



making sense of heritage

# Wakefield Eastern Relief Road, Wakefield, West Yorkshire

Strip, Map and Sample Report



Ref: 106711.01  
July 2015



**Wakefield Eastern Relief Road,  
Wakefield, West Yorkshire**

**Strip, Map and Sample Report**

**Prepared for:**  
Wakefield Council,  
Wakefield One,  
PO Box 700,  
Wakefield,  
WF1 2EB

**Prepared by:**  
Wessex Archaeology  
Unit R6, Sheaf Bank Business Park  
Prospect Road  
Sheffield  
S2 3EN

[www.wessexarch.co.uk](http://www.wessexarch.co.uk)

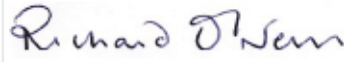
**July 2015**

**106711.01**



## Quality Assurance

<b>Project Code</b>	106711	<b>Accession Code</b>		<b>Client Ref.</b>	
<b>Planning Application Ref.</b>		<b>Ordnance Survey (OS) national grid reference (NGR)</b>	SE 34720 22330 and SE 35200 21440		

<b>Version</b>	<b>Status*</b>	<b>Prepared by</b>	<b>Checked and Approved By</b>	<b>Approver's Signature</b>	<b>Date</b>
v01	I	AWT			19/06/15
File:	S:\PROJECTS\106711\ Reports\v01\ 106711_Wakefield_Eastern_Relief_Road_AWT_190615_v01.doc				
v02	E	AWT	RJO		29/07/15
File:	S:\PROJECTS\106711\ Reports\v02\ 106711_Wakefield_Eastern_Relief_Road_AWT_230715_v02.doc				
File:					
File:					
File:					

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

Contains Ordnance Survey data © Crown copyright and database rights 2015

## DISCLAIMER

THE MATERIAL CONTAINED IN THIS REPORT WAS DESIGNED AS AN INTEGRAL PART OF A REPORT TO AN INDIVIDUAL CLIENT AND WAS PREPARED SOLELY FOR THE BENEFIT OF THAT CLIENT. THE MATERIAL CONTAINED IN THIS REPORT DOES NOT NECESSARILY STAND ON ITS OWN AND IS NOT INTENDED TO NOR SHOULD IT BE RELIED UPON BY ANY THIRD PARTY. TO THE FULLEST EXTENT PERMITTED BY LAW WESSEX ARCHAEOLOGY WILL NOT BE LIABLE BY REASON OF BREACH OF CONTRACT NEGLIGENCE OR OTHERWISE FOR ANY LOSS OR DAMAGE (WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OCCASIONED TO ANY PERSON ACTING OR OMITTING TO ACT OR REFRAINING FROM ACTING IN RELIANCE UPON THE MATERIAL CONTAINED IN THIS REPORT ARISING FROM OR CONNECTED WITH ANY ERROR OR OMISSION IN THE MATERIAL CONTAINED IN THE REPORT. LOSS OR DAMAGE AS REFERRED TO ABOVE SHALL BE DEEMED TO INCLUDE, BUT IS NOT LIMITED TO, ANY LOSS OF PROFITS OR ANTICIPATED PROFITS DAMAGE TO REPUTATION OR GOODWILL LOSS OF BUSINESS OR ANTICIPATED BUSINESS DAMAGES COSTS EXPENSES INCURRED OR PAYABLE TO ANY THIRD PARTY (IN ALL CASES WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OR ANY OTHER DIRECT INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE.



# Wakefield Eastern Relief Road, Wakefield, West Yorkshire

## Strip, Map and Sample Report

### Contents

Summary.....	iv
Acknowledgements.....	v
<b>1 INTRODUCTION.....</b>	<b>1</b>
1.1 Project background.....	1
1.2 Sites 1 and 2.....	1
1.3 Geology.....	1
1.4 Topography.....	2
<b>2 ARCHAEOLOGICAL BACKGROUND.....</b>	<b>2</b>
2.1 Summary.....	2
2.2 Prehistoric.....	2
2.3 Roman.....	2
2.4 Medieval.....	3
2.5 Post-medieval and modern.....	3
2.6 Previous archaeological investigations.....	4
<b>3 METHODOLOGY.....</b>	<b>5</b>
3.1 General.....	5
3.2 Aims and objectives.....	5
3.3 Machine excavation.....	5
3.4 Setting out and pre-excavation.....	6
3.5 Hand excavation of archaeological remains.....	6
3.6 Recording.....	6
3.7 Finds.....	6
3.8 Environmental samples.....	6
<b>4 RESULTS.....</b>	<b>7</b>
4.1 Introduction.....	7
4.2 General stratigraphy.....	7
4.3 Late prehistoric/ Romano-British.....	7
4.4 Ridge and furrow.....	7
4.5 Post-medieval.....	7
4.6 Modern.....	8
4.7 Natural.....	9





<b>5</b>	<b>FINDS</b> .....	<b>9</b>
5.1	Introduction .....	9
5.2	Pottery.....	9
5.3	Stone.....	9
5.4	Metalwork.....	10
5.5	Other finds .....	10
5.6	Potential and further recommendations .....	10
<b>6</b>	<b>ENVIRONMENTAL EVIDENCE</b> .....	<b>10</b>
6.1	Introduction .....	10
6.2	Charred plant remains.....	11
6.3	Wood charcoal .....	12
6.4	Further Potential.....	12
6.5	Archiving .....	12
<b>7</b>	<b>DISCUSSION</b> .....	<b>12</b>
7.1	Summary .....	12
7.2	Conclusion .....	13
<b>8</b>	<b>STORAGE AND CURATION</b> .....	<b>13</b>
8.1	Museum .....	13
8.2	Preparation of archive .....	14
8.3	Discard policy.....	14
8.4	Security copy .....	14
<b>9</b>	<b>REFERENCES</b> .....	<b>15</b>
9.1	Bibliography .....	15
9.2	Online sources .....	16
<b>10</b>	<b>APPENDICES</b> .....	<b>17</b>
	Appendix 1: Context descriptions .....	17
	Appendix 2: OASIS Form.....	20

## Figures

Figure 1	Site locations
Figure 2	Plan of <b>Site 1</b> with inset plan and section of ditch <b>1005</b>
Figure 3	Plan of southern part of <b>Site 2</b>
Figure 4	Section across linear features <b>2030</b> , <b>2031</b> , <b>2032</b> and <b>2033</b>
Figure 5	Sections of short gullies <b>2056</b> and <b>2057</b>
Figure 6	Plan of area of pits and sections of <b>2046</b> , <b>2054</b> and <b>2082</b>
Figure 7	Plan of northern part of <b>Site 2</b> with inset sections of ditch <b>2071</b> and pit <b>2072</b>



## Plates

Front Cover	Working shot
Plate 1	Ditch <b>1005</b> from north
Plate 2	Linear features <b>2030</b> , <b>2031</b> , <b>2032</b> and <b>2033</b> pre-excavation seen in initial 4m wide strip from southwest
Plate 3	Ditch <b>2030</b> from northeast
Plate 4	Gully <b>2032</b> from southwest
Plate 5	Gully <b>2033</b> splits into gullies <b>2034</b> and <b>2035</b> from southwest
Plate 6	Short gully <b>2056</b> from southeast during initial 4m wide strip
Plate 7	Short gully <b>2057</b> showing 60 degree bend from west
Plate 8	Pit <b>2046</b> from south
Plate 9	Pit <b>2082</b> from north
Plate 10	Fragment of gully <b>2021</b> from northeast
Plate 11	Ditch <b>2071</b> from northwest
Plate 12	Pit <b>2072</b> from north
Plate 13	Natural feature <b>1002</b> associated with coal seam from north
Plate 14	Natural feature <b>2070</b> from northeast

## Tables

Table 1:	All finds by context (number / weight in grammes)
Table 2:	Sample Provenance Summary
Table 3:	Assessment of the charred plant remains and charcoal



## Wakefield Eastern Relief Road, Wakefield, West Yorkshire

### Strip, Map and Sample Report

#### Summary

Wessex Archaeology were commissioned by Hochtief Buckingham Joint Venture, on behalf of Wakefield Council, to undertake an archaeological strip, map and sample investigation on two Sites impacted by the Wakefield Eastern Relief Road, on the eastern outskirts of the city of Wakefield (**Site 1** centred on NGR SE 34720 22330 and **Site 2** centred on SE 35200 21440).

An isolated undated ditch was identified in **Site 1**, likely associated with features on a similar or perpendicular alignment identified by previous geophysical survey and evaluation of the City Fields site to the south and west (Phase Site Investigations 2013a; Wessex Archaeology 2013). In the absence of dating evidence, a late prehistoric/ Romano-British date seems likely for this isolated field boundary. Ridge and furrow was seen across this area, along with a complex scheme of land drains. More intensive former land use in the wider area is indicated by previous investigations to the immediate south and west.

A large enclosure, previously identified by geophysical survey (Phase Site Investigations 2013b) and partially investigated by evaluation (Wessex Archaeology 2014), was excavated at **Site 2**, and found to be of probable early Post-medieval date. The southeast limit of the enclosure was a substantial boundary of four or five parallel ditches and gullies, and the northeast limit was a single larger ditch. Within the southern extent of the enclosure were three gullies and two pits potentially forming part of internal sub-divisions. The archaeology in this area appears to consist of a single phase although dating evidence was scarce. Evidence for the domestic use of the enclosures was slight: a medieval or early Post-Medieval pot quern fragment, a stone with possible sharpening grooves and a small fragment of probable Post-medieval brick were all recovered from an internal gully, and only a small number of Post-medieval (16<sup>th</sup> or 17<sup>th</sup> century) pottery sherds and a further fragment of probable Post-medieval brick were recovered from the northeast enclosure ditch. In the absence of more definitive evidence, an agricultural use for the enclosure seems likely.

The enclosure dates from a time when the landscape east of Wakefield was likely dominated by parkland around Clarke Hall and Stanley Hall and it seems likely that the enclosure relates to parkland associated with one of these halls. The enclosure may be contemporary with a probable late medieval/ early Post-medieval enclosure at the City Fields site to the northwest (Wessex Archaeology 2013). The enclosure at **Site 2** appears to have gone out of use around the 17<sup>th</sup> century, prior to enclosure by Act of Parliament in 1793. Certainly none of the features identified are present, or align with boundaries, on available historic mapping (1851 onwards).

The project archive resulting from the excavation will be deposited with Wakefield Museum. Deposition of any finds with the Museum will only be carried out with the full agreement of the landowner.

An OASIS form, ID number **wessexar1-195094**, has been provisionally completed and will be finalised at the time of deposition.



# Wakefield Eastern Relief Road, Wakefield, West Yorkshire

## Strip, Map and Sample Report

### **Acknowledgements**

The fieldwork was commissioned by Hochtief Buckingham Joint Venture, on behalf of Wakefield Council, and Wessex Archaeology is grateful to them in this regard. The assistance of David Hunter and Ian Sanderson of West Yorkshire Archaeology Advisory Service (WYAAS), who monitored the work on behalf of Wakefield Council, is also acknowledged.

The project was managed for Wessex Archaeology by Richard O'Neill. Fieldwork was directed by Ashley Tuck, and undertaken by Eleanor Claxton-Mayer, Lucy Reddin, Natasha Brett, Alex Cassels, Maria Elena Calderon and Hannah Holbrook. The finds were assessed Lorraine Mephem. Environmental samples were processed by Tony Scothern and Steve Winterton and assessed by Sarah F. Wyles. This report was written by Ashley Tuck and illustrated by Alix Sperr.



# Wakefield Eastern Relief Road, Wakefield, West Yorkshire

## Strip, Map and Sample Report

### 1 INTRODUCTION

#### 1.1 Project background

- 1.1.1 Wessex Archaeology was commissioned by Hochtief Buckingham Joint Venture, on behalf of Wakefield Council, to undertake an archaeological strip, map and sample investigation on two Sites impacted by the Wakefield Eastern Relief Road, on the eastern outskirts of the city of Wakefield. **Site 1** was centred on NGR SE 34720 22330 and **Site 2** was centred on SE 35200 21440 (**Figure 1**).
- 1.1.2 Work was undertaken in line with a Written Scheme of Investigation (WSI, AECOM 2015) submitted to the West Yorkshire Archaeology Advisory Service (WYAAS), advisors to Wakefield Council, in advance of the scheme commencement, and in accordance with current industry standards and guidance issued by the Chartered Institute for Archaeologists (CIfA 2014a-d).
- 1.1.3 This report covers the Strip, Map and Sample exercises undertaken to investigate below ground archaeology at **Sites 1** and **2**. The work follows on from geophysical survey (Phase Site Investigation 2013a and 2013b) and archaeological evaluation trial trenching (Wessex Archaeology 2014) undertaken as part of this scheme.

#### 1.2 Sites 1 and 2

- 1.2.1 Two Sites were subjected to archaeological Strip, Map and Sample (**Figure 1**).
- 1.2.2 **Site 1** was a 4m wide strip composed of several joined sections totalling 491m in length. **Site 1** ran in a curve across a large arable field from approximately SE 3496 2211 in the southeast to approximately SE 3452 2227 in the west. The field containing **Site 1** was bordered to the south and southeast by a public footpath, with ponds in the east and housing beyond the footpath to the south. To the north and west, smaller arable fields separated the Site from further areas of development.
- 1.2.3 **Site 2** was smaller, initially 4m wide and 90m long, but expanded to c.15m wide (the full width of the road corridor) on the strength of the initial results. **Site 2** was situated just south of Park Lodge Lane, centred at approximately SE 3518 2147. This area was also an arable field, bounded by Park Lodge Lane and an area of disused coal extraction workings to the north, the Aire and Calder Navigation canal to the east, grassland to the south and houses behind a thin band a of trees in the west.

#### 1.3 Geology

- 1.3.1 The solid and drift geology of the area comprises Middle Coal Measures overlain by river terrace gravels and alluvium (<http://maps.bgs.ac.uk/>).





## 1.4 Topography

1.4.1 **Site 1** curved around a low hill to the south, rising gently from c.30m above Ordnance Datum (aOD) in the southeast to c.40m aOD in the west.

1.4.2 **Site 2** was on level ground at c.27m aOD.

## 2 ARCHAEOLOGICAL BACKGROUND

### 2.1 Summary

2.1.1 The following section summarises the archaeological and historical background of the Site that was detailed in the Written Scheme of Investigation (AECOM 2015).

### 2.2 Prehistoric

2.2.1 The Calder Valley is likely to have been cleared of forest before or during the Bronze Age. It is possible that remnants of ancient woodland remained at this time, including the expanse of woodland known as Outwood to the northwest of the scheme. Finds of prehistoric artefacts have been recovered within the flood plain of the River Calder, including a stone axe, an early Bronze Age stone axe hammer, a hoard of late Bronze Age axes, a bronze wing flanged axe and a dugout canoe.

2.2.2 Situated to the south of scheme, between the railway line and the disused Barnsley Canal are the cropmarks of possible enclosures. A date for these has not been established but based on their form they may have prehistoric or Roman origins. Other cropmarks have been recorded within the landscape, including a number of linear features noted some distance to the north of the scheme between the River Calder and Birkwood Road.

2.2.3 The site of a scheduled Neolithic henge lies to the northeast of the scheme on Birkwood Common, north of the River Calder. A geophysical survey of the area was undertaken in 1989 which revealed an oval enclosure which was defined by a bank but no ditch, but this monument may have later origins and is thought now to link to coal extraction in the 19<sup>th</sup>/20<sup>th</sup> century.

### 2.3 Roman

2.3.1 Evidence of occupation or settlement activity is sparse for the Roman period within the vicinity of the scheme. This is surprising given the large Roman settlements in the Calder Valley including Pontefract and Castleford. A number of stray metal finds, dated to the Roman period, have been recovered by metal detectorists, including a copper alloy escutcheon, Roman coins and a 4<sup>th</sup> century Roman coin hoard.

2.3.2 It has been postulated that the river crossing at Stanley Ferry to the north of the application site was used in the Roman period although at this time the river may have been located further to the east.

2.3.3 Running adjacent to the southern boundary of the application site is the conjectured course of a Roman road, with a possible agger running along part of it. Much of its presumed route has been disturbed by 19<sup>th</sup>/20<sup>th</sup> century activity. Often associated with such roads are roadside settlement, burials and ritual activity, but there is no evidence to suggest that such activity occurred within the scheme footprint or in close proximity to it.





## 2.4 Medieval

- 2.4.1 In the early medieval period the area was situated within the British Kingdom of Elmet. Place name evidence shows Celtic, Scandinavian and Old English influence.
- 2.4.2 The River Calder would have acted as a principal transport link between Wakefield, Leeds, Castleford and other urban centres. The wider landscape was characterised by farmsteads and open field systems, which would have taken advantage of the fertile nature of the River Calder flood plain. Parts of these open field systems survived, in some areas, until the late 18<sup>th</sup> century including Wakefield, which was enclosed by Act of Parliament in 1793.
- 2.4.3 A wealth of documentary evidence referring to coal extraction from the 14<sup>th</sup> century onwards exists.
- 2.4.4 The Old Park was one of two medieval parks in the area, with deer leaps, enclosed gardens, fisheries and iron smelting. No precise locations are known, but some features likely took advantage of the remnants of previous channels of the River Calder. One of two lodges was located under the modern East Moor housing estate.
- 2.4.5 Stanley Hall and the lost village of Mygeley are purported to have been in existence in the medieval period. Clarke Hall was in existence in the late 17<sup>th</sup> century but it is believed to have been built on an earlier hall (known as Bradford Hall) which was constructed by Brian Bradford in 1542. Excavations in 1972 provided evidence for possible stone foundations relating to the hall.
- 2.4.6 To the southwest of the Site is the 13<sup>th</sup> century plague chapel St. Swithin's Chantry, excavated in 1905. A hermitage also existed, with a garden and two crofts which are referred to in 14<sup>th</sup> century documents. The site of a holy well, to the north of the chapel, was discovered during the development of the modern housing estate.
- 2.4.7 To the south of the scheme is the scheduled and Grade I listed chantry chapel and associated bridge across the River Calder, on an important medieval routeway, which was established in 1342. The bridge comprises four ribbed pointed arches which still remain.
- 2.4.8 The Battle of Wakefield, part of the War of the Roses, was fought on 30<sup>th</sup> December 1460 on Sandal Common. Near to Dame Mary Bowes Well a number of metal artefacts dating to the medieval period were recovered that have been said to be associated with the Battle of Wakefield.

## 2.5 Post-medieval and modern

- 2.5.1 Early historic OS maps show the area made up of open fields. Limited changes occurred to the field boundaries, although large extents were encroached upon in the early 19<sup>th</sup> century through the development of industry and associated transport networks. The estates and parks which had their origins in the medieval period still dominated the landscape in the early post-medieval period. Stanley Hall and Clarke Hall are both still extant.
- 2.5.2 A large house shown on 19<sup>th</sup> century OS maps within the estate of Old Park was located immediately adjacent to the later Calder Cut. A further house is marked to the east of it, named New Park. The landscape within which these houses sat was destroyed by sand and gravel extraction in the 1950s and by the mid-1970s New Park was ruinous.



- 2.5.3 The presence of mineral wealth and the development of transport links destroyed considerable parts of the former post-medieval landscape. Coal deposits were exploited through the sinking of a number of collieries including Park Hill Colliery in 1878. The mine closed in 1983.
- 2.5.4 From the 1840s onwards, railways came to the area, carried over the River Calder by the Calder Bridge. A series of sidings and a large engine shed are situated to the west of the scheme. Marked immediately to the east of the sidings is a small gas works which was in use into the 1950s.
- 2.5.5 Three power stations were built between the late 19th century and the late 20th century. The earliest of these in 1897 was the Wakefield Corporation Electricity Works, on Calder Vale Road, to the north of the scheme, within the area which is now home to a large sewage works. By 1914 a refuse destructor had been added; its associated refuse tip encroaches into land adjacent to the scheme. The Wakefield Corporation Power Station supplied electricity for the electric tramways and was operating in 1919, but no remains survive above ground. Wakefield 'B' Power Station was situated between Doncaster Road and the River Calder. This opened in 1957 and was demolished in 1993, and consisted of a square building served by two cooling towers which extracted water from the river.
- 2.5.6 Wakefield Sewage Works is depicted on early 20<sup>th</sup> century OS maps. Shown are a series of sludge beds which encroach into the northern extent of the scheme. This was developed, altered and adapted throughout the 20<sup>th</sup> century. The Sandal Sewage Works was depicted on late 19<sup>th</sup> century OS maps and went out of use by the early 1960s.
- 2.5.7 In 1698 a bill was presented to Parliament by the Aire and Calder Navigation Company, to improve navigation on the River Calder through the construction of sections of canal and the installation of locks. Further improvements were made to the route, due to increased competition from other more efficient waterways. These included the construction of a canal between 1793 and 1799 between the River Calder and Barnsley. The route of the Barnsley Canal, which ran from Heath Common to Barnsley Basin, is situated within the redline boundary for the scheme. This was completed in 1802 and followed the line of Oakenshaw Beck. In 1816 the line of the Barnsley Canal was moved west to replace the earlier alignment. The upper section of this joined the River Calder via Heath Lock which is depicted on the 1893 OS map. Between 1828 and 1830 bridges along the canal were raised to accommodate other vessels and in 1836 the depth of the canal was increased by 7 inches by raising the banks. A programme of repairs was also carried out in the 1860s. In 1871 the canal was taken over by the Aire and Calder Company by the Barnsley Canal Transfer Act; the northern section later falling in to disuse by 1874. The rest of the canal was closed to traffic in 1946.

## 2.6 Previous archaeological investigations

- 2.6.1 A geophysical survey was undertaken adjacent to **Site 1** (Phase Site Investigations, 2013a) in support of a planning application for residential development. A significant number of archaeological anomalies were identified which were subsequently targeted by trial trenching (Wessex Archaeology 2013). Three main phases of activity were thought to be present: the late prehistoric and Romano-British periods; the late medieval/ early Post-medieval periods and the early modern period. The earliest activity appeared to relate to late prehistoric (Iron Age/Romano-British) agricultural activity and field systems. At least two ditched enclosures appeared to be present with other features potentially forming internal divisions, field boundaries and droeways. There was evidence for medieval/ early Post-medieval structure/s in the southeast of the Site, thought to be associated with the medieval origins of the former parkland/ estate of Stanley Hall. The structures appear



to lie within a large rectangular ditched enclosure. Later features included a wall and a stone pad, interpreted as later garden or park features associated with Stanley Hall and a wooden slat zig-zag pathway, which could relate to a First- or Second-World War military practice trench (Wessex Archaeology 2013).

- 2.6.2 A further geophysical survey was undertaken in late 2013 (Phase Site Investigations, 2013b) covering **Site 2**. Identified were a number of geophysical anomalies south of Park Lodge Lane, including a possible enclosure ditch and a gully. These were also targeted by trial trench evaluation in 2014 (Wessex Archaeology 2014) in support of the planning application for the WERR scheme. Undated features correlating with the geophysical survey anomalies were identified and thought most likely to relate to the late prehistoric agricultural activity located to the northwest.

### **3 METHODOLOGY**

#### **3.1 General**

- 3.1.1 Detailed methodology for the work can be found in the Written Scheme of Investigation (AECOM 2015). Wessex Archaeology procedures conform to industry best practice, as outlined in the standards and guidance documentation issued by the Chartered Institute for Archaeologists (e.g. ClfA 2014a-d) and relevant local and regional frameworks.

- 3.1.2 At **Site 1**, the proposed area of 4x491m was stripped. An area 4x90m was initially stripped at **Site 2**, before the area was extended to the full width of the road scheme (c.15m).

#### **3.2 Aims and objectives**

- 3.2.1 The objectives of the Strip Map and Sample archaeological excavations were:
- *to mitigate the impact of the scheme on the archaeological resource;*
  - *to preserve by record the archaeological remains that will be impacted by the scheme;*
  - *to confirm and enhance the results of the previous archaeological evaluation works;*
  - *to attempt a reconstruction of the history and use of each site, functions, activities, settlement patterns, site economics and communications;*
  - *to contribute to the regional archaeological and historic landscape research archive; and,*
  - *to investigate the development of field systems from the later prehistoric period, change and continuity.*

#### **3.3 Machine excavation**

- 3.3.1 Topsoil and overburden were removed using a 360° mechanical excavator fitted with a toothless ditching bucket, working under the continuous direct supervision of a suitably experienced archaeologist. Topsoil and overburden were 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. The spoil was scanned with a metal detector to maximise the retrieval of finds.





### 3.4 Setting out and pre-excavation

- 3.4.1 The Site was set out in accordance with the agreed Site plan by an engineer working for Hochtief Buckingham JV using a survey grade GPS with an accuracy of less than +/- 100mm. A cable avoidance tool was used to identify services prior to excavation.

### 3.5 Hand excavation of archaeological remains

- 3.5.1 The exposed surfaces were hand-cleaned when necessary to clarify the extent of any revealed archaeological remains. All features were investigated in order to establish the date, nature, extent and condition of the archaeological remains.
- 3.5.2 Archaeological features and deposits were investigated and stratigraphically excavated by hand. In the event, a more rigorous sampling strategy was employed than that specified in the WSI, as agreed on site with the local planning archaeologist. The following sampling strategy was followed:

Feature/deposit type	Excavation strategy
Linear features	20% of length to include all terminals, intersections and other relationships
Discrete features and pits	All discrete features were recorded as half-sections before being excavated 100%
Interior features of enclosures	Initially 20% sampled then excavated 100%

### 3.6 Recording

- 3.6.1 All archaeological features and deposits encountered were recorded using Wessex Archaeology's *pro forma* recording sheets and a continuous unique numbering system.
- 3.6.2 Excavated areas, archaeological features and deposits were located by means of an RTK GPS system and tied into the Ordnance Survey grid with a tolerance of better than + or - 100mm. All archaeological features and deposits as well as excavated slots had spot heights recorded in relation to Ordnance Datum, correct to two decimal places. Plans, sections and elevations of archaeological features and deposits were drawn at 1:10, 1:20 or 1:50 scale as appropriate. All drawings were made in pencil on permanent drafting film.
- 3.6.3 A photographic record was maintained using 35mm monochrome film and digital images.

### 3.7 Finds

- 3.7.1 Finds were treated in accordance with the relevant guidance (English Heritage 2005, 2006).
- 3.7.2 All artefacts from excavated contexts were retained, except material of obviously modern date. All retained artefacts were washed, weighed, counted and identified. Any artefacts requiring conservation or specific storage conditions were dealt with immediately in line with *First Aid for Finds* (Watkinson and Neal 1998).

### 3.8 Environmental samples

- 3.8.1 The environmental sampling strategy included the routine bulk sampling (40 litres) of undisturbed deposits. The collection and processing of environmental samples was undertaken in accordance with English Heritage guidelines (English Heritage 2011).



## 4 RESULTS

### 4.1 Introduction

4.1.1 The following section provides a summary of the information held in the Site archive, with a full list of context numbers and context descriptions contained in **Appendix 1**.

### 4.2 General stratigraphy

4.2.1 The natural undisturbed geological substrate mostly consisted of brownish yellow silt clay (**1001, 2002**). Natural deposits of shattered sandstone (**2003**) and coal (**1002**) were also seen. 0.2m of relic ploughsoil subsoil consisting of orange-brown silt clay was seen across both Sites (**1003, 2001**). The shade of the topsoil varied widely according to how much moisture it contained on any specific day, but was consistently brown clay silt (**1000, 2000**).

### 4.3 Late prehistoric/ Romano-British

4.3.1 A single archaeological feature was identified in the 491m length of **Site 1**. The feature (**1005**) was a well-defined, gently 'V'-shaped boundary ditch running east-west, 1.7m wide and 0.86m deep (**Figure 2, Plate 1**). Ditch **1005** had two fills, a primary fill likely derived from bank collapse (**1006**) and a secondary fill with a bluish hue towards the base suggesting water deposition (**1007**). The ditch was fully excavated (within the 4m trench width), but no dating evidence was found. However, the ditch was sealed by the subsoil which filled ridge and furrow across the Site. It seems likely therefore that the ditch is associated with features identified by previous geophysical survey and evaluation, on a similar or perpendicular alignment to the south and west, (Phase Site Investigations, 2013a; Wessex Archaeology 2013), which have been assigned a provisional late prehistoric/ Romano-British date.

### 4.4 Ridge and furrow

4.4.1 **Site 1** contained evidence of extensive ridge and furrow cultivation spaced at 6-7m intervals and running from slightly east of north to slightly west of south. Ridge and furrow is usually medieval and/ or Post-medieval date. These furrows were shallow and concave and were frequently absent due to more recent plough truncation, although the pattern of ridge and furrow was seen to cover the whole 491m length of **Site 1**.

### 4.5 Post-medieval

4.5.1 **Site 2** contained a large enclosure previously identified by geophysical survey (Phase Site Investigations, 2013b), and partially investigated during previous evaluation (Wessex Archaeology 2014).

4.5.2 A series of parallel ditches and gullies formed a substantial northeast-southwest boundary across the southern end of **Site 2** (**Figures 3 and 4, Plate 2**), and appeared to form the southeast limit of the large enclosure. The largest of these features was the southernmost, **2030** (**Plate 3**), a uniformly 'V'-shaped ditch 1.05m wide and 0.68m deep with a narrow (0.2m) flat base. Moving northwest, the next parallel linear was a small (0.6m wide by 0.15m deep) gully, **2031**. In the west, this gully was almost adjacent to its southern neighbour, and would have intercut with it prior to the ploughing of the Site. Moving east, the gully kinked out to the north before turning back and becoming parallel to the other features once more. At this eastern end, gully **2031** was seen to intercut with the next gully, **2032**, and the two features had indistinguishable, contemporary fills. Gully **2032** (**Plate 4**) was absent from the centre of the Site due to truncation but continued on both sides of this truncation and was a mere 0.2m wide and 0.1m deep in the west of the Site.

Finally, **2033** was 0.9m wide by 0.35m deep. Towards the east, **2033** branched into two gullies (**Plate 5**), again with contemporary fills. The southern branch, **2034**, was truncated in the centre of the Site, but was 0.5m wide and 0.1m deep. The northern branch, **2035**, was the same width but 0.3m deep. The fills of these features were similar, typically mid grey silty clay (e.g. **2007**). None of the features contained artefactual material.

- 4.5.3 Perpendicular to and respecting this substantial boundary of parallel ditches and gullies were two short gullies, **2056** and **2057** (**Figures 3** and **5**). Short gully **2056** (**Plate 6**) produced part of a pot quern dated to the medieval or early Post-medieval periods, a stone with sharpening grooves and a fragment of probable Post-medieval brick (contexts 2013 and 2053, see Section 5 below). The fill of **2056** contained 5% subangular sandstone, much higher than the other fills on Site, and 1% burnt subangular sandstone. Gully **2056** was 0.85m wide and 0.15m deep with a concave profile. Parallel to **2056**, gully **2057** (**Plate 7**) was similar but with a lower stone content. At the northwest end of **2057**, the gully turned 60° to the west before terminating, forming a rudimentary sub-division with **2056**.
- 4.5.4 West of the two short gullies **2056** and **2057** were a series of discrete pits (**Figure 6**). One of these, **2046** (**Plate 8**), was cut into loose bedrock and was circular with a concave profile, 1m in diameter. Circular pit **2046** had a fill similar to the other features on Site, mid brown silty clay (**2047**). However, the other discrete features in this cluster are not as certainly anthropogenic. **2054** was the most convincing, a sub-rectangular pit with a silty sand fill (**2055**). The other three pits in this cluster are more irregular (e.g. **2082**, **Plate 9**) and exhibit a rooty shape, again with sandy fills. It is most likely that only circular pit **2046** is a genuine archaeological feature, and that the other features were caused by bioturbation. However, it is questionable whether these are all genuinely archaeological features.
- 4.5.5 In the centre of **Site 2**, a tiny fragment (0.16m wide by 0.06m deep, c.3m long) of a gully, **2021** (**Figure 3**, **Plate 10**), on a similar northeast-southwest alignment to the boundary of ditches and gullies to the south, survived within an outcrop of loose bedrock. Had the bedrock not been high in this locality this gully would have been destroyed by ploughing.
- 4.5.6 A clear, prominent straight ditch (**2071**, **Figure 7**, **Plate 11**) ran southeast-northeast across the north end of **Site 2**, and appeared to form the northeast limit of the large enclosure perpendicular to the south east boundary. Ditch **2071** was 1.4m wide by 0.25m deep, with a flattish base and a concave profile, cut into loose bedrock. **2071** produced Post-medieval 16<sup>th</sup> or 17<sup>th</sup> century pottery (context 2019, see Section 5 below). This feature was also picked up in evaluation **Trenches 2** and **3** (Wessex Archaeology 2014) where it was undated and provisionally interpreted as Romano-British in origin.
- 4.5.7 Adjacent to ditch **2071**, a circular pit (**2073**, **Figure 6**, **Plate 12**) 0.65m in diameter and 0.22m deep was cut into loose bedrock immediately adjacent to Post-medieval ditch **2071**. This feature resembled a smaller version of pit **2046**.

## 4.6 Modern

- 4.6.1 Land drains consisting of both red circular ceramic pipes and french drains were seen extensively throughout **Site 1** on many different alignments. These often crossed each other with some complexity. One drain was seen consisting of a purple glazed ceramic pipe. A single land drain was seen in the north end of **Site 2**.





## 4.7 Natural

- 4.7.1 Three large (7m wide, 0.5m deep) non-anthropogenic features were seen in **Site 1** (e.g. **1002, Plate 13**). Although an exact geological interpretation was not reached, they seemed to be associated with outcroppings of low-quality coal.
- 4.7.2 Toward the north end of **Site 2**, a feature (**2070, Plate 14**) initially interpreted as a gully ran out of the eastern baulk before turning a sharp right angle and deepening considerably before returning into the baulk. After excavation, this feature looked decreasingly like archaeology and has been reinterpreted as geological, possibly an ice wedge or similar or a feature relating to the deposition process of the superficial geology. The profile of the feature is highly irregular and varies widely between the three slots dug in it. The fill is sandy unlike the clayey fills of genuine archaeological features on Site and looked quite unlike the other features.

## 5 FINDS

### 5.1 Introduction

- 5.1.1 A small quantity of finds was recovered from the Site. With the exception of a possible medieval quern, all datable finds in the assemblage are post-medieval, and the majority are likely to be relatively recent (19<sup>th</sup>/20<sup>th</sup> century). Finds came from **Site 1** (where they were restricted to topsoil) and **Site 2** (from topsoil and from two cut features). Quantities of finds by material type and by context are given in **Table 1**.

**Table 1: All finds by context (number / weight in grammes)**

Context	Fired Clay	Leather	Metal (No.)	Pottery	Stone
1000		1/10	26		
2000			9		
2013					2/31400
2019	1/17			4/40	
2053	1 /4				
<b>Total</b>	<b>2/21</b>	<b>1/10</b>	<b>35</b>	<b>4/40</b>	<b>2/31400</b>

### 5.2 Pottery

- 5.2.1 The four sherds from ditch **2071** (fill **2019**) are all post-medieval, and comprise two sherds of blackware and two of Midlands Purple ware. These are of 16<sup>th</sup> or 17<sup>th</sup> century date.

### 5.3 Stone

- 5.3.1 Two pieces of stone were found in gully **2056** (fill **2013**). One comprises half of the top piece of a pot quern, in an igneous stone. This was originally a circular object with a flat base, slightly sloping sides and a bevelled top. There is a central perforation, flaring towards the top. There is no sign of any handle lugs – most hand-operated querns such as these would have had one or two such lugs on the upper surface. This is the upper stone of a pot quern, and would have fitted into a recessed lower stone; the grain (or malted grain) would have been fed through the upper perforation, and ejected through a spout cut in the lower stone. Pot querns were used from the medieval period into the Post-



medieval period, superseded from the 17<sup>th</sup> century by examples with cranked handles and gears (Watts 2006, 4).

- 5.3.2 The second object is a large, flattish piece of sandstone, with numerous grooves and incised marks on the upper surface and edges; some may be tool-sharpening wear grooves. This artefact cannot be dated on its own although it comes from a feature which also contained a medieval/ early Post-medieval quern and a fragment of probable Post-medieval brick.

## 5.4 Metalwork

- 5.4.1 Metalwork was collected from the topsoil on both sites, and includes objects of iron, copper alloy and aluminium. Identifiable objects include a George V penny in very poor condition, screw-top bottle, a buckle, two buttons, a horseshoe, a possible knife blade, wire fragments, a washer and a ring pull, as well as nails and other probable structural items.

## 5.5 Other finds

- 5.5.1 Other finds comprise two small, abraded ceramic fragments, probably from Post-medieval bricks (from ditches **2056** and **2071** respectively), and a small leather strap with a metal buckle (topsoil find).

## 5.6 Potential and further recommendations

- 5.6.1 This is a small assemblage, and its potential for further research is negligible. The pot quern is of interest, but cannot be particularly closely dated. Given the quantities involved, their date range and provenance, retention for long-term curation is not recommended, with the possible exception of the pot quern.

# 6 ENVIRONMENTAL EVIDENCE

## 6.1 Introduction

- 6.1.1 A series of 13 bulk samples were taken from mainly ditches/gullies and pits across the site. The samples were processed for the recovery and assessment of charred plant remains and charcoal.

- 6.1.2 The bulk samples break down into the following phase groups:

**Table 2: Sample Provenance Summary**

Area	Phase	No of samples	Volume (litres)	Feature types
1	?IA/RB	1	24	Ditch
2	Medieval/early Post-medieval	8	253	Ditches/Gullies
2	Medieval/early Post-medieval	3	103	Pits
2	Undated	1	32	Geological feature
<b>Totals</b>		<b>13</b>	<b>412</b>	



## 6.2 Charred plant remains

6.2.1 The bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2 mm and 1 mm fractions and dried. The coarse fractions (>5.6 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 **Table 3** below. 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, Table 3, page 28 and 5, page 65), for cereals.

**Table 3: Assessment of the charred plant remains and charcoal**

Feature	Context	Sample	Vol (L)	Flot size	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal > 4/2mm	Other
Area 1												
?Iron Age/Romano British Ditch												
1005	1007	1	24	40	60	-	-	-	C	<i>Trifolium / Medicago</i>	0/2 ml	coal
Area 2												
?Medieval/ Post-medieval Ditches and Gullies												
2004 gp. 2030	2005	2	29	40	40	-	-	-	-	-	0/1 ml	coal
2044 gp. 2031	2045	7	33	40	10	-	-	-	-	-	0/1 ml	coal
2008 gp. 2032	2009	10	29	30	15	-	-	-	-	-	0/2 ml	coal
2036 gp. 2033	2037	4	36	30	50	-	-	-	C	Tuber frag	2/2 ml	coal
2040 gp. 2034	2041	6	35	300	15	-	-	-	-	-	1/15 ml	coal
2038 gp. 2035	2039	5	38	75	50	C	-	Indet. grain frag	-	-	2/5 ml	coal
2012 gp. 2056	2013	11	33	125	15	-	C	Glume base frag	-	-	5/15 ml	coal
2014 gp. 2057	2015	3	20	100	25	-	-	-	-	-	3/5 ml	coal
?Medieval/ Post-medieval Pits												
2072	2073	12	32	60	10	-	-	-	-	-	<1/5 ml	coal
2078 gp. 2086	2079	13	36	100	75	-	-	-	C	<i>Arrhenatherum</i>	2/7 ml	coal
2046	2047	8	35	150	20	-	-	-	-	-	5/20 ml	coal
Geological feature												
2076	2077	9	32	80	20	C	-	Indet. grain frag	-	-	<1/3 ml	coal

6.2.2 The flots varied in size with low to high numbers of roots and modern seeds that may be indicative of stratigraphic movement and the possibility of contamination by later intrusive elements. Charred material comprised varying degrees of preservation.

6.2.3 Low levels of charred plant remains were recorded in six of the samples. The small quantities of cereal remains included indeterminate grain fragments and hulled wheat,



emmer or spelt (*Triticum dicoccum/spelta*), glume bases. There were also a few weed seeds including seeds of clover/medick (*Trifolium/Medicago* sp.) and tuber fragments including those of false oat-grass (*Arrhenatherum elatius* var *bulbosus*).

- 6.2.4 These small assemblages provide no clear confirmation of date. There is no indication of settlement activity in the immediate vicinity from the assemblages.

### 6.3 Wood charcoal

- 6.3.1 Wood charcoal was noted from the flots of the bulk samples and is recorded in **Appendix 3**. Moderate quantities of wood charcoal fragments greater than 2mm were retrieved from gully **2012** group **2056** and pit **2046**, both of probable medieval/early Post-medieval date.

### 6.4 Further Potential

#### *Charred plant remains*

- 6.4.1 The analysis of the charred plant assemblages has no potential to provide detailed information on the nature of the settlement, the surrounding environment and local agricultural practices and crop husbandry techniques due to the paucity of material recovered.

#### *Wood charcoal*

- 6.4.2 There is little potential for the analysis of the wood charcoal to provide information on the species composition, management and exploitation of the local woodland resource due to the small amount of charcoal present.

### 6.5 Archiving

- 6.5.1 It is proposed that both the flots and residues should be discarded.

## 7 DISCUSSION

### 7.1 Summary

- 7.1.1 An isolated undated ditch was identified in **Site 1**, likely associated with features on a similar or perpendicular alignment identified by previous investigations to the south and west (Phase Site Investigations 2013a; Wessex Archaeology 2013). In the absence of dating evidence, a late prehistoric/ Romano-British date seems likely for this isolated field boundary.

- 7.1.2 **Site 2** contained a large enclosure previously identified by geophysical survey (Phase Site Investigations. 2013b), and partially investigated during previous evaluation (Wessex Archaeology 2014). Dating evidence recovered from the northeast ditch and an internal gully indicates the enclosure probably dates to the early Post-medieval period. The southeast limit of the enclosure was a substantial boundary of four or five parallel ditches and gullies, and the northeast limit was a single larger ditch. This discrepancy might be due to a migrating boundary in the southeast or a greater degree of truncation in the area of the southeast boundary, although neither suggestion is entirely convincing. No dating evidence was recovered from the southeast boundary, however it is respected, or respects, what appear to be internal gullies sub-dividing the southern extent of the enclosure. One of the gullies produced dating evidence (a medieval or early Post-medieval pot quern fragment and a probable Post-medieval brick fragment) seemingly contemporary with that recovered from the northeast boundary (16<sup>th</sup> or 17<sup>th</sup> century





ceramic and a probable fragment of Post-medieval brick), suggesting that the features at **Site 2** belong to a single phase.

- 7.1.3 The pot quern was recovered from a gully within the southern extent of the enclosure. The presence of a high quantity of stone (including burnt stone) in this feature suggests the presence of a robbed out wall or the disposal of stone from field clearance. A small number of pits were also seen close to the internal gullies but could not be interpreted further. An agricultural use for the enclosure seems likely given the relatively few finds recovered and that environmental evidence provided no indication of settlement in the immediate vicinity.
- 7.1.4 It is considered that the aims and objectives of the mitigation (Section 3 above) have been met although the paucity of artefactual and environmental evidence present has limited the dating, and understanding of the function, of the features encountered. The likely Post-medieval date of the enclosure at **Site 2** does little to inform existing regional research objectives (<http://www.archaeology.wyjs.org.uk/wyjs-archaeology-research.asp>).

## 7.2 Conclusion

- 7.2.1 An isolated undated field boundary, thought to be late prehistoric/ Romano-British in date, was excavated at **Site 1**. Ridge and furrow was seen across this area, along with a complex scheme of land drains. More intensive former land use in the wider area is indicated by previous investigations to the immediate south and west (Phase Site Investigations 2013a; Wessex Archaeology 2013).
- 7.2.2 At **Site 2**, a large enclosure of probable early Post-medieval date was excavated. The enclosure contained internal gullies and pits which appeared to form internal subdivisions within its southern extent. The archaeology appears to consist of a single phase although dating evidence was scarce. Evidence of a domestic use of the enclosure is slight and is limited to a medieval or early Post-medieval pot quern, a stone with possible sharpening grooves, small pieces of probable Post-medieval brick and a small number of Post-medieval (16<sup>th</sup> or 17<sup>th</sup> century) pottery sherds. However, the presence of all of these items may relate to disposal rather than use. Only half of the top stone of the quern was present, supporting a narrative of disposal. In the absence of other evidence, an agricultural use for the enclosure seems most likely.
- 7.2.3 The enclosure dates from a time when the landscape east of Wakefield was dominated by parkland around Clarke Hall and Stanley Hall and it is likely that the enclosure relates to parkland associated with one of these halls. The enclosure may be contemporary with a probable late medieval/ early Post-medieval enclosure identified at the City Fields site to the northwest (Wessex Archaeology 2013). The enclosure at **Site 2** appears to have gone out of use around the 17<sup>th</sup> century, prior to enclosure by Act of Parliament in 1793. Certainly none of the features identified are present, or align with boundaries, on available historic mapping (1851 onwards).

## 8 STORAGE AND CURATION

### 8.1 Museum

- 8.1.1 The project archive resulting from the excavation will be deposited with Wakefield Museum. Deposition of any finds with the Museum will only be carried out with the full agreement of the landowner.



## 8.2 Preparation of archive

- 8.2.1 The complete Site archive, which will include paper records, photographic records, graphics, artefacts, and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Wakefield Museum, and in general following nationally recommended guidelines (SMA 1995; UKIC 2001; Brown 2011; ClfA 2014c; ADS 2013). All archive elements will be marked with the museum accession code, and a full index will be prepared.
- 8.2.2 An OASIS form (**Appendix 2**), ID number **wessexar1-195094**, has been provisionally completed and will be finalised at the time of deposition.

## 8.3 Discard policy

- 8.3.1 Wessex Archaeology follows the guidelines set out in Selection, Retention and Dispersal (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. Any discard of artefacts will be fully documented in the project archive.
- 8.3.2 The discard of environmental remains and samples follows nationally recommended guidelines (SMA 1993; 1995; English Heritage 2011).

## 8.4 Security copy

- 8.4.1 In line with current best practice (e.g. 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.





## 9 REFERENCES

### 9.1 Bibliography

- AECOM 2015, Written Scheme of Investigation for Archaeological Mitigation Works: Wakefield Eastern Relief Road
- ADS, 2013, Caring for Digital Data in Archaeology: a guide to good practice, Archaeology Data Service & Digital Antiquity Guides to Good Practice
- Brown, D.H., 2011, Archaeological archives; a guide to best practice in creation, compilation, transfer and curation, Archaeological Archives Forum (revised edition)
- Chartered Institute for Archaeologists (CIfA), 2014a, Standard and Guidance for Archaeological Excavation
- Chartered Institute for Archaeologists (CIfA), 2014b, Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials
- Chartered Institute for Archaeologists (CIfA), 2014c, Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives
- Chartered Institute for Archaeologists (CIfA), 2014d, Codes of Conduct
- English Heritage, 2005, A Strategy for the Care and Investigation of Finds
- English Heritage, 2006, Guidelines on the X-radiography of archaeological metalwork
- English Heritage, 2011, Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recovery to Post-excavation
- Phase Site Investigations. 2013a, Wakefield East – Area 1 Wakefield: Archaeological geophysical survey
- Phase Site Investigations. 2013b, Wakefield East – Area 2 Wakefield: Archaeological geophysical survey
- Society of Museum Archaeologists (SMA), 1993, Selection, Retention and Dispersal of Archaeological Collections, Society of Museum Archaeologists
- Society of Museum Archaeologists (SMA), 1995, Towards an Accessible Archaeological Archive, Society of Museum Archaeologists
- Stace, C, 1997, New flora of the British Isles (2<sup>nd</sup> edition), Cambridge: Cambridge University Press.
- United Kingdom Institute of Conservation (UKIC), 2001, Guidelines for the Preparation of Excavation Archives for Long Term Storage
- Watkinson, D. and Neal, V. (eds.), 1998, First Aid for Finds: Practical Guide for Archaeologists. United Kingdom Institute for Conservation of Historic & Artistic Works, Archaeology Section; 3<sup>rd</sup> Revised Edition



Watts, S., 2006, Rotary querns c.700–1700, Finds Research Group Datasheet 38

Wessex Archaeology, 2013, City Fields, Wakefield, West Yorkshire: Archaeological Evaluation Report. Unpublished client report ref: 100230.02

Wessex Archaeology, 2014, Wakefield Eastern Relief Road (WERR), Park Lodge Lane, Wakefield: Interim Statement of Results. Unpublished client report ref: 106710.02

Zohary, D, and Hopf, M, 2000, Domestication of plants in the Old World: the origin and spread of cultivated plants in West Asia, Europe, and the Nile Valley, 3rd edition, Clarendon Press, Oxford.

## 9.2 Online sources

British Geological Survey, Geology of Britain online viewer, accessed 12/08/14, <<http://www.bgs.ac.uk/discoveringgeology/geologyofbritain/viewer.html>>



## 10 APPENDICES

### Appendix 1: Context descriptions

Site 1		
Context	Type	Description
1000	Topsoil	Mid brown clay silt with modern manuring finds.
1001	Natural	Yellow silt clay with <1% stone
1002	Natural	Coal Seam. Yellow brown clay silt with patches of brown-black poor quality coal. 7-8m wide by 0.7m deep. Irregular shape.
1003	Subsoil	Brownish yellow silt clay similar to natural 1001.
1004	Natural	Blue clay, loose, wet. Seen below 1002.
1005	Cut	NE-SW ditch 1.7m wide by 0.86m deep, V-shaped.
1006	Fill of 1005	Blue-grey clay with 60% iron/magnesium metallic precipitate. Primary fill – bank slump.
1007	Fill of 1005	Blue-brown clay, <1% stone. Water deposited secondary fill

Site 2		
Context	Type	Description
2000	Topsoil	Light grey when dry, dark brown when wet. Clay silt with humic material and manuring finds.
2001	Subsoil	Orange-brown silt clay
2002	Natural	Yellow-orange silt clay.
2003	Natural	Stones. Sub-angular and angular soft sandstone in c.0.07m lumps
2004	Cut	NE-SW linear 1.05m wide by 0.68m deep.
2005	Fill of 2004	Mid grey silt clay <5% stone. Secondary fill
2006	Cut	NE-SW linear 0.6m wide by 0.15m deep
2007	Fill of 2006	Mid brown silty clay with <5% stone. Secondary fill
2008	Cut	NE-SW linear 0.44m wide by 0.13m deep
2009	Fill of 2008	Mid grey silty clay <5% stones. Secondary fill
2010	Cut	NE-SW linear 1.05m wide by 0.24m deep
2011	Fill of 2010	Mid brownish grey silty clay <5% stone. Secondary fill
2012	Cut	NW-SE gully terminus 0.8m wide by 0.15m deep
2013	Fill of 2012	Mid brownish grey silty clay. 5% subangular stone and 1% burnt stone
2014	Cut	NW-SE linear. 0.65m wide by 0.24m deep.
2015	Fill of 2015	Mid brown silty clay <5% stone. Secondary fill
2016	VOID	
2017	VOID	
2018	Cut	SE-NW linear 1.4m wide by 0.26m deep
2019	Fill of 2018	Dark brown silty clay with 10% subangular stones
2020	Geology	Mid grey silty clay patch cut through by 2018
2021	Cut	NE-SW linear 0.6m wide by 0.16m deep. Thin short gully near removed by ploughing.
2022	Fill of 2021	Mid grey brown silt clay with 10% subangular stones. Secondary fill



2023	Fill of 2024	Mid grey silty clay <5% subangular stones. Secondary fill
2024	Cut	NE-SW v-shaped linear. 1.25m wide by 0.76m deep
2025	Fill of 2026	Mid grey silty clay <5% stones. Secondary fill
2026	Cut	NE-SW linear 0.6m wide by 0.14m deep
2027	VOID	
2028	Fill of 2029	Mid grey silty clay secondary fill
2029	Cut	NE-SW linear 0.2m wide by 0.11m deep
2030	Group	V-Shaped ditch. 2004, 2005, 2024 and 2025
2031	Group	Curvilinear gully. 2006, 2007, 2025, 2026, 2044 and 2045
2032	Group	Gully. 2008, 2009, 2028, 2029, 2042 and 2043
2033	Group	Ditch branches into two gullies. 2010, 2011, 2036, 2037 and groups 2034 and 2035
2034	Group	Southern branch of 2033. 2040, 2041, 2062, 2063, 2058, 2059, 2064, 2065
2035	Group	Northern branch of 2033. 2038, 2039, 2060, 2061, 2010, 2011
2036	Cut	NE-SW linear 0.9m wide 0.34m deep
2037	Fill of 2036	Mid grey silty clay <5% stones. Secondary fill
2038	Cut	NE-SW linear 0.5m wide 0.28m deep
2039	Fill of 2038	Mid grey silt clay secondary fill
2040	Cut	NE-SW linear 0.5m wide by 0.08m deep. Secondary fill
2041	Fill of 2040	Mid greyish brown silty clay secondary fill
2042	Cut	NE-SW linear 0.8m wide by 0.28m deep
2043	Fill of 2042	Mid brown silty clay 5% stones secondary fill
2044	Cut	NE-SW linear 0.9m wide by 0.3m deep
2045	Fill of 2044	Mid brown silt clay 5% stones secondary fill
2046	Cut	Pit. Circular, 1.3m by 0.22m deep.
2047	Fill of 2046	Mid brown silty clay 10% subangular stones secondary fill
2048	Cut	NW-SE linear 0.25m wide by 0.15m deep
2049	Fill of 2048	Mid brown silty clay <5% stones secondary fill
2050	Cut	NW-SE curvilinear 0.6m wide by 0.3m deep
2051	Fill of 2050	Mid brown silt clay <5% stones secondary fill
2052	Cut	Gully terminus. 0.8m wide by 0.25m deep
2053	Fill of 2052	Mid brown clay silt 5% stones, 1% burnt stone. Secondary fill
2054	Cut	NE-SW sub-rectangular pit. 1.16m by 0.7m by 0.21m deep. Secondary fill. Possibly caused by bioturbation.
2055	Fill of 2054	Mid brown silty sand with gravel. Secondary fill or bioturbation.
2056	Group	Short gully internal feature of enclosure. 2012, 2013, 2052 and 2053.
2057	Group	Short gully internal feature of enclosure. 2014, 2015, 2050, 2051, 2048, 2049
2058	Cut	Gully terminus, contemporary with 2060. 0.44m wide by 0.25m deep.
2059	Fill of 2058	Mid brown grey silt clay secondary fill
2060	Cut	NE-SW linear 0.3m wide by 0.25m deep
2061	Fill of 2060	Mid brown grey silt clay secondary fill
2062	Cut	NE-SW linear visible in machine step. 0.6m wide by 0.07m deep
2063	Fill of 2062	Mid brown grey silt clay secondary fill



2064	Cut	NE-SW linear 0.55m wide by 0.15m deep
2065	Fill of 2064	Mid brown grey silt clay <5% subrounded stones secondary fill
2066	Cut	NW-SE linear 1.4m wide by 0.2m deep
2067	Fill of 2066	Light brown clay loam 2% stone secondary fill
2068	Cut	NW-SE and NE-SW gully with 90 degree bend. 1.1m wide by 0.2m deep
2069	Fill of 2068	Yellowish light brown silt clay with 3% stone secondary fill. Geology?
2070	Group	Geological feature initially thought to be enclosure ditch with 90 degree bend. 2068, 2069, 2074, 2075, 2076, 2077
2071	Group	Early post medieval ditch. 2066, 2067, 2018, 2019, 2080, 2081
2072	Cut	Pit. 0.325m diameter, 0.22m deep.
2073	Fill of 2072	Mid brown silt clay with 7% stone secondary fill
2074	Cut	Very irregular linear. Probably geological. 1.4m wide by 0.6m deep
2075	Fill of 2074	Purplish dark brown sandy loam with stones and lumps of clay. Likely geological.
2076	Cut	Irregular linear, probably geological. 0.7m wide by 0.18m deep.
2077	Fill of 2076	Mid grey brown clay sand. Geological fill?
2078	Cut	Boxed out irregular pit, 0.45m wide by 0.7m long and 0.23m deep
2079	Fill of 2078	Mid-dark brown silty sand with charcoal/coal and sandstone. Bioturbation undercutting natural.
2080	Cut	Post medieval linear 1.45m wide by 0.39m deep
2081	Fill of 2080	Dark brown silty clay with 20% stones secondary fill
2082	Cut	Sub circular irregular pit 0.49m diameter by 0.25m deep
2083	Fill of 2082	Mid-dark brown silty sand with charcoal/coal and sandstone. Bioturbation.
2084	Cut	Sub circular pit 0.39m diameter, 0.33m deep. Undercuts natural; rooty shape.
2085	Fill of 2084	Mid-dark brown silty sand with sandstone. Fill of bioturbation
2086	Group	Group of pits, all likely to be caused by rooting but may be archaeological. 2078, 2082, 2084, 2079, 2083, 2085





## Appendix 2: OASIS Form

OASIS ID: wessexar1-195094

### Project details

Project name	Wakefield Eastern Relief Road
Short description of the project	<p>Wessex Archaeology were commissioned by Hochtief Buckingham Joint Venture, on behalf of Wakefield Council, to undertake an archaeological strip, map and sample investigation on two Sites impacted by the Wakefield Eastern Relief Road, on the eastern outskirts of the city of Wakefield (Site 1 centred on NGR SE 34720 22330 and Site 2 centred on SE 35200 21440). An isolated undated ditch was identified in Site 1, likely associated with features on a similar or perpendicular alignment identified by previous geophysical survey and evaluation of the City Fields site to the south and west (Phase Site Investigations 2013a; Wessex Archaeology 2013). In the absence of dating evidence, a late prehistoric/ Romano-British date seems likely for this isolated field boundary. A large enclosure, previously identified by geophysical survey (Phase Site Investigations 2013b) and partially investigated by evaluation (Wessex Archaeology 2014), was excavated at Site 2, and found to be of probable early Post-medieval date. The southeast limit of the enclosure was a substantial boundary of four or five parallel ditches and gullies, and the northeast limit was a single larger ditch. Within the southern extent of the enclosure were three gullies and two pits potentially forming part of internal sub-divisions. The archaeology in this area appears to consist of a single phase although dating evidence was scarce. Evidence for the domestic use of the enclosures was slight: a medieval or early Post-Medieval pot quern fragment, a stone with possible sharpening grooves and a small fragment of probable Post-medieval brick were all recovered from an internal gully, and only a small number of Post-medieval (16th or 17th century) pottery sherds and a further fragment of probable Post-medieval brick were recovered from the northeast enclosure ditch. In the absence of more definitive evidence, an agricultural use for the enclosure seems likely.</p>
Project dates	Start: 18-05-2015 End: 17-06-2015
Previous/future work	Yes / No
Any associated project reference codes	106710 - Sitecode
Any associated project reference codes	106711 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	ENCLOSURE Post Medieval
Monument type	FIELD BOUNDARY Roman
Significant Finds	POT QUERN Post Medieval
Investigation type	""Open-area excavation""
Prompt	Planning condition





### Project location

Country	England
Site location	WEST YORKSHIRE WAKEFIELD WAKEFIELD Wakefield Eastern Relief Road
Postcode	WF1 4RB
Site coordinates	SE 434397 421037 53.8731109048 -1.33923910238 53 52 23 N 001 20 21 W Point
Height OD / Depth	Min: 27.00m Max: 40.00m

### Project creators

Name of Organisation	Wessex Archaeology
Project brief originator	AECOM
Project design originator	AECOM
Project director/manager	O'Neill, R.
Project supervisor	Ashley Tuck
Type of sponsor/funding body	County Council
Name of sponsor/funding body	Wakefield Council

### Project archives

Physical Archive recipient	Wakefield Museum
Physical Contents	"Worked stone/lithics"
Digital Archive recipient	Wakefield Museum
Digital Contents	"none"
Digital Media available	"GIS","Images raster / digital photography","Survey"
Paper Archive recipient	Wakefield Museum
Paper Contents	"Ceramics"
Paper Media available	"Context sheet","Diary","Drawing","Photograph","Plan","Report","Section","Survey "

### Project



### **bibliography 1**

Publication type Grey literature (unpublished document/manuscript)

Title Wakefield Eastern Relief Road, Wakefield, West Yorkshire: Strip, Map and Sample Report

Author(s)/Editor(s) Tuck, A.

Other bibliographic details 106711.01

Date 2015

Issuer or publisher Wessex Archaeology

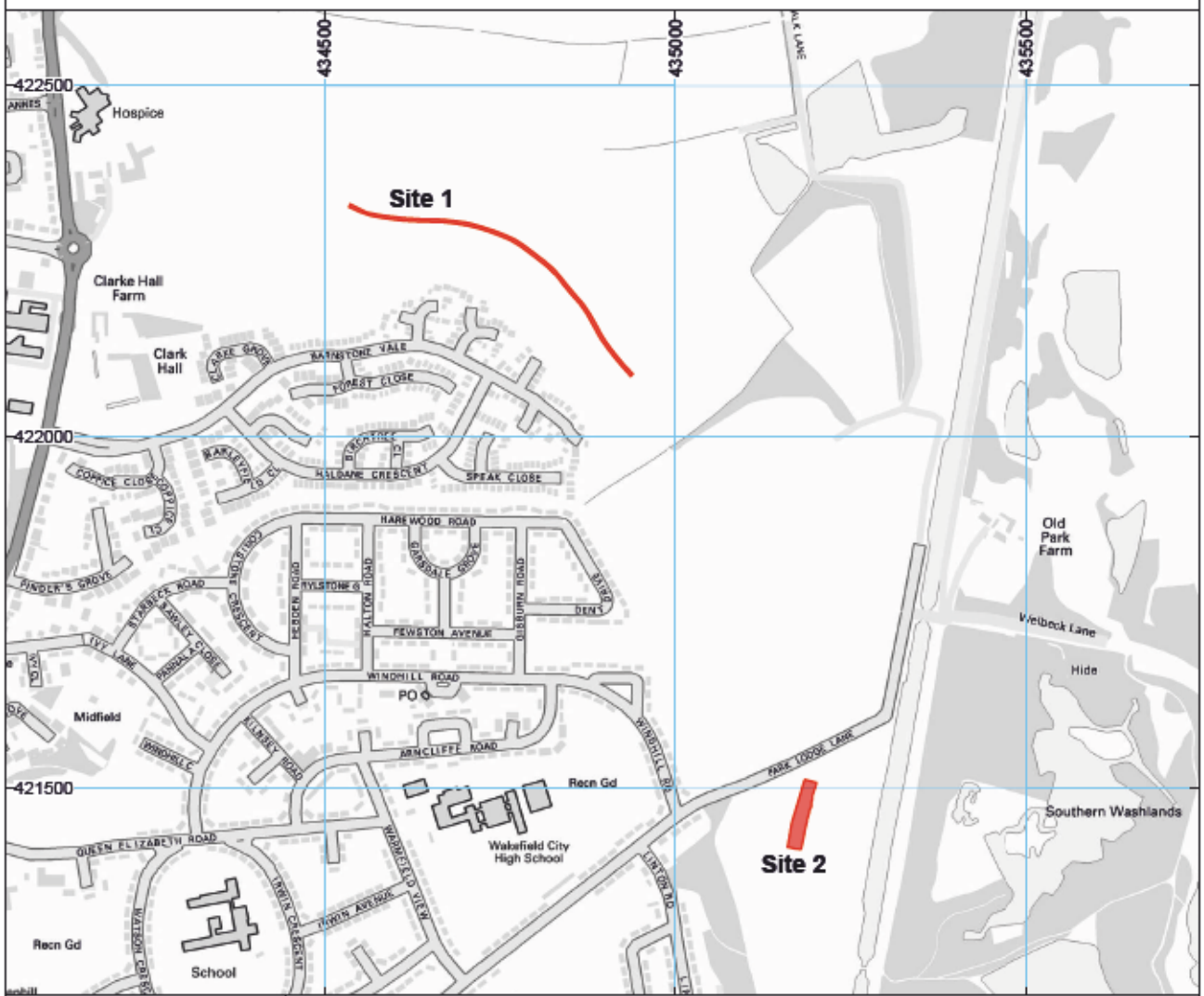
Place of issue or publication Sheffield




Description A4 comb bound laser printed report

---

Entered by Richard O'Neill (r.oneill@wessexarch.co.uk)

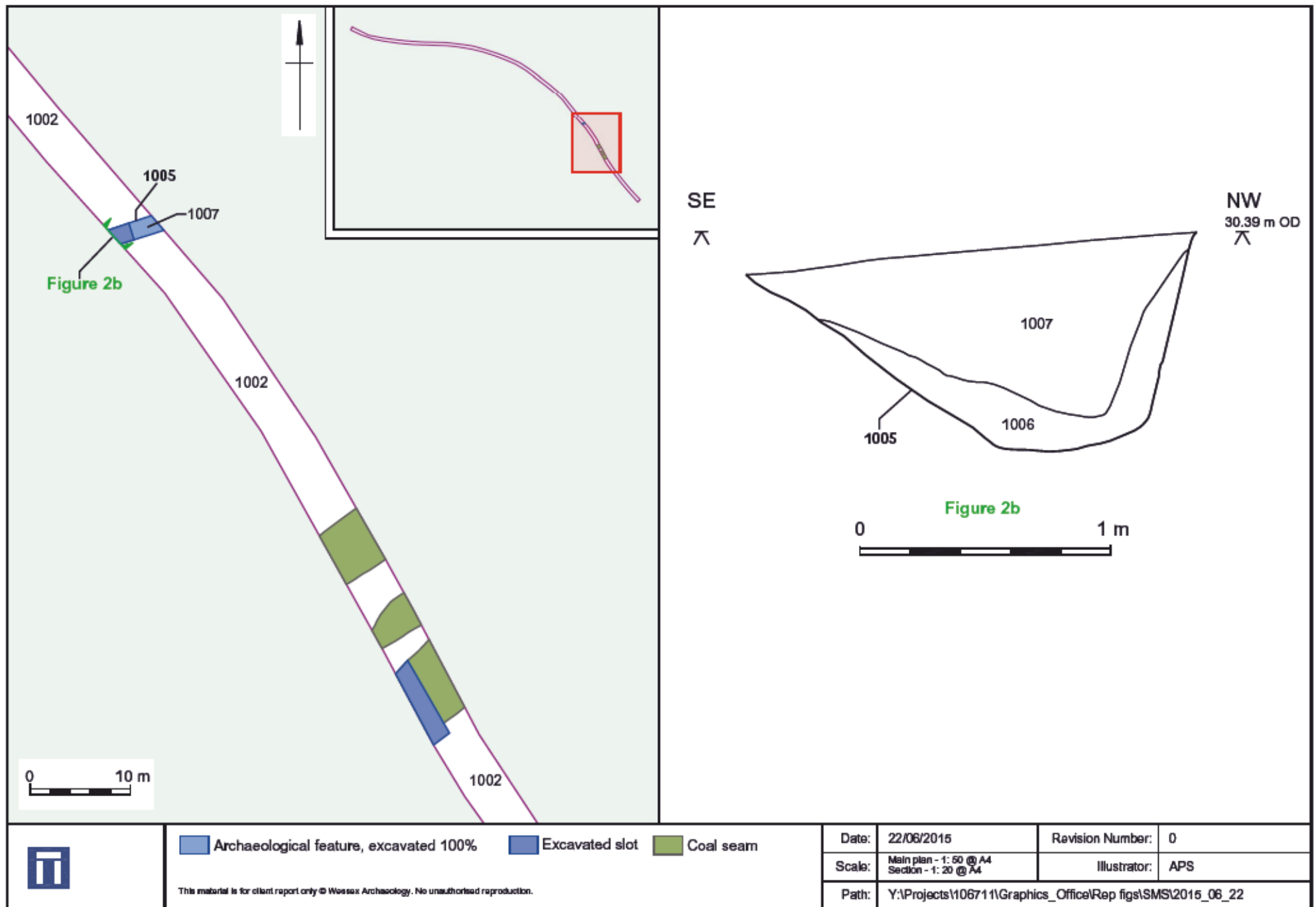
Entered on 29 July 2015



	 <b>Strip, Map and Sample Area</b>			
	Ordnance Survey, (c) Crown Copyright 2015. All rights reserved. Licence number 100022432 This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	22/06/2015	Revision Number:	0
	Scale:	Main graphic - 1:10,000 @ A4	Illustrator:	APS
Path:		Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		

Site locations

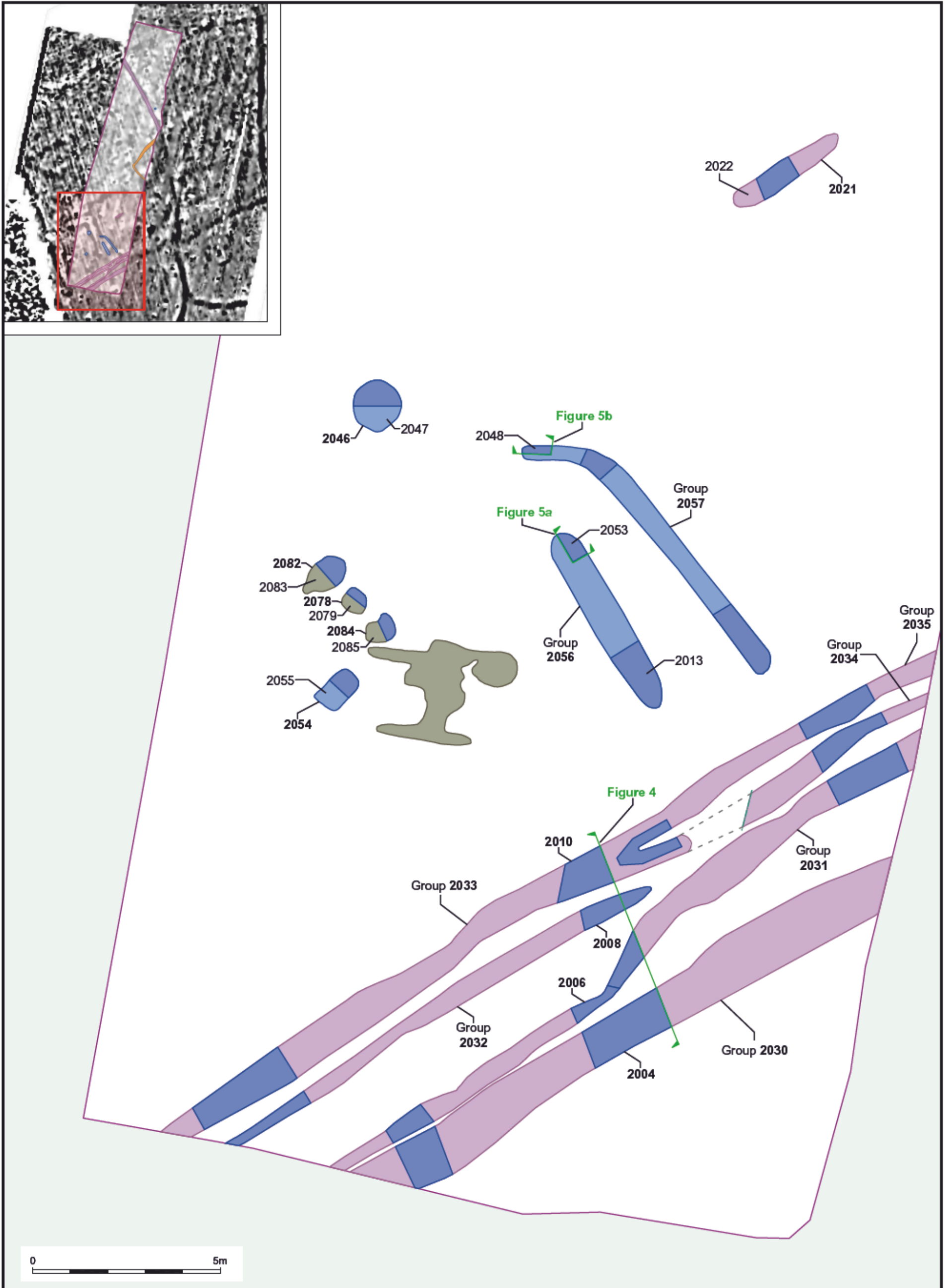
Figure 1




Plan of Site 1 with inset plan and section of ditch 1005

Figure 2



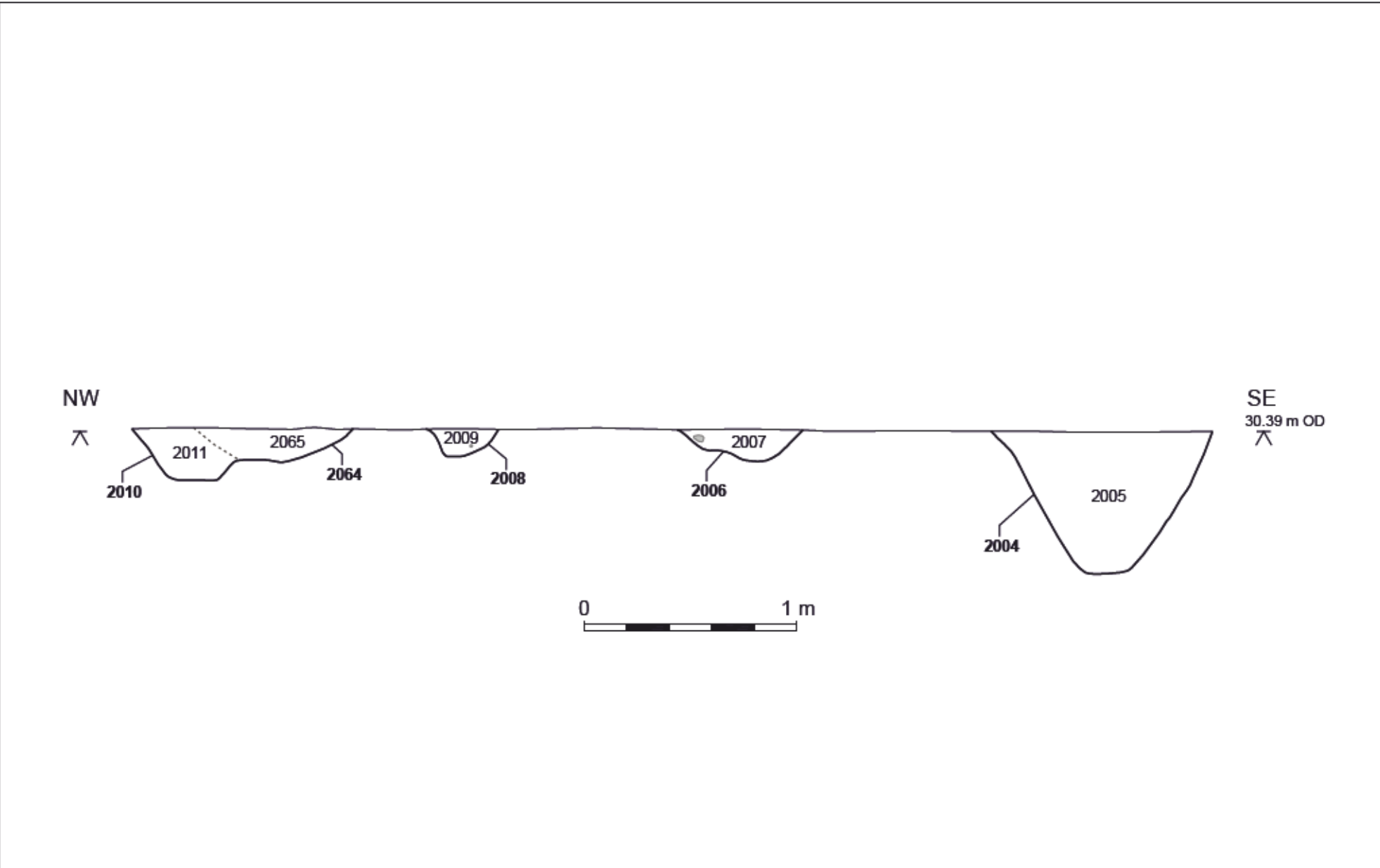


	<p>Archaeological feature    Excavated slot    Tree throw    Geology</p> <p>Archaeological feature, excavated 100%</p>		
	Date: 22/06/2015	Revision Number:	0
	Scale: Main graphic - 1: 100 @ A3	Illustrator:	APS
	Path: Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		

This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

Plan of southern part of Site 2

Figure 3



	 Stones	Date:	22/08/2015	Revision Number:	0
		Scale:	1: 25 @ A4	Illustrator:	APS
		Path:	Y:\Projects\108711\Graphics_Office\Rep figs\SMS\2015_08_22		
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.					

Section across linear features 2030, 2031, 2032 and 2082

Figure 4

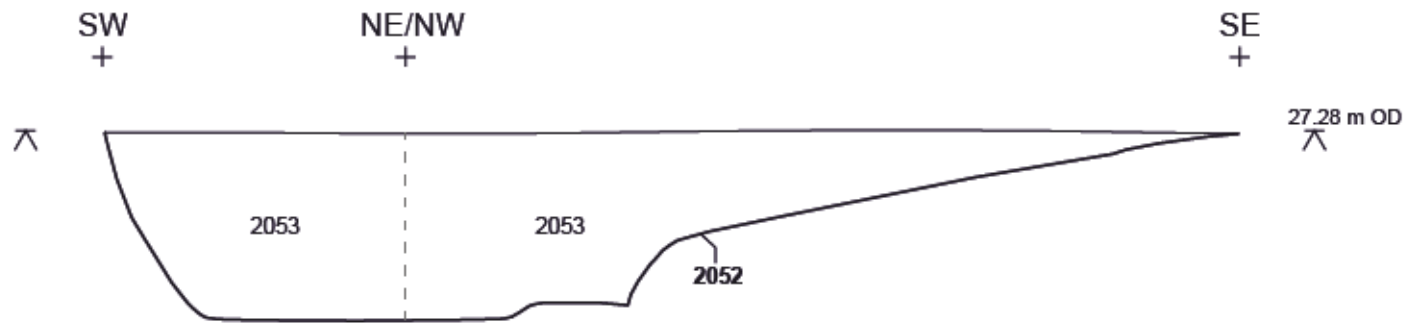


Figure 5a

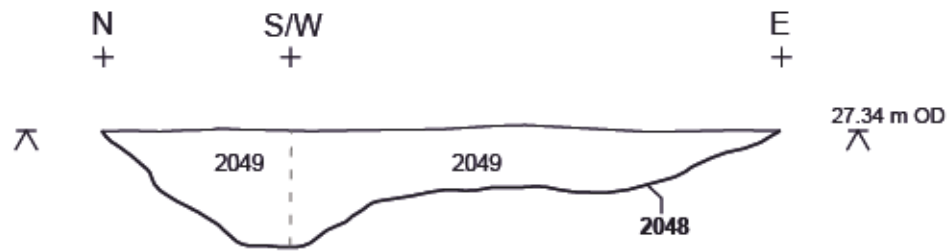
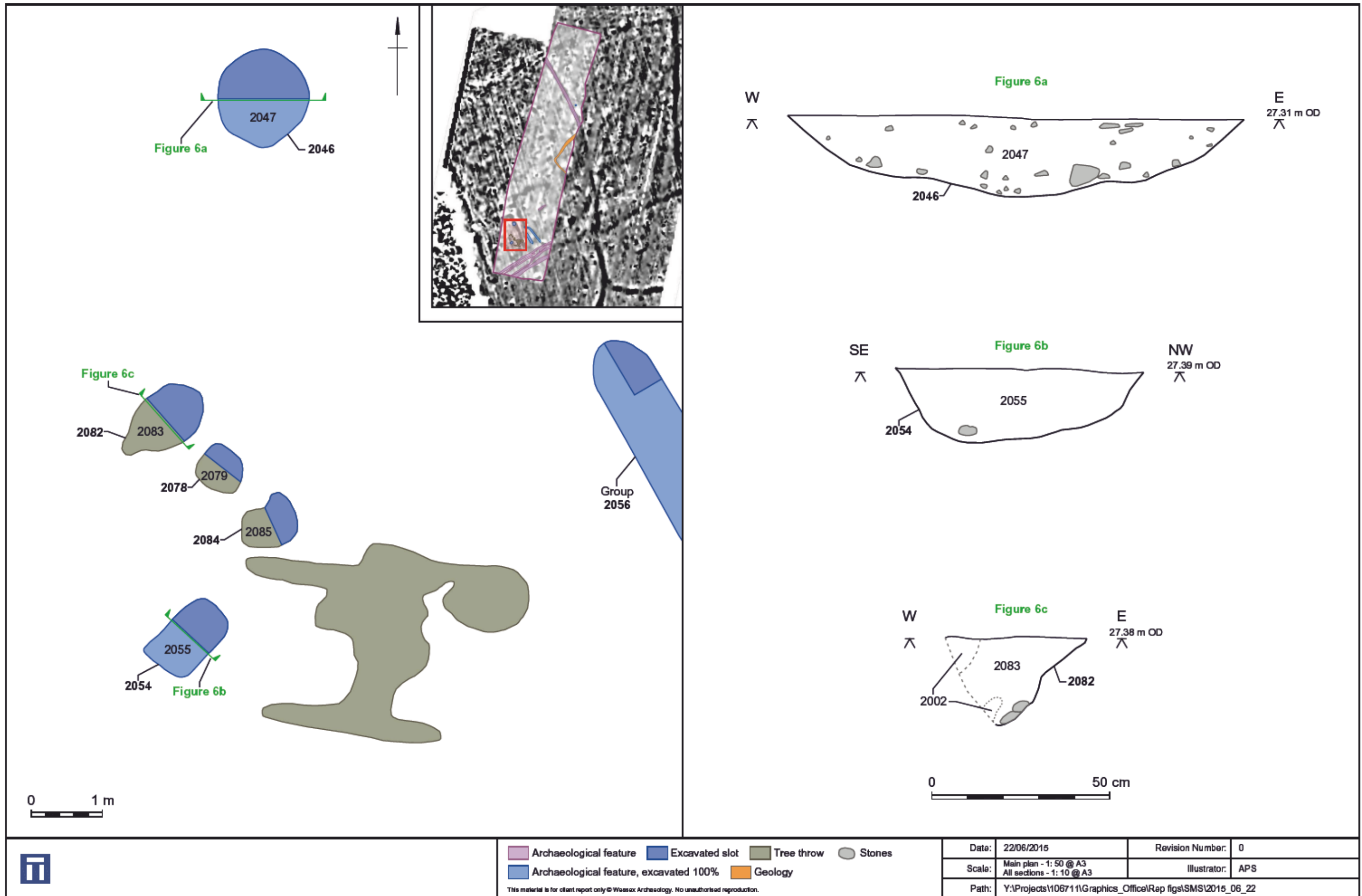


Figure 5b



This material is for client report only © Wessex Archaeology. No unauthorised reproduction.

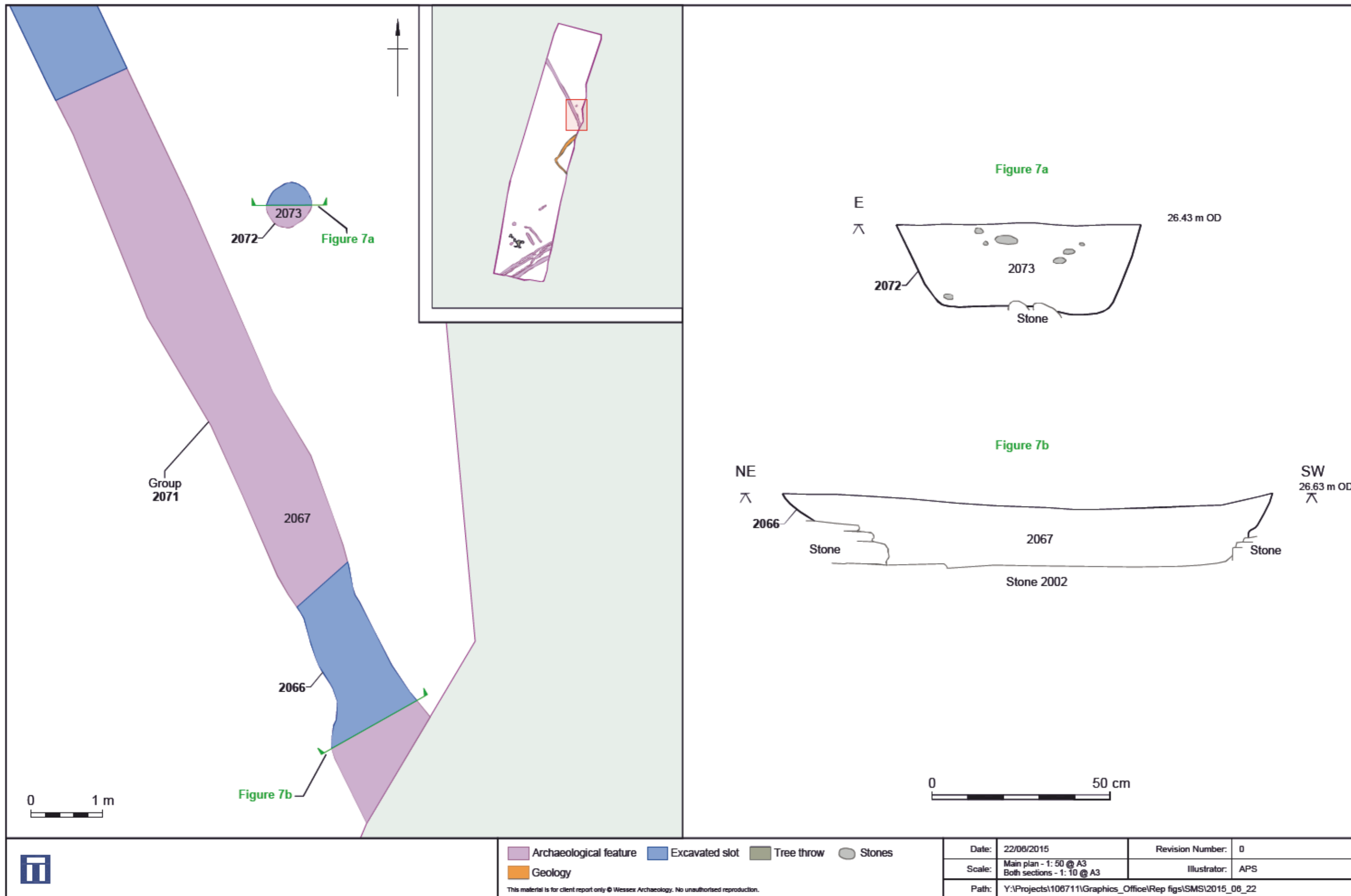
Date:	22/08/2015	Revision Number:	0
Scale:	Both sections - 1: 10 @ A4	Illustrator:	APS
Path:	Y:\Projects\108711\Graphics_Office\Rep figs\SMS\2015_08_22		



Plan of area of pits and sections of 2046, 2054, 2082

Figure 6





Plan of northern part of Site 2 with sections of ditch 2071 and pit 2072

Figure 7



Plate 1: Ditch **1005** from north



Plate 2: Linear features **2030**, **2031**, **2032** and **2033** pre-excitation seen in initial 4m wide strip from southwest


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		



Plate 3: Ditch **2030** from northeast



Plate 4: Gully **2032** from southwest


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.		
	Date:	25/06/2015	Revision Number: 0
	Scale:	N/A	Illustrator: APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22	





Plate 5: Gully **2033** splits into gullies **2034** and **2035** from southwest



Plate 6: Short gully **2056** from southeast during initial 4m wide strip


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		





Plate 7: Short gully **2057** showing 60 degree bend from west



Plate 8: Pit **2046** from south


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		



Plate 9: Pit **2082** from north



Plate 10: Fragment of gully **2021** from northeast


	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		





Plate 11: Ditch **2071** from northwest



Plate 12: Pit **2072** from north



	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		



Plate 13: Natural feature **1002** associated with coal seam from north



Plate 14: Natural feature **2070** from northeast

	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.			
	Date:	25/06/2015	Revision Number:	0
	Scale:	N/A	Illustrator:	APS
	Path:	Y:\Projects\106711\Graphics_Office\Rep figs\SMS\2015_06_22		





Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB  
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk



Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales, number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB.