0.7 x 0.22	Pit
986	Cut with a circular form in plan found to contain charcoal and hazelnut shell fragments	1.88 x 1.52 x 0.39	Pit

- 5.4.4 These features are widely dispersed across the strip, map and sample area, although five (**711**, **714**, **727**, **734** and **803**) were focussed on ring ditch **1111**. Further details of two of the potential early medieval features are set out below:

#### *Curvilinear 'wind-break' 638*

- 5.4.5 A curvilinear feature interpreted as a potential wind-break was investigated around 200 m to the south-east of ring ditch **1111** (**Figure 11**; **Plate 25**). It had a visible length of 7 m; its eastern terminal was well defined, its western terminal had been erased by a post-medieval field boundary. Had wind-break **638** been fully circular, it would have measured 5 m in diameter. The ditch of wind-break **638** was 100% excavated, and found to measure 0.71 m-0.75 m wide by 0.12 m-0.25 m deep. It contained a single fill of mid-to-dark greyish brown loamy sand. No datable finds were recovered, although occasional charcoal, potboilers and fragments of fired clay were encountered.
- 5.4.6 A fire pit, **536**, lay in the centre of the area enclosed by the wind-break. This measured 0.7 m in diameter and had been cut to the south by the later, post-medieval field boundary (**Plate 26**). It was 0.07 m deep and contained a single fill of dark brownish grey loamy sand containing abundant charcoal, fired clay and fist-sized potboilers. Slight blushing was visible on the surface of the underlying natural sand, indicating that burning had occurred *in situ*.
- 5.4.7 Very high numbers of charred plant remains were recovered from pit **536** and moderately large amounts from wind-break group **638**. The cereal remains included barley, free-threshing wheat and probable rye, along with weed seeds and hazelnut shell fragments.

#### *Ironsmithing pit 803*

- 5.4.8 Pit **803** lay just 5.3 m to the north of ring ditch **1111**. It was sub-circular in plan, measuring 2.02 m east-west by 1.44 m north-south (**Figure 12**). Excavation revealed it to have an irregular bowl-shaped profile, with a maximum depth of 0.35 m, and to contain black and brown sand from which an assemblage of just less than 4kg of slag was recovered. This appears to be ironsmithing slag, although the density of some pieces suggests smelting. Fragments of vitrified hearth/furnace lining were also present, with hammerscale, both round and flat, noted within the samples taken from pit **803**.
- 5.4.9 Large quantities of wood charcoal, along with charred plant remains including possible fragments of naked wheat grain and rye were recovered from the bulk samples taken from this feature.

### **5.5 Post-medieval**

#### *Field system*

- 5.5.1 Relict field boundaries, often hundreds of metres in length, were revealed by the topsoiling. (**Figure 13**; **Plate 27**) The primary land divisions ran on a generally north-south alignment with shorter ditches generally set at 90°. The majority of the boundaries correspond with features shown on the 1848 tithe map of the Township of Mere (Cheshire Record Office Ref. EDT 269/2). Other features have been ascribed to the post-medieval period on the basis of their clear functional associations with ditches represented on the tithe mapping, or the finds recovered from them. Described below are some of the most substantial ditches.

- 5.5.2 Ditch **639** was 'U'-shaped in plan, and defined three sides of a plot of land measuring 90 m east-west by at least 110 m north-south. Where excavated, the width of the ditch varied between 0.95 m and 2.6 m, with a maximum recorded depth of 0.65 m. A single fill was recorded in each intervention; this was generally a mid-greyish brown sandy loam in the eastern part of the Site, becoming more orange and clayish towards the west, reflecting the changing nature of the underlying substrate. The southern and eastern arms of ditch **639** match boundaries recorded on the tithe mapping.
- 5.5.3 Ditch **640** lay just 5 m to the east of ditch **639** and followed the same alignment. (**Plate 29**) Together, both features likely formed a double-ditched field boundary. Where excavated, the width of ditch **640** varied between 0.8 m and 1.25 m. It attained a maximum depth of 0.26 m, and contained a single homogeneous fill of mid-greyish brown sandy loam (**Plate 28**). An assemblage of 32 pottery sherds, all probably from one redware chamberpot (late 17th or 18th century), was recovered from sondage **562** dug across this feature.
- 5.5.4 Ditch **1110** ran on a north-north-east/south-south-west alignment for over 200 m, extending beyond the southern Site limit. Where excavated, the width of the ditch varied between 1.25 m and 2.98 m. It attained a maximum depth of 0.55 m, and contained a homogeneous fill of reddish brown loamy sand. Although it does not correspond with any boundary shown on the tithe map, it forms a T-junction with an east-west boundary that is depicted on the mapping, and is therefore assumed to be contemporary. An assemblage of 63 redware sherds, from several bowls of late 17th- or 18th-century date, came from intervention **603**, the southernmost of the five dug across this feature.
- 5.5.5 A group of ditches was recorded in the southeastern corner of the Site. These do not correlate with features on the tithe mapping, but the most substantial, ditch **506**, was found to have a horseshoe-shaped land drain resting on a row of unfrogged bricks running along its base, indicating it to be of no great antiquity (**Plate 30**). Other ditches nearby either fed into ditch **506**, or shared its east-north-east/west-south-west alignment.
- 5.5.6 There were five occasions where the relationship between post-medieval ditches and the general Site soil profile was recorded in section. In all instances, the ditches were seen to cut through the subsoil. This is in contrast to the undated field boundaries, which were recorded as being sealed by the subsoil (see below).
- 5.5.7 A large hollow, **1109**, of approximate 20 m diameter was recorded on the eastern edge of the Site, where it appeared to be contemporary with a post-medieval field boundary. Excavation revealed it to be 0.6 m deep and filled with a single homogeneous deposit of mid-greyish brown sandy silt. Given the nature of the surrounding natural substrate, this feature is thought to represent an infilled sand and cobble quarry pit. The earthwork remains of similar large hollow are visible beyond the Site in the field to the east where they correspond with a feature depicted on the tithe mapping and within a field named on the tithe apportionment as 'Lower Ox Heys and part of Great Pit field'. Large excavated pits were seemingly therefore a feature of the

post-medieval landscape, and hollow **1109** would appear to be of broadly similar date, although it does not match anything on the tithe mapping.

- 5.5.8 Many of the smaller field subdivisions depicted on the 1848 tithe map (and recorded on Site) had been erased by the time of the production of the First Edition 25-inch Ordnance Survey map of 1877. Field boundaries within the strip, map and excavation area appear to have remained static since that time, however, up until the construction of the current road.

## 5.6 Undated

- 5.6.1 Ditched boundaries forming a field system and enclosure, along with burnt stone-filled pits were recorded in the southern part of the Site. This group of features was located on the slope that descended to the south from the brink of the ridge where the funerary remains were located. The features are currently undated, although a later prehistoric to early medieval date is possible, based on their appearance and the presence of dated features elsewhere within the project area.

### *Enclosure 644*

- 5.6.2 Enclosure **644** measured 15.9 m east-west by 15.3 m north-south, and enclosed an area of 225 m<sup>2</sup> (**Figure 14**). It was defined by three ditches (**641**, **642** and **643**), with posthole **612** centrally located in the 5.5 m-wide gap within the enclosure's southern side, and so seemingly also forming part of the boundary. The enclosure's constituent ditches varied in width from 0.5 m to 1.08 m and in depth from 0.04 m to 0.19 m (**Figure 15.16**). Each ditch contained a single artefactually sterile fill of mid-brownish grey silty sand. A black silty sand was present in posthole **612** (0.37 m diameter by 0.34 m deep), with this material possibly representing the degraded remains of a wooden post.
- 5.6.3 The shallowness of the terminals of the constituent ditches (**Plate 31**) does suggest that they were once longer (i.e. they have been affected by ground truncation), but the presence of the posthole on the southern side of the enclosure (**Figure 15.17**) does suggest some degree of segmentation in its original appearance.
- 5.6.4 No remains were present within the enclosure. Its function is not proven, but a role in stockhandling is commonly ascribed to such features.

### *Field boundaries*

- 5.6.5 To the south and east of enclosure **644**, field boundaries were recorded that possibly formed part of a contemporary field system (**Figure 14**).
- 5.6.6 Ditch **622=624** ran for at least 10 m on a north-east to south-west alignment; it continued beyond the southern Site limit. The feature had a maximum width of 1 m and was 0.12 m-0.19 m deep, and contained a single fill of artefactually sterile mid-brownish grey silty sand. Ditch **622=624** was recorded in the Site section as having been sealed by subsoil (**601**) (**Figure 15.18**). This relationship would imply that it belongs to an earlier phase of activity than the post-medieval field boundaries (see above) as these were cut *through* the subsoil.

- 5.6.7 A ditch, **645**, forming three sides of a field or possible enclosure lay just to the south of enclosure **644**. The enclosed area measured 38 m north-north-east/south-south-west by at least 12 m east-north-east/west-south-west; its full extent to the west was not seen. Three interventions were dug across the ditch. These revealed its width to vary between 0.78 m and 1.46 m and to attain a maximum depth of 0.32 m. A single artefactually sterile fill of mid-grey silty sand was recorded in two of the interventions; the southernmost contained a main fill of pale grey sand overlain by an upper deposit of yellowish orange sandy clay (**Figure 15.19**). As with ditch **622=624**, ditch **645** was also recorded in the Site section as being sealed beneath subsoil.
- 5.6.8 Ditch **515** lay some 15 m to the south of the southern side of ditch **645**, and shared both its east-north-east/west-south-west orientation and relationship with the subsoil (i.e. ditch **515** was also sealed by the subsoil). Where investigated ditch **515** was 0.9 m wide by 0.19 m deep and contained a single artefactually sterile fill of dark brownish grey sandy silt loam. It was reasonably clear in plan although it had a very indistinct form in section (**Figure 15.20**).
- 5.6.9 Environmental samples from these undated field boundaries were found to be largely sterile.

#### *Pits*

- 5.6.10 Scores of maculae were recorded across the Site. The majority were undated, contained only sterile secondary fills and did not form part of any larger group or structure in plan, and so merit no further comment. Full details are in the project archive.
- 5.6.11 A group of seven pits of higher archaeological potential was recorded some 60 m upslope and north-west of enclosure **644**. The component pits within this group are **965**, **969**, **975**, **977**, **979**, **982** and **984** (**Figures 16** and **17.22**; **Plate 32**). A 19 m-long, north-north-west/south-south-east alignment of three regularly spaced pits formed the core of this group. Each of the three (**965**, **969** and **984**) contained a distinctive fill of very dark, charcoal-stained silt/sand containing frequent angular heat-affected stones. These pits measured between 0.75 m and 1.07 m wide and attained a maximum depth of 0.25 m. A fourth pit, **975** (1.2 m diameter by 0.15 m deep – **Figure 17.23**), contained a similar fill and lay 2.6 m to the west of this alignment. Three other pits were present nearby: **977**, **979** and **982**. These formed a vague, 16 m-long, east-west alignment, which crossed the north-north-west/south-south-east orientated row of pits. Pit **977** contained a charcoal-rich fill, but relatively few heat-affected stones. Pits **979** and **982** contained sterile mid-greyish brown sandy fills, more typical of those recorded elsewhere on the Site (**Figure 17.21**).
- 5.6.12 The function of this group of pits is unclear, although they do form a marked concentration and are located reasonably close to boundary and other features for which a later prehistoric or Romano-British date is suggested.
- 5.6.13 A small number of pits containing fire-cracked stone were found widely scattered across the rest of the Site (**Figure 16 inset**). Pit **523** (0.9 m diameter by 0.15 m deep) lay 110 m south-east of the burnt stone-filled pit

cluster described above. It contained a fill of grey sand and frequent stone/cobble inclusions. These did not appear to be burnt, however, and there was little in the way of charcoal in the fill of the feature.

- 5.6.14 Pit **1014** was located 240 m north of the burnt stone-filled pit cluster. It was oval in plan and measured 1.15 m east-west by 0.7 m north-south. Excavation revealed it to be 0.31 m deep and contain a black, charcoal-enriched sandy silt fill containing abundant angular stones. A similar feature, **1016**, was recorded 25 m to the north-west (**Plate 33**).
- 5.6.15 A lozenge-shaped spread of black, charcoal-enriched sandy silt (**1037**) with frequent heat-affected stone inclusions was found some 3 m to the north-west of pit **1016**. Excavation revealed it to form the upper of two fills of a small hollow measuring 4 m east-west by 1 m north-south, and 0.18 m deep. The hollow, **1036**, was rather poorly defined, with irregular edges; it contained a basal fill of dark brown sand with large stone inclusions (**Plate 34**). No artefacts were present.
- 5.6.16 The final stone-filled pit to be encountered on Site lay a further 70 m to the north-east. Numbered **1034**, it was sub-oval in plan, measuring 0.7 m north-south by 0.6 m east-west. It was 0.22 m deep and contained a single fill of mid-to-dark yellowish brown sand with common rounded and angular heat-affected stone inclusions. This was an isolated feature, with no other associated remains recorded nearby.
- 5.6.17 Heat-affected stones are a common find-type on sites of a broad prehistoric (Neolithic to Iron Age) date and are 'among the most abundant and widespread categories of artefactual material found on prehistoric sites and they occur in a wide range of demonstrably different contexts' (Seager Thomas 2010, 358). Hot stones were seemingly put to a multitude of uses during prehistory, and are commonly associated with food preparation and cooking. As in this instance, their presence is typically read as a proxy for settlement activity.

## **6 FINDS**

### **6.1 Introduction**

- 6.1.1 The mitigation produced a small assemblage of finds, ranging in date from prehistoric to modern. The finds occur in a restricted range of material types, mainly ceramic. The assemblage augments that found during the evaluation and watching brief stages of fieldwork. Quantities by context and by material type are given in **Table 2**.

### **6.2 Pottery**

- 6.2.1 Pottery (145 sherds) provides the primary dating evidence for the Site. The assemblage includes material of prehistoric and post-medieval date. The pottery is quantified by context and by ware type in **Table 3**.

### *Prehistoric*

- 6.2.2 Thirty-seven prehistoric sherds were recovered from six deposits/features. These have a potential date range from Neolithic to Bronze Age.
- 6.2.3 Perhaps the earliest sherds are two from pit **1033**. Both are body sherds with impressed decoration. One is a coarse, rock-tempered fabric, with impressions of uncertain origin (possibly fingertip) and the other in a grog-tempered fabric (with oblique comb-impressed decoration). These two sherds have been tentatively identified as Middle/Late Neolithic Peterborough ware.
- 6.2.4 The remains of two Early/Middle Bronze Age vessels were found accompanying cremation burials, in graves **724** and **770**. The more complete of the two was from **724**, although this only comprised the lower part of the vessel, which is undecorated; the fabric is coarsely rock-tempered. The undiagnostic nature of the vessel means that it cannot be confidently assigned to a specific ceramic tradition, but a radiocarbon date of 1670-1490 cal BC (SUERC-64512; 3294±37 BP) from human bone from this grave confirms the Early/Middle Bronze Age dating. Of the vessel from grave **770** only one internally bevelled rim sherd and seven body sherds survived; this vessel is in a grog-tempered fabric, and from the rim form can be identified as Food Vessel.
- 6.2.5 The remaining eight sherds are undiagnostic body sherds which at this stage are broadly dated as Neolithic to Bronze Age. One small sherd from context **740** is grog-tempered, while the other seven are rock-tempered (including quartzite and igneous rock inclusions). These seven sherds came from redeposited pyre debris **851** (the two heavily abraded sherds were probably residual in this context) and pit **1062**.

### *Medieval*

- 6.2.6 A single sherd of medieval pottery was recovered, from subsoil context **701**. This is a jar rim, in a calcareous coarseware fabric, with a probable date range of 11th/12th century.

### *Post-medieval/Modern*

- 6.2.7 The remaining 107 sherds are post-medieval/modern. The earliest sherds within this group comprise redwares (mostly black-glazed), Staffordshire-type marbled slipware and Midlands Purple. This includes 32 sherds, all probably from one redware chamberpot (late 17th or 18th century), from slot **562** dug into ditch **640**; and 63 redware sherds, from several bowls, from slot **603** in ditch **1110**. Other diagnostic sherds are all from open forms (bowls and dishes). There are only two sherds of industrial wares, suggesting that the deposition of pottery onto the fields had largely ceased by the early 18th century.

## **6.3 Worked flint**

- 6.3.1 Fourteen pieces of worked flint were recovered (none were found during the evaluation). One piece is in a dark grey cherty material, while the others are gravel flint.

6.3.2 Eight pieces are undiagnostic waste flakes, but four are small broken blade segments, suggestive of a Mesolithic to early Neolithic industry (cremation grave **724**, subsoil **741**, and layer **1030**).

6.3.3 There are two tools. The first is an edge flaked knife of Late Neolithic or Early Bronze Age date (residual in plough scar **742**). The second is a probable fabricator, although of untypical curved form, found in cremation grave **750**, and possibly a pyre good, as the object has been slightly burnt.

#### **6.4 Metalworking debris**

6.4.1 A shallow oval pit, **803**, produced a relatively small quantity (3.9 kg) of ironworking slag, all of this coming from the single fill (**804**). The pit is undated but as discussed in the environmental report (see **Section 8** below), the associated charred plant remains suggest that an early medieval (5th–10th century AD) date is most likely (see below).

6.4.2 The debris is in a moderately fresh and unabraded condition, and is thought to derive from iron smithing. Some of the slag is rather amorphous, but most has a somewhat 'drip-like' surface, with no clear evidence of a flow structure that might indicate smelting. There are, in addition, possibly five complete or fragmentary plano-convex hearth bottoms, which formed in the base of a smithing hearth. These weigh 554 g (105 x 100 x 50 mm), 423 g (130 x 75 x 50 mm), 402 g (90 x 70 x 35 mm), 340 g (115 x 75 x 35 mm) and 179 g (80 x 80 x 35 mm) respectively. At least one of these hearth bottoms is fairly dense, but there is no supporting evidence to indicate that it might derive from smelting.

6.4.3 Other material comprises almost 398g of hearth lining, some with attached slag, with no obvious furnace lining present. There is no indication that pit **803** was anything other than a convenient receptacle in which to dispose of this and the other metalworking debris, however it is likely that the ironworking took place in the fairly immediate vicinity. This is supported by the presence of hammerscale in the soil samples, which has yet to be examined in detail to estimate the relative quantities of plate and spheroidal material represented.

#### **6.5 Animal bone**

6.5.1 A total of 125 fragments (or 1.757kg) of animal bone was recovered from two features. Most (1.740kg) of this material came from the southern extension of modern ditch **1112**. The identified bones all belong to cattle and include bones from both the fore- and hind-quarters, as well as fragments of skull, rib and vertebrae. The bones were large enough to have come from an improved breed of cattle, which tallies with the date of the feature from which they were recovered. No butchery marks were recorded. An additional four small fragments of bone came from undated feature **527**.

#### **6.6 Other finds**

6.6.1 Other finds include one plain clay pipe stem fragment from ditch **504**; ten post-medieval brick fragments from slot **603** in ditch **1110**; a possible whetstone from topsoil (**600**); seven joining glass fragments from the base of a green wine bottle of late 18th or early 19th century date (posthole **883**), a





modern clear bottle/jar base (intrusive in cremation-related deposit **741**), and a tiny fragment of modern clear glass (intrusive in cremation-related deposit **923**); two fragments of fired clay with wattle impressions (posthole **873**), and a small group of featureless fragments from fire pit **536** (feature possibly early medieval or later). In addition, there are three metal objects (possible iron nail shank from undated pit **894**, post-medieval button and small lead waste fragment from modern ditch slot **718** (group **1110**)).

**Table 2: All finds by context (number / weight in grammes)**

Context	Animal Bone	Flint (No.)	Pottery	Other Finds
500		3	2/23	
505			3/45	1 clay pipe
528	4/17			
537				19 fired clay
563			32/1054	
600				1 stone
604			67/1281	10 CBM
701		1	1/21	
719				1 Cu; 1 Pb
725		1	18/91	1 stone
731			1/2665	
740			2/7	
741		1		
743		1	2/5	1 glass
751		1		
771			8/51	
774		1		
804				3947g slag
831		2		
851			2/3	
874				2 fired clay
885				7 glass
895				1 Fe
923				1 glass
1030		2		
1032			2/8	
1051	121/1740			
1063			5/15	
1098		1		
<b>Total</b>	<i>125/1757</i>	<i>14</i>	<i>145/5269</i>	

CBM = ceramic building material; Cu = copper alloy; Fe = iron; Pb = lead



**Table 3: Pottery by context**

Context	Ware type	Date range	No.	Wt. (g)	Comments
500	Refined whiteware	Modern	1	10	
500	Staffs-type manganese mottled ware	Post-medieval	1	13	tea pot body with strainer at base of spout
505	Post-medieval black-glazed redware	Post-medieval	3	45	2 in coarse redware fabric
563	Post-medieval black-glazed redware	Post-medieval	32	1054	chamberpot: all 1 vessel? Rim, body and base sherds
604	Post-medieval redware	Post-medieval	3	77	
604	Post-medieval black-glazed redware	Post-medieval	63	141	fragmentary group, 2 rims (flanged bowls)
604	Midlands Purple	Post-medieval	1	63	flanged bowl
701	Calcareous ware	Medieval	1	21	jar rim, internally thickened
725	Rock-tempered ware	Prehistoric	18	91	part of Obj No 1, cremation urn (see 731)
731	Rock-tempered ware	Prehistoric	1	2665	base, undiagnostic (cremation urn)
0740	Creamware	Post-medieval	1	1	intrusive in this context?
0740	Grog-tempered ware	Prehistoric	1	6	
0743	Refined whiteware	Modern	1	1	
0743	Post-medieval black-glazed redware	Post-medieval	1	4	rim, open form
0771	Grog-tempered ware	Prehistoric	8	51	prob all same vessel; includes internally bevelled rim, but no dec
0851	Rock-tempered ware	Prehistoric	2	3	impressed decoration?? Possibly burnt?
1032	Rock-tempered ware	Prehistoric	1	6	impressed dec - Peterborough ware?
1032	Grog-tempered ware	Prehistoric	1	2	comb-impressed dec
1063	Rock-tempered ware	Prehistoric	4	8	igneous inclusions (coarse mica)
1063	Rock-tempered ware	Prehistoric	1	7	quartzite inclusions?



## 7 HUMAN BONE

### 7.1 Introduction

- 7.1.1 Cremated bone from 56 contexts was subject to assessment together with unburnt human bone from one other context. Most of the cremated bone derived from one of two areas; ring ditch **1111** and three small groups of features/deposits distributed within a c. 27 x 17 m area approximately 60 m to the east (denoted 'cluster 2' in **Table 4**).
- 7.1.2 Fifteen features/deposits within the 21–22 m diameter area described by the ring ditch contained/comprised cremated bone, including the remains of one redeposited burial (possibly urned) and four unurned burials (including two 'probable' burials; see **Table 4**). One other feature from this area was excavated in the 2012 evaluation stage of the project and the remains subject to assessment (McKinley 2012). To the immediate south-west of the ring ditch, 11 features/deposits with cremated bone included the remains of an urned burial and two unurned burials (one 'probable'). Of the 14 features/deposits within the groups to the east, eight comprised the remains of unurned burials (including two 'probable'). The remains of one other unurned burial comprised one of two deposits excavated c. 36 m to the north of this eastern mortuary group (denoted 'NE pair' in **Table 4**). The nature of the remaining deposits is currently uncertain, some of the material is clearly redeposited (including in the fills of three of the features interpreted as inhumation graves) and potentially related to adjacent features/deposits, whilst others might prove to represent burial remains. Burnt/cremated bone, probably human, was also recovered from one deposit 44 m to the south of the ring ditch and a second 264 m to the north; a small fragment of burnt/cremated bone from a pit 25 m south-east of the ring ditch could not conclusively be identified as either human or animal, whilst burnt bone from one context 18 m to the north-west was identified as animal.
- 7.1.3 The fragments of unburnt human bone (**701**) were recovered from a discrete location within the eastern mortuary group during machine stripping of the Site prior to excavation.
- 7.1.4 Cremated bone samples from three burial remains – the urned and unurned burial from immediately south-west of the ring ditch (graves **724** and **824** respectively) and one of the unurned burials from the eastern group (grave **917**) – were submitted for radiocarbon analysis. All returned a similar later Early Bronze age date (see Barclay and Wyles below).

### 7.2 Methods

- 7.2.1 The remains of the urned burial (**731**) were lifted *en masse* on site and subject to laboratory micro-excavation by the writer.
- 7.2.2 Following post-excavation processing, all the human bone was subject to a rapid scan to assess the condition of the bone, demographic data, and the presence of pathological lesions. The deposit type was assessed from the combined osteological and site context data. Assessments of age and sex were based on standard methodologies (Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000).

### 7.3 Results

- 7.3.1 Evidence from the micro-excavation of burial **731** suggests the bone was initially placed in a bag which was deposited in the vessel with the neck pulled over to one side taking the upper layers of the contents with it, and that pyre debris was then deposited in the other

side of the vessel; some pyre debris had also been placed in the base of the grave before the urned burial was made.

- 7.3.2 Varying levels of truncation were apparent across the site, with 29% of the cremation-related deposits surviving to 0.10 m or less in depth. Redeposited bone was found as surface 'layers' in both main mortuary areas, particularly around and within the area described by the ring ditch, and was also found in plough scars. It is probable that some bone will have been lost from many of these shallow deposits. Deeper deposits did survive, however, a further 29% being 0.20 m or more in depth, and at least three of the burial remains appear to have survived intact and undisturbed (denoted '\*' in **Table 4**).
- 7.3.3 Although one cremation grave (**924**) was recorded as having cut through the fill of an inhumation grave (**914**), cremated bone was recovered from the latter and small quantities were also collected from the fills of two other inhumation graves in the vicinity of the ring ditch. The implication is that at least some of the inhumation graves (in which no human bone survived) were cut subsequent to some of the cremation-related deposits being made.
- 7.3.4 Most of the cremated bone is in relatively good visual condition. Trabecular bone was present in most deposits considered here, with substantial quantities present in 9% of cases. Trabecular bone is generally subject to preferential loss in an aggressive burial environment - such as the sandy silts present on the Site. Little or no trabecular bone was observed in 34% of the deposits, however, and the bone was eroded to varying degrees with a chalky appearance. In these cases, bone loss will have occurred due to taphonomic factors related to the acidic nature of the burial environment. The latter is likely to be responsible for the absence of human bone and teeth from the inhumation graves. It is, therefore, of interest that the fragments of unburnt human cranium recovered from the subsoil in the area of the eastern mortuary group is in good condition, with a relatively 'fresh' unabraded appearance indicating that it had not been in the ploughsoil for a long period or subject to repeat episodes of manipulation.
- 7.3.5 A minimum of 15, more probably 21 individuals is represented (**Table 4**); the uncertainty regarding numbers is due to the current lack of conclusive interpretation of deposit types. Bone from any one cremation could, following recovery from the pyre site, be separated and dispersed between one or more deposit/features (McKinley 2013). Consequently, careful consideration of numerous factors – contextual and osteological – is required in interpretation of deposit type and potential links between the material recovered, particularly from neighbouring contexts.
- 7.3.6 The remains of only three immature individuals were identified: two infants, one from the central area within the ring ditch, and one from the eastern group (**Table 4**); and one juvenile/subadult from south of the ring ditch. Although not all these deposits represented the remains of burials, the unique age ranges indicated demonstrates these individuals are not present elsewhere within the assemblage. The remains of at least 10, more probably 15, adults were recovered. Where closer age ranges could be attributed the majority fell within the young–mature ranges, with none conclusively identified as >45 years of age and only one young adult (grave **1058**). A further two, probably four individuals could be aged no closer than subadult/adult (>13 yr). A probable sex was attributed to only nine subadult–adult individuals, with similar numbers of females (four) and males (five).



- 7.3.7 The low proportion of immature individuals (14–20%) in part counters the otherwise relatively ‘normal domestic’ appearance of these mortuary groups but their presence does at least demonstrate that age alone would not necessarily exclude individuals from burial in these areas, and it is interesting to note that infant bone was recovered from the central area of the ring ditch. The even division between the sexes, both in terms of numbers and spatial distribution, also suggests a gender equality in burial location.
- 7.3.8 Few pathological lesions were observed in the scan. Evidence for increased porosity in some of the fragments of skull vault from grave **724** is probably indicative of increased blood supply to the area due to persistent scratching of the head to relieve the irritation of lice infestation. The *ante mortem* tooth loss seen in the maxilla from grave **777** may have been related to some other form of dental disease eg dental caries, evidence for which is unlikely to have survived given the nature of cremated remains. The solitary bone cyst seen in a carpal bone from layer **923** may have been asymptomatic and unrelated to any rheumatic condition.
- 7.3.9 No materials suggestive of pyre goods were observed, but blue/green spot staining recorded on the exocranial surface of a fragment of skull vault from grave 750 may be indicative of the presence of a copper alloy item on the pyre, the remnants of which were not included at burial.
- 7.3.10 The bone is predominantly white in colour, indicative of full oxidation of the organic components. Most of the surviving fragments are of medium size (>20 mm); in one or two cases the bone appears unusually comminuted (mostly <10 mm) which might reflect deliberate post-cremation manipulation but could also be due to taphonomic factors. In several cases, eg grave **1058**, many of the bone fragments are in excess of 30 mm indicating a well-protected burial environment in addition to other mitigating factors.



**Table 4: Summary of assessment of human bone**

Context	Cut	Deposit type	Weight	Age/sex	Pathology	Comment
701		R u/b bone	7 frags. cranium	adult > 18 yr ??female		in area of Cluster 2.
715	714 0.20m	R	0.2g			S of barrow; animal?/human – poss. worked; eroded
717	716 0.05m	crd - ?rpd	0.5g	subadult/adult > 13 yr		S of barrow; 2 bags; eroded, no trab.
725	724 0.24m	grave fill	5.5g	subadult/adult >13 yr		3 bags; some trab. <b>see 731</b>
726	724	grave fill	2.7g	adult >23 yr		fill immediately around urned burial in grave base; <b>see 731</b>
731	724	urned burial	952.4g	adult 23-35 yr ?male	endocranial porosity - ?lice	ON 1; E. margins of barrow; 8 quadranted spits (lab. exc); common trab.; few grey. <i>C14 sample</i>
733	732 0.12m	R	1.5g	>infant > 5 yr		within barrow; 2 bags.; slightly eroded.
737	736 0.05m	?rpd	8.1g	subadult/adult > 13 yr		within barrow; 4 bags, most in NW half; some trab.
739	738 0.15m	crd inc. rpd	16.8g	subadult/adult >13 yr		within barrow; 4 bags; most in N half; heavily eroded
740	–	= 741	55.8g	adult >18 yr		layer (cleaning); 'fresh' appearance to bone suggests recent disturbance; some trab.
741	– 0.15m	?urned burial	650g	adult 23-40 yr		central to barrow, cut by <b>770</b> . layer; 11 bags (0.25m <sup>2</sup> blocks), most conc. in ?lower level one small area; 'fresh' appearance to bone suggests recent disturbance; common trab.
743	742 plough scar	r ?= 741	59.9g	adult <40 yr		5 bags – most from one sample; 'fresh' appearance to bone suggests recent disturbance; common trab.



Context	Cut	Deposit type	Weight	Age/sex	Pathology	Comment
747	746 0.06m	un. burial + rpd	182.2g	adult 18-35 yr		within barrow confines; 5 bags, maj. in E half grave; some trab.
749 + 765	748 0.14m	crd - ?rpd	329g	adult 21-35 yr	morphological variation - wormian	S. of barrow, cut by 764 & fills mixed – SW & NW quad. = ?765 with some mix, NE & SE quad. = 749? (need to check in analysis); 5 bags, maj. in one sample; slightly eroded & comminuted
751	750 0.26m	un. burial + rpd	1114.1g	adult 21-35 yr ?male		within barrow confines; 8 bags.; maj. in spit 2 & NW quad.; b/g spot staining; common trab.
755	754 0.10m	?un. burial + rpd	20.1g	subadult/adult >12 yr		within barrow confines; 4 bags, maj. in SE quad.; heavily eroded; no trab.
758	754	=755	2.4g	subadult/adult >12 yr		interface layer between 755 & the cut; 3 bags; eroded
761	760 0.07m	?un. burial	26.1g	subadult/adult >12 yr ??female		within barrow; 4 bags, maj. N & W
762	760	R =761?	40g	subadult/adult 13-23 yr		surface layer 0.43 from 761; some trab.
763	760	R =761?	1g	subadult/adult >12yr		surface layer 0.24m from 761; some trab
771	770 0.11m	crd	1.8g	infant 0-5 yr		cuts <b>741</b> ; pot sherds
772	– 0.17m	R	0.3g	human		?layer within barrow
774	– 0.30m	R	32.5g	subadult/adult >12 yr		?layer within barrow; 4 bags, maj. S half; pot; no trab.
775	– 0.21m	R	1g	juvenile/subadult >5-18 yr		?layer outwith barrow; 3 bags; heavily eroded; no trab.
776	777 0.14m	un. burial	332g	adult 21-40 yr ??female	<i>ante mortem</i> tooth loss - maxilla	Cluster 2.; 5 bags, maj. E half
778	– 0.28m	R	100.2g	adult > 18 yr		layer within barrow; 8 bags, maj. in E half (just)
790	789 0.13m	un. burial + rpd	8g	infant 0-5 yr		Cluster 2.; 5 bags, maj. NE; slightly eroded



Context	Cut	Deposit type	Weight	Age/sex	Pathology	Comment
791	796 (ditch)	?rpd	89g	adult >18 yr		ditch S. of barrow spread across centre (see CAD); 9 bags; some trab.; some slightly eroded
795	layer 0.15m	?un. burial + rpd	32.1g	subadult/adult >12 yr ??female		cluster 2.; 5 bags, maj. NE quad; some trab.
810	809 0.49m	R	3.7g	subadult/adult >12 yr		ditch S. of barrow – only a slot excavated, potentially left some <i>in situ</i> ? heavily eroded; see <b>821, 813, ?796</b>
814	813 0.43m		1.3g	>infant >5 yr		ditch S. of barrow – E terminal, <b>see 809 &amp; 821</b> ; eroded
818	816 0.27m		0.8g	animal		Gp. NW of barrow
822	821 0.48m	R	2.8g	adult >18 yr		see <b>810</b> ; ?ditch fill; heavily eroded
*826	825 0.30m	un. burial + rpd	780g	adult 20-40 yr ?male		Cluster 2.; 12 bags, maj. NW quad.; max. frag. 135mm
837	830 0.10m	?un. burial + rpd	12.2g	subadult/adult >12 yr		S. of barrow; 5 bags, maj. in SW quad.; eroded, some trab. NB. CAD shows correct location
839	838 0.25m	un. burial + rpd	114.9g	subadult/adult >12yr		Cluster 2.; 8 bags, maj. N. half; eroded, little trab.
851	layer 0.05m	?R inc. rpd	45.1g	subadult 13-18 yr		Cluster 2.; 5 bags, maj., N half; eroded, little trab.
869	868 0.17m	crd inc. rpd	56.3g	adult >18 yr		Cluster 2. ; 6 bags, homog. spread; eroded, no trab.
874	873	?rpd	0.3g	?hu/?an		25m SE of barrow; heavily eroded
893	892 0.16m	R	1.3g	?hu: >infant >5 yr		?inhumation grave fill; 2 bags; heavily eroded
904	903 0.13m	R	0.6g	?hu; subadult/adult >12 yr		44m S. of barrow; eroded





Context	Cut	Deposit type	Weight	Age/sex	Pathology	Comment
915	914 0.22m	R	13.3g	adult >21 yr		inhumation grave fill, cut by crem. grave 924. Bone originated in crem. grave 924? 2 bags; some trab.
*916	924 0.18m	un. burial	790g	adult 21-35 yr		imm. E barrow, cuts ?inh. grave; 5 bags, maj. in N half; 2.2g for C14; common trab.
*918	917 0.30m	un. burial + rpd	663.2g	adult 20-45 yr ??male		cluster 2.; animal disturbance; 9 bags, maj. in NW quad.; 2.5g for C14; slightly eroded & chalky, some trab.
923	layer 0.28m	crd	173.3g	adult >18 yr ??female	solitary bone cyst - lunate	within barrow, poss. redeposited from area; 9 bags, maj. W half; b/g spot staining (exocranial)
929	930 0.17m	?un. burial + rpd	642g	adult >18yr ??male		Cluster 2.; 5 bags; slight eroded & chalky, some trab.
932	931 0.21m	un. burial	425g	adult 25-35 yr		Cluster 2.; 5 bags., mag. W half; very slightly eroded, common trab., few grey
943	942 0.10m	R inc. ?rpd	1.2g	subadult/adult >12 yr		within barrow; trab. & long bone
947	946 0.11m	R inc. fuel ash	0.1g	?hu/?an		inhumation grave fill (within barrow); eroded
988	layer 0.00m	R	45.5g	adult > 18 yr		Cluster 2. adj. 931 ...? possible 'upcast'?
1032	1033 0.10m	?	0.3g	>infant >5 yr		264m to N. of barrow; heavily eroded (NB: half sectioned only)
1057	1056 0.12m	crd inc. rpd	120.5g	subadult/adult >13 yr		pair to NE; 4 bags, even distribution; slightly eroded, some trab.
1059	1058 0.20m	un. burial + rpd	570g	adult 18-25 yr male		pair to NE; 5 bags, maj. NW; large frags., inc. trab.
1064	layer 0.10m	crd inc. rpd - ?R	10.4g	> infant >5 yr		Cluster 2. area; 2 bags
1065	layer 0.12m	crd	130g	adult > 21 yr ?female		Cluster 2. area; 4 bags, maj. NW;



Context	Cut	Deposit type	Weight	Age/sex	Pathology	Comment
1066	layer 0.09m	R = 1065	2.3g			Cluster 2. area; 4 bags, maj. NW;

KEY: \* = undisturbed deposit; un. burial = unurned burial; R. = redeposited; crd = cremation-related deposit; rpd = redeposited pyre debris;  
u/b = unburnt; hu/an = human/animal

## 8 ENVIRONMENTAL EVIDENCE

### 8.1 Introduction

8.1.1 A series of 378 bulk samples was taken from a range of features across the Site. The majority of the samples were from cremation-related deposits of probable Bronze Age date (“?Bronze Age” hereafter). The samples were processed for the recovery and assessment of charred plant remains, charcoal and cremated bone. Data relating to the assessment of the environmental evidence is presented in **Appendix 2**.

8.1.2 The bulk samples break down into the following phase groups:

**Table 5: Sample provenance summary**

Phase	No of samples	Feature types
Bronze Age	25	Cremation-related deposits
Bronze Age	16	Ring ditch
?Bronze Age	248	Cremation-related deposits
?Bronze Age	10	Ditches, pit
?Pre-Early medieval	2	Layer, pit
Early medieval	8	Cremation-related deposits
Early medieval	1	Pit
?Early medieval or later	22	Possible cremation-related deposits
?Early medieval or later	11	Possible graves
?Early medieval or later	10	Layer, pits, gully
Undated	25	Possible graves, gully, hollow, layers, pits, scoop, tree-throw
<i>Total</i>	<i>378</i>	

8.1.3 Phasing is based on the radiocarbon dates, the plant charred macroremain assemblages, and other characteristics of the archaeological remains. The presence of cereal crop species with a particular timing of introduction or cultivation in the region (Hall and Huntley 2007), such as free-threshing wheat (*Triticum aestivum/durum* type) rye (*Secale cereale*) and oats (*Avena sativa*), has been used to provide an approximate terminus post quem date for contexts which do not have a phasing based on radiocarbon dates or artefactual evidence. In addition to the bulk samples, 34 samples were taken from possible graves for the consideration of phosphate analysis and two from these features samples were artefact sieved for the retrieval of bone. A sequence of nine pollen samples and a monolith were taken from the Bronze Age ring ditch group **1111**.

### 8.2 Charred plant remains

8.2.1 The bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 4 mm, 2 mm and 1 mm fractions and dried. The coarse fractions (>4 mm) were sorted, weighed and discarded. The flots were scanned under a x10 – x40 stereo-binocular microscope and the preservation and nature of the charred plant and wood charcoal remains recorded in **Appendix 2**. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997) for wild plants, and traditional

nomenclature, as provided by Zohary and Hopf (2000, Tables 3, page 28 and 5, page 65), for cereals.

- 8.2.2 The flots varied in size with generally low numbers of roots and modern seeds. The charred material varying degrees of preservation, with some of the material being particularly well preserved.

*Bronze Age*

- 8.2.3 Samples from Bronze Age cremation-related deposits **724**, **917** and **924** contained few charred plant macroremains, including indeterminate cereal grain fragments, bedstraw (*Galium* sp.), runch (*Raphanus raphanistrum*) capsules, vetch/wild pea (*Vicia/Lathyrus*), and twig/stem fragments.

- 8.2.4 The assemblages in samples from the ring ditch group **1111** are also limited and included cereal grain fragments, from barley and from an indeterminate species, and oat/brome grass (*Avena/Bromus*) grains.

*?Bronze Age*

- 8.2.5 The samples from ?Bronze Age cremation-related deposits contained low levels of charred remains. These included barley and hulled wheat grain fragments, seeds of docks (*Rumex* sp.), vetch/wild pea (*Vicia/Lathyrus*), oat/brome grass (*Avena/Bromus*), bedstraw (*Galium* sp.) and persicaria, runch (*Raphanus raphanistrum*) capsules, false oat-grass (*Arrhenatherum elatius* var. *bulbosum*) tubers, hazelnut (*Corylus avellana*) shell fragments, sloe (*Prunus spinosa*) stone fragments and acorns. There were also twig/stem fragments within a number of the assemblages.

- 8.2.6 Small assemblages were also noted in the samples from other ?Bronze Age features (boundary ditch **1090** and pit **875**). These include hulled wheat grain fragments, oat/brome grass (*Avena/Bromus*) grains and hazelnut (*Corylus avellana*) shell fragments.

*?Pre-early medieval*

- 8.2.7 The moderate assemblages recorded from ?pre-early medieval layer **527** and pit **553** included hulled wheat, emmer or spelt (*Triticum dicoccum/spelta*), grain and glume base fragments, barley (*Hordeum vulgare*) grain fragments, seeds of oat/brome grass (*Avena/Bromus* sp.) and vetch/wild pea (*Vicia/Lathyrus* sp.) and hazelnut (*Corylus avellana*) shell fragments. One of the glume base fragments was identifiable as being that of possible emmer wheat (*Triticum dicoccum*).

*Early medieval*

- 8.2.8 Some early medieval assemblages, such as the ones recovered in pit **711**, provided relatively abundant plant macroremains, whilst that of pit **565** provided very high numbers of remains. The cereal remains included barley, free-threshing wheat (*Triticum turgidum/aestivum* type) and possibly rye (*Secale cereale*) grains. The weed seeds included those of oat/brome grass, vetch/wild pea, goosefoot (*Chenopodium* sp.), persicaria (*Persicaria* sp.), docks (*Rumex* sp.) and black bindweed (*Fallopia convolvulus*). There were also hazelnut (*Corylus avellana*) shell fragments.

?Early medieval or later

- 8.2.9 Very high numbers of remains were recovered from pit **536** and moderately large amounts from wind-break group **638**. The cereal remains included barley (*Hordeum vulgare*), free-threshing wheat (*Triticum turgidum/aestivum* type) and probable rye (*Secale cereale*) grains. The weed seeds included those of oat/brome grass (*Avena/Bromus*), vetch/wild pea (*Vicia/Lathyrus*), goosefoot (*Chenopodium* sp.), persicaria (*Persicaria* sp.), docks (*Rumex* sp.), black bindweed (*Fallopia convolvulus*) scentless mayweed (*Tripleurospermum inodorum*) and hawks beard (*Crepis* sp.). There were also hazelnut (*Corylus avellana*) shell fragments.
- 8.2.10 High numbers of charred remains were recovered from ?early medieval or later pits **711**, possible rededosed cremation-related deposit **714**, and smaller assemblages from pit **778** and layer **923**. The cereal remains included free-threshing wheat (*Triticum turgidum/aestivum* type), barley (*Hordeum vulgare*), ?rye (*Secale cereale*) and hulled wheat grain fragments. The weed seeds included seeds of oat/brome grass (*Avena/Bromus*), black bindweed (*Fallopia convolvulus*), docks (*Rumex* sp.), persicaria, vetch/wild pea (*Vicia/Lathyrus*), goosefoot, possible flax (*Linum usitatissimum*) and brassica (*Brassica* sp.) There were also a number of runch (*Raphanus raphanistrum*) capsule fragments, hazelnut shell fragments (*Corylus avellana*) and twig/stem fragments.
- 8.2.11 ?Early medieval or later layer **926** and pit **986** contained large amounts of charred remains whilst moderate assemblages were recovered from pits **727**, **734**, **803** and **927**. the cereal remains included barley (*Hordeum vulgare*), free-threshing wheat (*Triticum turgidum/aestivum* type) and ?rye (*Secale cereale*) grain fragments, oat (*Avena* sp.) floret forks and rye rachis fragments. A very high number of oat/brome grass (*Avena/Bromus*) seeds was recorded in the assemblage from layer **926**. Other weed seeds included seeds of docks (*Rumex* sp.), vetch/wild pea (*Vicia/Lathyrus*), black bindweed (*Fallopia convolvulus*), persicaria (*Persicaria* sp.) and rye-grass/fescue (*Lolium/Festuca* sp.). There were also a number of runch (*Raphanus raphanistrum*) capsule fragments, hazelnut (*Corylus avellana*) shell fragments and sloe (*Prunus spinosa*) stone fragments.

Undated

- 8.2.12 Very few or no charred plant macroremains were observed in the samples from undated features.
- 8.2.13 A few fragments of hazelnut (*Corylus avellana*) shell were noted in the sample from posthole **612** (part of enclosure **644**).
- 8.2.14 A few oat/brome grass (*Bromus/Avena*) grains were recorded in possible inhumation grave **1067**.
- 8.2.15 Possible free-threshing wheat (*Triticum turgidum/aestivum* type) grain fragments were recovered from undated gully **827**.
- 8.2.16 Undated layers provided few charred plant macroremains, which included seeds of oat/brome grass (*Bromus/Avena*) and ribwort plantain (*Plantago lanceolata*), possible tuber fragments and twig/stem fragments.
- 8.2.17 No charred plant remains were noted within the samples from undated pits **722**, **894**, **942**, **969**, **975**, **984**, **1016**, **1033**, **1062**, fire pit **1014** and hollows **824** and **1036**.

### Summary

- 8.2.18 There only appears to be a small amount of evidence of settlement waste from the Bronze Age and ?Bronze Age samples, whereas the early medieval and ?early medieval or later samples are indicative of general settlement waste and activity in the area during this period. The weed seeds are generally typical of grassland, field margins and arable environments. There is evidence for the exploitation of the hedgerow/scrub woodland edge environments.

### 8.3 Wood charcoal

- 8.3.1 Wood charcoal was noted from the flots of the bulk samples and is recorded in **Appendix 2**. Particularly large quantities of charcoal fragments greater than 2 mm were recovered from Bronze Age cremation-related deposit **917** and ring ditch group **1111**; from ?Bronze Age pits **709, 744, 784, 805, 847**, cremation-related deposits **738, 750, 838, 873, 903** and **1058**, and layer **788**; from ?pre-early medieval layer **527**; from early medieval cremation-related deposit **711**; and ?early medieval or later cremation-related deposit **714**, wind-break group **638**, pits **536** and pit **803** and layer **926**; and from undated layer **846** and pits **894, 975, 984** and **1016**, fire pit **1014** and hollow **1036**. The charcoal included mature and round wood fragments.

### 8.4 Sediments

- 8.4.1 One monolith sample was taken from one feature (ring ditch **1111**, slot **896**, see **Fig 4.1**). The monolith was cleaned prior to recording and standard descriptions used, (following Hodgson 1997) including Munsell colour, texture, structure and nature of boundaries, as given below in **Table 6** below.
- 8.4.2 Monolith **450** from slot **896** through ring ditch **1111** contains sediments indicative of a rapidly filling feature, which would be typical of natural processes (standing water, undercutting, side collapse, rainwash/ erosion) within this mobile geology. The presence of iron staining is indicative of periodic wetting and drying.



**Table 6: Sediment descriptions and sub-samples taken**

Location:		A556 Knutsford	Mono:	<450>	Comments:	
Level (top):			Drg:	133	85631 Knutsford to Bowdon. Largely sterile and sandy ditch fill with little palynological potential.	
Depth		Context	Samples	Sediment description	Interpretation	
Mono						
0.00-0.015		905		5YR 3/2, dark reddish brown medium-coarse sandy loam with occasional gravel clasts. Crumbly, porous and unconsolidated. No observable rootlets.	Ditch fill	Ditch filling rapidly due to mobile geology.
0.015-0.12		905/906		10YR 4/4, dark yellowish brown fine to medium sand, with gradual change in hue to 7.5YR 4/3 brown. Occasional small gravel clasts ≤2-3mm. NO observable iron mottling, very occasional manganese flecks. No observable rootlets.	Ditch fill	
0.12-0.18		906		7.5YR 3/2, brown silty-sand. Fine-medium sand. Sterile, no observable rootlets, iron staining or other inclusions	Ditch fill	
0.18-0.33		906/898		7.5YR 4/3, brown silty-sand, with a greater silt content than overlying context. Very occasional gravel clasts, no observable rootlets. Some iron staining 0.35m. Unit becoming sandier at contact with large pebble 0.26-0.30m. More compact and sandier beneath pebble with increasing inclusion of pebble and gravel clasts. Gradual transition to underlying unit.	Ditch fill	
0.33-0.49		897/908		5YR 4/3, reddish brown compact silty-sand. Sand component is fine. Occasional gravel clasts and very occasional charcoal flecks, occasional iron mottling	Ditch fill	
0.49-0.53		908		5YR 4/3, compact reddish-brown clayey-sand with increasing pebbles and small gravel clasts, some iron mottling, occasional manganese flecks and very occasional charcoal flecks.	Ditch fill Primary fill?	

## 8.5 Phosphate analysis

8.5.1 This report summarises the findings of geochemical analysis undertaken by Quaternary Scientific (University of Reading). Archaeological features interpreted as probable Bronze Age inhumation graves were discovered during the excavation. To ascertain the function of the features, eight bulk samples (**Table 7**) from the archaeological deposits and natural background, were submitted for X-Ray Fluorescence (XRF) analysis to determine their phosphorus content (**Appendix 3, Figures 18-22**). The samples derived from grave **914** (located immediately east of ring ditch **1111** and grave **946** (located at the northern limit of the area enclosed by rin ditch **1111**).

**Table 7: Phosphate sample list**

Sample Series	Sample Number	Context	Feature	Description
344	345	915	Grave 914	East
	346	915		Centre
	347	915		West
	351	702	-	Natural
375	377	702	-	Natural
	378	947	Grave 946	Centre
	379	947		West
	380	947		East

- 8.5.2 As the bulk samples were heterogeneous, two sub-samples were collected from each bulk and labelled a and b, in order obtain a representative chemical signature. The sub-samples were air dried at 40°C to remove moisture content and then ground in an agate mill to obtain a fine powder. Samples of the powder were then compressed into tablets using boric acid (H<sub>3</sub>BO<sub>3</sub>) as a backing media for the ground sample powder. The powder and boric acid were placed in a die compression chamber and pressed to 12T pressure to form a solid tablet approximately 1 cm in thickness. Sample tablets were then placed in a Phillips PW1400 X-Ray Fluorescence (XRF) Spectrometer and analysed for a range of major (wt%) and trace elements (ppm, mg/kg). The XRF was calibrated with a range of international standards prior to analysis which were all within 3% of reported values. The results are displayed in **Appendix 3** and **Figures 18–22**. Values of major elements corrected to mg/kg dry weight (ppm) are shown in **Figures 18** and **19**.
- 8.5.3 The results indicate that the main elemental component of the samples is Silicate (SiO<sub>2</sub>; values ranging from 64 to 74 wt%) associated with Aluminium (Al<sub>2</sub>O<sub>3</sub>; from 15 to 8 wt%), Iron (Fe<sub>2</sub>O<sub>3</sub>; values comprised between 2 to 4 wt%), as well as Potassium (K<sub>2</sub>O; from 1 to 3 wt%) and Magnesium (MgO; with 1-2 wt%). Sodium (Na<sub>2</sub>O), Phosphate (P<sub>2</sub>O<sub>5</sub>), Calcium (CaO), Titanium (TiO<sub>2</sub>) and (MnO) have also been recorded in all samples with values lower than 1 wt%.
- 8.5.4 The trace elemental data shows that the samples from the excavation are not markedly different to the background/natural samples, with no particular enrichment. The range of elemental values present in the samples is as follows: Zirconium (Zr; 180-300ppm) and Rubidium (Rb; 64-109ppm). Chromium (Cr; 44-76ppm), Vanadium (V; 43-80ppm), Zinc (Zn; 36-49ppm) Strontium (Sr; 46-66ppm) and Lead (Pb; 22-42ppm) have also been recorded, as well as traces of Cobalt (Co; 8-10ppm), Nickel (Ni; 6-20ppm), Copper (Cu; 11-21ppm) and Yttrium (Y; 11-18ppm) (**Figure 20**).
- 8.5.5 Of the major elements, Phosphate (P<sub>2</sub>O<sub>5</sub>) values recorded a range from 0.77 to 0.1 wt%. Samples 345, 346, and 378 show the highest values (>0.65 wt%), while the lowest concentration is recorded in natural sample 351 (c. 0.1 wt%). However, sample 377, also described as natural material, presents values comparable with samples taken from the archaeological deposits (c. 0.5 wt%).



- 8.5.6 Since pioneering work by Arrhenius (1929) many authors have used phosphorus as a means of identifying habitation zones. Phosphorous leaches from bones and organic tissues and concentrates in locations where organic materials were left to decay (Sarris *et al.*, 2004). As phosphate phosphorus is relatively immobile, it can be used to distinguish between living areas and middens, pits, stalls and pasture (see for example Bethell & Mate, 1989; Conway, 1983).
- 8.5.7 Assuming that the lower concentrations present in natural sample 351 are a more accurate reflection of local natural levels than sample 377 (also described as natural), it would appear that the remaining samples are elevated in P (**Figure 21**). The elevated P levels in these samples are likely to be indicative of human/animal activity in this area.
- 8.5.8 Additionally, correlation between high values of Phosphorus and Calcium could be expected in the same sample, if bones had been present near the sampling point. The comparison between P and Ca results (**Figures 21** and **22**) indicate that high P concentrations in samples 345 and 378 (respectively >2900 and >2800 ppm) are correlated with high Ca values (respectively >1600 and >1100 ppm). However, it is interesting to note that high P values does not always correspond to high Ca values, in particular in sample 346 (with P >2400 and Ca <512 ppm).
- 8.5.9 In conclusion samples 345 and 378 present the highest Ca and P concentrations and are most likely to contain bone related debris. All samples show evidence of possible human and/or animal activity.

## 8.6 Palynological assessment

- 8.6.1 A total of nine sub-samples (238–246) were taken for pollen assessment through the section of slot **829** dug across ring ditch **1111** (**Plate 35**). The principal aim of the assessment was to record the concentration and preservation of palynomorphs, and provide basic data on past environment and evidence for human activity. Recommendations are made at the end of the report.

### *Method*

- 8.6.2 Nine sub-samples were prepared for pollen analysis. The pollen was extracted as follows: (1) sampling a standard volume of sediment (1 ml); (2) adding one tablet of *Lycopodium* spores to enable calculation of pollen concentrations; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µm); (5) acetolysis (9:1 ration Acetic anhydride : Sulphuric acid) to remove cellulose; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity 2.0g/cm<sup>3</sup>); (7) mounting of samples in glycerol jelly stained with safranin. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Assessment was carried out to record the concentration and preservation of palynomorphs and provide basic data on past environment and evidence for human activity. The assessment consisted of counting 100 total land pollen (TLP) (where possible) plus any fern spores, aquatics, *Sphagnum* and indeterminable grains. Pollen grains and spores were identified when necessary using the key and plates in Moore *et al.* (1991). Identification of cereal pollen followed the criteria of Andersen (1979). Identification of indeterminable grains was according to Cushing (1967).

### Results

- 8.6.3 The results of pollen assessment are shown in **Table 8**. The sub-samples were taken across four contexts (**835**, **833**, **832** and **831**) from slot **829 (Plate 35)**, but pollen was found to be present in very low concentrations in all but one sub-sample <238> where a count of 100 total land pollen was achieved.
- 8.6.4 In those samples with low pollen concentrations, pollen was typically found to be variably preserved, including very occasional grains of Poaceae (grass family) and *Cerealia* undiff (undifferentiated cereal-type pollen grains), along with pollen grains of dwarf shrubs and herbs (**Table 8**). The very low quantities of poor to moderately preserved pollen is not surprising from minerogenic sediment with a substantial coarse sandy component, although the low pollen concentrations might also reflect rapid accumulation of sterile sediments within the ditch. No comment can therefore be made on the surrounding environment at the time of deposition, or of change over time.
- 8.6.5 Sample <238> was the only sample to produce a full assessment count. It is dominated (58%) by herbaceous pollen of Lactuceae (lettuce/dandelion/chicory etc), with a smaller proportion of Poaceae and single pollen grains of ruderal (disturbed ground) taxa (Chenopodiaceae – Goosefoots; *Rumex acetosa* – Common Sorrel). Lactuceae pollen is highly resistant to decay and often occurs in situations of poor pollen preservation. Cereal and grass pollen are highly susceptible to decay, but are generally well-preserved in <238>. This suggests that the large frequency of Lactuceae is a genuine reflection of local vegetation conditions – possibly growing either within the ditch itself or nearby areas of disturbed ground and/or pasture. The absence of arboreal pollen suggests a predominantly open landscape in the vicinity of the site. Cereal pollen occurs in significant quantities (20%). Cereals, apart from rye (*Secale cereale*), are self-pollinating, producing large pollen grains that are rarely transported far from source unless through human agency. The large quantities of cereal pollen might therefore suggest agricultural fields in the very near vicinity, or the incorporation of agricultural waste containing cereal pollen into the ditch, perhaps even contained in animal faeces.
- 8.6.6 Whilst small to moderate sized lakes and peat bogs may derive a significant proportion of their pollen from vegetation within a radius of 2-3 km around a sample site, the pollen source area of a ditch is going to be significantly smaller, deriving the majority of the pollen from perhaps no more than a few hundred metre radius around the site; a smaller proportion may derive from greater distances within the pollen rain. Archaeological deposits therefore provide a better indication of the environmental conditions in the immediate vicinity of a site.
- 8.6.7 The generally poor preservation and concentration of pollen in the ditch samples prevents any detailed discussion about the surrounding vegetation environment, though there are indications of a largely open landscape with some evidence for arable and pastoral activity. However, no further assessment or analysis of pollen from this feature is recommended.



**Table 8: Results of pollen assessment from ring ditch 1111 (slot 829)**

Sample No.		238	239	240	241	242	243	244	245	246
<b>Context</b>		831	831	832	832	833	833	833	835	835
<b>Height m AOD of sample</b>		70.58	70.53	70.45	70.40	70.33	70.26	70.20	70.03	69.95
<b>Taxa</b>										
<b>Latin</b>	<b>Common name</b>									
<b>Trees and Shrubs</b>										
<i>Alnus glutinosa</i>	Alder	-	-	-	-	-	-	-	-	1
<i>Corylus avellana</i> type	Hazel	-	-	-	-	-	-	-	1	-
<b>Dwarf Shrubs</b>										
Ericaceae	Heathers	1	-	-	-	-	-	1	-	2
<b>Cultivated</b>										
Cerealia undiff.	Cereal undiff.	18	4	-	1	-	-	2	-	2
Avena-Triticum group	Oat-Wheat	4	-	-	-	-	-	-	-	-
<b>Ruderals</b>										
Chenopodiaceae	Goosefoots	1	-	-	-	-	-	-	-	-
Rumex acetosa	Common Sorrel	1	-	-	-	-	-	-	-	-
<b>Grassland and ecologically undefined</b>										
Poaceae	Grasses	10	3	2	-	3	-	-	-	2
Cyperaceae	Sedges	2	-	-	-	-	-	-	-	-
Cirsium	Thistle	3	-	-	-	-	-	-	1	-
Lactuceae	Lettuce/dandelion etc	58	3	-	-	-	-	-	-	2
Centaurea nigra	Common Knapweed	2	-	-	-	-	-	-	-	-
Plantago lanceolata	Ribwort plantain	-	-	-	-	-	-	1	1	-
<b>Fern Spore</b>										
Pteropsida	Fern spores undiff.	1	-	-	-	-	-	-	-	-
Pteridium aquilinum	Bracken	2	1	-	-	-	-	-	-	-
Polypodium vulgare	Common Polypody	8	2	-	-	-	-	-	1	1
Indeterminables		16	2	-	-	1	-	-	2	7
<b>Total Land Pollen (TLP)</b>		<b>100</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>-</b>	<b>4</b>	<b>3</b>	<b>9</b>
<b>TLP + Fern Spores</b>		<b>111</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>-</b>	<b>4</b>	<b>4</b>	<b>10</b>
<b>TLP + Indeterminables</b>		<b>127</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>6</b>	<b>17</b>

## 9 RADIOCARBON DATING

### 9.1 Introduction

- 9.1.1 In total seven radiocarbon dates were obtained: three from the Scottish Universities Environmental Research Centre (SUERC-64512–3 and UBA-64516); and four from the <sup>14</sup>CHRONO Centre, Queen's University, Belfast (UBA-30658–61) (**Table 9**).
- 9.1.2 The radiocarbon dates have been calculated using the calibration curve of Reimer *et al.* (2013) and the computer program OxCal (v4.2.3) (Bronk Ramsey and Lee 2013) and cited in the text at 95% confidence and quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years. The ranges in plain type in the radiocarbon tables have been calculated according to the maximum intercept method (Stuiver and Reimer 1986). All other ranges are derived from the probability method (Stuiver and Reimer 1993).

### 9.2 Methods and aims

- 9.2.1 The overall objective of the radiocarbon programme was to clarify the date of various features in the absence of diagnostic artefactual assemblages, in order to inform the assessment work. In the case of ring ditch **1111** a Bayesian approach has been adopted for the interpretation of the chronology (Bayliss *et al.* 2007). Although the simple calibrated dates are accurate estimates of the dates of the samples, it is the dates of the archaeological events, which are represented by those samples, which are of interest. In the case of the ring ditch, it is the chronology of the burials and associated activity that is under consideration, not just the dates of individual samples. The OxCal programme provides the methodology to combine the dates to produce realistic estimates.
- 9.2.2 Sample selection was made by the specialists (Jaqueline McKinley: cremated bone; Dana Challinor: wood charcoal, and Sarah Wyles: plant remains). Where possible only short-lived samples (eg single grains) and sapwood were selected for dating with the exception of the waterlogged seeds (**Table 9**).

#### *Aims*

- *To date the construction and use-period of the ring ditch and to calculate whether this was relatively short (eg around a few generations/one century) or much longer (250 to 500 years);*
- *to test whether the selected burials (two from the exterior, one from 70 m away) are contemporary with the construction of the ring ditch or later; and*
- *to confirm the dates of various discrete features that are thought from the environmental assessment to be post-Roman.*

### 9.3 Species identification

- 9.3.1 A sample from the lower fill of ring ditch group **1111** was examined for suitable wood charcoal for dating. One fragment from sample **236**, fill **835**, slot **829** was selected for dating and the identification confirmed at high magnification as *Alnus glutinosa* (alder). No roundwood was noted within the sample and this fragment was selected as it was large in size and should provide ample carbon. It is likely that more alder is present in the other samples from the lower fills this feature.

9.3.2 A sample from an upper fill of ring ditch group **1111** was examined for suitable wood charcoal for dating. This sample produced abundant charcoal which was all *Quercus* (oak). The larger fraction (>4 mm) was scanned at low magnification and no non-oak taxa were recorded. A number of oak fragments were fractured and showed evidence of tyloses, indicating heartwood. Many of the pieces were comminuted and the thin slivers inhibit reliable identification of sapwood. One fragment which did not show tyloses was selected for C<sup>14</sup>, but the piece was thin and there were only two growth rings visible, so the identification of sapwood is not confidently ascribed: sample **451**, fill **1098**, slot **1092**, *Quercus* sp. (oak) cf. sapwood.

9.3.3 A single barley grain from sample 5, fill **564**, pit **565** and a single barley (*Hordeum vulgare*) grain from sample 9, fill **713**, pit **711** were submitted for dating to establish the date of these features and to assist in determining whether the suspected early medieval or later date for a number of features is likely to be correct.

## 9.4 Results

### *Ring ditch 1111 and funerary features*

9.4.1 Four samples were dated from the ring ditch or close by. Two (SUERC-64512 and 64513) were on cremated human bone from discrete funerary deposits just outside the ditch (**731** and **916**); two were on charcoal (UBA-30660 and 30661) from ditch deposits (**Table 9**). The latter included a piece of charred alder from sample **236**, fill **835**, a basal fill of the ring ditch, and a piece of charred oak oak tentatively identified as sapwood from sample **451**, fill **1098**, a charcoal dump in the upper fill of the ring ditch. In addition cremated bone from a funerary deposit (**917/918**) 70m away from the ring ditch was also dated (SUERC-64514).

9.4.2 Overall the five dates are statistically inconsistent (they fail a  $X^2$  test) indicating that they belong to more than one phase of activity. However, independently, the two groups of dates, those from the discrete funerary deposits (**731**, **916** and **918**) ( $T'=3.5$ ;  $v=2$ ;  $T'(5\%)=36.0$ ) and the ring ditch ( $T'=0.4$ ;  $v=1$ ;  $T'(5\%)=3.8$ ) are statistically consistent. This supports the suggestion that the burials and the ditch belonged to different phases of activity. All five dates are shown in **Figure 23**, which has a good index of agreement (Amodel 99.3). This model includes the stratigraphy described in the main report, and includes the fact that the three cremation burials are all stratigraphically discrete (modelled as a phase).

9.4.3 Using the model (**Figure 23**) it is possible to estimate a likely date for the construction of the ring ditch, the earliest funerary use and its duration, and the overall use of the ring ditch. Construction of the ring ditch has been modelled as *First build Bucklow Hill ring ditch 1785-1605 cal BC (90.3%) at 95% probability or more likely 1740-1635 at 68% probability*, which indicates a late Early Bronze Age (late 18th or early 17th century cal BC) date for the ring ditch (**Figure 24**). In comparison the three dated cremation burials are later, with the earliest funerary use modelled as *First Funerary use during 1660-1500 at 95% probability or more likely 1620-1535 cal BC at 68% probability*, indicating a date close to the end of the Early Bronze Age or late 17th/16th century cal BC. This clearly indicates that the ring ditch was constructed first and that the cremation burials were made by up to a century later.

9.4.4 Overall the ring ditch and burials were made over a period that probably lasted for between 35 and 355 years (at 95% probability) (**Figure 25**). The burials were made over

a shorter period of time of between 5 to 190 years (95% probability), whilst the ditch silting may have taken a similar period of time (0-185 years at 95% probability).

*Other features*

9.4.5 A date (UBA-30658 540-660 cal AD at 95% confidence) was obtained on a single charred barley grain from pit **565** (fill **564**, sample 5) to confirm the early medieval date suggested by the type of cereal remains it was found to contain. An early medieval date was also suggested by the cereals within a second feature, **714** (fill **713**, sample 9). This was also confirmed by radiocarbon dating: UBA-30659 (550-670 cal AD at 95% confidence).

**Table 9: Radiocarbon dates. The posterior density estimates derive from the models defined in Figure 23**

Lab ref.	Context	Material	Date BP	$\delta^{13}\text{C}$	95% confidence	Posterior density estimate
SUERC-64512	(731.1d)	Cremated human bone	3294±37	-23.1‰	1670-1490 cal BC	1660-1490 cal BC
SUERC-64513	(916)	Cremated human bone (femur)	3208±37	-23.0‰	1600-1410 cal BC	1610-1420 cal BC
SUERC-64514	(918)	Cremated human bone	3210±37	-24.8‰	1610-1410 cal BC	1610-1420 cal BC
UBA-30658	564 <5>	Charred barley grain (x1)	1467±35		540-660 cal AD	
UBA-30659	713 <9>	Charred barley grain (x1)	1430±41		550-670 cal AD	
UBA-30660	835 <236>	Alnus glutinosa	3416±46		1880-1610 cal BC	1870-1540 cal BC
UBA-30661	1098 <451>	Quercus sapwood	3372±51		1870-1520 cal BC	1730-1510 cal BC

## 10 DISCUSSION

### 10.1 Prehistoric

10.1.1 Radiocarbon dates place the construction and infilling of the ring ditch within the 19th to 16th centuries BC, the closing part of the Early Bronze Age, and subsequent funerary usage to between the 17th and 15th centuries BC, straddling the divide between the Early and Middle Bronze Age. Although relatively few Bronze Age funerary monuments in Cheshire have been scientifically dated and published, the remains on Bucklow Hill sit comfortably within the range of radiocarbon dates from prehistoric burial contexts in the region (Mullin 2003, 24). From the current evidence, the chronology of the funerary activity at Bucklow Hill corresponds most closely with the remains excavated at Lower Withington and Church Lawton (Wilson 1981; McNeil 1982; Reid 2014). These are located approximately 13 km and 28 km south-east of the current Site respectively.

10.1.2 The Lower Withington and Church Lawton sites are described as round barrows, but it is doubtful that ring ditch 1111 can be similarly characterised. As discussed above, no evidence of any mound within the area enclosed by the ring ditch was recorded, and the absence of such cannot be entirely ascribed to plough-levelling. With its penannular, instead of completely circular, ditch and evidence for an accompanying cobble bank

(presumed slighted into the ditch), the feature resembles more a funerary ringwork (sensu Manby 1986, 67-68) rather than a typical round barrow. Ring ditch **1111** may also be usefully compared to the remains excavated at Astley Hall Farm, Chorley (Barrowclough 2008, 108-111) (located some 45 km to the north-west). The monument at Astley Hall had a penannular ditch, with unurned and unurned cremations dating to between the 20th and 15th centuries BC.

- 10.1.3 From the current evidence there is no evidence that cremation burials continued to be made much into the Middle Bronze Age. This is again regionally typical (Hodgson and Brennand 2006, 42), indicating that changes within ways of life at this time also found expression within burial practice.
- 10.1.4 The eastern group of cremation-related deposits, located some 90 m to the east-south-east of ring ditch **1111** lacked any obvious accompanying earthwork, monumental features, or other markers. Concentrated quantities of cobbles were found nearby (features **855**, **856** and **926**); it might be speculated that these represent the components of a ring cairn which once defined the area used for the deposition of cremated remains, but was subsequently cleared away. The character of this set of remains serves as a reminder that not all prehistoric funerary activity may be archaeologically conspicuous, and highlights the degree of dissimilarity in the types of features that accompanied contemporary funeral rites, even within the same locale.
- 10.1.5 A minimum of 15 (more probably 21) individuals is represented within the cremated remains, including at least 10 (more probably 15) adults, 2 infants, and a single juvenile/subadult. One of the infants was recovered from within the area enclosed by ring ditch **1111** indicating that this area was not solely reserved for adults. With regard to numbers and spatial distribution there was an even division between the sexes, also suggesting a gender equality in burial location. There was no direct evidence of an *in situ* pyre within the strip, map and sample area, although the recovered quantities of cremated bone and charcoal indicate that bodies were burned at this location or very nearby. Post-depositional disturbance of human remains has been considerable, to the detriment of the significance of the assemblage.
- 10.1.6 The dating of the probable inhumation burials from the strip, map and sample area is problematic. From their east-west orientation, their form implying an extended posture for the accompanying bodies, and lack of grave goods, they would, on first appearance, best fit within the Christian era. There is tentative evidence for the re-use of earlier burial mounds during the early medieval period (Newman 2006, 102) including at Lower Withington, Cheshire, already mentioned above, which revealed an isolated fragmentary inhumation burial immediately to the south-east of the mound. This burial reportedly produced a radiocarbon date of the later 6th to 8th century AD (Newman 2006, 102 - but not the text cited therein).
- 10.1.7 In support of the assumed early medieval date for the present examples, two of the inhumation graves contained botanical remains suggestive of an early medieval date, namely sparse quantities of possible rye grain fragments from graves **734** and **955**.
- 10.1.8 The relationship between inhumation grave 914 and cremation grave 924 runs counter to this evidence for an early medieval date for the inhumation graves, however. Inhumation grave 914 had been cut by unurned cremation burial (924), with the relationship tolerably clear in plan (**Plate 14**). A fragment of human bone from 924 returned a date of 1600–1410 cal BC (SUERC-64513; 3208±37 BP), providing a potential 15th- to 16th-century

BC terminus ante quem date for inhumation grave 914. In the absence of surviving bone of their former occupants, it is uncertain whether the chronology of the inhumation graves is recoverable. Scientific dating of incidental remains within grave backfills may be of little value: isolated material found to be early medieval in date could be described as intrusive. Conversely, isolated material found to be prehistoric in date may be residual, to be expected where much later burials have been inserted into a site of widespread Bronze Age activity. Unfortunately, it seems that a clearer chronology for the Bucklow Hill inhumations graves will have to await analogy with better-dated sequences (yet to be) excavated elsewhere.

- 10.1.9 The fact that the inhumation graves cluster around the ring ditch indicates it is the earlier feature. Should feature **1069=1100** represent an inhumation grave (discussed above), then the stratigraphic relationship in that case confirms the sequence. Grave **953** appeared in plan to cut the ring ditch, although this was not proven by excavation. However, from their positioning the inhumation graves almost certainly post-date ring-ditch **1111**; whether or not this was confirmed during fieldwork does not resolve their absolute date.
- 10.1.10 The value of the work at Bucklow Hill is augmented by the fact that, due to the extent of strip, map and sample area, not only have funerary monuments been exposed, but it is possible to also say something of their wider landscape context. Both of the groups of cremation-related deposits were located on the south-facing brink of a ridge or plateau, with long views in most directions, and especially to the Pennine uplands to the east and north. This runs somewhat counter to Mullin's observation that "visibility was not an important factor in the location of Early Bronze Age monuments in the study area... highly visible locations do seem to have been ignored" (2003, 19). In this instance, the site may have been chosen because it afforded a sense of connection with important places in the wider landscape. Smoke rising from funeral pyres would have drawn attention to this already conspicuous location, possibly to support a particular group's claim to 'ownership' of the surrounding landscape. Perhaps visibility was a more important influence on the positioning of ringworks rather it was for round barrows.
- 10.1.11 There is little in the way of contemporary field system remains. A ditch, 1082=1090, lay to the south of ring ditch **1111**, and was cut by it. Ditch 1082=1090 may have formed a component of a putative segmented boundary, also marked by ditch 938, cremation-related deposit 748, ditch 796, ditch **1113** and pit **871**. All of these were arranged along the projected south-eastward course of ditch **1082=1090**, although it is not known whether all were contemporary. The presence of **1082=1090** does at least betray a concern for boundary definition at this location, prior to its use for the deposition of cremated human remains.
- 10.1.12 Subsequent to the infilling of ring ditch **1111**, ditch **1069=1100** possibly connected the monument with a wider field system. Although ditch **1069=1100** cut ring ditch **1111**, it did not continue across it, suggesting that the original excavators of ditch **1069=1100** deliberately targeted the ring ditch, perhaps seeking some form of support or legitimation by way of a physical and metaphorical 'connection' with a significant feature from an earlier time. Later ditched field systems often sought to acknowledge pre-existing monuments (Yates 2007, 134).
- 10.1.13 Pollen evidence from the ring ditch was sparse and poorly preserved, with only the sub-sample from the top of ditch sequence providing an indication of past landuse. This recorded an absence of tree pollen, with grasses and herbs suggesting a largely open



landscape with some evidence for arable and pastoral activity. Although the pollen data was of an overall low quality, the picture it presents does tally with the general picture from sampled barrows in eastern Cheshire, which ‘*seem to have been constructed in fairly open, mainly grassland, environments*’ (Reid 2014, 261). In particular, the results with their presence of cereal production resemble those from the barrow at Lower Withington where funerary activity was broadly contemporary with ring ditch **1111** (Wilson 1981, 156–7). By contrast, palynological work at Church Lawton revealed a largely wooded environment with some evidence for clearance and subsequent regeneration (Reid 2014, 257-261). These results do, however appear somewhat anomalous when set against the regional norm, a norm to which the Bucklow Hill site more closely conforms.

- 10.1.14 As is often the case with the prehistoric periods, it is much easier to state where people were buried than where they lived: settlement remains contemporary with the funerary remains are not apparent. The so-called potboiler pits may be as good as the evidence of prehistoric settlement gets, although the dating of most of these is uncertain and they offer little scope for a nuanced discussion of contemporary subsistence strategies.
- 10.1.15 The pollen evidence suggests some arable production in the prehistoric period, which would require a more sedentary lifestyle than had hitherto been the case. The absence, however, of large-scale field systems or durable structures might point to a lack of intensive land management and only a low level of cereal production in the second millennium BC. There may have been a persistence of transhumance or nomadism by some elements of the population, with a range of resources exploited.

## 10.2 Possible Romano-British

- 10.2.1 No remains dating to the Romano-British period were recorded, either as buried remains or unstratified finds. Although two Roman roads ran near the Site (Watling Street to the east and the North Cheshire Ridge Roman road to the south), these do not appear to have generated any contemporary, archaeologically visible, activity within the strip, map and sample area. It is thought the A50 follows the approximate course of the North Cheshire Ridge Roman road, and the A556 marks the line of Watling Street.
- 10.2.2 Based on their typology, the field system remains represented by enclosure **644** and ditches **622=624**, **515** and **645** may belong to this period, potentially representing roadside stock-handling corrals. This is currently unproven given the absence of datable remains, however. Radiocarbon dating offers some scope to resolving this issue (see **Section 13.5** below).

## 10.3 Early medieval

- 10.3.1 The features related to activity occurring in the 6th to 7th centuries cal. AD are an important element of the Site’s archaeological component, as remains of this date are extremely unusual within the region (Newman 2006, 91). Datable artefacts were absent; the period was largely aceramic in the North West. Generally, where evidence of the early medieval period is found, it is, as in the case here, largely the result of trawling using radiocarbon dating (Newman 2006, 93; Newman and Brennand 2007, 73).
- 10.3.2 The environmental remains from the confirmed and potential early medieval samples are relatively rich, and are indicative of general contemporary settlement waste and activity set within a landscape of grassland, and arable fields, with evidence for the exploitation of hedgerow/scrub woodland edge environments.

- 10.3.3 The traces of the actual settlement that generated this material is less apparent, with activity seemingly dispersed over a wide area, perhaps over a considerable period of time (although the two early medieval radiocarbon dates are statistically consistent, despite being recovered from features set some 190 m apart). The penannular drip gully or wind-break **638** with its central fire pit provides the best evidence for structural remains. A circular building tradition is revealed, although the structure would seem to have been small and rudimentary. As with settlement remains from earlier periods, early medieval inhabitation of the landscape may be largely archaeologically invisible.
- 10.3.4 Several of the potential early medieval features (perhaps rather more, should the inhumation graves be charitably so-considered) appear focussed on ring ditch **1111**. This pre-occupation on the part of people at this time with prehistoric monuments is commonly recorded: “populations used these remains, intentionally and knowingly, in the articulation and manipulation of their identities: local, regional, political, and religious” (Semple 2013, 2). The presence of pit **803**, with its evidence of ironsmithing, is particularly intriguing, raising the prospect of the monument being chosen as an appropriate place for undertaking important craft activities in the early medieval period, although confirmation of this is dependent on radiocarbon dating.

## 11 STATEMENT OF POTENTIAL

### 11.1 Summary

*“Human remains dating from the [prehistoric] period remain rare on a regional level, and those known are largely represented by cremated material. Few prehistoric funerary sites have been excavated under modern conditions” (Hodgson and Brennand 2007, 44)*

- 11.1.2 The archaeological fieldwork at Bucklow Hill has revealed remains of human activity dating from potentially as early as the Neolithic period up until the present day. A ring ditch, and deposits of cremated human bone and pyre debris show this part of the local landscape had a funerary role in the Early–Middle Bronze Age; this forms the most significant element of the Site archaeological record.
- 11.1.3 In addition, an enigmatic group of features of potential, and in two cases, proven, early medieval date (6th to 7th centuries cal AD), show that the ancient funerary landscape attracted later activity, with some of the features focussed on the ring ditch itself. Undated field boundary remains provide further evidence of the activities carried out hereabouts.
- 11.1.4 The value of the Site lies largely in its ability to provide detail on the archaeological character of funerary rituals occurring in the Early–Middle Bronze Age. The remains also reveal how subsequent, principally early medieval, populations had an awareness of such activity, with this potentially affecting ongoing landuse. This later phase of activity on the Site is of considerable archaeological interest, given the early medieval period is “largely archaeologically invisible, and is perhaps the least understood period, in purely archaeological terms, of any in the region” (Newman and Brennand 2007, 93).

### 11.2 Stratigraphic evidence

- 11.2.1 The archaeological sequence exposed within the strip, map and sample area was relatively simple: the majority of deposits were sealed by ploughsoil and overlay subsoil or the geological substrate. There was very little stratification of deposits. Features were

generally discrete, with only a few instances of intercutting recorded. Archaeological features and deposits presented with varying degrees of clarity to their edges. Generally, the greater the amount of anthropogenic or cultural material (eg charcoal, heat-affected stone, cremated bone) there was in a deposit the easier it was to discern. Features with sterile silt fills were more problematic to distinguish.

- 11.2.2 From the foregoing it will be appreciated that the stratigraphic sequence of the archaeological remains is sufficiently well understood. Further stratigraphic analysis will not enhance the understanding of activity within the strip, map and sample area.

### 11.3 Artefactual evidence

- 11.3.1 This is a relatively small assemblage of finds. The main interest and potential lies in the funerary assemblage (human remains, and accompanying grave goods in the form of pottery vessels and worked flint). Further analysis of the prehistoric pottery will enable this assemblage to be set in its local and regional context.
- 11.3.2 The pottery assemblage may also be usefully subjected to organic residue analysis. It has long been suspected that some prehistoric vessels found in funerary contexts were not always made for the dead and that some pots were used in settlements first (PCRG 2016, 8–9). Other than looking for physical signs of wear (cleaning, stirring, minor surface damage through use, heat damage from an open fire) and surface food residues (soot, food crusts and limescale), analysis of absorbed residues can reveal if vessels been used to either cook and/or contain a variety of liquids and footstuffs (eg, milk and stews) (Historic England 2017).
- 11.3.3 Regarding the metalworking pit (**803**), if an early medieval date for the feature can be demonstrated through radiocarbon dating, then this small assemblage of ironworking debris would represent a rare and significant discovery in the county. Scientific analysis of the slag might provide some further information on the ironworking technology involved, which can be supplemented by examination of the hammerscale recovered from the soil samples.

### 11.4 Human bone

- 11.4.1 Full analysis of the bone will provide more detailed demographic data regarding the minimum number of individuals (MNI), and their age and sex. Although very few pathological lesions were observed amongst the cremated remains in the scan, it is probable that others will be observed with more detailed analysis.
- 11.4.2 Several hundred round barrows and ring ditches are known from the area of the Cheshire Basin (Mullin 2001). As elsewhere, many acted as foci for mortuary activity, Mullin (*ibid.*) enumerating nine barrows with a total of 49 burial remains. Few, however, have benefited from the detailed analysis of the burial remains (Wilson 2011, 1). The current investigations, therefore, present a rare opportunity to collect and analyse data pertaining to all aspects of the mortuary rite. Comparison with data currently available for the county (McKinley 2011) and that of, for example, neighbouring Derbyshire (McKinley 1994a; 1996; 1998), will assist the development of a local and regional view of the mortuary rite, which can then be compared and contrasted with the wider national picture for the Early–Middle Bronze Age (eg, McKinley forthcoming).



## 11.5 Environmental evidence

### *Charred plant remains*

- 11.5.1 Analysis of some of the charred plant assemblages of early medieval and probable early medieval or later date has the potential to provide information on the nature of the settlement, the local environment and local agricultural practices during this period. There is little available information about the characteristics of early medieval agriculture in the North West (Hall and Huntley 2007). These assemblages are particularly interesting due to the presence of weeds from agricultural crop-fields and the abundant crop macroremains, including the possible presence of rye. Although rye was introduced to the region sometime in the Romano-British period, its widespread cultivation is not thought to have occurred until the medieval period.

### *Wood charcoal*

- 11.5.2 The analysis of the wood charcoal would provide information on the species composition, management and exploitation of the local woodland resource on the site and whether there were differences between the ?Bronze Age and ?early medieval or later assemblages. Such work may also be able to assist in determining whether there was any specific species selection for funerary as opposed to non-funerary functions.

### *Sediments*

- 11.5.3 No further work is recommended on the soil monolith.

### *Pollen*

- 11.5.4 Assessment of pollen samples recorded generally poor preservation and low quantities of pollen grains in the ring ditch fill sequence, preventing any detailed discussion about the development of the surrounding vegetation environment. No further assessment or analysis of pollen from the site is recommended.

## 12 RESEARCH AIMS

### 12.1 Reappraisal of the project aims

- 12.1.1 The general aims of the project were:

- *to establish the character, extent and date range of any archaeological deposits, features and/or structures to be affected by the proposed groundworks;*
- *to mitigate the impact of the development on the archaeological resource;*
- *to put the results of the excavation in context by comparing it with similar/related Sites within the local area as well as its regional and national contexts; and*
- *to analyse the Site records, artefacts and ecofacts and produce an archive, report and publication of the results.*

### 12.2 Updated research aims

- 12.2.1 Consideration has been given as to whether any aspect of the excavated data may be judged relevant to further issues not encompassed by the original project aims. The following written sources were consulted:

- Brück, J., 2008 Prospects and potential in the archaeology of Bronze Age Britain. In *Bronze Age Review* 1: 23-33

- Historic England 2017 *Organic Residue Analysis and Archaeology: Guidance for Good Practice*
- Hodgson, J., and Brennand, B., 2006 The Prehistoric Period Resource Assessment. In Brennand (2006): 23-58
- Hodgson, J., and Brennand, B., 2006 The Prehistoric Period Research Agenda. In Brennand (2007): 31-54
- Last, J., 2008. The Agenda Gap? Approaches to the Bronze Age in current research frameworks. In *Bronze Age Review* 1: 34-47
- Mullin, D., 2003. *The Bronze Age Landscape of the Northern English Midlands*. BAR Brit Ser 351
- Newman, R., 2006. The Early Medieval Period Resource Assessment. In Brennand (2006): 91-114
- Newman, R., and Brennand, M., 2007. The Early Medieval Period Research Agenda. In Brennand (2007): 73-94

12.2.2 Following the review, it is thought that further analysis of the excavated remains will provide information relevant to the pursuit of a number of established research aims, namely, advancing the understanding of:

- the character, chronology and geographical distribution of the varying traditions of Bronze Age funerary practice (Mullin 2003; Hodgson and Brennand 2007, 42; 45; Brück 2008, 26);
- links between funerary monuments and their wider environmental and land-use contexts (Hodgson and Brennand 2007, 42; Mullin 2003);
- the regional typology and chronology of ceramic sequences, especially through fabric and thin section analysis (Hodgson and Brennand 2007, 49);
- the specific roles to which pots of different form, fabric or context were put (Historic England 2017, ii)
- the commodities that were processed or stored in ancient vessels (Historic England 2017, ii)
- the character and distribution of early medieval settlement (Newman and Brennand 2007, 79);
- the technological and other characteristics of early medieval metalworking (Newman and Brennand 2007, 90); and
- diet, subsistence agricultural economy and land-use in the early medieval period (Newman and Brennand 2007, 79-80).

## 13 RECOMMENDATIONS

### 13.1 Stratigraphic and other archaeological evidence

13.1.1 No further work is recommended on this category of data.

### 13.2 Finds

#### *Pottery*

13.2.1 The prehistoric pottery will be fully analysed following the standard Wessex Archaeology recording system for pottery (Morris 1994), which accords with nationally recommended guidelines (PCRG 2010). This will focus on the recording of fabric and form, and will be supplemented by a limited programme of petrological analysis (maximum 6 samples) to help to determine sources/source areas. The report will summarise the range present, and relate the assemblage to the local and regional ceramic sequence. The two vessels from cremation graves **724** and **770** will be illustrated (one lower half, and one rim), as well as the two possible Peterborough ware sherds, and the probable fabricator from grave **750**.

#### *Organic residue analysis*

13.2.2 The prehistoric pottery is notably fragmentary and the scope to undertake this type of analysis is limited by the relative incompleteness of the vessel profiles, and the size and availability of particular sherds. The Food Vessel sherds for instance are considered too small and fragmentary to be sampled. However, the base from a vessel used as an urn (from grave **724**) has potential for analysis, with the caveat that better recovery of lipid residues from cooking/boiling often occurs in the upper part of a vessel, which is missing in this instance.

13.2.3 The vessel in question will be sent to Julie Dunne (University of Bristol) to test whether its fabric contains any absorbed organic residues.

#### *Metalworking waste*

13.2.4 Should early medieval radiocarbon dates be obtained from pit **803**, further, scientific analysis of the slag might then be considered, and the hammerscale from the soil samples will be examined in detail. A short contribution to the publication report will then be prepared, partly based on what has been presented above, and setting the ironworking evidence in a broader, regional context.

13.2.5 None of the other finds warrant further analysis but the flint assessment report will require updating following completion of other analysis such as radiocarbon dating.

### 13.3 Human bone

13.3.1 Analysis of the cremated bone will follow standard procedures (McKinley 1994b, 5-6; 2004). The unsorted <4 mm residues will be subject to a rapid scan at this stage to extract any identifiable material, osseous or artefactual.

13.3.2 Taphonomic factors potentially affecting differential bone preservation will be assessed. The age of individuals will be further assessed using standard methodologies (Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000). Sex will be assessed from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994; Gejvall 1981). Pathological lesions will be recorded in text and using digital photography.

13.3.3 The form and nature of some of the deposits is currently uncertain and will be further considered in light of the osteological and other finds data together with the context data. Aspects of pyre technology and the cremation mortuary rite will be discussed in their temporal, regional and, where appropriate, national context.

13.3.4 It is recommended that bone samples a number of cremation-related deposits are submitted for radiocarbon dating. These are presented in **Table 10** (below). Samples have been selected for radiocarbon dating to help establish the link between the mortuary areas, the longevity of use of the monument, enable the different forms of cremation-related deposit to be considered in the correct temporal setting and to be viewed within their wider regional setting.

### 13.4 Environmental evidence

#### *Charred plant remains*

13.4.1 It is proposed to analyse the charred plant remains from Early medieval pit **565** and ?early medieval or later pit **536** and from early medieval possible cremation-related deposit **711** and ?early medieval or later possible cremation-related deposit **714**, layer **926**, and pit **986**.

13.4.2 All identifiable charred plant macrofossils will be extracted from the 2 and 1mm residues together with the flot. Identification will be undertaken using stereo incident light microscopy at magnifications of up to x40 using a Leica MS5 microscope, following the nomenclature of Stace (1997) for wild plants, and traditional nomenclature, as provided by Zohary and Hopf (2000, Tables 3, page 28 and 5, page 65), for cereals and with reference to modern reference collections where appropriate. They will be quantified and the results tabulated.

13.4.3 The samples proposed for analysis are indicated with a “P” in the analysis column in **Appendix 2**.

#### *Wood charcoal*

13.4.4 It is proposed to analyse the wood charcoal from both cremation and non-cremation deposits and compare the results in order to to obtain data about possible functional selection of species.

13.4.5 Identifiable charcoal will be extracted from the 2 mm residue together and the flot (>2 mm). Larger richer samples will be sub-sampled. Fragments will be prepared for identification according to the standard methodology of Leney and Casteel (1975, see also Gale and Cutler 2000). Charcoal pieces will be fractured with a razor blade so that three planes can be seen: transverse section (TS), radial longitudinal section (RL) and tangential longitudinal section (TL). They will then be examined under bi-focal epi-illuminated microscopy at magnifications of x50, x100 and x400 using a Kyowa ME-LUX2 microscope. Identification will be undertaken according to the anatomical characteristics described by Schweingruber (1990) and Butterfield and Meylan (1980). Identification will be to the lowest taxonomic level possible, usually that of genus and nomenclature according to Stace (1997), individual taxon (mature and twig) will be separated, quantified, and the results tabulated.

13.4.6 The eighteen samples proposed for charcoal analysis are indicated with a ‘C’ in the analysis column in **Appendix 2**.



### *Sediments*

13.4.7 No further work is proposed.

### *Pollen*

13.4.8 No further work is proposed.

### *Phosphate analysis*

9.1.1 No further phosphate analysis is proposed.

## **13.5 Radiocarbon**

13.5.1 A staged approach to the radiocarbon dating for the project has been planned. An initial round of radiocarbon dates was undertaken to inform the assessment and to guide the recommendations for further analysis. Where applicable, results will be modelled using OxCal and adopting guidance and best practice from the Historic England Scientific Dating Team.

13.5.2 Approximately twenty-five new radiocarbon dates are proposed (see table below). Around fifteen will focus on the Bronze Age funerary activity and chronology of ring ditch **1111**. This will mostly comprise cremation-related deposits that are so far undated, the further dating of short-lived plant material from the basal and upper fill of the ring ditch, and replicate dates on at least two of the cremated bone deposits as a further quality check.

13.5.3 Samples will be selected in conjunction with the named project specialists (Jackie McKinley, Inés López-Dóriga and Dana Challinor) taking particular note of the osteological analysis to avoid sampling the same individual where the human remains could occur in more than one discrete deposit and/or feature. In the case of the cremation-related deposits that are not certainly burials, then sampling for further dating will occur after the analysis of the bone has been undertaken.

13.5.4 In addition, it is proposed to radiocarbon date several features of ambiguous date to better understand their chronology. In line with best-practice, pairs of dates from features will be obtained where possible, with each pair comprising short-lived plant remains from different species, as circumstances permit. Around ten dates on these features are envisaged (see table below).

13.5.5 As stated above, unfortunately there is nothing within the inhumation graves fills likely to provide a reliable date for their infilling, and so it is not proposed to date these features.

**Table 10: Proposed radiocarbon samples**

Sample	Context	Feature	Group	Material	Rationale
98	741		Probable central burial	Human bone	Better understanding of the chronology of the funerary activity within the ring ditch - is this the earliest cremation?
27/32/75/55	750/754/760/746	751/755/761/747	Unurned burials from within the ring ditch area	Human bone from one of these samples	Better understanding of the chronology of the funerary activity within the ring ditch





Sample	Context	Feature	Group	Material	Rationale
55	746	747	Unurned burials from within the ring ditch area	Human bone	Ditto above
27	750	751	Unurned burials from within the ring ditch area	Human bone	Ditto above
431	1066	-	Cremation-related deposits: eastern group	Human bone	Better understanding of the chronology of the funerary activity within the wider landscape
247	839	838	Cremation-related deposits: eastern group	Human bone	Ditto above
226	826	825	Cremation-related deposits: eastern group	Human bone	Ditto above
124	777	776	Cremation-related deposits: eastern group	Human bone	Ditto above
413	1059	1058	NE pair of cremations	Human bone	Ditto above
N/A	701	N/A	N/A	Unburnt cranium fragment	Ditto above and assist in interpretation of remains
TBC	TBC	TBC	Cremation-related deposits	Human bone	Replicate date on radiocarbon dated cremated remains as quality check
TBC	TBC	TBC	Cremation-related deposits	Human bone	Ditto above
	835	829	Ring ditch 1111	Non-alder charred material	Chronology of ring ditch: basal fill . Charred alder from this depts has already been dated: UBA-30660.
204	799	797	Ring ditch 1111	Charred cereal grain	Chronology of ring ditch: uppermost fill . Plus a potentially informative date for barley cultivation
367	936	933	Ring ditch 1111	Short-lived charcoal (if available) from charcoal-rich layer	Chronology of ring ditch: burning event during infilling
2	533	532	Wind-break 638	Charred rye grain	Chronology of group 638, a probable structure: currently potentially early medieval, plus potentially informative date for rye cultivation
2	533	532	Wind-break 638	Hazelnut shell fragments	Ditto above



Sample	Context	Feature	Group	Material	Rationale
293	613	612	Enclosure 644 (posthole in entranceway)	Hazelnut shell fragments	Chronology of group 644: currently undated
293	613	612	Enclosure 644	Short-lived charcoal /charred plant remains	Ditto above
404	976	975	Cluster of pits with burnt stone	Short-lived charcoal (if available)	Chronology of parent feature/wider group
404	976	975	Cluster of pits with burnt stone	Short-lived charcoal of different species to other sample from feature (if available)	Ditto above
203	804	803	Ironsmithing pit	Short-lived charcoal	Chronology of parent feature/metalworking activity focussed on ring ditch.
203	804	803	Ironsmithing pit	Naked wheat grain	Ditto above
403	1033	1032	Pit with ?Peterborough ware	Short-lived charcoal (if available)	Chronology of feature
403	1033	1032	Pit with ?Peterborough ware	Burnt residue (if available)	Chronology of feature and use-period of pot.

13.5.6 Specific tasks relating to the radiocarbon dating programme are identified in Table 12 below.

### 13.6 Additional research

13.6.1 An updated Historic Environment Record search will be carried out in order to clarify the local context of the excavated remains, and to gather information on any other recent archaeological investigations in the vicinity.

13.6.2 A literature review will also be carried out in order to better understand the site in its local, regional and national context. The following local/regional sources have been identified, but more will be consulted as they are identified during the course of the literature review:

- Fairburn, N *et al.* 2002 'III: Birch Heath, Tarporley: excavation of a Romano-British settlement', *J Chester Archaeol Soc*, 77, 58–114;
- Freke, DJ *et al.* 1987 'Excavations at Wlnwick, Cheshire, in 1980', *J Chester Archaeol Soc*, 70, 9–38;
- Williams, H, 1997 'Ancient landscapes and the dead: the reuse of prehistoric and Roman monuments as early Anglo-Saxon burial sites', *Medieval Archaeol*, 41, 1–32
- Williams, JH *et al.* 2004 'Excavations on a Bronze Age Cairn at Hardendale Nab, Shap, Cumbria', *Archaeological J*, 161:1, 11–53



- aerial photographs.

### 13.7 Publication

13.7.1 In light of the significance of the remains, a tripartite approach to publication is recommended:

- A detailed publication report for a professional/academic readership, comprising a fully illustrated account of the investigations, including a summary background to the project, methodology, results and discussion, setting the site in its regional and national context. It is proposed that the report is submitted for publication in the *Archaeological Journal*. The article will be about 17,500 words long and, with plates, tables and figures, occupy perhaps 36 pages of the journal (assuming maximum 900 words per page).
- A non-technical interpretative report for a more local audience in *Archaeology North West* (produced by the regional CBA), heavily illustrated and comprising c. 3000 words.
- A dedicated, open access, 'project page' containing full specialist reports and databases, to be hosted on the Wessex Archaeology website.

13.7.2 Archaeological conditions relating to the road scheme will be considered discharged once the detailed publication report has been accepted for publication, and any reasonable editorial comments will be considered).

**Table 11: Proposed formal publication (*Archaeological Journal*)**

Description	No. words	No. figs	No. plates	No. tables	No. pages
Introduction, background, method	1200	2	1	1	3
Results – ring ditch 1111 and associated remains	2000	5	3	0	6
Results – other features	2000	5	2	0	5
Artefacts – pottery and flint	500	3	0	2	2
Human remains	5000	1	0	2	8
Environmental remains	2000	0	0	3	4
Radiocarbon dating	1000	3	0	1	2
Discussion	2000	1	1	1	4
Bibliography	1800	0	0	0	2
<i>Total</i>	<i>17500</i>	<i>20</i>	<i>7</i>	<i>10</i>	<i>36</i>



## 13.8 Task list

**Table 12: Task list table**

Task ID	Task	Resource	Duration (days)
<b>1. Finds</b>			
1.1	Pottery analysis	M. Leivers	2.5
1.2	Petrographic sampling and reporting (max 6 @ £60 each)	PS	2
1.3	Organic Residue Analysis	Ext.	2
1.4	Analysis of metalworking residue if required	Phil Andrews	2.5
1.4	Update flint report	M Leivers	0.5
1.5	Finds illustration	Drawing Office	1
<b>2. Human bone</b>			
2.1	Recording, analysis and reports (archive & publication), inc. scanning of residues	J. McKinley	22
<b>3. Environmental</b>			
3.1	Extraction of Charred Plants and Wood Charcoal (18 samples)	ES	4.5
3.2	Commissioning analysis and contracts	SPO	0.5
3.3	Analysis and Reporting of Charred Plant Remains (4 samples)	SPO	4
3.4	Analysis and Reporting of Wood Charcoal (16 samples)	Ext.	
3.5	Overview and Palaeo-environmental Summary	SPO	1
3.6	Management, monitoring, editing text	SPO	2
<b>4. Radiocarbon</b>			
4.1	Sample selection, despatch and liaison	SPO	0.5
4.2	Measurements	Ext	c. 25 samples
4.3	Modelling of new results and review	A. Barclay	3
4.4	Contingency round 2 of radiocarbon dates (up to four) in case of technical problems (eg, failed samples) or unexpected results (burials found to belong to more than one period)	Ext	c. 4 samples
4.5	Final models and reporting	A. Barclay	1
<b>5. Research</b>			
5.1	HER, archive and library search	Ext	1
5.2	Literature review	P. Daniel	3
<b>6. Report preparation</b>			
6.1	Prepare text	P. Daniel	5
6.2	Collate specialist reports and updated texts	P. Daniel	2
6.3	Prepare site plans and sections	Drawing Office	3



Task ID	Task	Resource	Duration (days)
6.4	Prepare artefact illustrations and photographs	Drawing Office	1
6.5	Local journal: text	P. Daniel	2
6.6	Local journal: figures	Drawing Office	1
6.7	Project website page: text and figures	P. Daniel	0.5
7. QA, publication and archiving			
7.1	Management	A. Burgess	2
7.2	Review reports	A. Burgess	1.5
7.3	Amendments	P. Daniel	1
7.4	Amendments	Drawing Office	1
7.5	Proof read	C. Swales	1
7.6	Review, edit, prepare for publication, journal liaison	P. Bradley	3
7.7	Prepare and deposit archives (est. 4 boxes)	J.Tibber	5
7.8	Journal publication	Ext	c. £50 per page

13.8.1 The following Wessex Archaeology project team is expected to carry out the tasks listed above:

Regional manager	Andrew Norton MCIfA
Quality and publication manager	Pippa Bradley MCIfA FSA
Project manager	Andrea Burgess MCIfA
Main author	Patrick Daniel ACIfA
Osteoarchaeology	Jacqueline McKinley FSA
Pottery	Matt Leivers ClfA
Environmental	Inés López-Dóriga PCIfA
Illustrator	Karen Nichols

13.8.2 It is anticipated that the following external specialists will also contribute, depending on availability:

Gareth Perry (University of Sheffield)	Petrological analysis of pottery sherds
Julie Dunne (University of Bristol)	Organic residue analysis
SUERC/ Queen's University Belfast	Radiocarbon dating

### 13.9 Management structure

13.9.1 Wessex Archaeology operates a project management system. The team is headed by a Project Manager, who assumes ultimate responsibility for the implementation and execution of the project, and the achievement of performance targets (academic, budgetary or scheduled).



13.9.2 The Project Manager will define and control the scope and form of the post-excavation programme and will have a major input into the writing of the publication report. The Project Manager may delegate specific aspects of the project to other key staff, who will both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external consultants and specialists who are contributing to the publication report, and the museum named as the recipient of the project archive.

### **13.10 Performance monitoring and quality standards**

13.10.1 Wessex Archaeology's Quality Management System is ISO 9001 accredited. The Project Manager will ensure that the report meets internal quality standards as defined in Wessex Archaeology's guidelines. The overall progress and quality will be monitored internally by the Quality and Publications Manager.

13.10.2 Communication between all team members will be facilitated by project meetings at key points during the project.

13.10.3 In addition to internal monitoring and checking, quality standards will be maintained by internal and/or external academic advisers, as appropriate. These referees will appraise the academic quality of the report prior to the submission of a draft publication text to the Consultant and Curator for approval.

### **13.11 Programme**

13.11.1 The analysis programme will commence immediately on approval of the proposals by the Client and Curator. Subject to instruction by the Client, it is anticipated that a draft publication text and illustrations will be available by the end of **December 2018**. Subject to approval it is anticipated that the finalised text and illustrations can be submitted to the editor of the Archaeological Journal, with the final date of publication dependant on the existing publication backlog of that journal.

13.11.2 The finds and archive will be prepared and deposited with the museum on completion of the analysis programme; it is anticipated that this will take place by the end of **December 2018**. The curatorial authorities will be informed when the archive has been deposited.

13.11.3 Wessex Archaeology understands that submission of the article to the editor of the journal for publication and deposition of the finds and archive will represent the completion of the programme of archaeological work.

## **14 STORAGE AND CURATION**

### **14.1 Museum**

14.1.1 It is recommended that the project archive resulting from the excavation be deposited with an appropriate museum. Efforts are currently underway to identify a local repository able to receive the material, although all suitable museums in Cheshire East have declined deposition requests. It is anticipated that the archive will eventually be deposited with the Grosvenor Museum in Chester, although this has not yet been confirmed. Deposition of any finds with the museum will only be carried out with the full agreement of the landowner.



## 14.2 Preparation of archive

- 14.2.1 The archive of these investigations is currently held at the offices of Wessex Archaeology in Sheffield, under the project code 85631.
- 14.2.2 The complete site archive, which will include paper records, photographic records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by the recipient museum, and in general following nationally recommended guidelines (SMA 1995; ClfA 2014d; Brown 2011; ADS 2013).
- 14.2.3 All archive elements will be marked with the Site and accession code, and a full index will be prepared. The physical archive comprises the following:
- Approximately three cardboard boxes or airtight plastic boxes of artefacts, ecofacts and cremated human bone, ordered by material type
  - five files or document case of paper records & A3 and A4 graphics
- 14.2.4 An OASIS form for the project has been initiated (ref. wessexar1-217034; **Appendix 4**) and will be finalised when the project is completed.

## 14.3 Selection and retention

- 14.3.1 Wessex Archaeology follows the guidelines set out in Selection, Retention and Dispersal (SMA 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis.
- 14.3.2 In this instance, all human remains, prehistoric pottery and worked flint should be retained for long-term curation. Other finds, occurring in small quantities, mostly of relatively recent date or undated, do not warrant retention. The proposed selection strategy, one agreed with the recipient museum, will be included in the project archive, and all dispersal fully documented.
- 14.3.3 The discard of environmental remains and samples follows nationally recommended guidelines (SMA 1993, 1995; English Heritage 2011).

## 14.4 Security copy

- 14.4.1 In line with current best practice (eg Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.
- 14.4.2 The security copy will be stored on the servers of Wessex Archaeology, with a copy supplied on CD/DVD to the recipient museum.



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## 15.2 Primary sources

Plan of the Township of Mere in the Parish of Rostherne in the County of Chester, 1848 (Cheshire Record Office Ref EDT 269/2)



## APPENDICES

### Appendix 1: Context summary

Context	Type	Fill of	Description	Interpretation	P/O Group
500	Layer		Ploughsoil	Arable stubble at time of excavation	
501	Layer		Natural	Mixed yellow, orange & yellowish pink silty clay loam	
502	Cut		Field System	Field boundary, undulating base suggests hedgerow	
503	Fill	502	Secondary Fill	Possibly backfilled similar to topsoil	
504	Cut		Ditch	Probably field boundary ditch	
505	Fill	504	Fill	Redeposited ploughsoil ditch fill	
507	Cut		Pit	Oval pit	
508	Fill	507	Secondary Fill	Burnt material	
509	Fill	507	Secondary Fill	Basal fill of pit	
510	Cut		Waterhole	Possibly in the corner of a field	
511	Fill	510	Secondary Fill	Possibly same as (512)	
512	Fill	510	Secondary Fill	Sandy silt fill of waterhole	
513	Fill	510	Secondary Fill	Sandy fill of waterhole	
514	Fill	510	Secondary Fill	Silty clay of waterhole	
515	Cut		Hollow way	Drainage feature	
516	Fill	515	Secondary Fill	Sandy silt loam	

Context	Type	Fill of	Description	Interpretation	P/O Group
517	Layer		Layer	Dark layer possibly due to ponding of water	
518	Layer		Layer	Intermittent subsoil under ploughsoil	
519	Cut		Natural Feature	Possible natural hollow/shrub bowl	
520	Fill	519	Secondary Fill	Light grey sand	
521	Cut		Natural Feature	Possible natural hollow	
522	Fill	521	Secondary Fill	Fill of natural hollow	
523	Cut		Pit	Filled with stones	
524	Fill	523	Secondary Fill	Stony Fill	
525	Cut		Ditch	Drainage ditch	
526	Fill	525	Secondary Fill	Silty sand fill	
527	Cut		Cut	Unknown feature extending from limit of excavation	
528	Fill	527	Secondary Fill	Dark charcoal rich fill	
529	Layer		Layer	Dark area possibly created by poor drainage	
530	Cut		Gully	Curvilinear gully 1st intervention	638
531	Fill	530	Secondary Fill	Secondary fill of ditch	638
532	Cut		Cut	Curvilinear ditch - terminal	638
533	Fill	533	Secondary Fill	Secondary fill of ditch	638
534	Cut		Ditch	Minor depression	
535	Fill	534	Secondary Fill	Secondary fill of [534]	



Context	Type	Fill of	Description	Interpretation	P/O Group
536	Cut		Fire Pit	Enclosed by [530] = [532]	
537	Fill	536	Primary Fill	Fill of fire pit	
538	Cut		Gully	Cut by land drain	645
539	Fill	538	Secondary Fill	Light grey sandy fill	645
540	Fill	538	Secondary Fill	Fill of drainage ditch/gully	645
541	Cut		Ditch	Curvilinear ditch 3rd intervention	638
542	Fill	541	Secondary Fill	Secondary fill of possible roundhouse ring ditch	638
543	Layer		Natural Feature	Possible tree throw	
544	Layer		Natural Feature	Tree/shrub throw	
545	Cut		Field System	Field boundary	
546	Fill	545	Secondary Fill	Subsoil redeposited into ditch	
547	Layer		Layer	Subsoil, Glacial	
548	Fill	545	Secondary Fill	Ditch fill	
549	Cut		Ditch Cut	Ditch cut	
550	Fill	549	Secondary Fill	Ditch fill	
551	Cut		Cut	Undated disturbance	
552	Fill	551	Secondary Fill	Possible natural disturbance	
553	Cut		Cut	Pit/evidence of burning	
554	Fill	554	Secondary Fill	Waste pit for fire remains	

Context	Type	Fill of	Description	Interpretation	P/O Group
555	Cut		Ditch	Ditch cut	640
556	Fill	556	Secondary Fill	Sandy loam fill	640
557	Cut		Ditch	Ditch cut	640
558	Fill	558	Secondary Fill	Homogenous fill	640
559	Cut		Ditch	Ditch cut	639
560	Fill	559	Secondary Fill	Silt loam fill	639
561	Layer		Layer	Subsoil	
562	Cut		Ditch	Linear	640
563	Fill	562	Secondary Fill	Secondary ditch fill	640
564	Fill	565	Fill	Burnt fill	
565	Cut		Scoop	Burnt	
566	Cut		Ditch	Linear	639
567	Fill	566	Secondary Fill	Homogeneous ditch fill	639
568	Cut		Ditch	Linear	639
569	Fill	568	Secondary Fill	Some redeposition of natural mudstone	639
600	Layer		Topsoil	Mid brown silty clay	
601	Layer		Subsoil	Reddish brown clay	
602	Layer		Natural	Very dark brown silt	
603	Cut		Ditch	Runs N-S	1110
604	Fill	603	Secondary Fill	Ditch fill	1110
605	Cut		Tree throw	Cut into subsoil	



Context	Type	Fill of	Description	Interpretation	P/O Group
606	Fill	605	Secondary Fill	Fill of tree throw	
607	Fill	605	Primary Fill	Fill of tree throw	
608	Cut		Ditch	Terminus	641
609	Fill	608	Secondary Fill	Terminus fill	641
610	Cut		Ditch	Probable enclosure ditch	641
611	Fill	610	Secondary Fill	Ditch fill	641
612	Cut		Posthole	Situated at enclosure entrance near [608] & [614]	644
613	Fill	612	Secondary Fill	Fill of posthole	644
614	Cut		Ditch	Terminus	643
615	Fill	614	Secondary Fill	Ditch terminus fill	643
616	Cut		Ditch	Enclosure ditch	642
617	Fill	616	Secondary Fill	Ditch fill	642
618	Cut		Ditch	Possible field boundary	
619	Fill	618	Secondary Fill	Ditch fill	
620	Cut		Ditch	Possible field boundary	
621	Fill	620	Secondary Fill	Ditch fill	
622	Cut		Gully	Cut by land drain	
623	Fill	622	Secondary Fill	Gully fill	
624	Cut		Gully	Probable natural water course	

Context	Type	Fill of	Description	Interpretation	P/O Group
625	Fill	624	Secondary Fill	Silting due to water	
626	Cut		Ditch	Enclosure ditch	643
627	Fill	626	Secondary Fill	Enclosure ditch fill	643
628	Cut		Ditch	Ditch terminus	643
629	Fill	628	Ditch	Fill of enclosure ditch terminus	643
630	Cut		Ditch	Ditch terminus	642
631	Fill	630	Secondary Fill	Fill of enclosure ditch terminus	642
632	Cut		Ditch	Ditch corner	641
633	Fill	632	Secondary Fill	Enclosure ditch fill	641
634	Cut		Gully	Possible field boundary	645
635	Fill	635	Secondary Fill	Grey gully fill	645
636	Cut		Gully	Begins W-E then changes to N-S	645
637	Fill	637	Secondary Fill	Fill mixed with natural	645
638	Group		Curvilinear gully	Wind-break or eavesdrip gully. Early medieval?	
639	Group		Linear	Field boundary ditch; correlates with feature on C19th tithe map	
640	Group		Linear	Field boundary ditch; correlates with feature on C19th tithe map	
641	Group		Curvilinear gully	One of three gullies defining segmented enclosure (Group 644)	
642	Group		Linear gully	One of three gullies defining segmented enclosure (Group 644)	
643	Group		Linear gully	One of three gullies defining segmented	





Context	Type	Fill of	Description	Interpretation	P/O Group
				enclosure (Group 644)	
644	Group		Enclosure	Segmented enclosure consisting of groups 641-3. 15.3m N-S by 15.9m E-W. Undated.	
645	Group		Angular linear	Ditch defining 3 sides of a field or enclosure	
700	Layer		Topsoil	Topsoil	
701	Layer		Subsoil	Subsoil	
702	Layer		Natural	Natural	
703	Cut		Ditch		1110
704	Fill	703	Secondary Fill		1110
705	Cut		Ditch		1110
706	Fill	705	Secondary Fill		1110
707	Cut		Ditch		1110
708	Fill	707	Secondary Fill		1110
709	Cut		Pit	Possible cut of cremation burial.	
710	Fill	709	Secondary Fill	Fill of possible cremation burial	
711	Cut		Pit		
712	Fill	711	Secondary Fill		
713	Fill	711	Secondary Fill		
714	Cut		Scoop	Cut of charcoal patch.	
715	Fill	714	Secondary Fill	Large charcoal patch fill	
716	Cut		Cremation-	Cut of charcoal patch	

Context	Type	Fill of	Description	Interpretation	P/O Group
			related feature		
717	Fill	716	Cremation-related deposit	Small charcoal patch with burnt bone	
718	Cut		Ditch		1110
719	Fill	718	Secondary fill of ditch.		1110
720	Cut		Pit		
721	Fill	820	Secondary fill		
722	Cut		Cut		
723	Fill	723	Fill		
724	Cut		Cremation grave	Cut of cremation burial	
725	Fill	724	Deliberate backfill	Fill of cremation burial	
726	Fill	724	Deliberate backfill	Fill of cremation burial	
727	Cut		Cut		
728	Fill	727	Fill		
729	Fill	727	Fill		
730	Fill	727	Fill		
731	Fill	724	Cremation burial (urned)	FO [724] sample 7 cremation fill from urn	
732	Cut		Natural Feature	Cremation burial cut	
733	Fill	732	Natural	Cremation burial fill	



Context	Type	Fill of	Description	Interpretation	P/O Group
734	Cut		Inhumation grave		
735	Fill	735	Secondary fill		
736	Cut		Cremation-related feature	Cut of cremation burial	
737	Fill	736	Cremation-related deposit	Fill of cremation burial	
738	Cut		Cremation-related feature	Cut of cremation burial	
739	Fill	738	Cremation-related deposit	Fill of cremation burial	
741	Layer		Cremation-related deposit	Subsoil containing burnt bone	
742	Cut		Plough Scar		
743	Fill	742	Secondary fill		
744	Cut		Cremation-related feature	Cut of possible cremation grave	
745	Fill	644	Cremation-related deposit	Fill of possible cremation grave	
746	Cut		Cremation-related feature	Cur of cremation burial	
747	Fill	746	Cremation-related	Fill of cremation burial	

Context	Type	Fill of	Description	Interpretation	P/O Group
			deposit		
748	Cut		Cremation-related feature	Cut of cremation burial	
749	Fill	748	Cremation-related deposit	Fill of cremation burial	
750	Cut		Cremation grave	Cut of cremation burial	
751	Fill	750	Cremation burial (unurned)	Fill of cremation burial	
752	Cut		Scoop	Cut of cremation burial	
753	Fill	752	Secondary fill	Fill of cremation burial	
754	Cut		cremation-related feature	Cut of cremation grave	
755	Fill	754	cremation-related deposit	Fill of cremation grave	
756	Cut		cremation-related feature	Cut of cremation grave	
757	Fill	756	cremation-related deposit	Fill of cremation grave	
758	Fill	754	Secondary fill	Fill of cremation grave	
759	Layer		Layer		
760	Cut		Cremation-related feature	Cut of possible cremation grave	



Context	Type	Fill of	Description	Interpretation	P/O Group
761	Fill	760	Cremation-related deposit	Fill of possible cremation grave	
762	Layer		Cremation-related deposit	Layer - Bony patch	
763	Layer		Cremation-related deposit	Layer - Bony patch	
764	Cut		Cremation-related feature	Cut of cremation burial	
765	Fill	764	Cremation-related deposit	Fill of cremation burial	
766	Cut		Ditch		1112
767	Fill	766	Secondary fill of ditch.		1112
768	Cut		Ditch		1112
769	Fill	768	Secondary fill of ditch.		1112
770	Cut		Cremation-related feature	Cut of cremation burial grave	
771	Fill	770	Cremation-related deposit	Fill of cremation burial	
772	Layer		Cremation-related deposit	Layer with bone	
773	Layer		Buried soil	Subsoil	
774	Layer		Cremation-related	Layer with bone	

Context	Type	Fill of	Description	Interpretation	P/O Group
			deposit		
775	Layer		Cremation-related deposit	Layer with bone	
776	Fill	777	Cremation burial (unurned)	Fill of possible cremation grave	
777	Cut		Cremation grave	Cut of possible cremation grave	
778	Layer		Cremation-related deposit	Layer with bone	
779	Cut		Ring Ditch	Terminus	
780	Fill	779	Secondary fill		
781	Cut		Ring Ditch	Terminus	1111
782	Fill	781	Primary fill		
783	Fill	781	Secondary fill		
784	Cut		Cut		
785	Layer		Pyre debris (redeposited)	Layer with charcoal	
786	Fill	784	Pyre debris (redeposited)	Fill [784] of possible cremation burial	
787	Fill	781	Primary fill		
788	Layer		Cremation-related deposit	Charcoal lens in subsoil	
789	Cut		Cremation-related	Cut possible cremation grave	



Context	Type	Fill of	Description	Interpretation	P/O Group
			feature		
790	Fill	789	Cremation-related deposit	Fill of possible cremation grave	
791	Fill	796	Cremation-related deposit	Bone in secondary fill	
792	Cut		Ring Ditch	Terminus	
793	Fill	792	Secondary fill of ditch.		
794	Cut		Cut		
795	Fill	794	Cremation-related deposit	Cremation-related deposit	
796	Cut		Ditch		
797	Cut		Ring Ditch		1111
798	Fill	797	Primary fill		1111
799	Fill	797	Secondary fill of ditch.		1111
800	Layer		Cremation-related deposit	With charcoal	
801	Layer		Cremation-related deposit	With charcoal	
802	Layer		Cremation-related deposit	With charcoal	
803	Cut		Pit		
804	Fill	803	Secondary fill		

Context	Type	Fill of	Description	Interpretation	P/O Group
805	Cut		Pit	Cut of cremation FW (806)	
806	Fill	805	Secondary fill	Tertiary fill/pyre burning [805]	
807	Layer		Layer		
808	Fill	805	Secondary fill	Tertiary fill/pyre burning [805]	
809	Cut		Ditch		
810	Fill	809	Cremation-related deposit		
811	Layer		Layer	Black patch	
812	Layer		Layer	Black patch	
813	Cut		Ditch		
814	Fill	813	Secondary fill of ditch.		
815	Fill	816	Fill	Large stone fill	
816	Cut		Cremation-related feature	Black patch	
817	Layer		Layer	Hollow infill	
818	Fill	816	Cremation-related deposit		
819	Layer		Layer	Black patch	
820	Fill	824	Natural Feature	Hollow infill	
821	Cut		Ditch		
822	Fill	821	Cremation-related deposit		



Context	Type	Fill of	Description	Interpretation	P/O Group
823	Layer		Layer	Hollow infill	
824	Cut		Natural Feature	Hollow	
825	Cut		Cremation grave	Cut of cremation grave	
826	Fill	825	Cremation burial (unurned)	Fill of cremation grave	
827	Cut		Gully		
828	Fill	827	Secondary fill		
829	Cut		Ring Ditch	N-S ditch enclosing cemetery site FW (832) - (836)	1111
830	Cut		Cremation-related feature	Cut cremation grave	
831	Layer		Layer	Relict topsoil	
832	Fill	829	Secondary fill		1111
833	Fill	829	Secondary fill		1111
834	Fill	829	Secondary fill		1111
835	Fill	829	Secondary fill		1111
836	Fill	829	Secondary fill		
837	Fill	830	Cremation-related deposit	Fill of cremation grave	
838	Cut		Cremation-related	Cut cremation grave	

Context	Type	Fill of	Description	Interpretation	P/O Group
			feature		
839	Fill	838	Cremation-related deposit	Fill cremation grave	
840	Cut		Cut		
841	Fill	840	Secondary fill		
842	Cut		Ring Ditch	Terminus	1111
843	Fill	842	Secondary fill of ditch.		1111
844	Layer		Layer	Dark brown sand	
845	Layer		Layer	Charcoal layer	
846	Layer		Layer	Charcoal	
847	Cut		Scoop	Cut of cremation grave	
848	Fill	847	Secondary fill	Fill of cremation grave	
849	Cut		Inhumation	Cut of possible grave	
850	Fill	849	Deliberate backfill	Fill of possible grave	
851	Fill		Cremation-related deposit	Fill of possible grave	
852	Cut		Inhumation	Cut of possible grave	
853	Fill	852	Deliberate backfill	Fill of possible grave	
854	Cut		Linear		
855	Fill	854	Secondary fill	Cobble fill	
856	Cut		Linear	Linear cobble filled feature/cut?	



Context	Type	Fill of	Description	Interpretation	P/O Group
857	Cut		Grave	Cemetery	
858	Fill	857	Deliberate backfill		
859	Fill	857	Primary fill		1111
860	Cut		Grave		
861	Fill	860	Deliberate backfill		
862	Cut		Ditch		
863	Fill	862	Primary fill		
864	Fill	862	Secondary fill of ditch.		
865	Cut		Ring Ditch		1111
866	Fill	865	Primary fill		1111
867	Fill	865	Secondary fill of ditch.		1111
868	Cut		Cremation-related feature	Cremation-related cut	
869	Fill	868	Cremation-related deposit	Cremation-related deposit	
870	Layer		Layer	Cut by [868]	
871	Cut		Pit		
872	Fill	871	Secondary fill		
873	Cut		Posthole		
874	Fill	873	Secondary fill		
875	Cut		Posthole		

Context	Type	Fill of	Description	Interpretation	P/O Group
876	Fill	875	Secondary fill		
877	Fill	865	Fill		1111
878	Fill	865	Layer	Dark soil spread	
879	Cut		Pit		
880	Fill	879	Secondary fill		
881	Cut		Ditch		1112
882	Fill	881	Secondary fill of ditch.		1112
883	Cut		Posthole		
884	Fill	883	Secondary fill		
885	Fill	883	Tertiary deposit		
886	Cut		Ditch		
887	Fill	886	Secondary fill of ditch.		
888	Fill	886	Primary fill		1111
889	Fill	886	Secondary fill of ditch.		1111
890	Layer		Layer		
891	Layer		Layer	Subsoil like layer	
892	Cut		Grave	Cut of possible grave	
893	Fill	892	Deliberate backfill	Fill. Deliberate backfill	
894	Cut		Pit		
895	Fill	894	Secondary fill	Charcoal	



Context	Type	Fill of	Description	Interpretation	P/O Group
896	Cut		Ring Ditch	Cut of cemetery ditch	1111
897	Fill	896	Primary fill	Basal fill	1111
898	Fill	896	Secondary fill of ditch.	Secondary fill	1111
899	Cut		Ring Ditch		1111
900	Fill	899	Secondary fill of ditch.		1111
901	Layer		Layer	Charcoal	
903	Cut		Cremation-related feature		
904	Fill	903	Cremation-related deposit		
905	Fill	896	Secondary fill of ditch.		
906	Fill	896	Secondary fill of ditch.		1111
907	Layer		Layer		
908	Fill	896	Secondary fill of ditch.		1111
909	Cut		Cremation-related deposit		
910	Cut		Posthole		
911	Fill	910	Secondary fill		
912	Cut		Posthole		
913	Fill	912	Secondary fill		

Context	Type	Fill of	Description	Interpretation	P/O Group
914	Cut		Inhumation	Grave	
915	Fill	914	Deliberate backfill	Backfill	
916	Fill	924	Cremation burial (unurned)	Cremation [924]	
917	Cut		Cremation grave	Cut cremation grave	
918	Fill	917	Cremation burial (unurned)	Deliberate backfill	
919	Layer		Layer	Over [899]	
920	Layer		Layer	Sandy gravel over [899]	
921	Cut		Scoop		
922	Fill	921	Fill		
923	Layer		Cremation-related deposit	Cremated bone scatter layer	
924	Cut		Cremation grave	Cremation grave filled with (925)(916)	
925	Fill	924	Deliberate backfill	Backfill of cremated grave	
926	Layer		Layer	Possible Cairn. An array of well-rounded and coarse pebbles and cobbles varying in size. Large burnt red stones and possible tile.	
927	Cut		Pit		
928	Fill	927	Secondary fill		
929	Fill	930	Cremation burial (unurned)	Burnt bone fill of [930]	



Context	Type	Fill of	Description	Interpretation	P/O Group
930	Cut		Cremation grave	Cremation grave	
931	Cut		Cremation-related feature	Possible cremation	
932	Fill	931	Cremation-related deposit	Burnt bone fill of [931]	
933	Cut		Ring Ditch	Ring ditch surrounding cemetery area	1111
934	Fill	933	Primary fill	Redeposited natural. No charcoal unlike northern slots [896] etc.	1111
935	Fill	933	Primary fill	Orange sand	1111
936	Fill	933	Secondary fill	Charcoal lenses between fills	1111
937	Fill	933	Secondary fill	Upper fill of ring ditch	1111
938	Cut		Ring Ditch	Curvilinear	1111
939	Fill	938	Secondary fill of ditch.	Stony secondary fill	1111
940	Cut		Unknown	Unknown cut filled with sand and loam bands	
941	Fill	940	Primary fill	Orange sand	
942	Cut		Pit	Irregular pit	
943	Fill	942	Secondary fill	Secondary fill of pit	
944	Cut		Inhumation	Grave cut	
945	Fill	944	deliberate backfill	Secondary fill of grave cut	
946	Cut		Inhumation	Grave cut	
947	Fill	946	deliberate backfill	Secondary fill of grave cut	

Context	Type	Fill of	Description	Interpretation	P/O Group
948	Layer		Layer	Remnant topsoil	
949	Layer		Layer	Dark crust in test pit. Subsoil	
950	Fill	940	Secondary fill	Buried soil	
951	Fill	940	Secondary fill	Possible natural subsoil	
952	Fill	940	Secondary fill	Buried soil	
953	Cut		Inhumation	Grave cut	
954	Fill	953	deliberate backfill	Secondary fill of grave cut	
955	Cut		Inhumation	Grave cut	
956	Fill	955	deliberate backfill	Secondary fill of grave cut	
957	Cut		cremation-related feature	Cremation cut	
958	Fill	957	cremation-related deposit	Tertiary fill	
959	Cut		Construction cut	Cut Cairn	
960	Fill	959	deliberate backfill	Tertiary fill	
961	Cut		Posthole	Posthole possibly for gate	
962	Fill	961	Secondary fill	Posthole fill	
963	Cut		Pit	Irregular pit	
964	Fill	963	Secondary fill	Secondary pit fill	





Context	Type	Fill of	Description	Interpretation	P/O Group
965	Cut		Pit	Sub oval pit	
966	Fill	965	tertiary deposit	Tertiary pit fill	
967	Cut		Cut		
968	Fill	967	Fill		
969	Cut		Cut		
970	Fill	969	Fill	Burnt fill	
971	Cut		Pit	Circular with ditch	
972	Fill	971	Secondary fill	Pit fill top layer	
973	Fill	971	Secondary fill	Second layer pit fill	
974	Fill	971	Primary fill	pit fill	
975	Cut		Pit	Pit part of cluster	
976	Fill	975	Secondary fill	Burnt pit fill	
977	Cut		Pit	Circular pit	
978	Fill	977	Secondary fill	Burnt secondary pit fill	
979	Cut		Pit	Triangular pit	
980	Fill	979	Fill	Sandy clay pit fill	
981	Fill		Primary fill	Primary pit fill	
982	Cut		Pit	One of several pits SE of SMR 3	
983	Fill	982	Secondary fill	Sandy secondary fill. Unburnt unlike other fills.	
984	Cut		Pit	Pit furthest south in SMR3	
985	Fill	984	Fill	Burnt pit fill	

Context	Type	Fill of	Description	Interpretation	P/O Group
986	Cut		Pit	Circular pit	
987	Fill	986	Secondary fill	Remains of fire buried. No signs of burning to surrounding ground	
988	Layer		Cremation-related deposit	Cremated bone scatter. Possibly upcast from excavation of feature 931 which, for some unaccountable reason, was not collected when that feature was originally excavated.	
991	Cut		Pit	Oval pit	
992	Fill	991	Secondary fill	Secondary pit fill	
993	Cut		Pit	Sub-circular pit	
994	Fill	993	Deliberate backfill	Deliberate backfill of pit	
995	Cut		Ring Ditch	Ring ditch surrounding cemetery area	1111
996	Fill	995	Primary fill	Primary fill of ring ditch	1111
997	Fill	995	Secondary fill	Secondary fill of ring ditch below 998	1111
998	Fill	995	Secondary fill	Uppermost secondary fill of ring ditch	
999	Cut		Pit	Sub-oval pit	
1000	Cut		Ditch	Linear E-W	639
1001	Fill	1000	Secondary fill	Clay sand ditch fill	639
1002	Cut		Ditch	Curvilinear E-W	639
1003	Fill	1002	Secondary fill	Secondary ditch fill	639
1004	Cut		Tree throw	Irregular in plan and section	
1005	Fill	1004	Secondary fill	Secondary fill of tree throw	



Context	Type	Fill of	Description	Interpretation	P/O Group
1006	Cut		Ditch	Linear N-S	639
1007	Fill	1006	Secondary fill	Sandy clay secondary fill	639
1008	Cut		Ditch	Linear N-S at slow E-W after turn 10m south	639
1009	Fill	1008	Secondary fill	Secondary linear ditch fill	639
1010	Cut		Tree throw	5m east of tree throw [1004]	
1011	Fill	1010	Secondary fill	Fill of tree throw	
1012	Cut		Ditch	Linear same as [1000] and [1002]	639
1013	Fill	1012	Secondary fill	Fill of linear ditch	639
1014	Cut		Fire Pit	Smooth sloping edges	
1015	Fill	1014	Tertiary deposit	Charcoal rich fill	
1016	Cut		Pit	Smooth sloping edges	
1017	Fill	1016	Tertiary deposit	Charcoal rich fill	
1018	Cut		Posthole	Steep sloping sides	
1019	Fill	1018	Secondary fill	Sandy loam posthole fill	
1020	Cut		Natural Feature	Hollow	
1021	Fill	1020	Secondary fill	Homogenous fill of hollow	
1022	Cut		Ditch	Linear N-S	
1023	Cut		Ditch	Linear	
1024	Fill	1022	Primary fill	Fill of linear, apparent slump from sides	
1025	Fill	1022	Secondary	Bioturbated secondary fill	

Context	Type	Fill of	Description	Interpretation	P/O Group
			fill		
1026	Fill	1023	Secondary fill	Bioturbated secondary ditch fill	
1027	Cut		Ditch	Runs parallel to [1022] and [1023]	
1028	Fill	1027	Secondary fill	Heavily bioturbated	
1029	Layer		Layer	Modern agricultural ploughsoil	
1030	Layer		Layer	Wind-blown sand from glaciation	
1031	Fill		Fill		
1032	Fill	1033	Fill	Stony fill of pit	
1033	Cut		Pit	Stone filled pit	
1034	Cut		Pit	Stone filled pit	
1035	Fill	1034	Secondary fill	Firecracked stone fill	
1036	Cut		Plough Scar		
1037	Fill	1036	Secondary fill	Secondary fill of plough scar	
1038	Fill	1036	Secondary fill	Secondary fill of plough scar	
1050	Fill	999	Fill	Secondary pit fill	
1052	Cut		Pit	Sub-oval pit	
1053	Fill	1052	Secondary fill	Secondary pit fill	
1054	Cut		Natural Feature	Circular feature, probably natural solution hollow	
1055	Fill	1054	Secondary fill	Secondary fill	
1056	Cut		Cremation-related	Cut of possible cremation burial	



Context	Type	Fill of	Description	Interpretation	P/O Group
			deposit		
1057	Fill	1056	Cremation-related deposit	Fill of possible cremation burial	
1058	Cut		Cremation-related feature	Oval cut of possible cremation burial	
1059	Fill	1058	Cremation-related deposit	Fill of cremation burial	
1060	Cut		Tree throw		
1061	Fill	1060	Secondary fill	Secondary fill of tree throw	
1062	Cut		Pit	Possible sub-circular pit	
1063	Fill	1062	Secondary fill	Secondary fill of pit	
1064	Fill		Cremation-related deposit	Probable disturbed cremation burial	
1065	Fill		Cremation-related deposit	Disturbed cremation burial	
1066	Fill		Cremation-related deposit	Disturbed cremation burial	
1067	Cut		Grave	Grave to north of ring ditch and west of others	
1068	Fill	1067	Deliberate backfill	Grave fill	
1069	Cut		Ditch	Possible boundary ditch	
1070	Fill	1069	Secondary fill	Secondary fill of ditch	

Context	Type	Fill of	Description	Interpretation	P/O Group
1071	Cut		Natural Feature	Amorphous shaped natural feature	
1072	Fill	1071	Subsoil	Subsoil filling natural feature	
1073	Cut		Natural Feature		
1074	Cut		Ring Ditch	Ring ditch surrounding cemetery site	1111
1075	Fill	1074	Secondary fill	Uppermost secondary fill of ditch	1111
1076	Fill	1074	Primary fill	Primary fill of ditch	1111
1077	Cut		Ring Ditch	Ring ditch surrounding cemetery	1111
1078	Fill	1077	Primary fill	Primary fill of ditch	1111
1079	Fill	1077	Secondary fill	Secondary fill of ditch	1111
1080	Cut		Hedgerow	Linear hedgerow in SMR4	
1081	Fill	1080	Bioturbation	Bioturbation of hedgerow roots	
1082	Cut		Ditch	Possible boundary ditch	
1083	Fill	1082	Secondary fill	Secondary fill of ditch	
1084	Fill	1082	Primary fill	Primary fill of ditch	
1085	Cut		Ring Ditch	Ring ditch surrounding cemetery site	1111
1086	Fill	1085	Secondary fill	Secondary fill of ring ditch	1111
1087	Fill	1085	Primary fill	Primary fill of ring ditch	1111
1088	Cut		Grave	Oval shaped grave	
1089	Fill	1088	Deliberate backfill	Deliberate backfill of grave	
1090	Cut		Ditch	E-W aligned ditch cut by ring ditch [1092]	



Context	Type	Fill of	Description	Interpretation	P/O Group
1091	Fill	1090	Secondary fill	Secondary fill of ditch	
1092	Cut		Ring Ditch	Ring ditch surrounding cemetery site. Cuts earlier E-W aligned ditch [1090]	1111
1093	Fill	1092	Secondary fill	Uppermost secondary fill of ring ditch	1111
1094	Fill	1092	Secondary fill	Secondary fill of ring ditch	1111
1095	Fill	1092	Primary fill	Primary fill of ring ditch	1111
1096	Cut		Ring Ditch	Ring ditch surrounding cemetery. Cut by ditch [1100]	1111
1097	Fill	1096	Secondary fill	Secondary fill of ring ditch	1111
1098	Fill	1092	Deliberate backfill	Dump of charcoal and cobbles possibly redeposited internal bank	1111
1099	Fill	1092	Secondary fill	Secondary fill of ring ditch	1111
1100	Cut		Ditch	Terminus of E-W aligned possible drainage ditch. Cuts ring ditch [1096]	
1101	Fill	1100	Secondary fill	Secondary fill of ditch	
1102	Fill	1096	Primary fill	Primary fill of ring ditch	1111
1103	Layer		Subsoil	Subsoil in possible natural hollow overlying (1104)	
1104	Layer		Subsoil	Subsoil in possible natural hollow underlying (1103)	
1105	Cut		Ring Ditch	Ring ditch surrounding cemetery	1111
1106	Fill	1105	Secondary fill	Secondary fill of ring ditch	1111
1107	Fill	1109	Secondary fill	Secondary fill of probable quarry pit	

Context	Type	Fill of	Description	Interpretation	P/O Group
1108	Layer		Bank	Possible cobble bank running within the ring ditch	
1109	Cut		Quarry pit	Possible sand or cobble quarry pit	
1110	Group		Linear	Field boundary ditch; correlates with feature on C19th tithe map	
1111	Group		Penannular ditch	Early Bronze Age funerary ringwork	



## Appendix 2: Environmental data

Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
Bronze Age														
Cremation-related deposits														
724	725	Cleaning layer	12	0.6	5	5	-	-	-	-	-	<1/<1 ml	-	
	725	SE Quad	12	8	100	2	-	-	-	C	<i>Raphanus, Vicia/Lathyrus</i>	20/15 ml	-	
	725	SW Quad	12	4	40	2	-	-	-	C	<i>Galium</i>	5/5 ml	-	
	725	NE Quad	12	8	100	2	-	-	-	-	-	15/20 ml	-	
	725	NW Quad	12	9	120	2	-	-	-	-	-	25/25 ml	-	
	726	SE Quad	13	1	100	2	-	-	-	-	gall	20/25 ml	-	
	726	SW Quad	13	1	60	2	-	-	-	-	-	10/10 ml	-	
	726	SW Quad *	13	1	10	2	-	-	-	-	-	1/1 ml	-	
	726	NE Quad	13	1.4	120	2	-	-	-	-	twig/stem frags	20/25 ml	-	
	726	NW Quad	13	1	140	2	-	-	-	-	twig/stem frags	25/25 ml	-	
	731		16	8.8	225	1	C	-	-	Indet. grain frags	-	twig/stem frags	35/25 ml	-
917	918	323 Surface clean	324	0.5	2	40	-	-	-	-	-	<1/<1 ml	-	
	918	323 SE Quad Spit 1	325	2	140	1	-	-	-	C	<i>Vicia/Lathyrus</i> , stem frags	35/35 ml	-	
	918	323 SW Quad Spit 1	326	5	110	1	-	-	-	-	stem frags	25/25 ml	-	
	918	323 SW Quad Spit 2	327	5	80	1	-	-	-	-	stem frags	15/15 ml	-	
	918	323 NW Quad Spit 1	328	5	120	1	-	-	-	-	stem frags	30/25 ml	-	
	918	323 NW Quad Spit 2	329	2	90	1	-	-	-	-	stem frags	20/20 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	918	323 NW Quad Spit 3	330	5	40	5	-	-	-	-	stem frags	5/7 ml	-	
	918	323 NE Quad Spit 1	331	5	250	1	-	-	-	-	stem frags	80/60 ml	-	C
	918	323 NE Quad Spit 2	332	2	240	1	-	-	-	-	stem frags	70/70 ml	-	
924	916 (+ 925)	317 Cleaning layer	318	1	15	10	-	-	-	-	-	2/2 ml	-	
	916 (+ 925)	317 SE Quad	319	5	120	2	-	-	-	-	-	20/25 ml	-	
	916 (+ 925)	317 SW Quad	320	5	110	2	-	-	-	-	stem frags	20/25 ml	-	C
	916 (+ 925)	317 NW Quad	321	5	80	2	-	-	-	-	-	15/15 ml	-	
	916 (+ 925)	317 NE Quad	322	5	60	2	-	-	-	-	gall	10/15 ml	-	
Ring Ditch Group 1111														
792	793		205	25	60	10	C	-	Indet. grain frags	C	<i>Avena/Bromus</i>	10/12 ml	-	
797	799		204	28	35	10	C	-	Barley grain frags	-	-	3/5 ml	-	
829	835		236	0.02	10	2	-	-	-	-	-	3/1 ml	-	
	833		265	18	40	40	-	-	-	C	<i>Avena/Bromus</i>	5/7 ml	-	
865	866		291	9	20	5	-	-	-	-	-	5/5 ml	-	
	877		292	20	20	10	-	-	-	-	-	2/4 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
896	897		308	20	40	10	-	-	-	-	-	10/7 ml	-	
933	937		366	20	140	10	-	-	-	-	-	20/40 ml	-	
	936		367	2	375	1	-	-	-	-	-	60/100 ml	-	C
1074	1075		442	10	15	10	C	-	Indet. grain frags	-	-	1/3 ml	-	
	1076		443	8	5	10	-	-	-	-	-	1/<1 ml	-	
1085	1086		448	9	275	2	-	-	-	-	-	80/90 ml	-	
	1087		449	10	80	5	-	-	-	-	-	20/15 ml	-	C
1092	1098		451	10	400	3	-	-	-	-	-	30/100 ml	-	C
1096	1097		453	8	20	5	-	-	-	C	<i>Avena/Bromus</i>	2/5 ml	-	
	1102		454	10	15	50	-	-	-	C	<i>Avena/Bromus</i>	1/3 ml	-	
?Bronze Age														
Cremation-related deposits														
709	710	SE Quad	7	3	275	1	C	-	Indet. grain frags	C	<i>Rumex</i>	40/75 ml	-	
	710	SW Quad	7	4	400	1	-	-	-	C	<i>Rumex</i>	35/100 ml	-	
	710	NW Quad	7	6	500	1	-	-	-	C	<i>Rumex</i>	100/250 ml	-	C
	710	NE Quad	7	9	450	1	-	-	-	-	-	85/100 ml	-	
716	717	Surface clean	10	0.1	10	5	-	-	-	-	-	<1/<1 ml	-	
	717	N Half	10	0.8	40	2	-	-	-	-	-	3/5 ml	-	
	717	S Half	10	0.6	15	5	-	-	-	-	-	2/3 ml	-	
732	733	82 Cleaning	25	1	25	2	-	-	-	-	-	5/3 ml	-	
	733	82 SE Quad	83	2.6	150	1	-	-	-	-	-	35/40 ml	-	C
	733	82 SW Quad	84	0.9	15	2	-	-	-	-	-	3/3 ml	-	
	733	82 NE Quad	85	2.5	120	1	-	-	-	-	-	25/35 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	733	82 NW Quad	86	1	25	2	-	-	-	-	-	5/5 ml	-	
736	737	191 S Quad	192	5	10	10	-	-	-	-	-	1/1 ml	-	
	737	191 W Quad	193	8	25	15	-	-	-	-	-	3/2 ml	-	
	737	191 N Quad	194	7	10	20	C	-	Indet. grain frags	-	-	2/1 ml	-	
	737	191 E Quad	195	3	10	30	-	-	-	-	-	<1/<1 ml	-	
	739	70 SE Quad	71	0.3	5	10	-	-	-	C	<i>Corylus avellana</i> shell frag	<1/<1 ml	-	
738	739	70 SW Quad	72	1.4	75	1	-	-	-	-	twig/stem frags	20/20 ml	-	
	739	70 NW Quad	73	5	325	1	-	-	-	-	twig/stem frags	80/120 ml	-	
	739	70 NE Quad	74	8	175	1	-	-	-	-	twig/stem frags	40/40 ml	-	
	740	Cleaning layer	18	1.8	10	25	-	-	-	-	-	2/2 ml	-	
742	741	130 layer	98	40	50	10	-	-	-	C	<i>Corylus avellana</i> shell frags	10/10 ml	-	
	743	130	131	2	35	30	-	-	-	-	-	0/4 ml	-	
	743	130	132	1	10	50	-	-	-	-	-	<1/1 ml	-	
	743	130	133	0.4	5	10	-	-	-	-	-	<1/<1 ml	-	
	741	130	134	3	15	10	-	-	-	-	-	1/1 ml	-	
	741	130	135	2.5	15	5	-	-	-	-	-	2/2 ml	-	
	741	130	136	3	40	2	-	-	-	-	-	10/10 ml	-	
	743	130	137	1.4	10	10	-	-	-	C	Acorn ( <i>Quercus</i> sp.)	1/1 ml	-	
	743	130	138	1	5	10	-	-	-	-	-	<1/1 ml	-	
	743	130	139	1.2	5	10	-	-	-	-	-	<1/<1 ml	-	





Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	741	130	140	6	35	2	-	-	-	-	-	7/7 ml	-	
	741	130	141	6	40	2	-	-	-	-	-	3/3 ml	-	
	741	130	142	6	20	5	-	-	-	-	-	1/2 ml	-	
	741	130	143	4.5	30	5	-	-	-	-	-	3/5 ml	-	
	741	130	144	3.5	30	5	C	-	Barley grain frags	-	-	7/5 ml	-	
	741	130	145	3	30	5	-	-	-	-	-	7/7 ml	-	
	741	130	146	3	40	5	-	-	-	-	-	10/5 ml	-	
	741	130	147	6	60	2	-	-	-	-	-	15/10 ml	-	
	741	130	148	4	15	10	-	-	-	-	-	2/1 ml	-	
744	745	65 Cleaning	20	1	175	1	-	-	-	-	twig/stem frags	80/45 ml	-	C
	745	65 SE Quad	66	0.1	20	2	-	-	-	-	-	7/ 5 ml	-	
	745	65 SW Quad	67	0.1	50	1	-	-	-	-	-	15/10 ml	-	
	745	65 NE Quad	68	0.1	35	2	-	-	-	-	-	10/5 ml	-	
	745	65 NW Quad	69	0.1	35	2	-	-	-	-	-	10/5 ml	-	
746	747	55 Cleaning	19	0.1	10	5	-	-	-	-	-	2/2 ml	-	
	747	55 SE Quad	56	1.3	50	1	-	-	-	C	<i>Corylus avellana</i> shell frags, tuber	10/10 ml	-	
	747	55 SW Quad	57	1.5	40	2	-	-	-	-	twig/stem frags	5/10 ml	-	
	747	55 NE Quad	58	2	60	1	-	-	-	-	twig/stem frags	10/10 ml	-	
	747	55 NW Quad	59	1.3	60	1	-	-	-	-	twig/stem frags	10/12 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
748	749	87	21	2.5	10	30	-	-	-	C	<i>Corylus avellana</i> shell frags, twig/stem frags	2/1 ml	-	
	749	87 SE Quad	88	2	30	2	-	-	-	-	twig/stem frags	5/3 ml	-	
	749	87 NE Quad	89	15	175	3	-	-	-	B	<i>Corylus avellana</i> shell frags, <i>Raphanus</i> . twig/stem frags	20/40 ml	-	C
	749	87 SW Quad	90	3.5	50	10	-	-	-	C	<i>Corylus avellana</i> shell frags. twig/stem frags	10/10 ml	-	
	749	87 NW Quad	91	3	40	5	-	-	-	-	twig/stem frags	5/7 ml	-	
750	751	27 Cleaning	22	1	40	2	-	-	-	-	-	7/8 ml	-	
	751	27 SE Quad spit 1	28	1.8	175	1	-	-	-	-	-	60/40 ml	-	
	751	27 SE Quad Spit 2	29	1.7	375	1	-	-	-	-	twig/stem frags	80/110 ml	-	C
	751	27 SW Quad Spit 1	30	2	225	1	-	-	-	-	twig/stem frags	70/90 ml	-	
	751	27 SW Quad Spit 2	31	2	375	1	-	-	-	-	twig/stem frags	100/90 ml	-	
	751	27 NE Quad Spit 1	42	1.7	175	1	-	-	-	-	twig/stem frags	45/50 ml	-	
	751	27 NE Quad Spit 2	43	2	425	1	-	-	-	-	-	120/110 ml	-	
	751	27 NW Quad Spit 1	44	3	250	1	-	-	-	-	twig/stem frags	75/70 ml	-	
	751	27 NW Quad Spit 2	45	4	750	1	-	-	-	-	twig/stem frags	100/175 ml	-	
752	753	60 Cleaning	23	1	15	2	-	-	-	-	-	3/2 ml	-	
	753	60 SE Quad	61	1.4	40	2	-	-	-	-	-	7/10 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	753	60 SW Quad	62	1.2	5	10	-	-	-	-	-	<1/1 ml	-	
	753	60 NE Quad	63	1.5	40	2	-	-	-	-	-	5/10 ml	-	
	753	60 NW Quad	64	1.2	10	2	-	-	-	-	-	2/2 ml	-	
754	755	32 SE Quad	33	1	35	2	-	-	-	-	twig/stem frags	5/5 ml	-	
	755	32 SW Quad	34	1.2	40	2	-	-	-	-	-	5/10 ml	-	
	755	32 NE Quad	35	1	50	10	-	-	-	-	-	5/5 ml	-	
	755	32 NW Quad	36	1	40	2	-	-	-	-	-	3/5 ml	-	
	758	37 SE Quad	38	1	15	2	-	-	-	-	-	3/2 ml	-	
	758	37 SW Quad	39	1	7	2	-	-	-	-	-	1/1 ml	-	
	758	37 NE Quad	40	1	15	15	-	-	-	-	-	3/3 ml	-	
	758	37 NW Quad	41	1	15	7	-	-	-	-	-	5/3 ml	-	
756	757	46 Cleaning	26	1.5	15	5	-	-	-	-	-	4/2 ml	-	
	757	46 SE Quad Spit 1	47	1.1	40	2	-	-	-	-	-	5/7 ml	-	
	757	46 SE Quad Spit 2	48	1	40	1	-	-	-	-	-	10/5 ml	-	
	757	46 SW Quad Spit 1	49	2	60	1	-	-	-	-	-	10/10 ml	-	
	757	46 SW Quad Spit 2	50	1.2	60	1	-	-	-	-	-	10/10 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	757	46 NE Quad Spit 1	51	1.4	40	1	-	-	-	-	-	10/7 ml	-	
	757	46 NE Quad Spit 2	52	0.8	30	1	-	-	-	-	-	7/5 ml	-	
	757	46 NW Quad Spit 1	53	1.3	60	1	-	-	-	-	-	15/10 ml	-	
	757	46 NW Quad Spit 2	54	1	50	1	-	-	-	-	-	12/10 ml	-	
760	761	75 SE Quad	76	1	5	10	-	-	-	-	-	1/1 ml	-	
	761	75 SW Quad	77	0.5	5	10	-	-	-	-	-	<1/<1 ml	-	
	761	75 NE Quad	78	1	5	10	-	-	-	-	-	1/2 ml	-	
	761	75 NW Quad	79	1	10	5	-	-	-	-	twig/stem frags	2/2 ml	-	
	762	layer	80	1	20	2	-	-	-	-	-	3/3 ml	-	
	763	layer	81	1	10	5	-	-	-	-	-	2/3 ml	-	
770	771	92 Surface clean	93	0.7	3	10	-	-	-	-	-	0/<1 ml	-	
	771	92 SE Quad	94	2.3	5	10	-	-	-	-	-	<1/1 ml	-	
	771	92 SW Quad	95	6	10	10	-	-	-	C	<i>Avena/Bromus</i>	<1/1 ml	-	
	771	92 NE Quad	96	5	10	10	-	-	-	-	-	1/1 ml	-	
	771	92 NW Quad	97	3	10	5	-	-	-	-	-	1/1 ml	-	
	772	99 SE Quad	100	5	10	10	-	-	-	-	-	<1/1 ml	-	
	772	99 SW Quad	101	4	10	10	-	-	-	-	-	1/1 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	772	99 NE Quad	102	2	10	10	-	-	-	-	-	0/<1 ml	-	
	772	99 NW Quad	103	4	5	20	-	-	-	C	<i>Corylus avellana</i> shell frags	<1/<1 ml	-	
	773	104 SE Quad	105	10	5	10	-	-	-	-	-	0/<1 ml	-	
	773	104 SW Quad	106	3	5	10	-	-	-	-	-	<1/<1 ml	-	
	773	104 NE Quad	107	8	15	50	-	-	-	-	-	<1/<1 ml	-	
	773	104 NW Quad	108	10	5	30	-	-	-	-	-	0/<1 ml	-	
	774	109 SE Quad	110	11	30	10	-	-	-	C	<i>Avena/Bromus</i>	<1/2 ml	-	
	774	109 SE Quad	110*	11	10	10	-	-	-	-	-	1/1 ml	-	
	774	109 SW Quad	111	11	25	20	-	-	-	C	<i>Avena/Bromus</i>	3/3 ml	-	
	774	109 NE Quad	112	9	15	5	-	-	-	-	-	1/3 ml	-	
	774	109 NW Quad	113	8	15	10	-	-	-	-	-	<1/<1 ml	-	
	775	114 SE Quad	115	7	50	5	-	-	-	C	<i>Corylus avellana</i> shell frags	3/5 ml	-	
	775	114 SW Quad	116	9	25	10	C	-	Barley grain frags	C	<i>Avena/Bromus</i>	3/5 ml	-	
	775	114 NE Quad	117	10	35	10	-	-	-	C	<i>Galium</i>	5/5ml	-	
	775	114 NW Quad	118	9	40	10	-	-	-	-	-	5/10 ml	-	
777	776	124 Surface clean	125	1.5	20	10	-	-	-	-	twig/stem frags	2/3 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	776	124 SE Quad	126	2.5	80	1	-	-	-	-	-	10/10 ml	-	
	776	124 SW Quad	127	2	10	10	-	-	-	-	-	2/2 ml	-	
	776	124 NW Quad	128	1	5	10	-	-	-	-	twig/stem frags	<1/<1 ml	-	
	776	124 NE Quad	129	5	120	1	-	-	-	C	Tuber frags, twig/stem frags	25/25 ml	-	
784	786	158 Surface clean	159	1.2	40	5	-	-	-	-	-	10/10 ml	-	
	786	158 SE Quad	160	10	250	1	-	-	-	-	-	40/75 ml	-	C
	786	158 SW Quad	161	8	75	1	-	-	-	-	-	20/15 ml	-	
	786	158 NE Quad	162	6	40	1	-	-	-	-	-	10/10 ml	-	
	786	158 NW Quad	163	7	40	1	-	-	-	-	-	10/10 ml	-	
	785	119 SE Quad	120	5	5	20	-	-	-	-	-	<1/1 ml	-	
	785	119 SW Quad	121	3	15	20	-	-	-	-	-	3/3 ml	-	
	785	119 NE Quad	122	6	10	20	-	-	-	-	-	1/1 ml	-	
	785	119 NW Quad	123	5	15	10	-	-	-	-	-	3/3 ml	-	
	788	164 Surface clean	165	4	120	5	-	-	-	C	<i>Avena/Bromus</i>	30/30 ml	-	
		164 W Quad	166	3	60	1	-	-	-	-	-	15/15 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
		164 Centre W Quad	167	4	225	1	-	-	-	-	-	90/70 ml	-	C
		164 Centre E Quad	168	4	150	2	-	-	-	-	-	35/30 ml	-	
		164 E Quad	169	6	225	1	-	-	-	-	-	75/75 ml	-	
789	790	177 Surface clean	178	1.2	10	5	-	-	-	-	-	1/1 ml	-	
	790	177 SE Quad	179	1.5	15	10	-	-	-	-	-	3/2 ml	-	
	790	177 SW Quad	180	1	10	5	-	-	-	-	-	1/1 ml	-	
	790	177 NE Quad	181	4	40	2	-	-	-	C	<i>Panicum, Arrhenatherum</i> tuber	5/10 ml	-	
	790	177 NW Quad	182	3	15	10	-	-	-	-	-	2/3 ml	-	
794	795	183 Surface clean	184	2.5	10	30	-	-	-	-	-	1/1 ml	-	
	795	183 SE Quad	185	2	5	25	-	-	-	-	-	<1/<1 ml	-	
	795	183 SW Quad	186	1.5	10	10	-	-	-	-	-	<1/1 ml	-	
	795	183 NE Quad	187	5	25	2	-	-	-	-	-	4/3 ml	-	
	795	183 NW Quad	188	6	25	2	-	-	-	C	<i>Arrhenatherum</i> tuber	3/3 ml	-	
796	791	170 Far outer W Quad	171	3	5	50	-	-	-	C	<i>Avena/Bromus</i>	>1/>1 ml	-	
	791	170 Outer W Quad	172	10	10	50	C	-	Hulled wheat grain frags	-	-	>1/1 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	791	171 Outer W Quad	172*	3	5	20	-	-	-	C	<i>Avena/Bromus</i>	>1/>1 ml	-	
	791	170 Centre W Quad	173	10	10	50	-	-	-	-	-	1/1 ml	-	
	791	170 Centre E Quad	174	8	10	35	-	-	-	C	<i>Avena/Bromus</i>	>1/>1 ml	-	
	791	170 Outer E Quad	175	8	5	20	-	-	-	C	<i>Avena/Bromus</i>	0/1 ml	-	
	791	170 Far outer E Quad	176	5	10	10	-	-	-	-	-	1/1 ml	-	
	791	170 Crem bone W Side	189	0.1	no flot									
	791	170 Crem bone E Side	190	0.1	no flot									
	800	layer	196	10	40	10	-	-	-	-	-	5/10 ml	-	
	801	197 Surface clean	198	0.2	10	5	-	-	-	-	-	2/1 ml	-	
	801	197 Southern half	199	0.4	10	10	-	-	-	-	-	2/2 ml	-	
	801	197 Northern half	200	0.2	15	2	-	-	-	-	-	3/2 ml	-	
	802	layer	206	0.5	10	10	-	-	-	C	<i>Avena/Bromus</i>	0/<1 ml	burnt siliceous matter	





Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
805	806	207 Surface clean	208	3	250	1	-	-	-	-	-	60/100 ml	-	
	806	207 SE Quad lower	209	3	275	2	-	-	-	-	-	75/100 ml	-	
	806	207 NE Quad lower	210	3	350	1	-	-	-	-	-	100/100 ml	-	
	806	207 SW Quad lower	211	1	250	1	-	-	-	-	-	50/60 ml	-	
	806	207 NW Quad lower	212	1	250	1	-	-	-	C	<i>Corylus avellana</i> shell frag	70/90 ml	-	
	808	207 NE Quad upper	213	1	110	1	-	-	-	-	-	40/20 ml	-	
	808	207 SW Quad upper	214	1	140	1	-	-	-	-	-	35/50 ml	-	
	808	207 NW Quad upper	215	1	250	1	-	-	-	-	-	90/80 ml	-	C
816	818		222	2	25	5	-	-	-	-	-	3/5 ml	-	
825	826	226 Surface clean	227	2	15	25	-	-	-	-	-	2/2 ml	-	
	826	226 SE Quad Spit 1	228	3	60	1	-	-	-	-	twig/stem frags	10/10 ml	-	
	826	226 SE Quad Spit 2	255	2	60	2	-	-	-	-	stem frags	10/10 ml	-	
	826	226 SW Quad Spit 1	256	3	40	10	-	-	-	-	-	10/5 ml	-	
	826	226 SW Quad Spit 2	257	3	50	2	-	-	-	-	stem frags	5/10 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	826	226 SW Quad Spit 3	258	2.5	50	2	-	-	-	-	stem frags	10/5 ml	-	
	826	226 NW Quad Spit 1	259	3	110	2	-	-	-	-	-	15/20 ml	-	
	826	226 NW Quad Spit 2	260	3	135	2	-	-	-	-	stem frags	20/35 ml	-	C
	826	226 NW Quad Spit 3	261	2	100	2	-	-	-	-	stem frags	25/20 ml	-	
	826	226 NE Quad Spit 1	262	3	100	2	-	-	-	-	stem frags	35/20 ml	-	
	826	226 NE Quad Spit 2	263	2	150	2	-	-	-	-	stem frags	35/30 ml	-	
	826	226 NE Quad Spit 3	264	2.4	60	2	-	-	-	-	stem frags	7/10 ml	-	
830	837	230 Surface clean	231	0.8	5	10	-	-	-	-	-	<1/<1 ml		
	837	230 SE Quad	232	3.2	60	10	-	-	-	-	stem frags	10/10 ml	-	
	837	230 SW Quad	233	2	40	10	-	-	-	-	twig/stem frags	7/8 ml	-	
	837	230 NE Quad	234	2	40	10	-	-	-	-	twig/stem frags	5/5 ml	-	
	837	230 NW Quad	235	2.1	25	20	-	-	-	C	Tuber frags, twig/stem frags	3/5 ml	-	
838	839	247 Surface clean	248	5	100	2	-	-	-	-	-	30/20 ml	-	
	839	247 SE Quad	249	5	50	2	-	-	-	-	-	10/15 ml	-	
	839	247 SW Quad	250	9	250	2	-	-	-	-	-	45/70 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	839	247 NE Quad Spit 1	251	6	500	2	-	-	-	-	-	130/120 ml	-	C
	839	248 NW Quad Spit 1	252*	10	150	2	-	-	-	-	-	25/65 ml	-	
	839	247 NE Quad Spit 2	253	7	500	2	-	-	-	-	-	130/115 ml	-	
	839	247 NW Quad Spit 2	254	12	350	2	-	-	-	-	-	50/90 ml	-	
847	848	269 Surface clean	270	9	850	1	-	-	-	C	Tuber frags	300/300 ml	-	
	848	269 SE Quad	271	0.5	130	1	-	-	-	C	Tuber frags, stem frags	30/40 ml	-	
	848	269 SW Quad	272	0.4	190	1	-	-	-	-	-	60/60 ml	-	
	848	269 NW Quad	273	0.4	200	1	-	-	-	-	-	80/70 ml	-	
	848	269 NE Quad	274	1	180	1	-	-	-	-	-	60/60 ml	-	
	851	276 Surface clean	277	10	60	2	-	-	-	-	twig/stem frags	10/12 ml	-	
	851	276 SE Quad	278	1	10	2	-	-	-	-	-	2/2 ml	-	
	851	276 SW Quad	279	2	15	5	-	-	-	-	-	2/3 ml	-	
	851	276 NW Quad	280	3	60	5	-	-	-	-	-	10/12 ml	-	
	851	276 NE Quad	281	3	45	2	-	-	-	-	-	10/10 ml	-	
868	869	283 Surface clean	284	1	15	10	-	-	-	-	-	1/1 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	869	283 SE Quad	285	4	100	2	-	-	-	-	-	20/15 ml	-	
	869	283 SW Quad	286	4.5	60	2	-	-	-	C	<i>Arrhenatherum</i> tuber, stem frags	5/15 ml	-	
	869	283 SW Quad	286*	0.25	10	5	-	-	-	-	stem frags	1/1 ml		
	869	283 NE Quad	287	6.5	90	2	-	-	-	-	stem frags	5/15 ml	-	
	869	283 NW Quad	288	5	60	2	-	-	-	-	stem frags	10/12 ml	-	
	901	311 SE Quad	312	5	100	2	-	-	-	-	-	15/25 ml	-	
	901	311 SW Quad	313	5	100	2	-	-	-	-	stem frags	20/25 ml	-	
	901	311 NE Quad	314	5	40	5	-	-	-	-	stem frags	10/10 ml	-	
	901	311 NW Quad	315	5	50	5	-	-	-	C	<i>Prunus spinosa</i>	10/10 ml	-	
903	904	309 S. Half	310	20	1600	1	C	-	Hulled wheat grain frags	C	<i>Avena/Bromus</i>	600/350	-	C
	904	309 N. Half	316	20	625	1	-	-	-	-	-	250/150 ml	-	
931	929	359 Surface clean	348	9	60	5	-	-	-	C	<i>Corylus avellana</i> shell frags, stem frags	10/15 ml	-	
	929	359 SE Quad	355	5	40	10	-	-	-	-	stem frags	7/5 ml	-	
	929	359 SW Quad	356	3	60	5	-	-	-	-	stem frags	15/15 ml	-	
	929	359 NW Quad	357	6	90	5	-	-	-	-	stem frags	10/20 ml	-	
	929	359 NE Quad	358	6	90	5	-	-	-	-	stem frags	10/15 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	932	360 Surface clean	361	2	10	10	-	-	-	-	-	1/2 ml	-	
	932	360 SE Quad	362	7	30	2	C	-	Barley grain frags	-	stem frags	5/5 ml	-	
	932	360 SW Quad	363	9	130	1	-	-	-	-	-	20/30 ml	-	
	932	360 NW Quad	364	5	40	5	-	-	-	-	-	7/7 ml	-	
	932	360 NE Quad	365	5	30	2	-	-	-	-	stem frags	5/5 ml	-	
957	958	395, SE Quad	396	1	125	1	-	-	-	-	-	0/1 ml	-	
	958	395, SW Quad	397	1	225	1	-	-	-	-	-	0/1 ml	-	
	958	395, NW Quad	398	1	110	1	-	-	-	-	-	0/1 ml	-	
	958	395, NE Quad	399	1	140	1	-	-	-	-	-	0/1 ml	-	
	988	layer	407	40	60	2	-	-	-	-	-	10/15 ml	-	
1058	1059	413, cleaning	414	2.5	175	1	-	-	-	-	stem frags	50/40 ml	-	
	1059	413, SE Quad	415	5	60	2	-	-	-	-	-	15/10 ml	-	
	1059	413, SW Quad	416	5	250	1	-	-	-	-	-	50/50 ml	-	
	1059	413, NE Quad	417	9	500	1	-	-	-	-	stem frags	100/100 ml	-	
	1059	413, NW Quad	418	5	40	2	-	-	-	-	-	5/7 ml	-	
1060	1061	408, SE Quad	409	2	15	2	-	-	-	-	-	2/2 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	1061	408, SW Quad	410	5	225	1	-	-	-	-	-	45/65 ml	-	
	1061	408, NW Quad	411	5	40	2	-	-	-	-	-	5/10 ml	-	
	1061	408, NE Quad	412	5	25	2	-	-	-	-	-	2/2 ml	-	
	1064	421, SE Quad	422	4	15	5	-	-	-	-	stem frags	4/32 ml	-	
	1064	421, SW Quad	423	2	10	10	-	-	-	-	stem frags	2/2 ml	-	
	1064	421, NE Quad	424	4	10	5	-	-	-	-	stem frags	2/1 ml	-	
	1064	421, NW Quad	425	7	15	5	-	-	-	-	<i>Vicia/Lathyrus</i> , Stem frags	3/3 ml	-	
	1065	426, SW Quad	427	5	10	5	-	-	-	-	stem frags	2/1 ml	-	
	1065	426, SE Quad	428	3	5	10	-	-	-	-	stem frags	1/1 ml	-	
	1065	426, NE Quad	429	6	15	10	-	-	-	-	stem frags	2/2 ml	-	
	1065	426, NW Quad	430	8	10	10	-	-	-	C	<i>Avena/Bromus</i> , Stem frags	1/2 ml	-	
	1066	431, SE Quad	432	5	10	10	-	-	-	-	-	1/2 ml	-	
	1066	431, SW Quad	433	6	15	10	-	-	-	C	<i>Corylus avellana</i> shell frags	3/3 ml	-	
	1066	431, NE Quad	434	5	10	10	-	-	-	C	<i>Corylus avellana</i> shell frag, stem frags	1/2 ml	-	
	1066	431, NW Quad	435	6	10	10	-	-	-	-	-	2/2 ml	-	
Boundary Ditch														



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
1090	1091		452	20	40	10	-	-	-	C	<i>Avena/Bromus, Corylus avellana</i> shell frag	7/8 ml	-	
Enclosure Ditches														
610	611	Group 641	352	5	10	5	-	-	-	-	-	1/1 ml	-	
616	617	Group 642	353	5	10	5	-	-	-	-	-	1/1 ml	-	
626	627	Group 643	354	6	10	10	-	-	-	-	-	1/1 ml	-	
Ditches														
766	767	Group 1112	458	0.2	30	70	-	-	-	-	-	-	-	
809	810		217	0.25	no flot									
813	814		220	0.25	no flot									
821	822		224	0.5	no flot									
Pit														
873	874		290	3.5	225	1	C	-	Hulled wheat grain frags	C	<i>Avena/Bromus</i>	90/80 ml	-	
875	876		289	0.5	15	2	-	-	-	-	-	2/2 ml	-	
?Pre-Saxon														
Layer														
527	529		6	12	925	1	C	-	Hulled wheat grain frags	A	<i>Avena/Bromus, Vicia/Lathyrus</i>	275/200 ml	-	
Pit														
553	554		4	5	40	5	B	C	Hulled wheat + barley grain frags, glume base frags inc. ?emmer	C	<i>Avena/Bromus, Corylus avellana</i> shell frags	10/8 ml	-	
Saxon														
Pits														



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
711	712	SW Quad	8	4	400	1	A*	-	Hulled wheat, naked wheat + barley grain frags	C	<i>Avena/Bromus, Fallopi</i>	120/75 ml	-	
	712	SE Quad	8	2	350	1	A*	-	Hulled wheat, naked wheat, barley + ?rye grain frags	B	<i>Avena/Bromus, Rumex</i>	90/70 ml	-	
	712	NW Quad	8	1.5	325	1	A	-	naked wheat + barley grain frags	B	<i>Avena/Bromus, Rumex, Fallopi</i>	100/60 ml	-	
	712	NE Quad	8	0.8	60	1	A	-	naked wheat, barley + ?rye grain frags	B	<i>Avena/Bromus, Rumex, Fallopi</i>	30/10 ml	-	
	713	NW Quad	9	6	750	1	A*	-	naked wheat, barley + ?rye grain frags	B	<i>Avena/Bromus</i>	300/100 ml	-	
	713	NE Quad	9	2	925	1	A	-	naked wheat, barley + ?rye grain frags	C	<i>Avena/Bromus</i>	425/110 ml	-	
	713	SE Quad	9	2	1200	1	A	-	naked wheat, barley + ?rye grain frags	C	<i>Avena/Bromus</i>	500/150 ml	-	
	713	SW Quad	9	1.7	750	1	A	-	naked wheat, barley + ?rye grain frags	C	<i>Avena/Bromus</i>	350/100 ml	-	
565	564		5	20	225	3	A**	-	naked wheat + barley grain frags	A***	<i>Avena/Bromus, Corylus avellana</i> shell frags, <i>Vicia/Lathyrus, Persicaria, Rumex, Fallopi, Chenopodium</i>	20/50 ml	-	P
?Saxon or later														
Possible cremation-related deposits														
714	715	11.1	11	3	200	1	A	-	naked wheat, barley, ?hulled wheat + ?rye	A*	<i>Avena/Bromus, Vicia/Lathyrus, Fallopi, Persicaria, Rumex</i>	25/20 ml	-	





Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
									grain frags					
	715	11.2	11	6	425	1	A**	-	naked wheat, barley, + ?rye grain frags	A**	<i>Avena/Bromus, Vicia/Lathyrus, Raphanus, Persicaria, Rumex, Chenopodium, Corylus avellana</i> shell	30/60 ml	-	
	715	11.3	11	5	225	1	A*	-	naked wheat, barley, + ?rye grain frags	A*	<i>Avena/Bromus, Vicia/Lathyrus, Raphanus, Persicaria, ?Linum, Corylus avellana</i> shell	20/50 ml	-	
	715	11.4	11	5	375	1	A**	-	naked wheat, barley, + ?rye grain frags	A**	<i>Avena/Bromus, Vicia/Lathyrus, Lolium/Festuca, Persicaria, Chenopodium, Corylus avellana</i> shell	50/90 ml	-	
	715	11.5	11	10	625	1	A**	-	naked wheat, barley, ?hulled wheat + ?rye grain frags	A**	<i>Avena/Bromus, Vicia/Lathyrus, Raphanus, Persicaria, Chenopodium, Corylus avellana</i> shell	70/120 ml	-	
	715	11.6	11	8	850	1	A**	-	naked wheat, barley, ?hulled wheat + ?rye grain frags	A**	<i>Avena/Bromus, Vicia/Lathyrus, Raphanus, Rumex, Fallopia, Persicaria, Chenopodium, Corylus avellana</i> shell	250/120 ml	-	
	778	149 SE Quad Spit 1	150	7	20	15	-	-	-	C	<i>Avena/Bromus, Corylus avellana</i> shell	1/2 ml	-	
	778	149 SW Quad Spit 1	151	6	30	10	-	-	-	C	<i>Vicia/Lathyrus, Corylus avellana</i> shell, twig/stem	3/3 ml	-	
	778	149 NE Quad Spit 1	152	9	30	15	-	-	-	C	<i>Vicia/Lathyrus</i>	5/5 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	778	149 NW Quad Spit 1	153	9	25	15	C	-	?Rye grain	C	<i>Avena/Bromus, Vicia/Lathyrus</i> , twig/stem frags	3/5 ml	-	
	778	149 SE Quad Spit 2	154	5	10	10	C	-	Indet. grain frags	C	<i>Avena/Bromus</i>	1/1 ml	-	
	778	149 SW Quad Spit 2	155	6	25	15	-	-	-	-	-	2/2 ml	-	
	778	149 NE Quad Spit 2	156	8	20	10	C	-	?Rye grain	C	<i>Avena/Bromus</i>	2/4 ml	-	
	778	149 NW Quad Spit 2	157	8	30	10	-	-	-	B	Acorn, <i>Avena/Bromus, Brassica</i>	7/5 ml	-	
	923	334 SE Quad Spit 1	335	9	25	25	-	-	-	C	<i>Avena/Bromus</i> , stem frags	2/3 ml	-	
	923	334 SE Quad Spit 2	336	9	25	5	-	-	-	-	stem frags	3/3 ml	-	
	923	334 SW Quad Spit 1	337	10	15	25	-	-	-	-	stem frags	1/2 ml	-	
	923	334 SW Quad Spit 2	338	9	40	10	C	-	?Rye grain frag	C	<i>Avena/Bromus</i>	3/5 ml	-	
	923	334 NW Quad Spit 1	339	10	30	30	-	-	-	C	<i>Vicia/Lathyrus, Avena/Bromus</i>	3/5 ml	-	
	923	334 NW Quad Spit 2	340	10	10	35	-	-	-	-	-	1/2 ml	-	
	923	334 NE Quad Spit 1	341	10	30	15	-	-	-	C	<i>Avena/Bromus</i>	3/4 ml	-	
	923	334 NE Quad Spit 2	342	10	20	10	-	-	-	C	<i>Avena/Bromus</i>	2/2 ml	-	
Possible Graves														
734	735		17	18	80	35	C	-	?Rye grains	B	<i>Avena/Bromus, Rumex</i>	20/20 ml	-	



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
852	853	294 base of fill	296	0.6	3	25	-	-	-	-	-	0/<1 ml	-	
	853	294 base of fill	297	0.7	3	10	-	-	-	-	-	0/1 ml	-	
		294 from surrounding nat	298	0.5	2	25	-	-	-	-	-	0/<1 ml	-	
		295 from surrounding nat	299	0.7	2	20	-	-	-	-	-	0/<1 ml	-	
860	861	294 base of fill	295	0.5	5	20	-	-	-	-	-	0/1 ml	-	
892	893	303	307	9	30	15	-	-	-	-	-	5/3 ml	-	
914	915	344	350	10	15	5	-	-	-	C	<i>Corylus avellana</i> shell frags	2/3 ml		
944	945	369	370	9	5	10	C	-	naked wheat grain frag	C	<i>Avena/Bromus</i> , <i>Corylus avellana</i> shell frag	1/1 ml	-	
946	947	375	376	20	60	5	-	-	-	C	<i>Corylus avellana</i> shell frag, stem frags	20/10 ml	-	
953	954	381	382	15	40	20	-	-	-	C	<i>Avena/Bromus</i>	5/5 ml	-	
955	956	389	390	10	15	10	C	-	?Rye grain frag	C	<i>Avena/Bromus</i>	1/1 ml	-	
Drip gully group 638														
530	531		3	29	250	1	-	-	-	A	<i>Avena/Bromus</i> , <i>Vicia/Lathyrus</i> , <i>Chenopodium</i>	80/50 ml	-	
532	533		2	20	900	1	B	-	Barley + ?rye grain frags	A	<i>Avena/Bromus</i> , <i>Corylus avellana</i> shell frags, <i>Vicia/Lathyrus</i>	450/200 ml	-	
Layer														



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
	926		349	9	375	1	A	A	Barley + naked wheat grain frags, oat floret forks	A***	<i>Avena/Bromus</i> (A***), <i>Lolium/Festuca</i> , <i>Vicia/Lathyrus</i> , <i>Fallopia</i> , <i>Rumex</i> , <i>Raphanus</i> , <i>Corylus avellana</i> shell frags	125/40 ml	-	P, C
Pits														
536	537		1	10	500	1	A	-	Barley + ?rye grain frags	A**	<i>Avena/Bromus</i> , <i>Corylus avellana</i> shell frags, <i>Vicia/Lathyrus</i> , <i>Persicaria</i> , <i>Rumex</i> , <i>Chenopodium</i> , <i>Crepis</i> , <i>Tripleurospermum</i>	225/100 ml	-	P, C
727	730		14	13	60	10	C	-	?Rye grains	A	<i>Avena/Bromus</i> , <i>Rumex</i>	7/10 ml	-	
803	804	201 Surface clean	202	12	250	3	C	-	naked wheat + barley grain frags	A	<i>Avena/Bromus</i> , <i>Rumex</i>	35/100 ml		
	804	201 Sample	203	15	500	1	C	C	?naked wheat grain frags, ?rye rachis frags	C	<i>Avena/Bromus</i>	50/100 ml	-	
927	928		343	20	60	5	C	-	Barley + ?rye grain frags	B	<i>Avena/Bromus</i> , <i>Prunus spinosa</i> stone frag, <i>Corylus avellana</i> shell frags	10/10 ml	-	
986	987		406	20	150	2	A*	-	naked wheat + barley grain frags	A***	<i>Avena/Bromus</i> , <i>Fallopia</i> , <i>Raphanus</i> , <i>Lolium/Festuca</i> , <i>Persicaria</i> , <i>Corylus avellana</i> shell frags	25/25 ml	-	P
Undated														
Possible Graves														
1067	1068		436	9	15	15	-	-	-	C	<i>Avena/Bromus</i>	2/2 ml	-	
Fire pit														
1014	1015		400	20	1850	1	-	-	-	-	-	625/450 ml	-	
Gully														



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
827	828		229	8	25	10	C	-	?naked wheat frag	-	-	1/3 ml	-	
Hollow														
824	820		223	4	60	1	-	-	-	-	-	10/10 ml	-	
1036	1037		441	20	1800	1	-	-	-	-	-	700/475 ml	-	
Layers														
	807		216	5	110	1	-	-	-	-	-	1/1 ml	-	
	811		218	1.5	150	1	-	-	-	-	-	0/1 ml	-	
	812		219	2.5	10	10	-	-	-	C	<i>Avena/Bromus</i> , twigs/stems	<1/<1 ml	-	
	817		221	1	110	1	-	-	-	-	-	20/25 ml	-	
	823		225	6	200	1	-	-	-	-	-	25/70 ml	-	
	845		267	8	350	2	-	-	-	C	<i>Plantago</i>	35/35 ml	-	
	846		268	2	190	2	-	-	-	C	?Tuber frags, stem frags	20/70 ml	-	
Pits														
722	723		15	9	250	1	-	-	-	-	-	60/80 ml	-	
894	895	300 S Quad	301	10	1000	1	-	-	-	-	-	425/200	-	
	895	300 N Quad	302	10	1075	1	-	-	-	-	-	425/200	-	
942	943		368	10	15	20	-	-	-	-	-	2/1 ml	-	
969	970		402	20	175	1	-	-	-	-	-	10/15 ml	-	
975	976		404	17	650	1	-	-	-	-	-	325/125 ml	-	
984	985		405	20	2050	1	-	-	-	-	-	850/475 ml	-	
1016	1017		401	9	475	1	-	-	-	-	-	150/100 ml	-	
1033	1032		403	10	80	5	-	-	-	-	-	20/20 ml	-	
1062	1063		420	20	100	2	-	-	-	-	-	15/20 ml	-	
Scoop														



Feature	Context	Series	Sample	Vol (L)	Flot size (ML)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other	Analysis
921	922		333	2	135	1	-	-	-	-	-	15/20 ml	-	
Tree-throw														
1060	1061		419	16	350	1	-	-	-	-	-	40/60 ml	-	
Posthole group 644														
612	613		293	19	20	5	-	-	-	C	<i>Corylus avellana</i> shell frags	1/2 ml	-	



### Appendix 3: Phosphate analysis tables

#### Results of the XRF analysis of major elements (wt%)

Sample	Description	Na <sub>2</sub> O	MgO	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	TiO <sub>2</sub>	MnO	Fe <sub>2</sub> O <sub>3</sub>
345A	East	0.48	1.78	12.19	69.79	0.77	2.71	0.23	0.6	0.07	3.24
345B		0.48	1.76	11.87	68.41	0.68	2.73	0.24	0.58	0.07	3.15
346A	Centre	0.5	1.75	12.35	70.31	0.65	2.79	0.08	0.58	0.05	3.23
346B		0.47	1.86	12.88	67.59	0.56	2.91	0.1	0.64	0.05	3.1
347A	West	0.49	1.93	12.47	66.81	0.5	2.91	0.14	0.63	0.05	3.27
347B		0.43	2	12.6	68.01	0.51	2.85	0.1	0.59	0.05	3.5
351A	Natural	0.34	2.47	15.74	64.68	0.13	3.46	0.08	0.64	0.05	4.46
351B		0.34	2.45	15.88	64.3	0.1	3.52	0.09	0.66	0.05	4.49
377A	Natural	0.46	1.76	11.38	65.21	0.57	2.44	0.06	0.5	0.07	3.19
377B		0.42	1.74	10.76	65.12	0.55	2.32	0.07	0.47	0.08	3.46
378A	Centre	0.38	1.14	8.92	74.89	0.65	1.97	0.16	0.43	0.15	2.79
378B		0.41	1.21	9.56	71.1	0.81	2.11	0.23	0.46	0.14	2.53
379A	West	0.48	1.97	12.34	67.45	0.5	2.76	0.15	0.61	0.14	3.44
379B		0.47	2.1	12.61	67.34	0.42	2.84	0.14	0.61	0.15	3.6
380A	East	0.47	1.51	10.43	73.94	0.48	2.37	0.15	0.52	0.15	2.8
380B		0.45	1.55	9.98	73.9	0.42	2.28	0.12	0.49	0.13	2.83



**Results of the XRF analysis of major elements (ppm, mg/kg)**

Sample	Description	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe
345A	East	3562	2895	64485	328013	3361	22496	1645	3597	539	22677
345B		3562	2895	62792	321527	2968	22662	1716	3477	539	22047
346A	Centre	3710	3016	65332	330457	2837	23160	572	3477	385	22607
346B		3487	2835	68135	317673	2444	24156	715	3837	385	21697
347A	West	3636	2955	65966	314007	2183	24156	1001	3777	385	22887
347B		3191	2593	66654	319647	2226	23658	715	3537	385	24497
351A	Natural	2523	2051	83265	303996	567	28721	572	3837	385	31216
351B		2523	2051	84005	302210	437	29220	644	3957	385	31426
377A	Natural	3413	2774	60200	306487	2488	20254	429	2998	539	22327
377B		3116	2533	56920	306064	2401	19258	501	2818	616	24217
378A	Centre	2820	2292	47187	351983	2837	16353	1144	2578	1155	19527
378B		3042	2473	50572	334170	3536	17515	1645	2758	1078	17707
379A	West	3562	2895	65279	317015	2183	22911	1073	3657	1078	24077
379B		3487	2835	66707	316498	1833	23575	1001	3657	1155	25196
380A	East	3487	2835	55175	347518	2095	19673	1073	3117	1155	19597
380B		3339	2714	52794	347330	1833	18926	858	2938	1001	19807





**Results of the XRF analysis of trace elements (ppm, mg/kg)**

Sample	Description	V	Cr	Co	Ni	Cu	Zn	Rb	Sr	Y	Zr	Pb
345A	East	58	53	8	11	15	44	86	56	15	232	41
345B		57	54	7	12	15	43	80	59	13	198	42
346A	Centre	58	66	7	15	13	44	96	58	16	210	32
346B		62	62	6	13	16	45	90	56	14	224	31
347A	West	61	66	8	14	15	47	86	55	15	210	33
347B		62	53	8	13	14	47	91	57	15	213	33
351A	Natural	80	70	10	19	21	52	102	59	14	180	32
351B		80	73	10	20	18	52	109	66	16	202	32
377A	Natural	50	71	8	11	13	39	67	49	11	300	25
377B		50	64	7	12	11	39	64	46	12	271	27
378A	Centre	43	45	8	7	17	38	73	47	20	250	22
378B		46	44	8	6	16	36	69	46	18	262	23
379A	West	57	76	11	13	17	47	80	49	16	249	29
379B		62	68	11	16	17	49	79	50	16	244	29
380A	East	47	52	9	10	16	42	72	48	12	225	31
380B		48	53	10	11	15	42	76	48	14	235	28



## Appendix 4: OASIS form

OASIS ID: wessexar1-217034

### Project details

Project name	A556 Knutsford to Bowdon Improvement, Cheshire
Short description of the project	<p>Wessex Archaeology carried out a strip, map and sample exercise on 9ha of land on the course of the proposed A556 Knutsford to Bowdon relief road. The strip, map and sample area was bounded to the north by Bucklow Hill Lane and to the south by the A50. The most significant set of remains focussed on a 22m-diameter penannular ring ditch with associated deposits of cremated human bone. A group of 12 undated probable inhumation graves was focussed on the ring ditch. A second set of cremation-related deposits was located 90m to the east, but lacked any surviving earthwork. Radiocarbon dates indicate the ring ditch dates to the late Early Bronze Age, with both of the groups of cremation-related deposits being a little later: Early-Middle Bronze Age. An early medieval date for several features is suggested by the types of cereal present found within their fills. In two instances, this has been confirmed by radiocarbon assay, which reveals pits were dug on the Site in the 6th and 7th centuries cal. AD. One of the confirmed and several of the potential early medieval features focus on the ring ditch, including a pit containing evidence of ironsmithing. Away from the ring ditch, remains of a rudimentary circular structure with a central fire pit may also belong to the early medieval period. Numerous 'potboiler' pits were recorded, although most were artefactually sterile and remain undated. A later field system was found to correspond with features shown on the 1848 tithe map.</p>
Project dates	Start: 24-11-2014 End: 12-06-2015
Previous/future work	Yes / No
Any associated project reference codes	85631 - Contracting Unit No.
Type of project	Recording project
Site status	None
Site status	None
Site status	None



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Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	PIT Uncertain
Monument type	RING DITCH Early Bronze Age
Monument type	CREMATION CEMETERY Middle Bronze Age
Monument type	DITCH Late Prehistoric
Monument type	DITCH Post Medieval
Monument type	DITCH Uncertain
Monument type	PIT Late Prehistoric
Monument type	PIT Early Medieval
Significant Finds	POT Late Prehistoric
Significant Finds	LITHIC IMPLEMENT Late Prehistoric
Significant Finds	CREMATION Middle Bronze Age
Investigation type	"Open-area excavation"
Prompt	Planning condition

---



### Project location

Country	England
Site location	CHESHIRE MACCLESFIELD ROSTHERNE A556 Knutsford to Bowdon Improvement, Cheshire
Postcode	WA16 6LQ
Study area	9 Hectares
Site coordinates	SJ 74931 85036 53.36133752173 -2.376738409542 53 21 40 N 002 22 36 W Line
Site coordinates	SJ 72281 79486 53.31131361095 -2.416075823403 53 18 40 N 002 24 57 W Line
Height OD / Depth	Min: 62m Max: 70m

### Project creators

Name of Organisation	Wessex Archaeology
Project brief originator	with advice from County Archaeologist
Project design originator	Wessex Archaeology
Project director/manager	Chris Swales
Project supervisor	Patrick Daniel
Type of sponsor/funding body	Highways Agency

### Project archives



Physical Archive recipient	West Park Museum, Macclesfield
Physical Contents	"Worked stone/lithics", "Ceramics", "Human Bones"
Digital Archive recipient	West Park Museum, Macclesfield
Digital Contents	"Stratigraphic", "Survey"
Digital Media available	"Images raster / digital photography", "Spreadsheets", "Survey", "Text"
Paper Archive recipient	West Park Museum, Macclesfield
Paper Media available	"Context sheet", "Diary", "Plan", "Report", "Section"

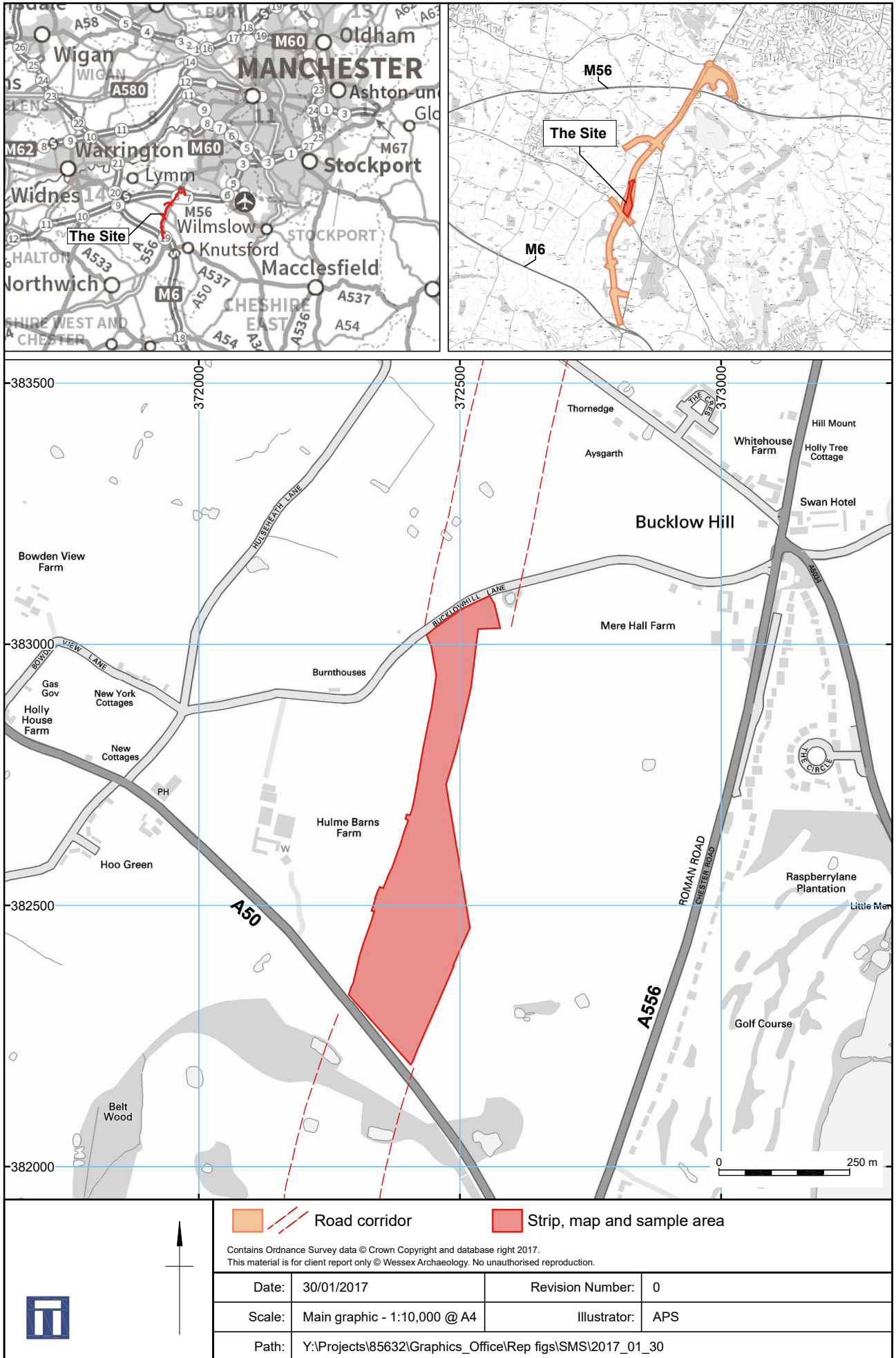
#### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	A556 Knutsford to Bowdon Improvement, Cheshire. Archaeological Strip, Map and Excavation: Post-excavation Assessment
Author(s)/Editor(s)	Daniel, P.
Other bibliographic details	85632
Date	2016
Issuer or publisher	Wessex Archaeology
Place of issue or publication	Sheffield
Description	A4 spiral bound report, c.150 pages, with colour plates and figures.



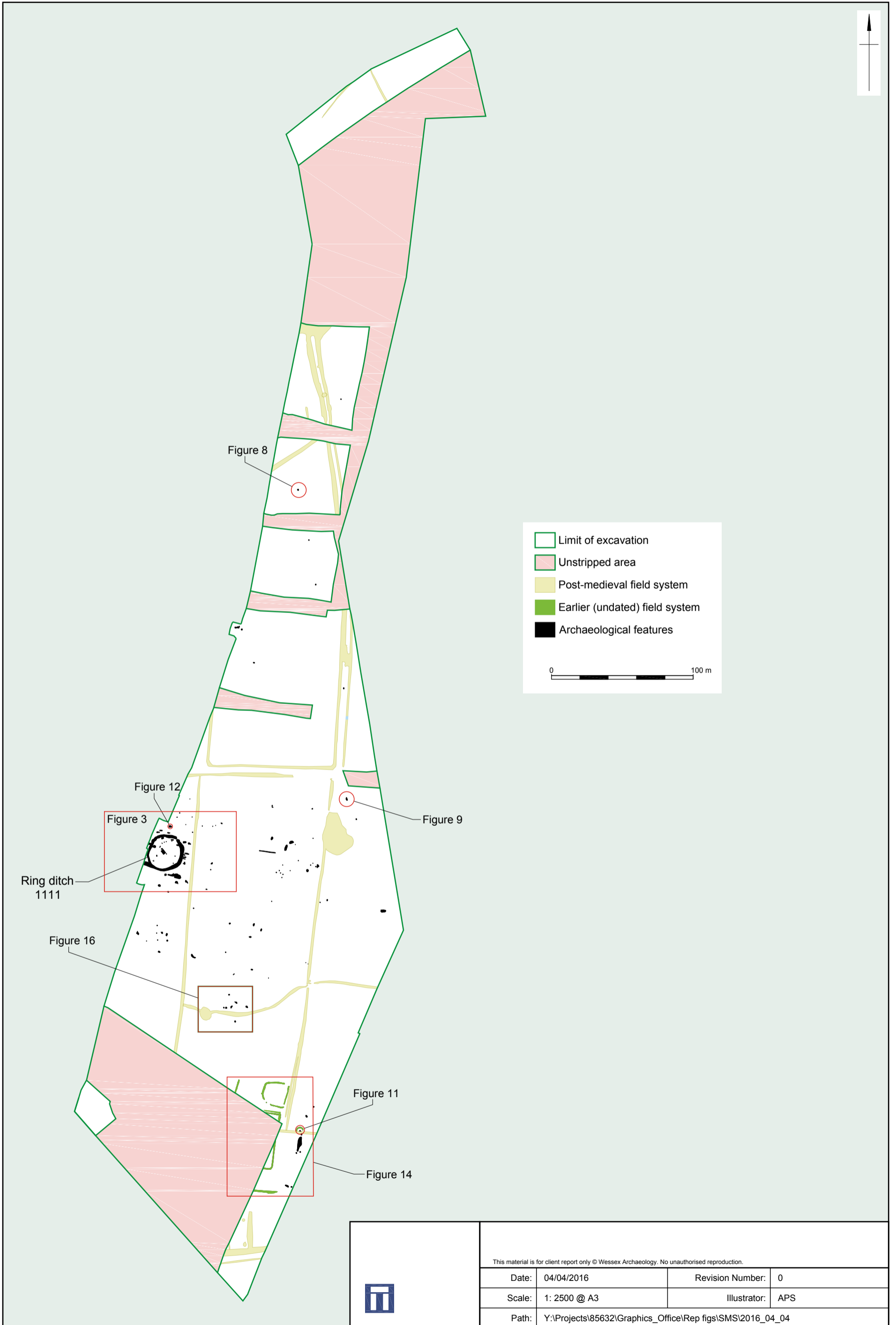
Entered by Patrick Daniel (p.daniel@wessexarch.co.uk)

Entered on 6 April 2016



Site location

Figure 1



Legend:

- Limit of excavation
- Unstripped area
- Post-medieval field system
- Earlier (undated) field system
- Archaeological features

0 100 m

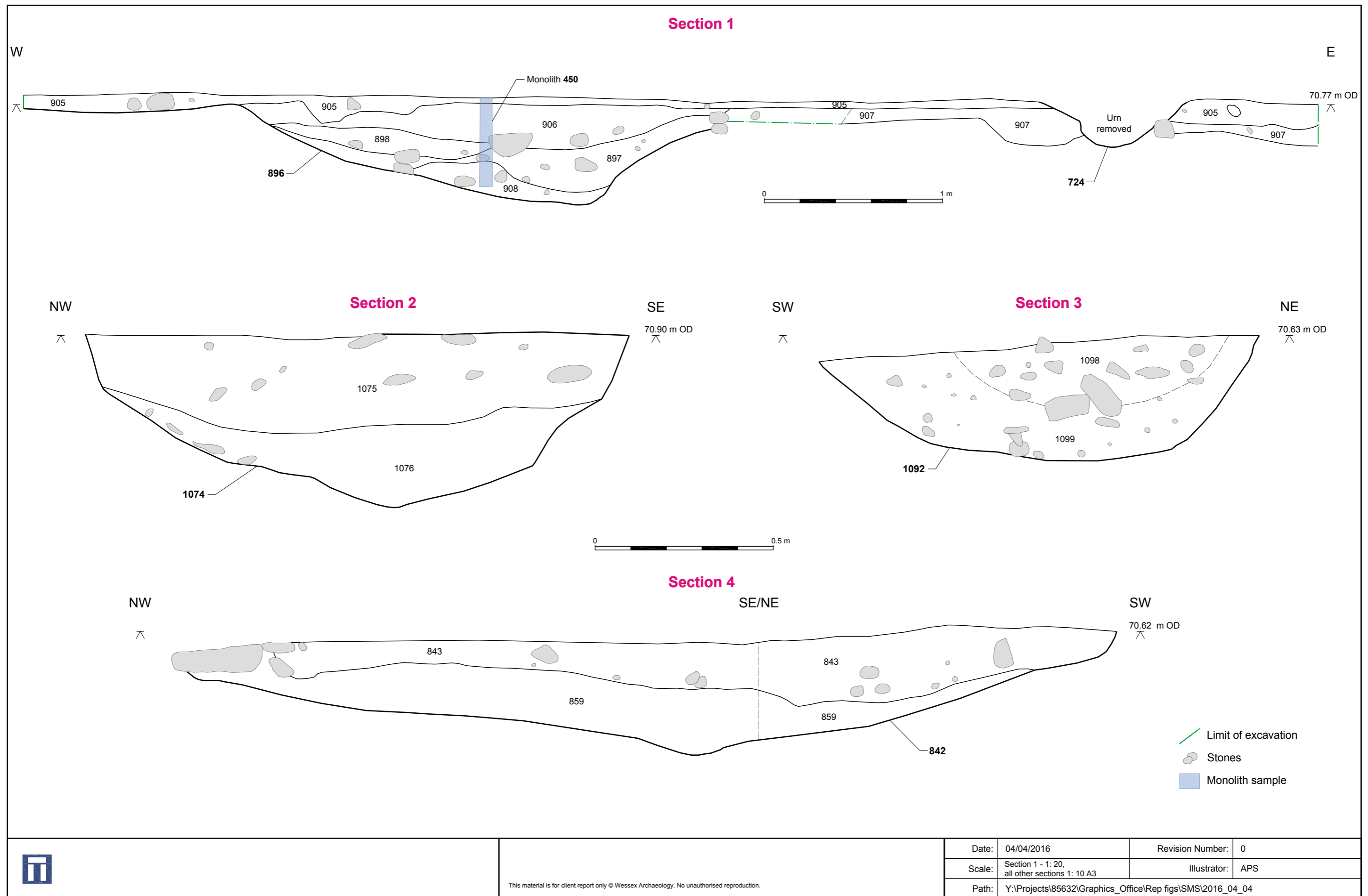
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	Date:	04/04/2016	Revision Number:	0
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Plan of excavated remains

Figure 2





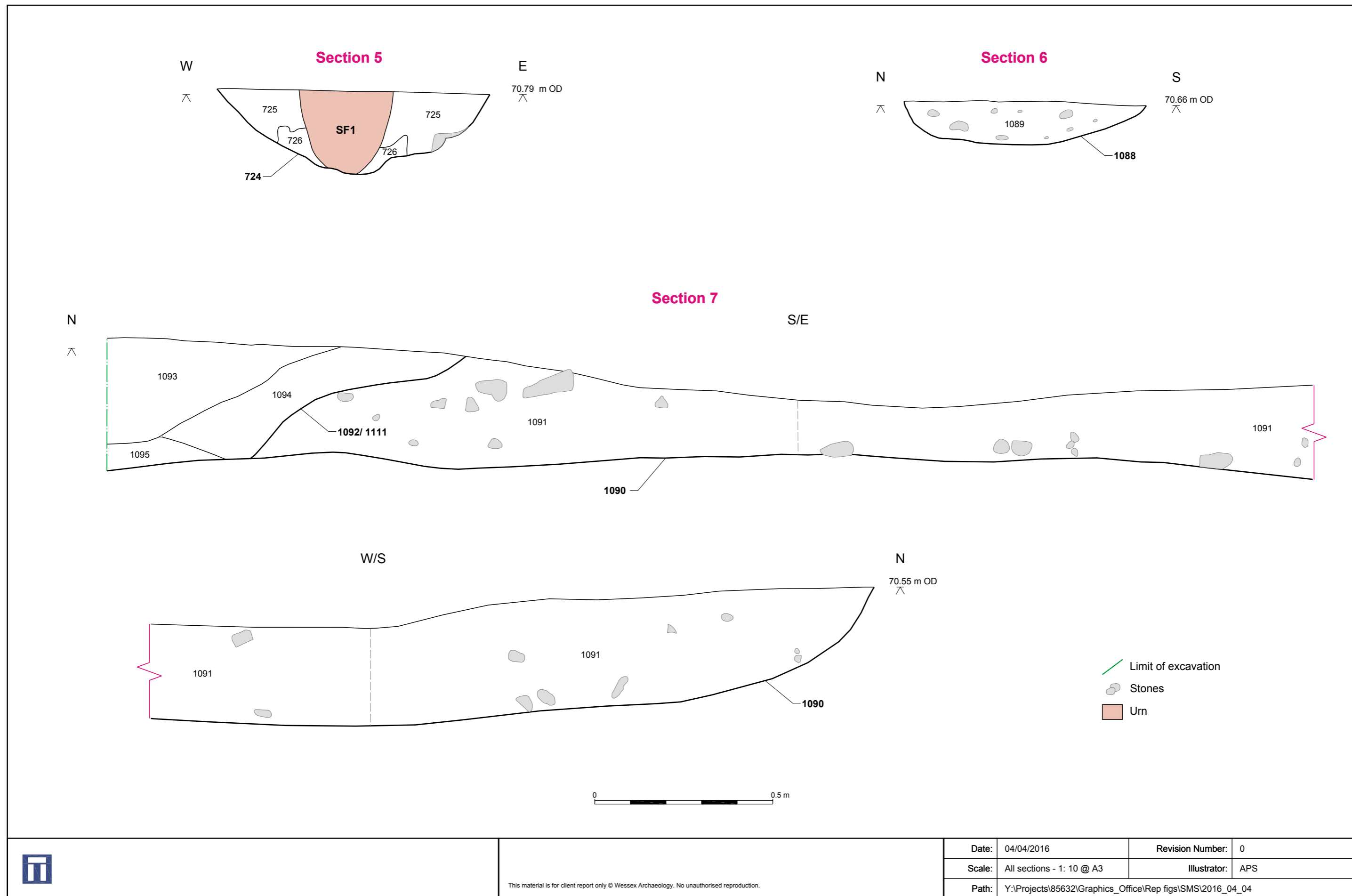


Sections across ring ditch 1111 and associated features: Sections 1 - 4

Figure 4



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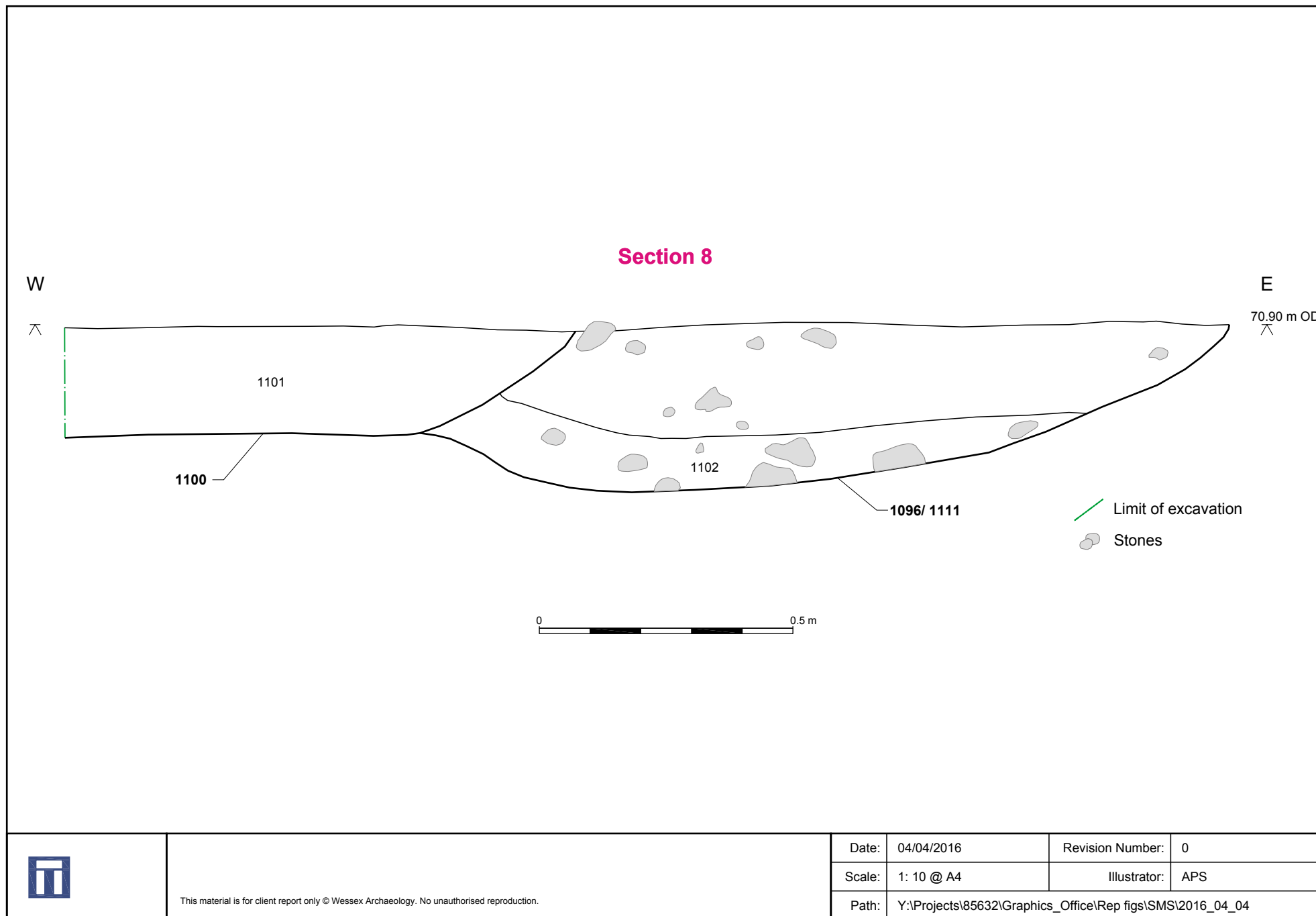


Sections across ring ditch 1111 and associated features: Sections 5 - 7

Figure 5



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Sections across ring ditch 1111 and associated features: Section 8

Figure 6



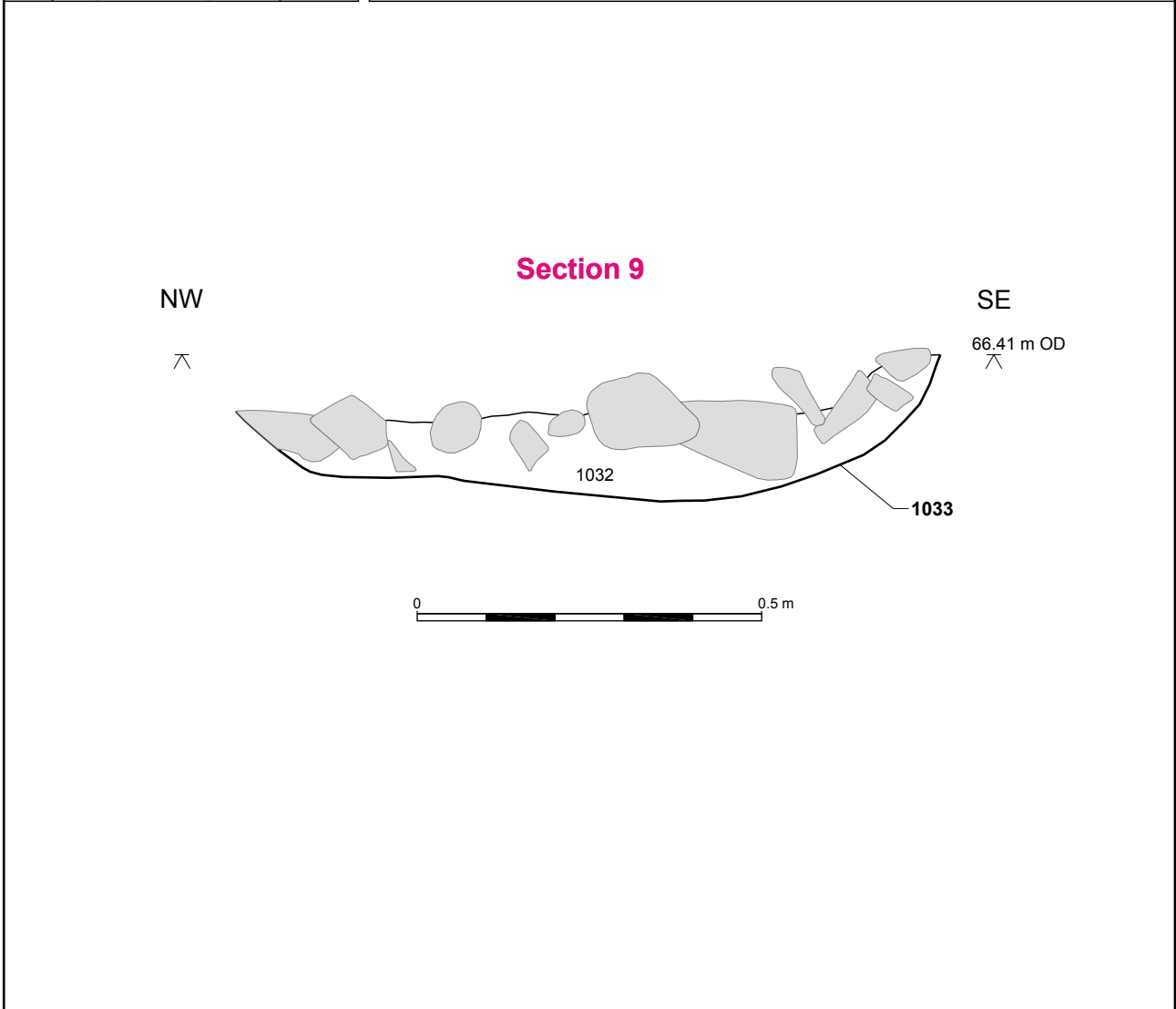
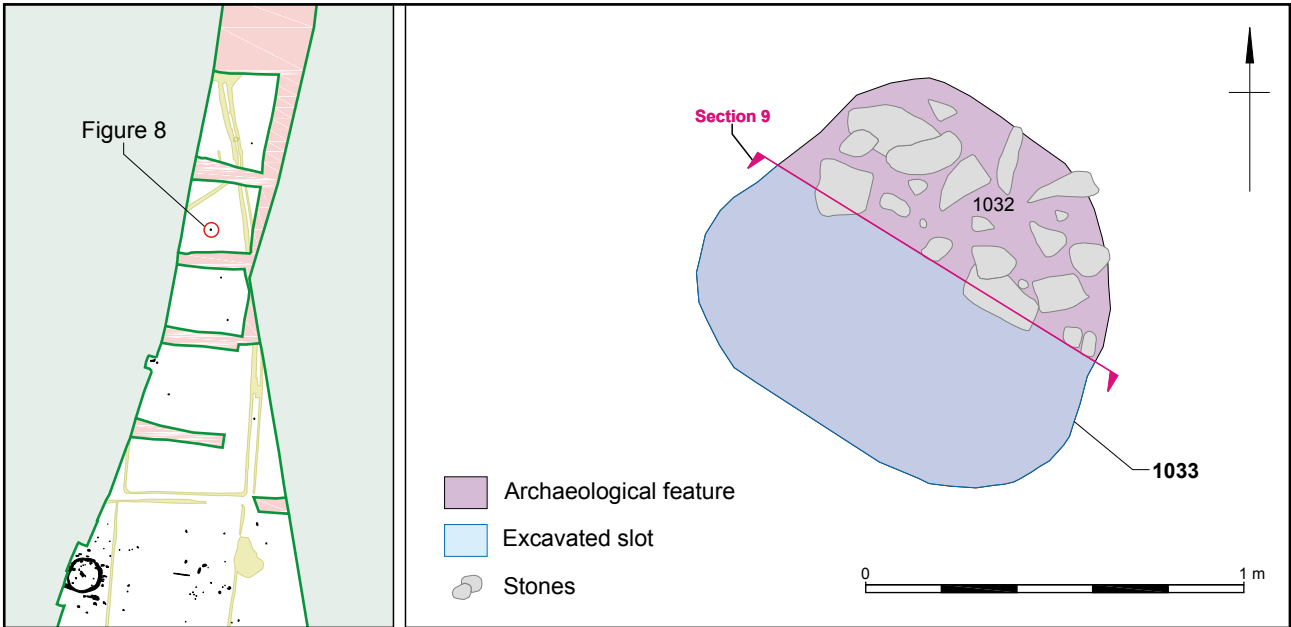
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Path:	Y:\Projects\85632\Graphics_Office\Rep figs\SMS\2017_01_30		

Cremation related deposits: eastern group

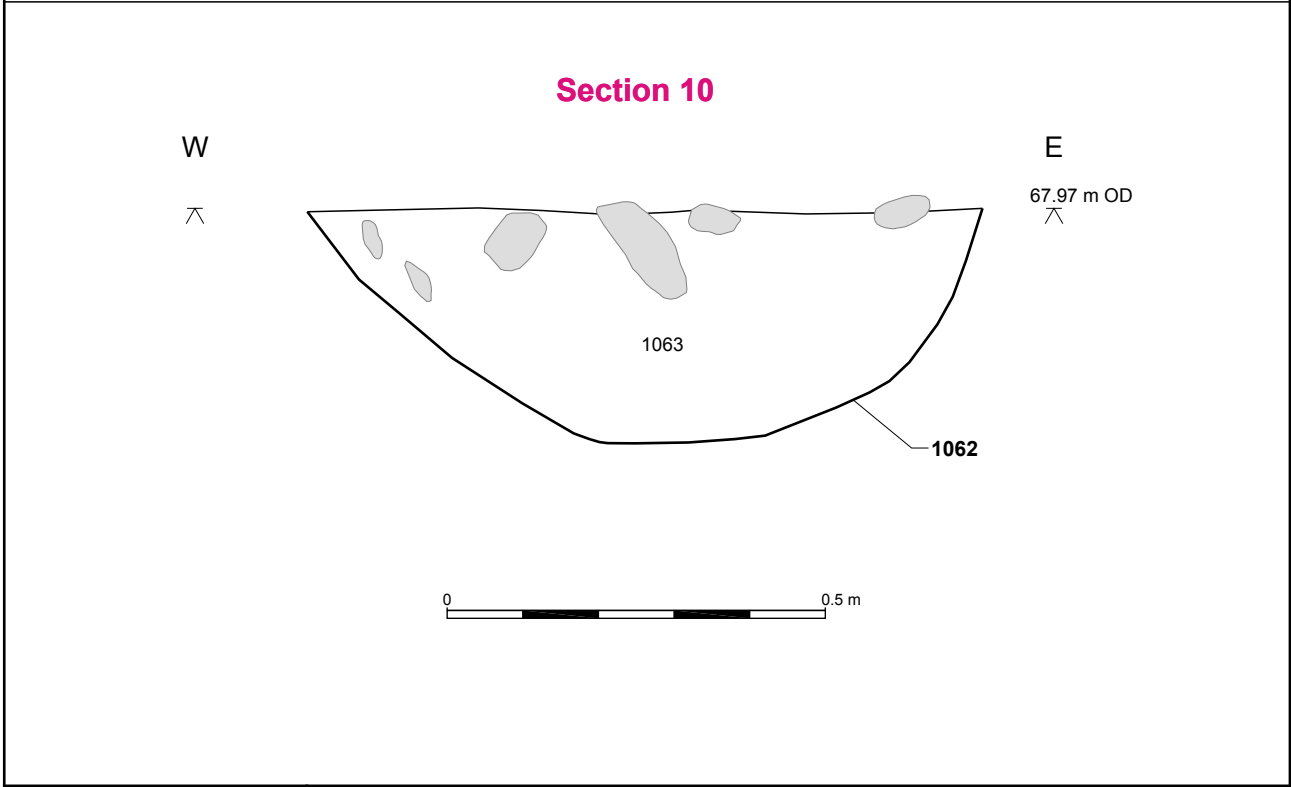
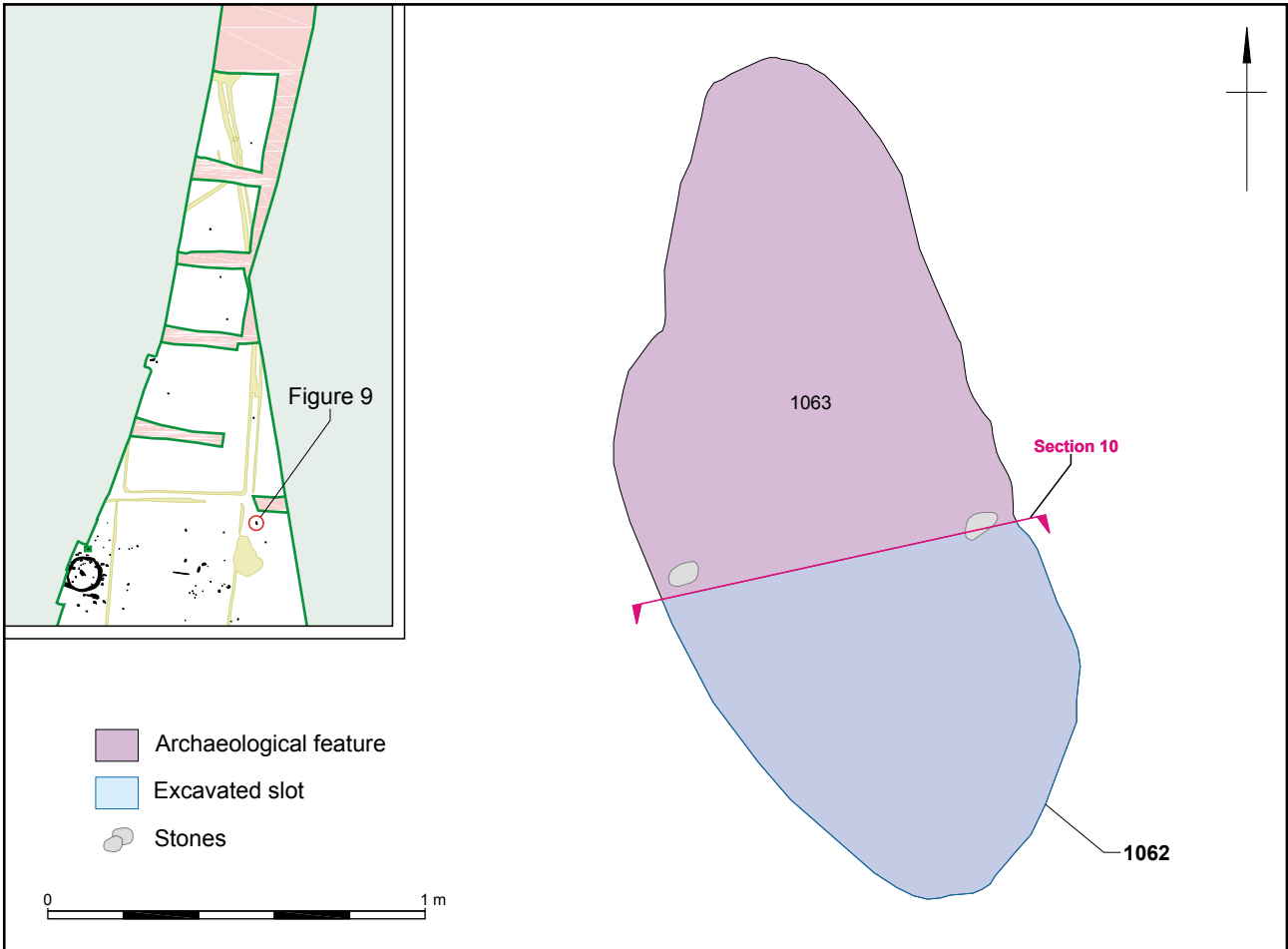
Figure 7




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Plan and section of pit 1033

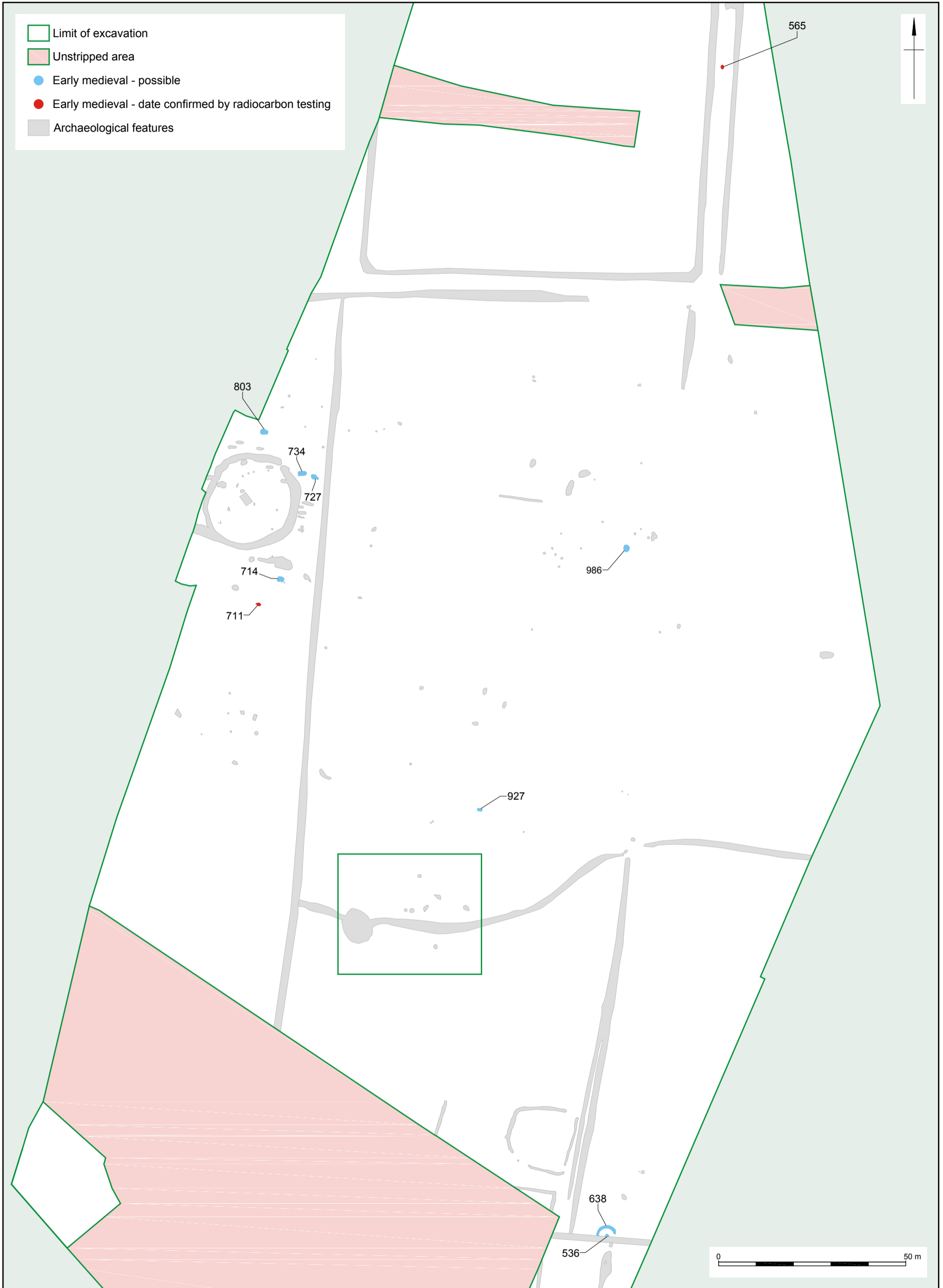
Figure 8



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Plan and section of pit 1062

Figure 9



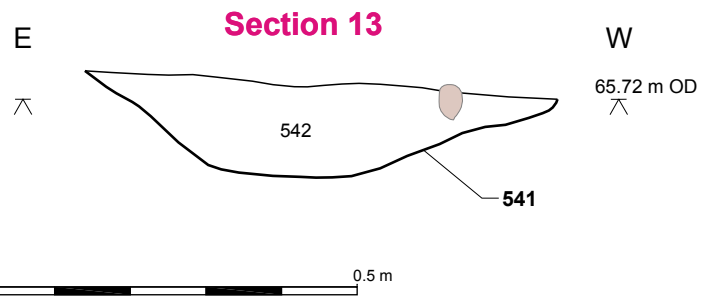
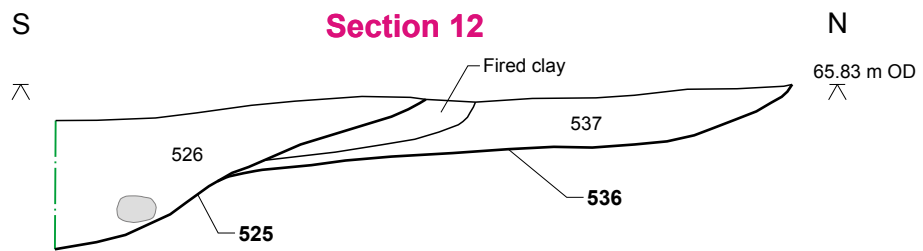
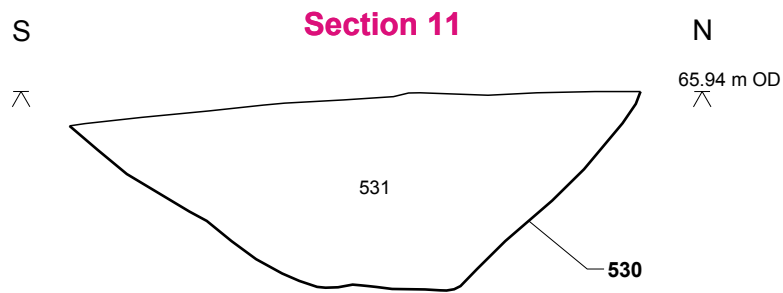
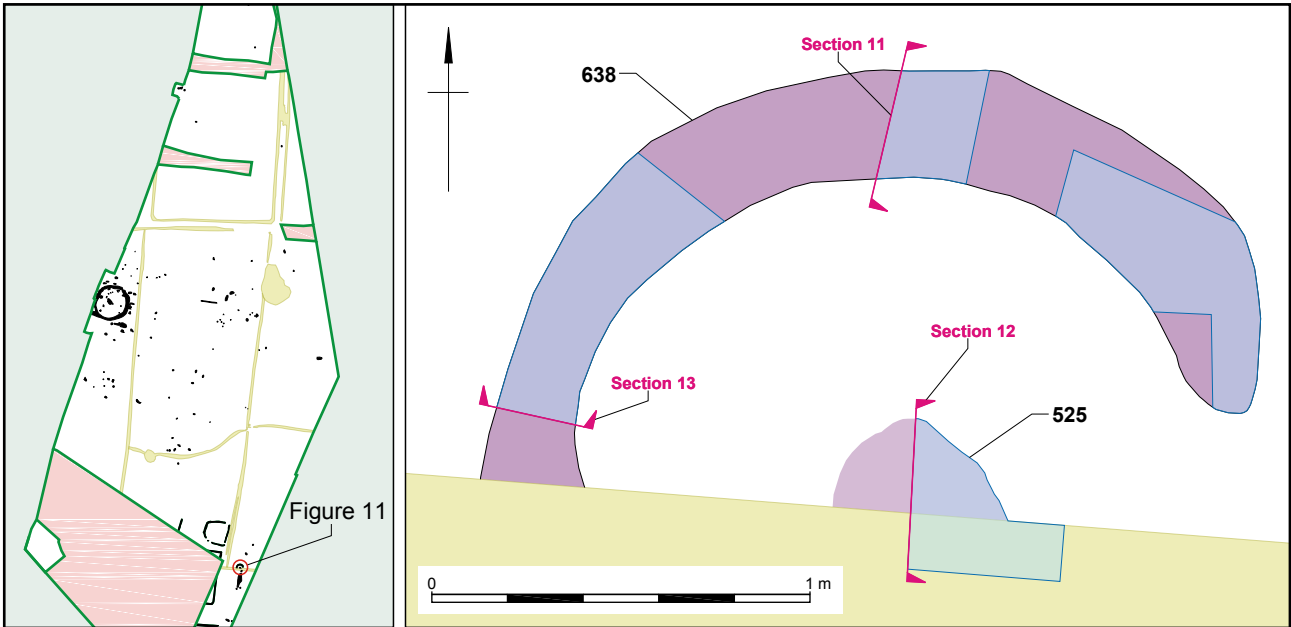
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Locations of possible and confirmed early medieval features

Figure 10





- Post-medieval field system
- Archaeological feature
- Excavated slot
- Stones
- Heat affected stones

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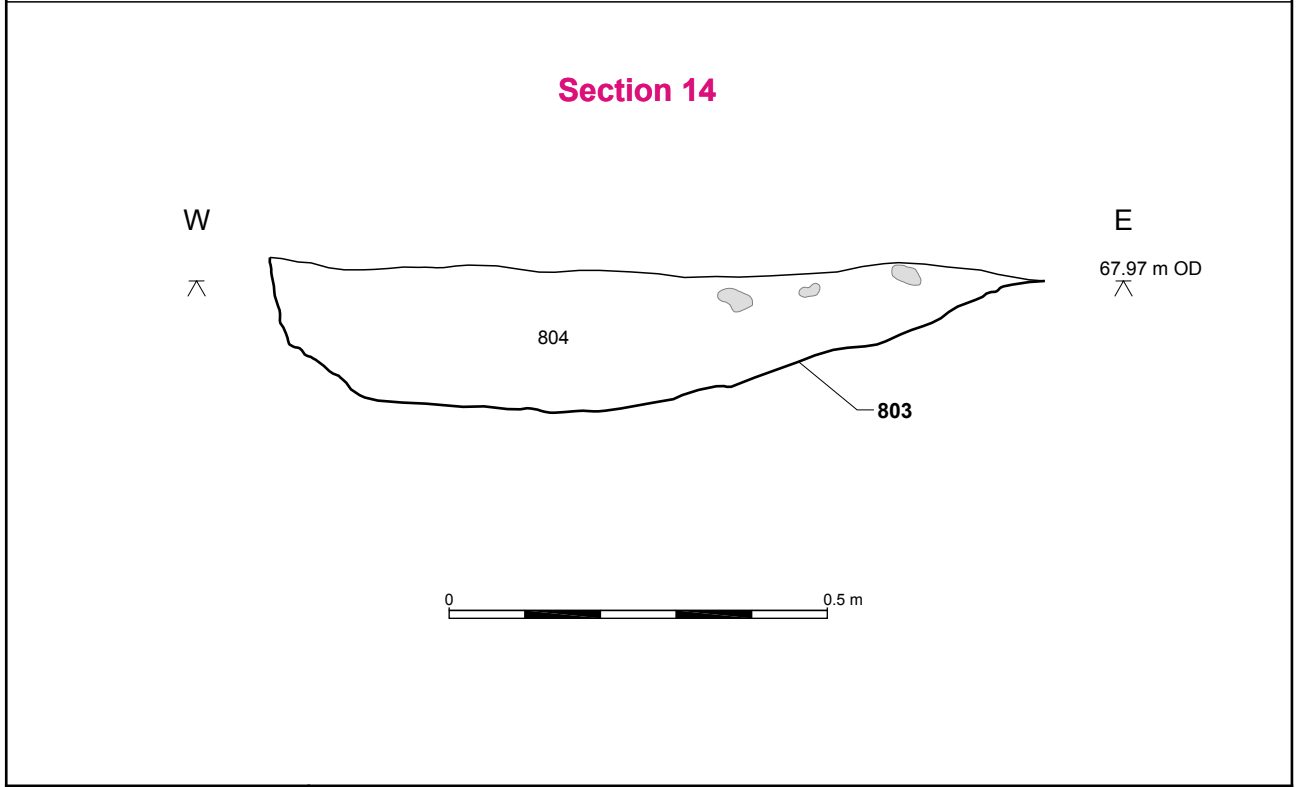
Illustrator: APS


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Plan and section of curvilinear 'wind-break' 638

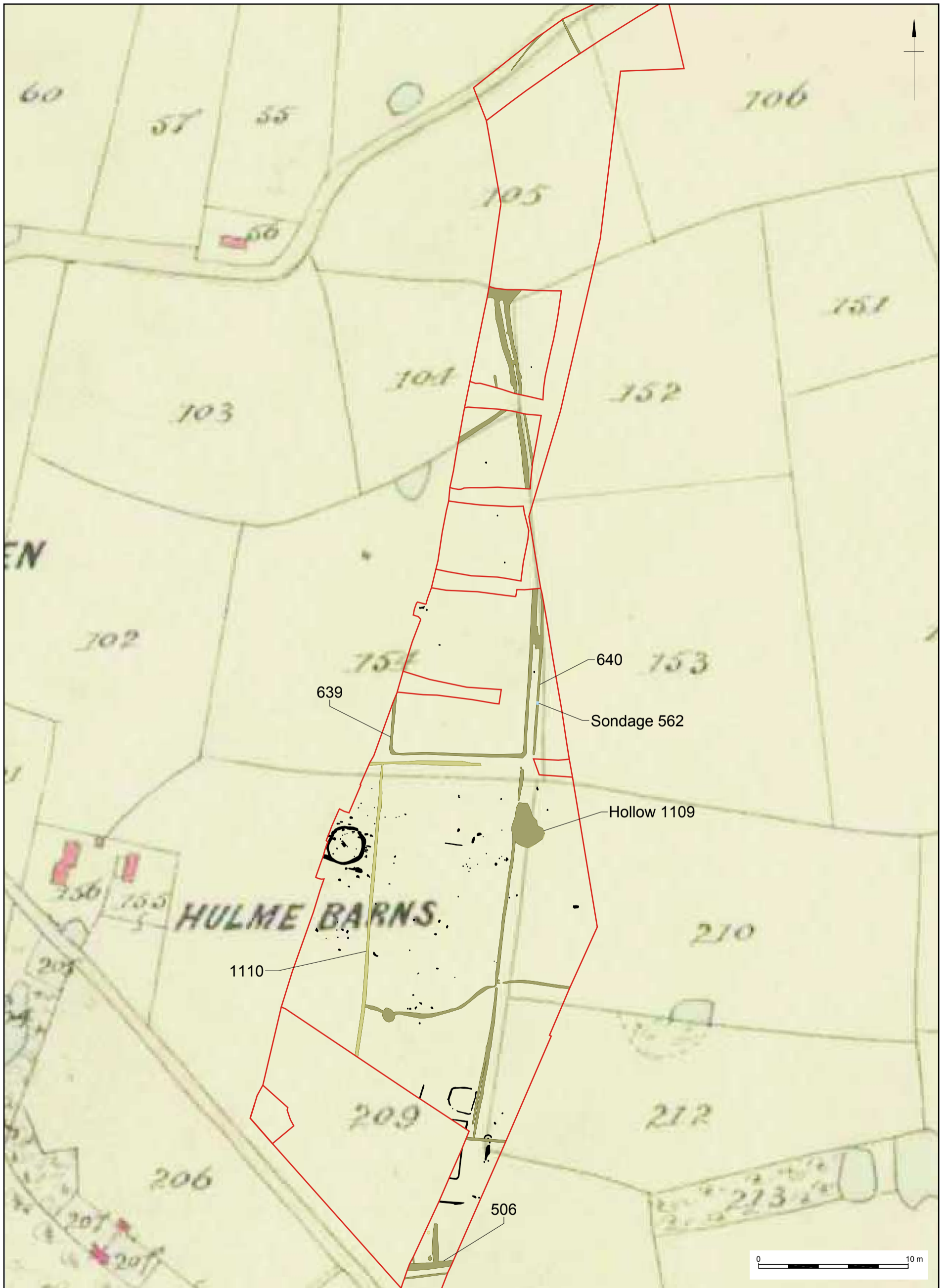

Figure 11



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Plan and section of ironsmithing pit 803

Figure 12

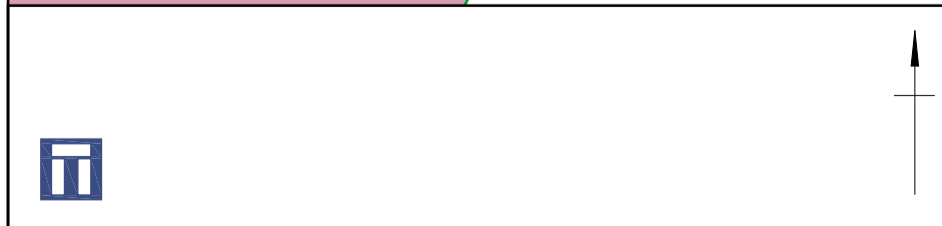
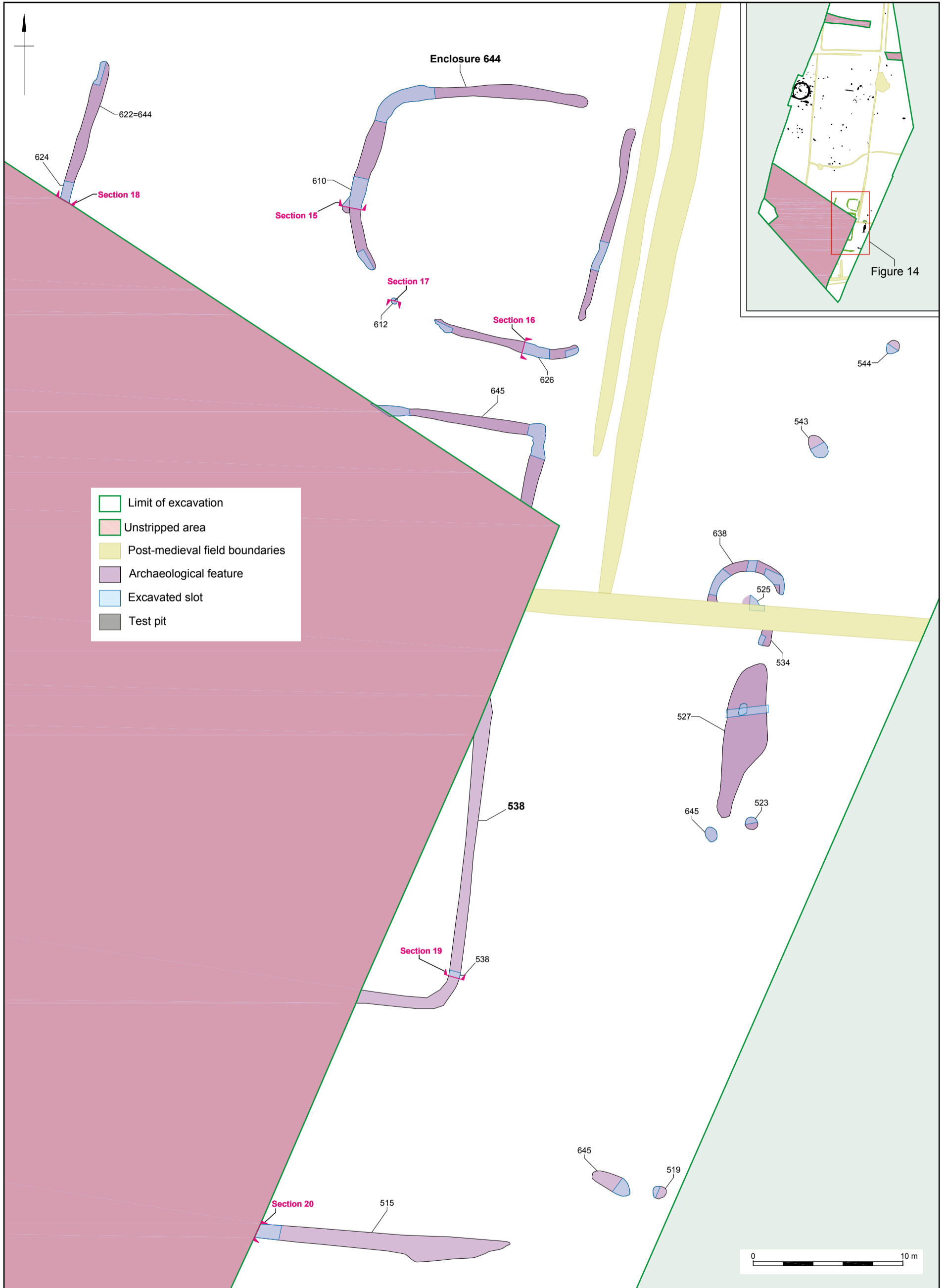
- Limit of excavation
- Archaeological features
- Post-medieval field boundaries

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Post-medieval field boundaries overlain onto tithe mapping

Figure 13

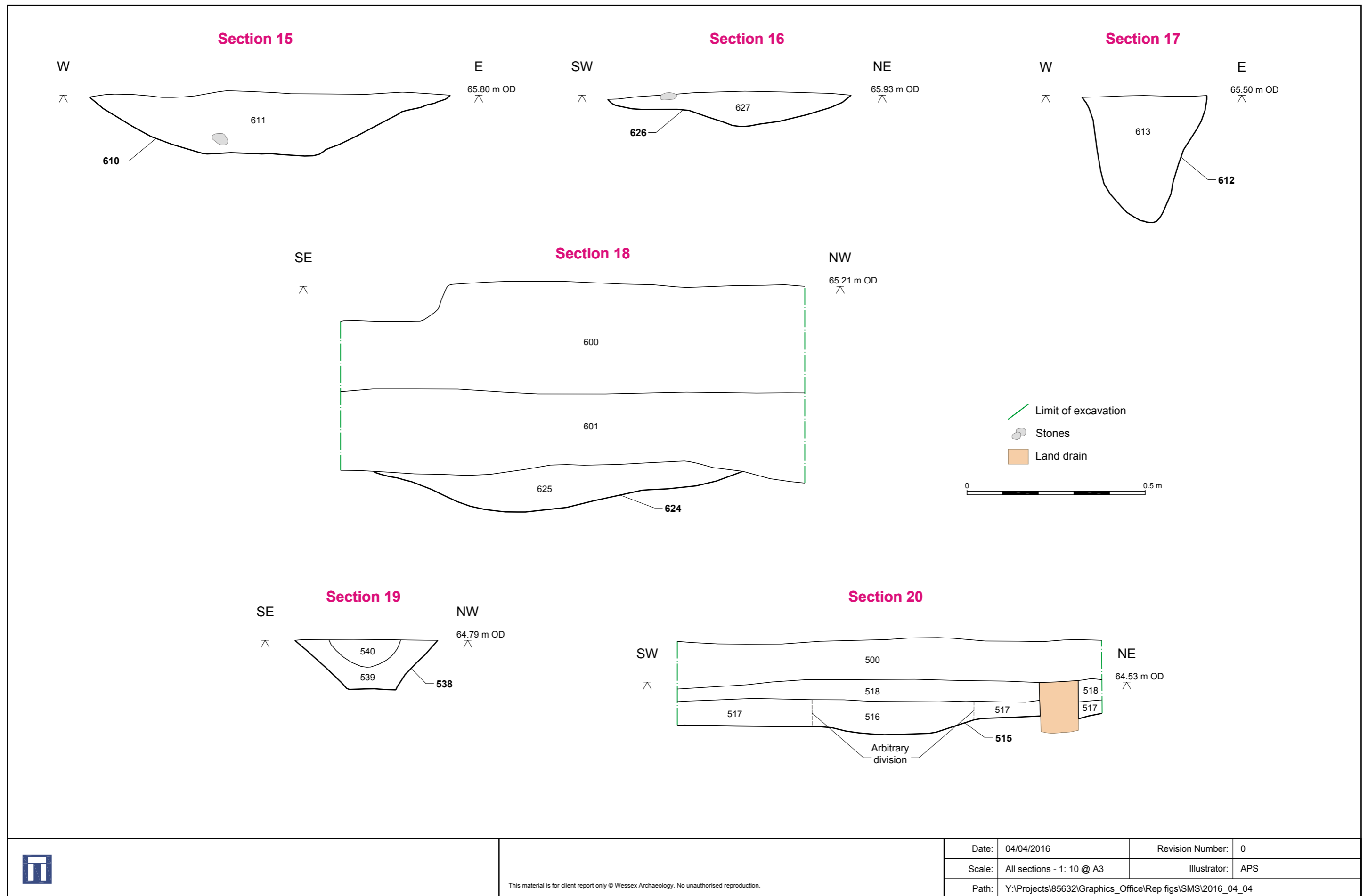


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Enclosure 644 and associated field boundaries

Figure 14

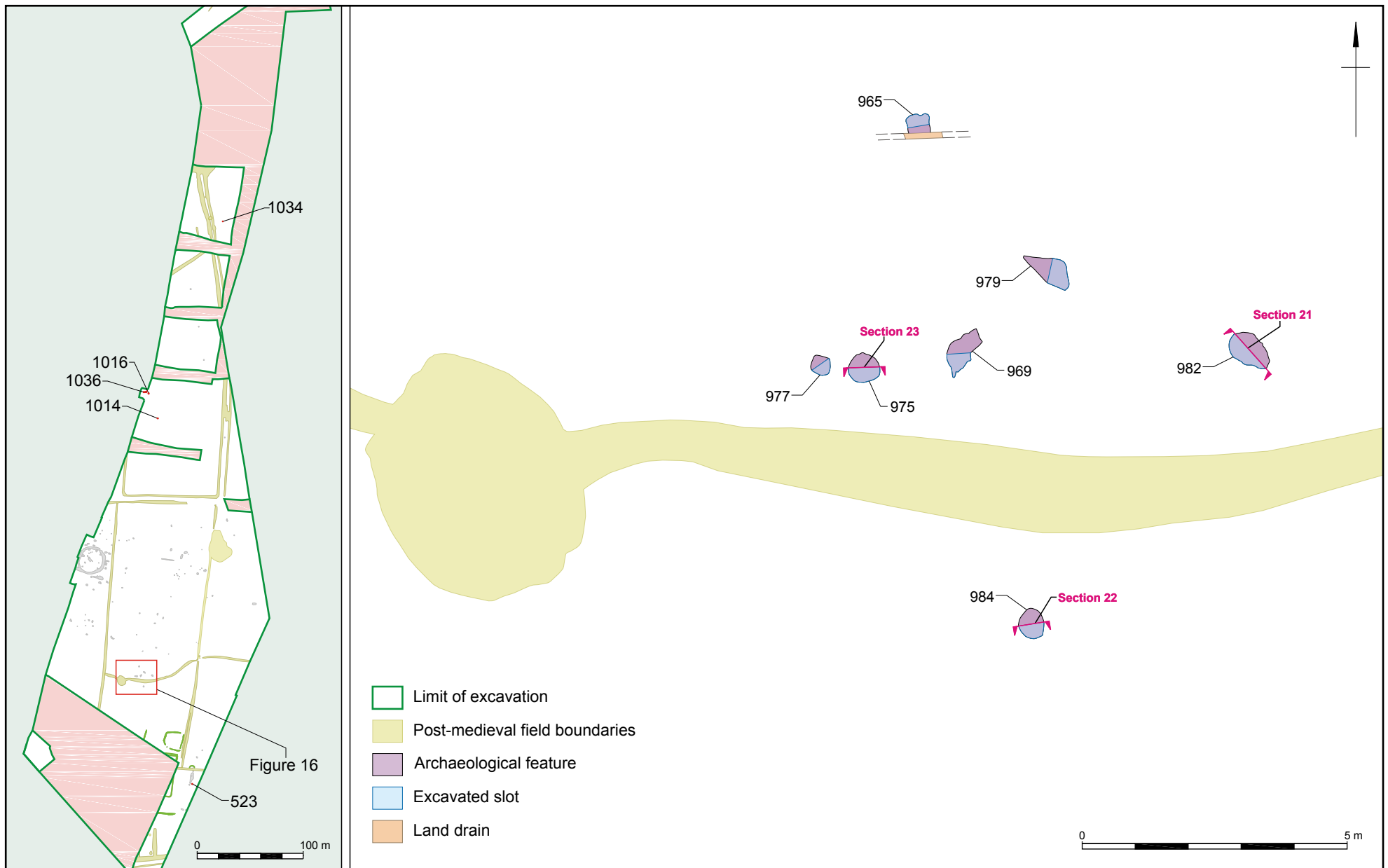


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Sections across enclosure 644 and associated features: Sections 15 - 20

Figure 15

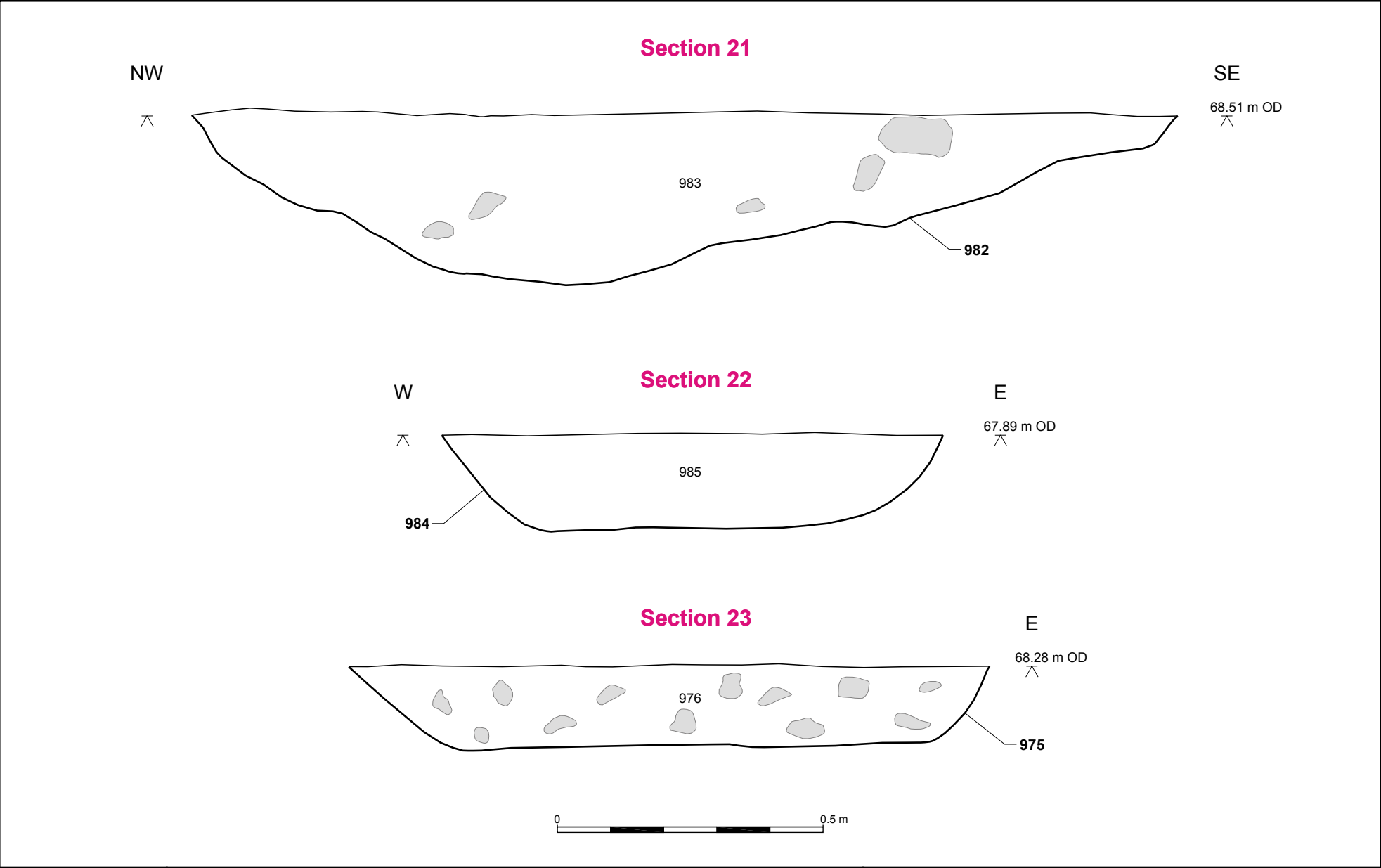



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Cluster of pits with burnt stone

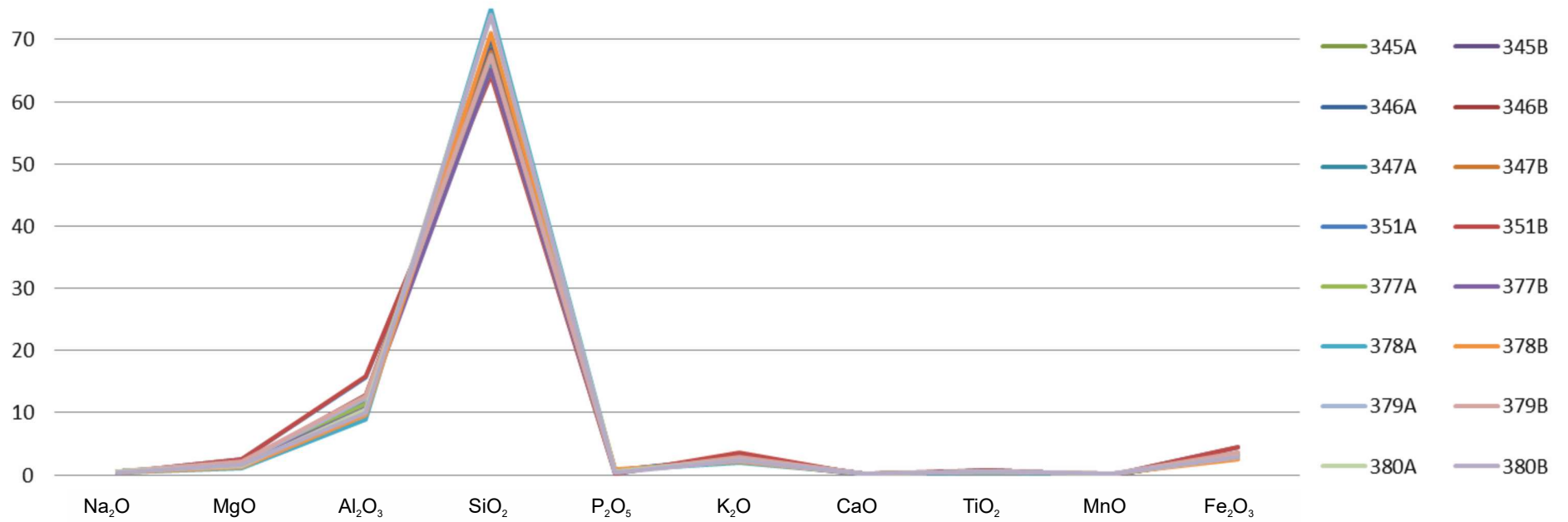
Figure 16




 <p>This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>	<p>Limit of excavation</p> <p>Stones</p>	Date:	04/04/2016	Revision Number:	0
		Scale:	All sections - 1: 10 @ A4	Illustrator:	APS
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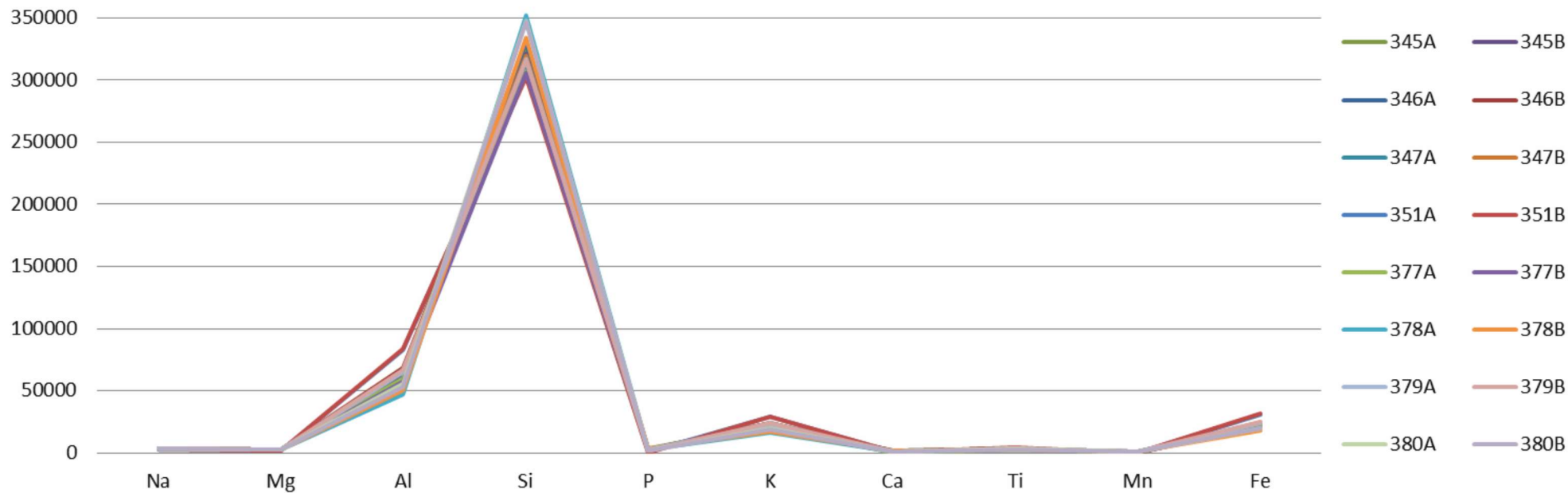
Sections of burnt stone pits


Figure 17



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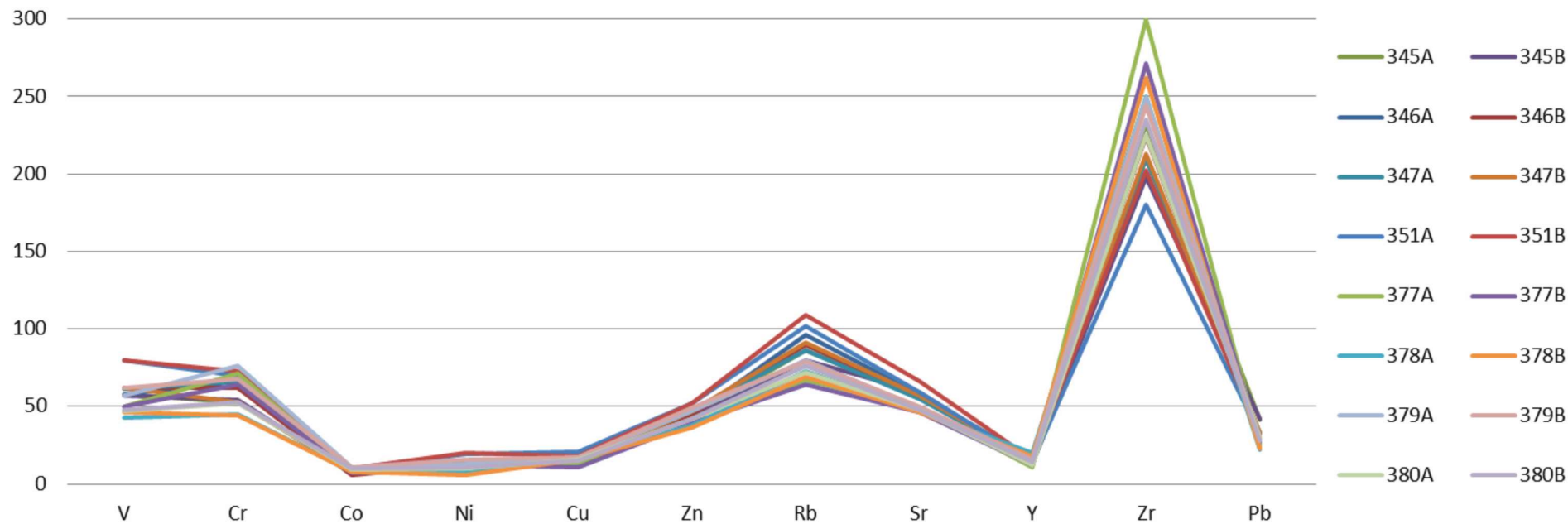





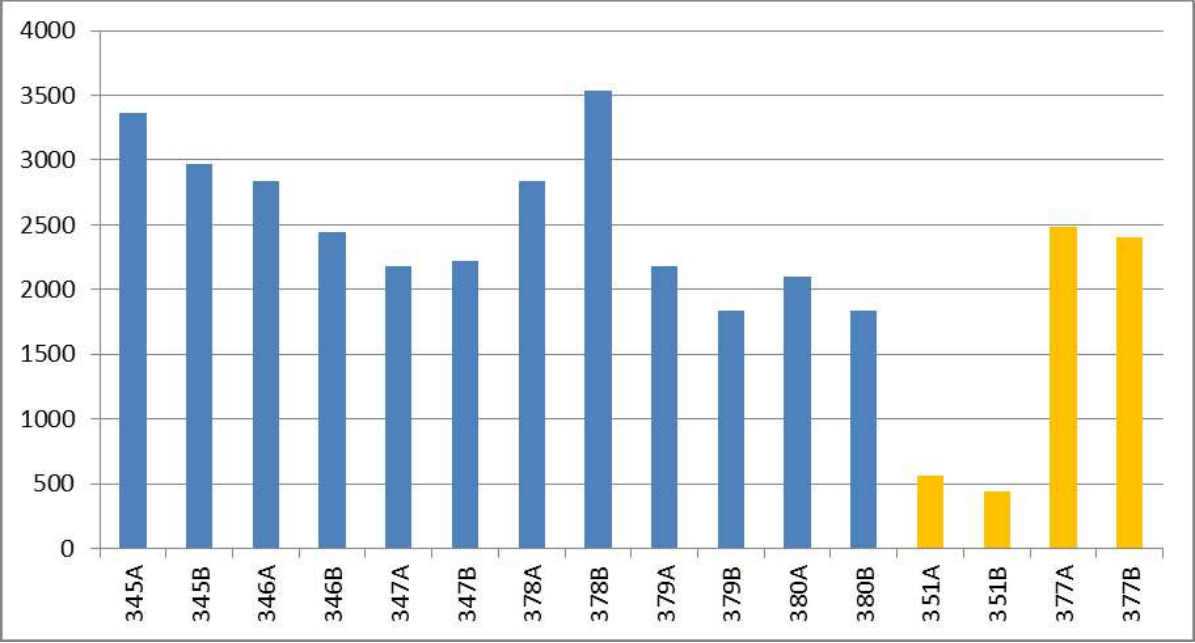
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Results of the XRF analysis of major elements (ppm, mg/kg), Knutsford, Cheshire

Figure 19



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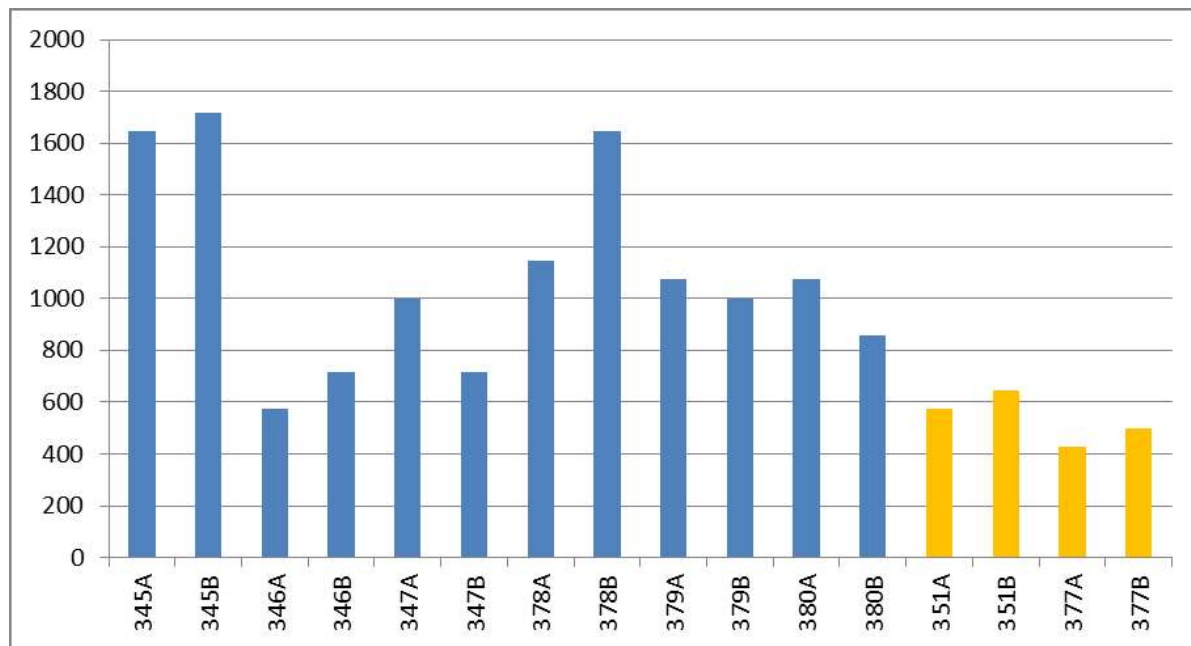


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Concentration of phosphorus, samples of natural material are shown in yellow, XRF analysis (ppm, mg/kg), Knutsford, Cheshire

Figure 21

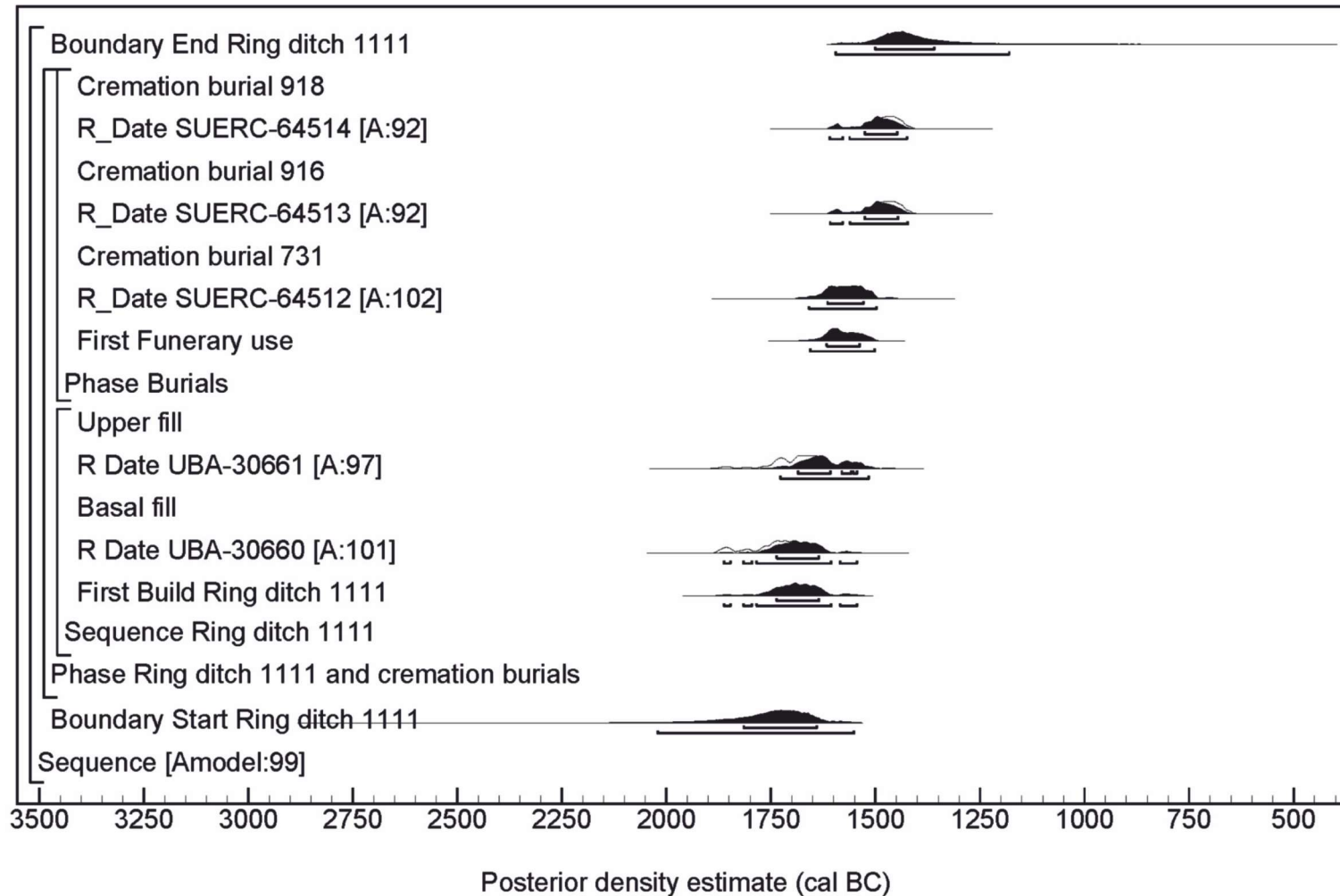


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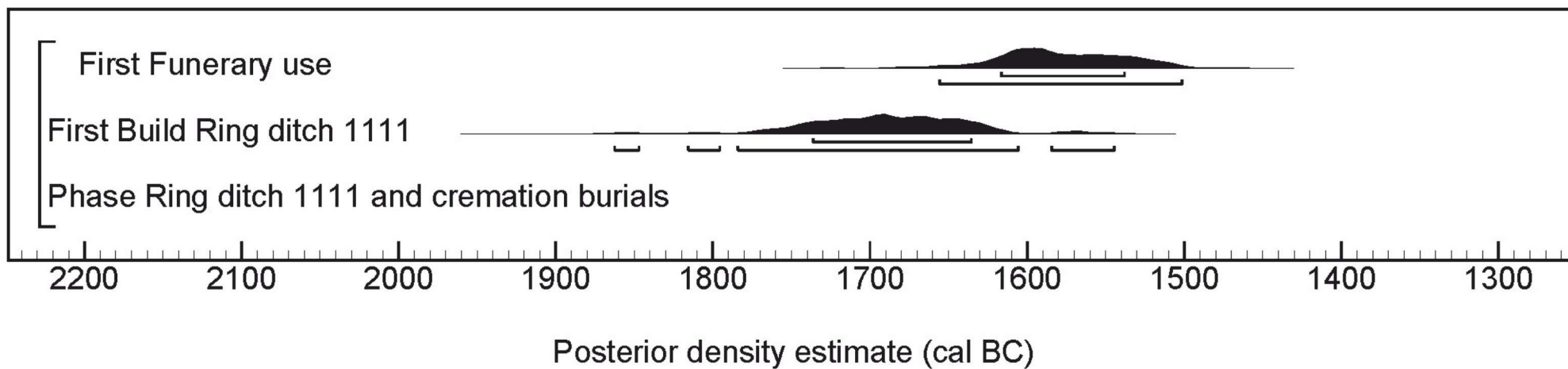
Concentration of calcium, samples of natural material are shown in yellow, XRF analysis (ppm, mg/k), Knutsford, Cheshire


Figure 22



*“Each distribution represents the relative probability that an event occurred at a particular time. For each of the dates two distributions have been plotted, one in outline which is the result produced by the independent calibration of the radiocarbon measurement and a solid one which is based on the chronological information provided by the model. The large square brackets down the left-hand side of the diagram, along with the OxCal keywords, define the overall model exactly.”*

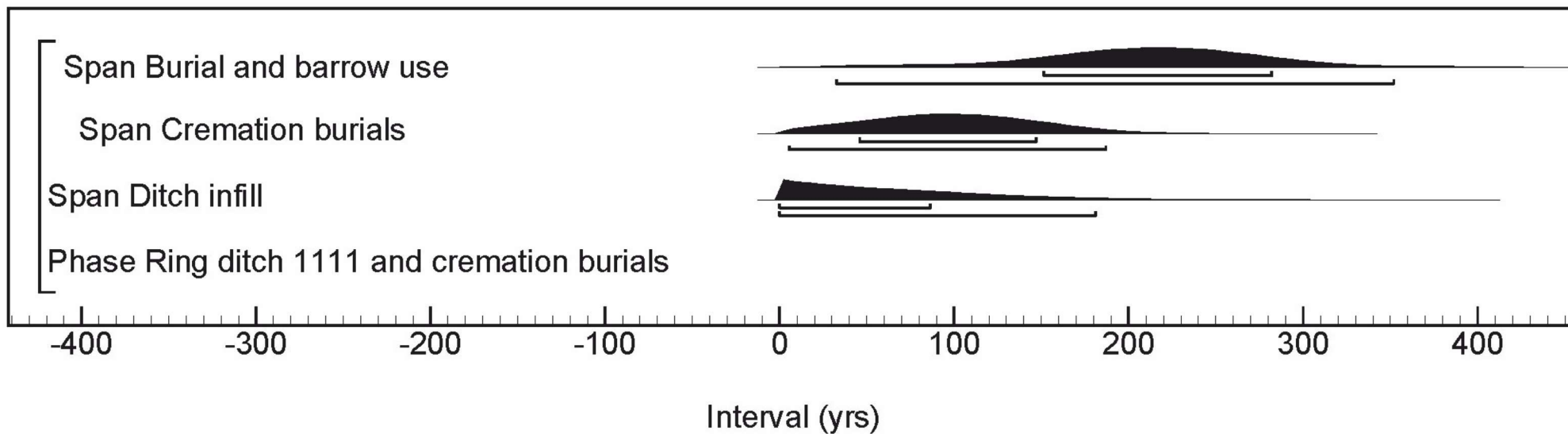
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Probability distributions for selected parameters taken from the model: First funerary use and First Build ring ditch 1111

Figure 24



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Probability distributions for selected parameters 'Span' taken from the model.



Plate 1: Western portion of ring ditch 1111 pre-excitation, camera facing north-east



Plate 2: Ring ditch 1111 (slot 829), north-west facing section


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Plate 3: Ring ditch 1111 (slot 865), south-east facing section

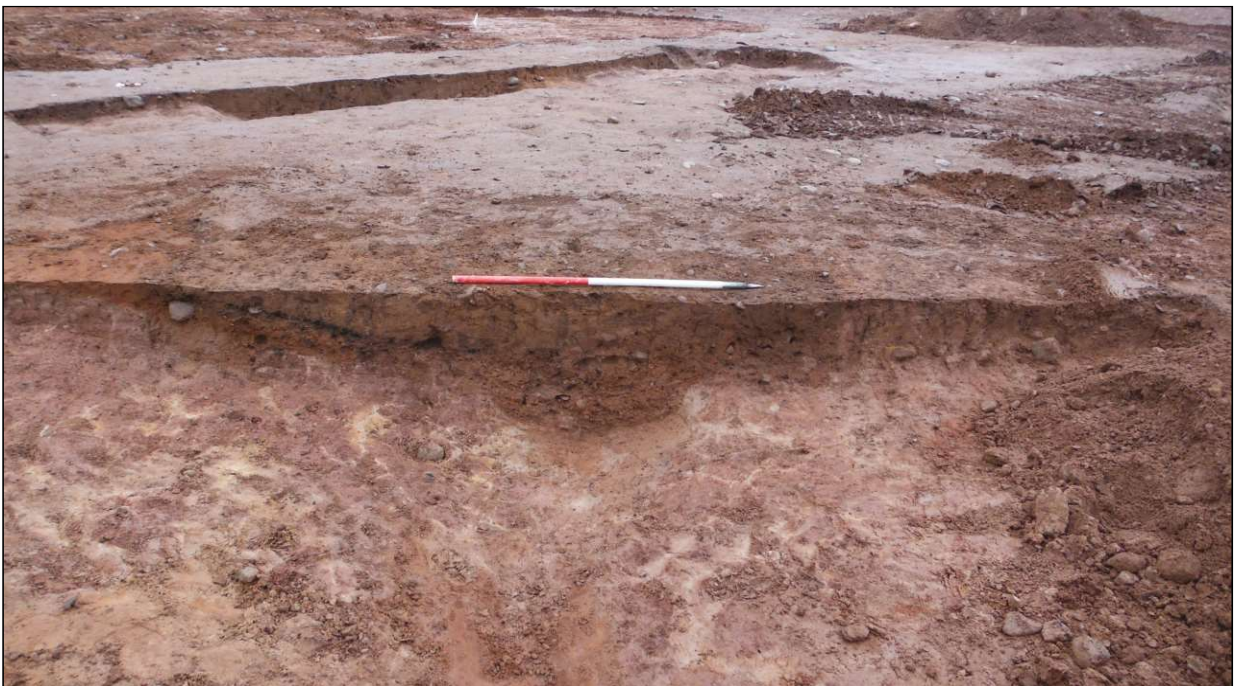


Plate 4: Ring ditch 1111 (slot 933), south-west facing section


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Plate 5: Ring ditch 1111 (slot 1074), south-west facing section



Plate 6: Ring ditch 1111 (slot 1092) south-west facing section


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Plate 7: Ring ditch 1111 (slot 1092) cutting ditch 1082=1090, west-facing section



Plate 8: Ditch 1113, east-facing section


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Plate 9: Ditch 1069=1100 cutting ring ditch 1111 (slot 1096), south-facing section



Plate 10: Ditch 1069=1100, east-facing section. Note shallow topsoil overlying archaeological horizon, indicating likely plough truncation of remains


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Plate 11: Inhumation grave 849, east-facing section



Plate 12: Inhumation grave 946 pre-excitation, camera facing west


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Plate 13: Inhumation grave 946, east-facing section



Plate 14: Cremation grave 924 cutting inhumation grave 914 (partially excavated), camera facing west


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Plate 15: Cremation grave 924 containing bagged cremation 916, south-facing section



Plate 16: Cremation grave 724 showing urn SF1, south-facing section


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Plate 17: Cremation urn SF1 prior to removal from Site



Plate 18: Cremation grave 746 pre-excitation, showing the typical presentation of such features as first found. Camera facing west


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Plate 19: Cremation grave 746, south-facing section

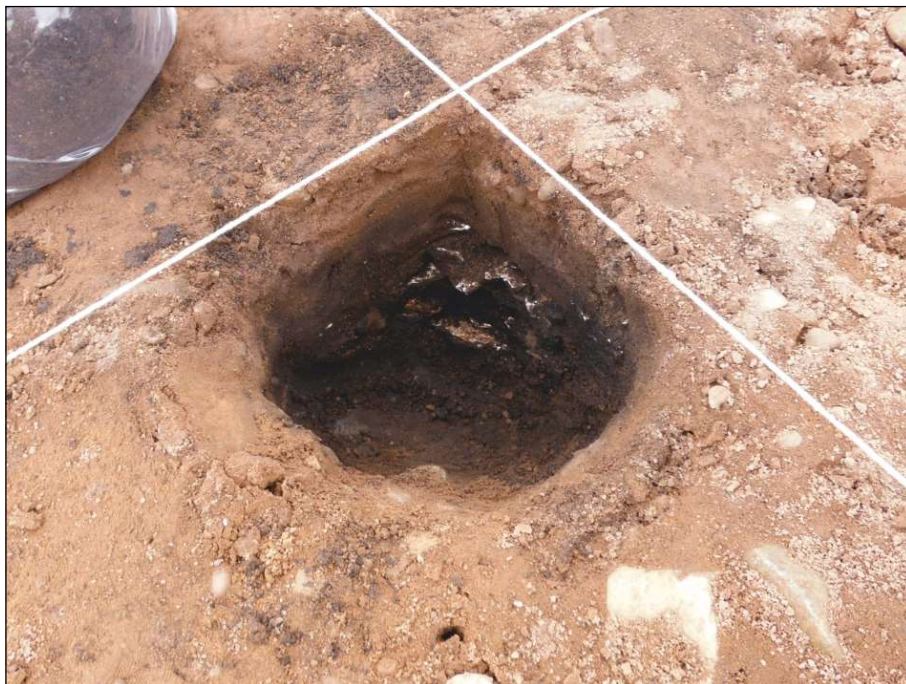


Plate 20: Work underway on quadrant excavation of cremation grave 825


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Plate 21: Cremation grave 825, south-facing section



Plate 22: Cremation grave 930, south-facing section


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Plate 23: Pit 1062, south-facing section



Plate 24: Heat-affected stones from fill of pit 1062


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Plate 25: Curvilinear wind-break 638, camera facing west



Plate 26: Fire pit 536 cut to south by post-medieval ditch, east-facing section


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Plate 27: Iron Smithing Pit 803, south-facing section



Plate 28: Ditch 640, north-facing section


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Plate 29: Double-ditched boundary (ditches 639 and 640), camera facing south

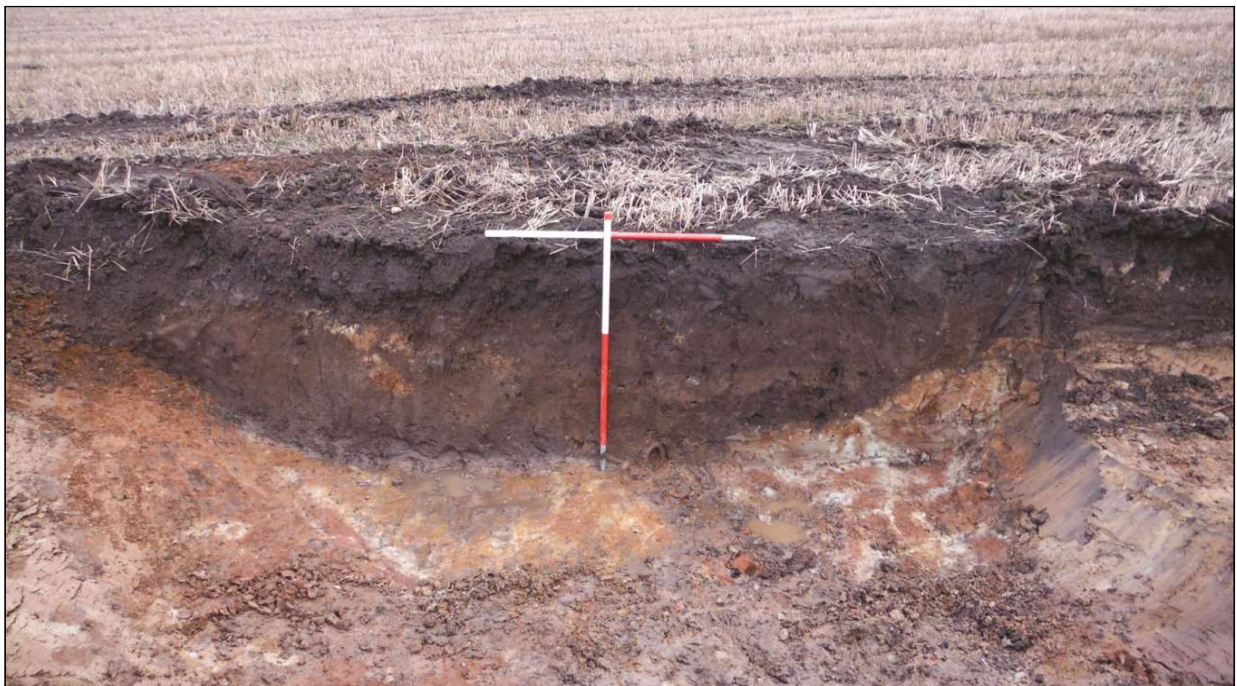


Plate 30: Ditch 506, west-facing section. Note land drain at base of ditch


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Plate 31: East terminal of ditch 643 (p/o enclosure 644), camera facing west


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Plate 32: Pit 984, north-facing section



Plate 33: Pit 1016 pre-excitation, camera facing west


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Plate 34: Stone-filled hollow 1036 capped by burnt spread 1037, south-facing section

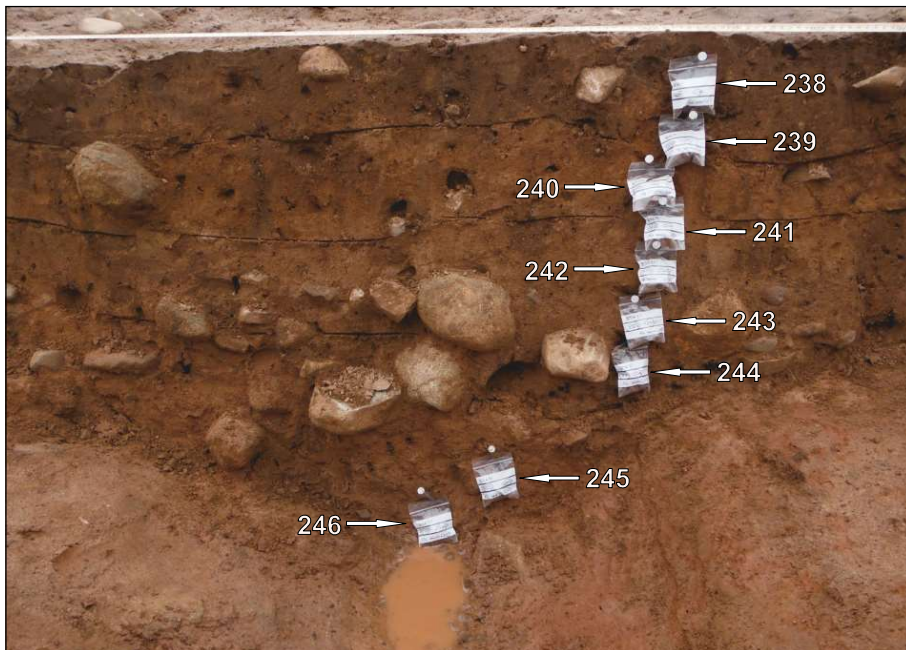



Plate 35: Location of pollen sub-samples within fill profile of ring ditch 1111, slot 829

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