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**Glasshoughton Coalfields Link Road,  
West Yorkshire**

*Archaeological Evaluation and  
Excavation*

*October 2008*

*Report No. 1766*

CLIENT

WMDC Highways & Engineering

# Glasshoughton Coalfields Link Road, West Yorkshire

## Evaluation and Excavation

### *Summary*

*Archaeological trial trenching and excavation along the proposed route of the Glasshoughton Coalfields Link Road, revealed five ditches, possibly part of a field system, three possible alignments of post holes along with other discrete pits and post holes. A small number of amphora sherds, pottery sherds and a radiocarbon date on pottery residue indicate a Romano-British date for the ditches, with activity probably concentrated in the 2nd century AD. The field system may be contemporary with other field systems to the east and west and part of an extensive Late Iron Age and Romano-British agricultural landscape.*



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## **1 Introduction**

Archaeological Services WYAS (ASWYAS) were commissioned by WMDC Highways & Engineering to undertake trial trenching along the route of the Glasshoughton Coalfields Link Road, West Yorkshire. Following the results of the trenching an excavation was undertaken of an area where a concentration of archaeological remains was recorded. The evaluation was undertaken between 31 August and 17 September 2007 and the excavation between 16 and 30 October 2007.

### **Site location and topography**

The western end of the proposed Glasshoughton Coalfields Link Road will join the Normanton Bypass at the roundabout with Havertop Lane (SE 421 226, Fig 2). The route crosses the Normanton Industrial Estate/Employment Park (under construction at the time of writing) and adjacent fields up a steep ridge (see Plate 5) to join Castleford Lane (SE 420 224). From here the route crosses the M62 (SE 418 236) to join Cutsyke Road and then continues north-eastwards towards Flass Lane, over the Castleford to Pontefract railway, to link with the A639 Leeds Roads (SE 429 243). The road corridor comprised an area of 3,675m<sup>2</sup>. The route of the road corridor was gently undulating, generally lying between 35 and 40m above Ordnance Datum (AOD), rising to a height of approximately 60m at the top of the ridge.

### **Soils, geology and land-use**

Geologically, the site lies on the Middle Coal Measures, containing deposits of sandstone and shales. The soils of the area belong to the Rivington 1 Association, described as 'Well drained coarse loamy soils over sandstone. Locally associated with similar soils affected by groundwater' (SSEW 1983, 541f). The proposed road corridor passes through arable land to the southwest of Castleford Lane then pasture. The ground to the north of the M62 was again predominantly arable with some waste ground, much of it lying on industrial spoil produced by coal workings in the area. At the time of the fieldwork most of the area was covered by short vegetation and stalks from harvested crop.

## **2 Archaeological and Historical Background**

### **Prehistoric period**

No early prehistoric sites or spot finds are known from within the proposed road corridor, the nearest are from Glasshoughton and Normanton. At Glasshoughton a number of Mesolithic flint cores and blades were found and at Normanton a number of isolated Bronze Age metal artefacts were discovered (Faull and Moorhouse 1981, vol 4). Some possible prehistoric features have been identified as cropmarks within and to the east of the development area (Roberts 2003), and radiocarbon dates from discrete features from the excavations at

Normanton Industrial Estate to the west, suggest at least ‘background activity’ of Late Neolithic and Bronze Age date in the area (Lightfoot and Wylie 2008).

### **Late Iron Age and Romano-British period**

The area around Castleford was probably open land with pastoral and arable farming throughout much of the later Iron Age, with cropmarks at Ledston (Keighley 1981; Roberts 2005) and Willow Grove, Methley (Yarwood and Marriott 1988) among others, providing evidence of farming prior to the Romano-British period.

A number of ditched enclosures and associated field systems have been identified in the environs of the proposed road corridor (Roberts 2003). The settlement enclosure on Whitwood Common to the north was excavated between 1996 and 1997 and found to date to the Late Iron Age/Romano-British period (Burgess and Roberts 2004). A similar date has been ascribed to the enclosure site at Normanton Golf Course (Timms 2005). Late Iron Age/Romano British enclosures and field systems were also identified during excavations at St John’s Opencast Colliery, off Boundary lane in Normanton (MAP 2002), and during the excavations on the adjacent Normanton Industrial Estate (Lightfoot and Wylie 2008).

The site of a Roman fort, *Lagentium* (‘fort of the sword or spearmen’), and *vicus* lie at Castleford, to the northeast of the road corridor (Bishop 1999) and the projected course of the Roman road between Doncaster and Castleford runs to the east of the road corridor (Margary 1957, 415, Rd 28b) and it is possible that other roads dating to this period may have crossed the river at Castleford.

### **Medieval period**

This area is known to have been settled during the Anglo-Saxon period. Normanton, Ackton and Whitwood appear in the Domesday Survey of 1068, indicating their pre-Conquest origins. The proposed road corridor is located between these medieval settlements and cropmarks show that at this time much of the area was divided up into ridge and furrows agricultural strips (Deegan 2003).

Coal mining was taking place in the area as early as the 13th century. In 1278 Robert de Wethley was accused of digging for coal on the King’s highway at Ackton, and in 1322 Richard Fitz-Robert of Featherstone was accused by the Abbot of Kirkstall and the Prior of Nostell of threatening the rights of pasture of tenants by digging for coal. Documentary evidence from 1523 records that ‘earth coal’ from the area was plentiful and cheap and was burnt in preference to wood (Page 1912, 338).

### **Post-medieval period**

In 1800 nearby Castleford was a small agricultural village with a population of less than 800, by 1894 it was an urban district with a population of about 15,000, with an established

earthenware industry, glassworks and coal industry (Fossick and Abramson 1999). The industrial and post-industrial periods had a profound effect on the landscape around Normanton and Castleford, with coal mining, the railways (Tomlinson 1880), and later the motorways and urban and suburban development contributing to a radically altered environment.

There is evidence of small-scale quarrying along the road corridor probably of pre-19th century date. Industrial activity intensified during the 19th and 20th centuries especially at the western and eastern ends of the road corridor, at the Don Pedro colliery, the Loscoe Brickworks and at the Glasshoughton Colliery. This industrial activity and the construction of the M62 during the mid 20th century caused considerable disturbance to a large area to the north of the motorway.

### **3 Project Aims**

#### **Evaluation**

The aims of the evaluation trenches were to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains on the site which might be threatened by the construction of the road. The results enabled WYAAS to determine that further archaeological work was necessary to mitigate the destruction of archaeological remains during construction of the road (Appendix 4).

#### **Excavation**

The objective of the excavation was to fully record, analyse and report all archaeological remains within the specified 'area of interest' prior to their destruction during the construction of the road, and to place the results of this work in the public domain by depositing it with the West Yorkshire Historic Environment Record (Appendix 4).

### **4 Methodology**

All phases of work were undertaken in accordance with the specifications and/or project designs agreed with WYAAS (Appendix 4), and which complied with relevant English Heritage (e.g. EH 1991, 2002), IFA guidelines, (IFA 1994, 1995, 1999, 2001) industry best practice and ASWYAS guidance (ASWYAS 2005).

#### **Trial trenches**

Eighteen trenches were excavated (Fig. 2) using a back-acting mechanical excavator fitted with a toothless ditching bucket, under direct archaeological supervision. Topsoil and subsoil were removed in level spits no more than 0.2m in thickness down to the first significant archaeological horizon or undisturbed natural. Any archaeological features uncovered were then hand cleaned and excavated in an archaeologically controlled and stratigraphic manner. A sample of 20% of all linear features was excavated. All intersections were investigated to



determine the relationships between the component features. All termini were investigated. All discrete features were initially 50% excavated, recorded in section and then 100% excavated in accordance with the methodology set out in the specifications (Appendix 4). All archaeological features were recorded in accordance with the ASWYAS standard methodology (2005). Trench locations were surveyed using a Trimble 5600 series Total Station and were tied into nearby structures and the Ordnance Survey National Grid. Levels were established by transferring heights from a known Bench Mark marked on Ordnance Survey maps of the area.

At least ten litres of soil were sampled from the primary fill of each feature for the potential recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefacts.

### **Excavation**

The excavation area which totalled 2000m<sup>2</sup> was stripped of topsoil and subsoil using a mechanical excavator. The stripped area was then cleaned manually prior to hand excavation which followed the same methodology as that employed for the evaluation (see above) and which followed a specification agreed by WYAAS (Appendix 4). In order to investigate the continuance of an archaeologically significant ditch producing datable artefacts, part of the contingency excavation area was used (see Fig. 3).

### **Post-excavation**

All finds were cleaned, identified, marked (if appropriate) and properly packed and stored in accordance with relevant national guidelines. Artefacts and ecofacts were assessed and analysed by qualified and experienced specialists.

### **Archive**

The site archive contains all the information gathered during all phases of the archaeological investigations and is indexed in Appendix 1. The archive is currently stored by ASWYAS and will be deposited with Wakefield Museum, within a mutually agreed timescale.

## **5 Results**

The archaeological evaluation and subsequent excavation revealed a series of ditches, evidently part of a possible enclosure and field system. A small number of amphora sherds, pottery sherds and a radiocarbon date on pottery residue indicate a Romano-British date for the ditches, with activity probably concentrated in the 2nd century AD.

### **Trial trenching**

Eighteen trenches were excavated in order to investigate possible archaeological features identified by geophysical survey and as cropmarks; 'blank' areas were also targeted (see Fig. 2). Table 1 below summarises the archaeological remains from each trench; the majority

proved to have either no archaeological remains or had only agricultural remains present. The topsoil was generally mid to light grey-brown clayey silt between 0.20 and 0.40m thick, subsoil was between 0.25 and 0.60m thick.

Table 1: Summary of Results of the Evaluation Trenches

Trench	Depth (m)	Objective	Summary of Archaeological remains present
1	0.28m	Investigating the presence/absence of archaeological features	No archaeological remains
2	0.31m	Investigating the presence/absence of archaeological features	Linear ditch (205)
3	0.46m	Investigating a blank area and possible continuation of cropmarks	No archaeological remains
4	0.88m	Targeting geophysical anomalies	Linear ditch (401)
5	0.9m	Targeting geophysical anomalies	Sub-oval pit (503)
6	0.9m	Investigating a blank area and possible continuation of cropmarks	No archaeological remains
7	0.75m	Targeting geophysical anomalies (enclosure)	3 ditches, (G1, G2 and G3), 3 medium sized pits, 2 small pits and 2 post holes, G6
8	0.77m	Targeting geophysical anomalies	No archaeological remains
9	0.65m	Targeting possible continuation of geophysical anomalies	No archaeological remains
10	0.7m	Targeting possible continuation of geophysical anomalies	No archaeological remains
11	0.45m	Investigating cropmark (enclosure)	Linear ditch (1100)
12	0.62m	Investigating a blank area	No archaeological remains
13	0.4m	Investigating possible continuation of cropmark	No archaeological remains
14	0.6m	Investigating possible continuation of cropmark	Ditch terminus (1400)
15	0.6m	Investigating a blank area and possible continuation of cropmark	Gully, (1500), 1 furrow
16	0.6m	Investigating a blank area and possible continuation of cropmark	Linear ditch, (1600), 3 furrows
17a	0.4m	Investigating a blank area	No archaeological remains
17b	0.4m	Investigating a blank area	No archaeological remains
18	0.45m	Investigating a cropmark feature (bell pit?)	Shallow deposit of possible coal mine waste

### *Trench 2*

This trench contained a ditch running approximately northeast – southwest (205), it was approximately 1.40m wide and 0.40 deep (Fig. 4), though no finds were recovered.

### *Trench 4*

This trench contained the possible terminus of a linear ditch 1.10m wide, 0.18m deep (401), and orientated northeast – southwest (Fig. 4), no finds were recovered.

#### *Trench 5*

This trench contained a sub-oval feature (501/503), possibly a pit 3.70m long, 1.52m wide, and 0.18m deep (Fig. 4), no finds were recovered.

#### *Trench 7*

This trench contained three ditches, one orientated northwest – southeast (Ditch 1), and two orientated northeast-southwest (Ditch 2, and Ditch 3). Four pits (711, 713, 714, 716) and a number of possible post holes (709, 718, 723, 725, 726, 735) were also recorded. A very small sherd of unidentifiable pottery was recovered from the fill (717) one of the pits (716). This area was subsequently subject to excavation (Fig. 3, and Plate 6). The results from this trench are discussed more fully below

#### *Trench 11*

A linear ditch (1100), 1.2m wide and 0.30m deep ran northwest – southeast across this trench and was possibly part of an enclosure identified from cropmarks (Fig. 4, Plate 4), though no finds were recovered.

#### *Trench 14*

The possible terminus of a linear ditch (1400), 0.75m wide and 0.53m deep was recorded (Fig. 5), the fill of which contained a fragment of 20th-century pottery (1401).

#### *Trench 15*

A linear ditch or gully 0.40m wide and 0.18m deep (1500), orientated north – south was recorded in this trench (Fig. 4), though no finds were recovered.

#### *Trench 16*

This trench contained a linear ditch (1600) 1.40m wide and 0.40m deep (Fig. 6; S. 26) and orientated north-northwest to south-southeast (Fig. 4 and Plate 3). Three furrows, apparently respecting the ditch, were also identified. A small sherd of yellow-glazed pottery was recovered between the topsoil and subsoil in the southwest end of the trench.

#### *Trench 18*

Trench 18 was orientated approximately north-northwest to south-southeast. A large but quite shallow deposit of possible coal mining waste was identified (Plate 1). Five auger holes were excavated to establish the depth of the deposit which varied between 0.2m to 0.6m. No archaeological finds were identified in this trench.

## Excavation

An excavation was carried out around Trench 7, focusing on a concentration of ditches (Fig. 3, Plate 6). Each ditch was given a group number, as were pits and post holes determined to have formed possible structures, fence lines or were otherwise associated (Table 2).

Archaeological remains are described from north to south, contexts numbered 700 onwards related to Trench 7, contexts from 2000 onwards are from the excavation. Full descriptions of soils and dimensions of all excavated archaeological features appear in Appendix 2

Table 2: Summary of context groups

Group	Context	Type of features	Dating
1	702, 707, 2003, 2005	Ditch	c. C2nd AD
2	704	Ditch	
3	729, 730	Ditch	
4	2011, 2015	Ditch	
5	2013,2017	Re-cut of ditch 4	
6	2031, 2039,2043, 2052	Ditch	RB
7	2033, 2054,2063	Re-cut of ditch 6	RB
8	2035,2041,2046, 2048, 2062	Re-cut of ditch 7	c. C2nd – C3rd AD
9	2009, 2020	Post holes	
10	2022, 2024, 2026, 2019	Post holes	
11	2028, 726, 718	Post holes	RB
12	711, 713, 716, 721, 723, 725	Pits	

### *Ditches 4 and 5*

Ditch 4 was detected in the northwest corner of the excavation area; it was 1.16 – 1.50m wide about 0.45m deep, orientated northwest-southeast and had an ‘U-shaped’ profile (Fig. 6; S. 40). This ditch appears to have been re-cut at least once (Ditch 5). Though much smaller at 0.40 – 0.60m wide and about 0.20m deep, the re-cut had a similar profile to the original ditch (Fig. 6; S. 40), though no finds were recovered from either.

### *Post hole Groups 9 and 10*

Two groups of post holes with common alignments were identified. Post hole Group 9 (2009 and 2020, Fig. 6; S. 40) was orientated northeast – southwest and Post hole Group 10 (2022, 2024, 2026, 2019), which ran parallel. The fills of neither produced any artefacts; though hazel and oak charcoal was recorded in the fill (2010) of Post hole 2009 and burnt peat was recorded in the a deposit associated with Post hole Group 10 (2019).

### *Ditch 1*

Ditch 1 was identified during the trenching (Trench 7) and was within the central part of the excavation area. It was orientated northwest – southeast and had an ‘U-shaped’ profile,

between 0.44 – 0.24m wide and 0.40 – 0.45m deep (Fig. 6; S. 10, S. 11 and, S. 30). No re-cuts were evident but a fragment of an amphora dated *c.* 2nd century AD was recovered (2004), burnt stones were observed in the fill of the ditch (703 and 2006), and an unstratified sherd of grey ware was recovered near the ditch at the northwest edge of the excavation area. Ditch 1 ran parallel to Ditch 4, about 25m to the southwest, and though there was no dating evidence produced by the later, it is possible that they were contemporary.

#### *Ditches 2 and 3*

Both ditches 2 and 3 were orientated northeast – southwest, and had ‘U-shaped’, regular profiles, and may conceivably have formed a single ditch, interrupted by ploughing. Ditch 2 was 1.70m wide and 0.10m deep (Fig. 6; S. 10), and Ditch 3 was 0.95 – 1.63m wide and 0.10m deep (Fig. 6; S. 19). No finds were recovered from either of these ditches, though Ditch 2 was truncated at right angles by Ditch 1 which did produce finds of *c.* 2nd century AD date.

#### *Post hole Group 11*

A post hole alignment, (2028, 726, 718) was identified running northeast – southwest and to the west of Ditch 3. A sherd of Romano-British pottery was recovered from the fill (2029) of one of the post holes (2028) along with some hazel charcoal, which may have formed a fence line.

#### *Pit Group 12*

This group consisted of six pits of various dimensions recorded during the evaluation trenching (Fig. 6; S. 12), all were heavily truncated and as no finds were recovered their date and function are unknown. The pits did not extend into the excavation area.

#### *Ditches 6, 7 and 8*

In the southwest corner of the excavation area, a sinuous curvilinear ditch (6), orientated northwest – southeast was recorded (Fig. 6; S. 52 and S.56). It had an irregular, stepped profile with a flat base and two re-cuts (Ditches 7 and 8). Twelve sherds of hand-made pottery recovered from the latest re-cut (2057) of this ditch were dated from adhering residue to (cal) AD 120 – 260 (SUERC 19938), and a small amount of burnt peat was also recorded (2036).

## **6 Artefact Record**

### **Hand-made pottery**

By Blaise Vyner

This assemblage of 24 sherds probably derives from two vessels of probable Romano-British date.

### *Treatment*

In the fabric description, hyphenated colours indicate the variation in colour expected from poorly controlled firing conditions, the first colour being that most in evidence. Grit sizes are expressed as small (<3 mm), medium (3-6 mm), and large (6-9 mm), while distinctive particles smaller than 0.02 mm are described as dust. As a general guide, grit quantities have been described in relation to the estimated average number of pieces visible per 100 mm square; occasional (1 or less), few (2), many (3 to 4) and numerous (5 or more). Sherd weight has been rounded to the nearest 5g. Identification was made using a 25H microscope lens. Quantification excludes fragments with a total surface area of less than around 100 mm<sup>2</sup>.

### *Distribution of ceramics on site*

One sherd (2029) is from a post hole or similar feature (2028, Group 11), while the rest of the sherds (2057) are from the re-cut of a ditch (2062, Ditch 8).

### *Ceramic range and chronology*

None of the sherds are chronologically diagnostic since this jar form is found in the Iron Age, Romano-British, and also in the post-Roman period, however, the striations on the sherd from the post hole (2029) suggest manufacture on a wheel, and thus a probable Romano-British date. This may be supported by the presence of diagnostic Romano-British pottery elsewhere on the site (see below). The vessel from the ditch (2057) could, in terms of its appearance, be either Iron Age or Roman-British in date, since this material continued to be made over a long period and there is no evidence that this was made on a wheel. However, a radiocarbon date from carbonised accretions suggests use during the 2nd or 3rd century AD (Appendix 3).

### *Vessel types present*

Not enough of the vessels survive to be clear about their form, the pot from the ditch (2057), if it is a single vessel, looks to be a medium-sized shouldered jar.

### *Fabric type*

Calcareous grits are commonly present in vessels of Iron Age and later date in West Yorkshire and neighbouring North Yorkshire; the grit could have been limestone

### *Catalogue*

2029

Single sherd (<5g), exterior surface dark grey-red brown, interior surface mid-grey, fabric red-brown, many small and occasional large cavities from which calcareous grits have leached, quartz dust in the clay matrix, wall thickness 5mm. This sherd is from the shoulder

of a jar and has striations which suggest that it was produced on a wheel, therefore perhaps Romano-British in date.

2057 (Fig 7; Plate 10)

Twenty-three sherds and fragments weighing a total of 80g are from a jar of uncertain form and size. Exterior surface is dark grey-buff, interior surface and fabric dark grey, numerous small and occasional medium-sized cavities from which calcareous grits have leached, a single medium-sized flint fragment present, quartz dust in the clay matrix, wall thickness varying from 5 to 10mm. The short rim is deeply everted and has a rounded plain edge. No evidence that the vessel was made on a wheel.

### Wheel-made Romano-British pottery

By Ruth Leary

Five sherds of Romano-British pottery (485g) were submitted. One grey-ware sherd (36g) came from an unstratified layer. This was in a medium, quartz-tempered fabric of local origin and belonged to a closed vessel such as a jar. It is likely to date from during or after the 2nd century AD, but cannot be dated more closely. A group of four sherds (449g.) from the rim and neck of a Baetican olive-oil amphora Dressel 20 (Peacock and Williams, 1986, Class 25) came from the fill (2004) of a ditch (2005, Ditch 1). This globular-shaped amphora is the most common amphora form imported into Roman Britain (Williams and Peacock, 1983). They were made specifically for the transport by sea, of the olive-oil produced by the many estates in the valley of the River Guadalquivir and its tributaries in the southern Spanish Roman province of *Baetica* in at least 150 different centres (Ponsich 1974, 1979, 1991; Remesal, 1986; Peacock and Williams, 1986, Class 25). The globular Dressel 20 form was made over a long period, beginning in the reign of Augustus and lasting until shortly after the middle of the 3rd century AD. Baetican olive-oil was still exported after this date though on a reduced scale and in a smaller, thinner-walled version of Dressel 20 known as Dressel 23 (Carreras and Williams, 2003). The rim form suggests a date range in the second half of the 2nd century AD (Peacock and Williams, 1986 fig. 65 no. 25). All sherds were moderately abraded

Table 3: Romano-British pottery data

Context	Ware	Fabric	No.	Weight	Part	Form	Vessel type	Date	Rim Dia.	Rim %	other	Position
2004	Amphora	DR20	4	449.1g	Rim and neck	Peacock and Williams 1986 no. 25	A	1st half C2nd AD	16m m	20	handle scar	outside neck
US	Grey ware	GRB1	1	35.5g	body	Closed, jar?						
Total			5	484.6g								

Although this group is too small and the sherds mostly undiagnostic, the presence of Dressel 20 Spanish amphora indicates a settlement with access to imported goods. Amphorae are rare on rural settlement in South and West Yorkshire. Dressel 20 amphora sherds were also present on the adjacent site on Normanton Industrial Estate (Lightfoot and Wylie 2008).

## 7 Environmental Record

### Carbonised plant remains and charcoal

By Diane Alldritt

A total of 22 flots were examined for the presence of carbonised plant remains and charcoal. Two bags of sorted retent material were also received for assessment. The main aim of analysing the charcoal was to identify short-lived types suitable for radiocarbon dating and to establish the range of fuel in use at the site.

#### *Methodology*

Bulk environmental samples were processed by ASWYAS using an Ankara style water flotation system (French 1971). Dried flot material was examined and identified using a low power binocular microscope. Flot sizes were generally quite small with <2.5ml of tea-leaf sized charred detritus. Occasional samples were larger and produced up to 15ml of identifiable wood charcoal fragments. Modern root fragments and earthworm egg capsules were scarce with typically <2.5ml, and only two samples contained up to 10ml of intrusive material. Most samples were barren, or produced small quantities of modern material only.

Charcoal was identified with the aid of a high powered Vickers M10 metallurgical microscope and by comparison with the reference photographs of Schweingruber (1990). All plant nomenclature used in the text follows Stace (1997).

#### *Results*

No ecofacts were present in the following samples: 1 (703), 2 (728), 3 (705), 4 (717), 5 (2004), 7 (2008), 9 (2012), 11 (2016), 13 (2032), 14 (2032), 16 (2038), 17 (2040), 18 (2042), 19 (2049), 20 (2053), 21 (2044), 22 (2059). The results are presented in Table 4 below.

Table 4: Summary of ecofacts results

	Sample	6	8	10	12	15
	Context	2006	2010	2019	2029	2036
	Total Cv	2.5ml	7.5ml	15ml	2.5ml	<2.5ml
	Modern	5ml	<2.5ml	5ml	<2.5ml	10ml
Carbonised Wild Resources	Common name					
Burnt peat fragments				2 (0.24g)		1 (0.07g)
Charcoal						



<i>Quercus</i>	oak		4 (0.11g)	6 (0.47g)		
<i>Corylus</i>	hazel		3 (0.24g)		1 (0.05g)	
Indeterminate		3 (0.05g)				
Other Remains						
Earthworm egg capsules						1

### *Discussion*

The samples produced a small range of carbonised plant material, the majority of which was wood charcoal. Occasional burnt peat fragments were also visible. No cereal grain or carbonised weed seeds were recovered.

Four samples produced wood charcoal potentially large enough to identify and most of this was in a good state of preservation. These samples were 6 (2006), 8 (2010), 10 (2019) and 12 (2029). Sample 5 (2004) also contained ‘slivers’ of wood charcoal but these were too small to identify accurately. Unfortunately the charcoal in Sample 6 (2006) could not be identified due to iron-panning contamination in the vessels. The remaining samples produced a mixture of both *Corylus* (hazel) and *Quercus* (oak), with Sample 10 (2019) producing exclusively oak, while Sample 12 (2029) contained only hazel. This suggested a mixed deciduous woodland or woodland edge type environment, with more open, lighter areas populated by hazel. The most probable primary use of these materials is as a fuel resource for hearth places, funeral / cremation pyres and so forth, while oak would also have been a valuable fuel for use in industrial hearths. In addition both types have numerous construction and building uses. The hazel charcoal in samples 8 (2010) and 12 (2029) would be the most suitable specimens to submit for radiocarbon dating, and all fragments were very well preserved with no signs of degradation.

Further evidence for the importance of a fuel resource at the site was provided by the occasional presence of burnt peat fragments in samples 10 (2019) and 15 (2036). These pieces most likely originated as a raw material taken from peat bogs or other wetlands to be dried out for subsequent use as fuel. Peat may have been used in combination with oak and hazel charcoal in domestic and funeral type settings, or perhaps as a supplement if wood supplies were low. It also has long slow burning properties making it ideal where a low heat is required over a long period of time, for instance in cereal drying (although no cereal was recovered at the site) and on cremation pyres. The combination of wood and peat evidence pointed toward a funerary pyre or domestic hearth use, although oak in particular could suggest industrial activity. Both the funerary or industrial arguments are plausible especially given that no other evidence for plants associated with domestic-type occupation were recovered from the site.

### *Conclusions*

The samples produced a small but nicely preserved range of wood charcoal, but no other types of plant remains apart from burnt peat. No further work is required as all material has been identified. The combination of oak and hazel wood charcoal, together with a small quantity of burnt peat, strongly points toward a fuel use, whether this was for funerary, domestic or industrial purposes is unknown. No 'typical' domestic plant indicators such as cereal grain were present. This could be considered unusual, as trace amounts of degraded cereal grain are often seen, even on sites with poor preservation when there has been evidence for human habitation in the past. The plant material suggests a casual occupation of the site, perhaps using temporary hearth places, for the construction of funerary pyres or industrial hearths; evidence for long-term occupation was absent.

The site has high future potential to produce nicely preserved carbonised plant material given the overall very good condition of the material examined for the assessment. However, this may be limited to wood charcoal only as very little else appears to have been present. Targeting of different sample areas may prove fruitful in producing a greater range of plant material and hence a wider insight into the economy of the site. As it stands the main conclusion to be drawn from the assessment is of a site using wood and peat for fuel.

## **8 Discussion**

The trial trenching demonstrated a generally low density of Romano-British archaeological remains, with none recorded across the top of the ridge, though elements of a field system did exist, just below the crest. Previous work on the adjacent Normanton Industrial Estate suggested that the low lying ground was part of a system of fields and enclosures, possibly covering a landscape of many square miles (Lightfoot and Wylie 2008). The ditches revealed during the course of the trenching and subsequent excavation which date to the same period may be seen in the context of this wider agricultural environment. The ditches encountered in the present investigations were on a broadly similar orientation and scale to those previously excavated to the west, and follow a similar alignment to cropmarks identified in the east (Deegan 2003). It may be that settlement exploiting the lower-lying areas was located up the ridge around the present Castleford Lane, perhaps centred on enclosures to the west of the proposed link road. Although there was very little direct evidence of settlement encountered, domestic enclosures, round houses and hearths were all absent, there was some indirect evidence in terms of pottery and amphora, which was similar to that recovered from the extensive excavations on the lower lying ground to the west (Lightfoot and Wylie 2008).

The results of the geophysical survey were broadly confirmed by the trenching, though the trench targeted on a putative enclosure identified as a crop mark was less convincing (Trench 11).

## 9 Conclusions

An inevitable limitation of archaeological work on road schemes is that excavation is restricted to the narrow road corridor; field system or enclosure ditches may pass through the corridor, but may not be recognised as such as there may be a lack of contiguity, or relationship between ditches, which may also hinder efforts at phasing. This is further complicated by the general lack of dating evidence, though in this case diagnostic Romano-British pottery was encountered and an absolute date was attained on a sherd of hand-made pottery. Without the radiocarbon date the pottery may have been assigned a pre-Roman Iron Age date. This further emphasises the difficulty with dating hand-made pottery as there appears to be little difference in form or fabric from the Iron Age to the post-Roman period and it must therefore not be assumed that in the absence of diagnostic Roman pottery that an assemblage of hand-made pottery is pre- or post-Roman in date, despite its apparent crudeness. Scientific dating is therefore essential to definitively date such sites and to separate phases within sites.

### *Recommendations for further work*

No further work has been recommended for either the pottery or the environmental remains. Further radiocarbon dating could be attempted on samples of hazel from two contexts (2010 and 2029), though as these are the fills from discrete archaeological features, not convincingly shown to have been part of structures and having no stratigraphic relationships with other archaeological features on the site, it is not proposed that this should be undertaken. The results from this project, though not intrinsically significant are relevant to the interpretation of the wider archaeological landscape, including results of excavations on the neighbouring Normanton Industrial Estate. It is therefore proposed that the results here reported are integrated where relevant in the proposed publication for Normanton Industrial Estate (see Lightfoot and Wylie 2008).

**FIGURES 1-7**

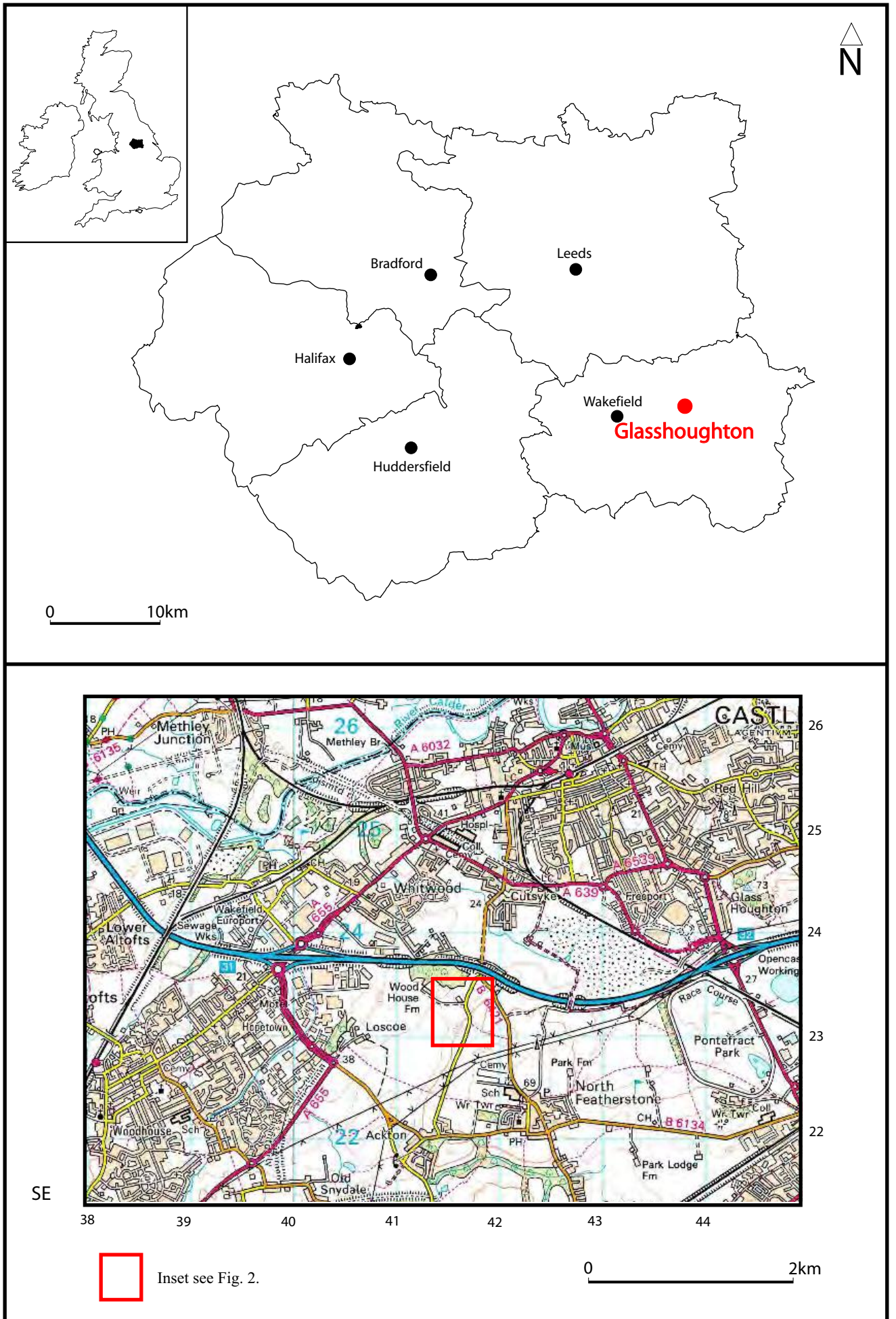
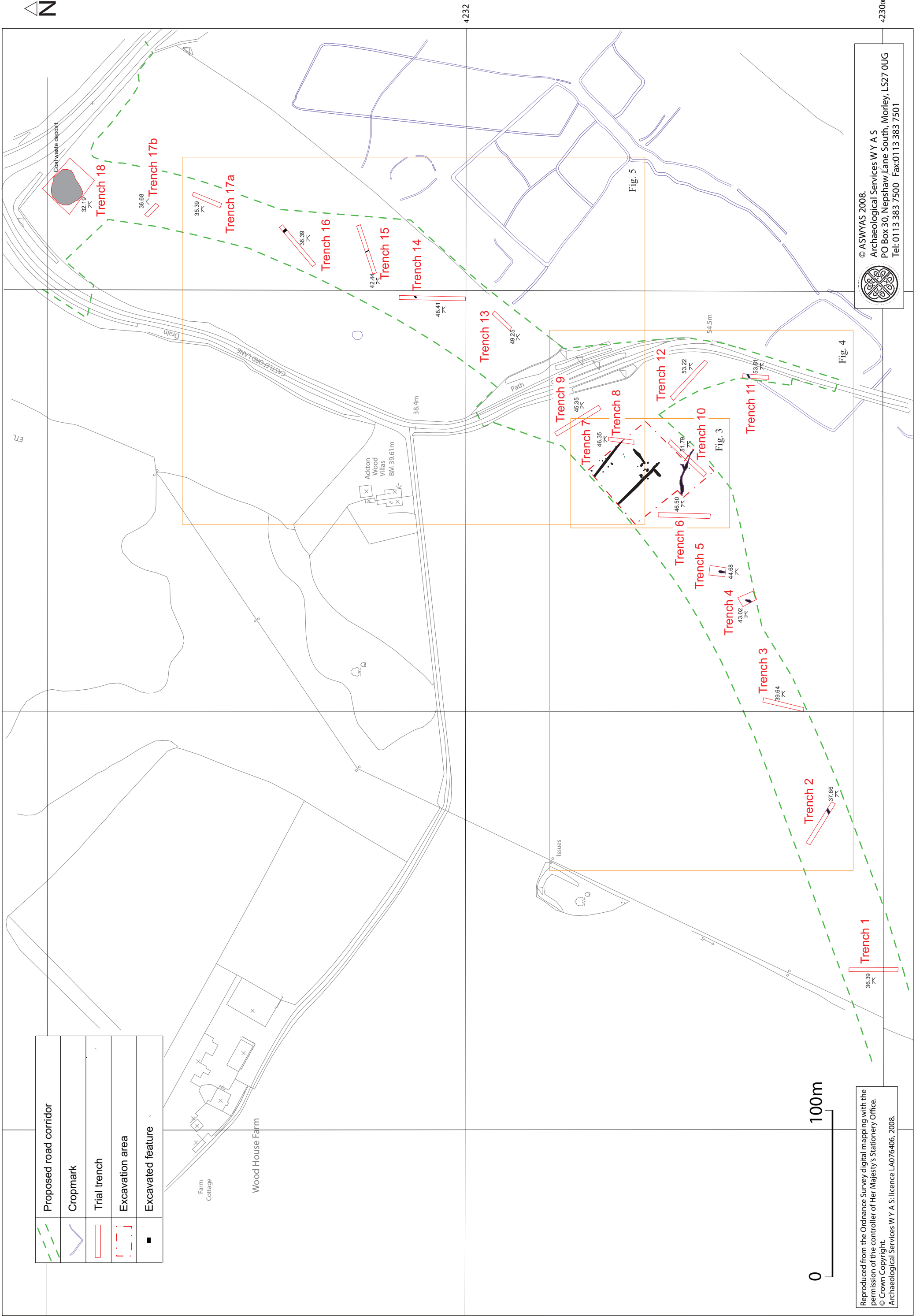


Fig. 1. Site location

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	Proposed road corridor
	Cropmark
	Trial trench
	Excavation area
	Excavated feature

0 100m

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 Archaeological Services WY A.S  
 PO Box 30, Nepshaw Lane South, Morley, LS27 0UG  
 Tel: 0113 383 7500 Fax: 0113 383 7501

4412 50

4415 00

4417 50

4232 50

Fig. 2. Site location showing trench location, excavation area and cropmark detail (1:2000 @ A3)

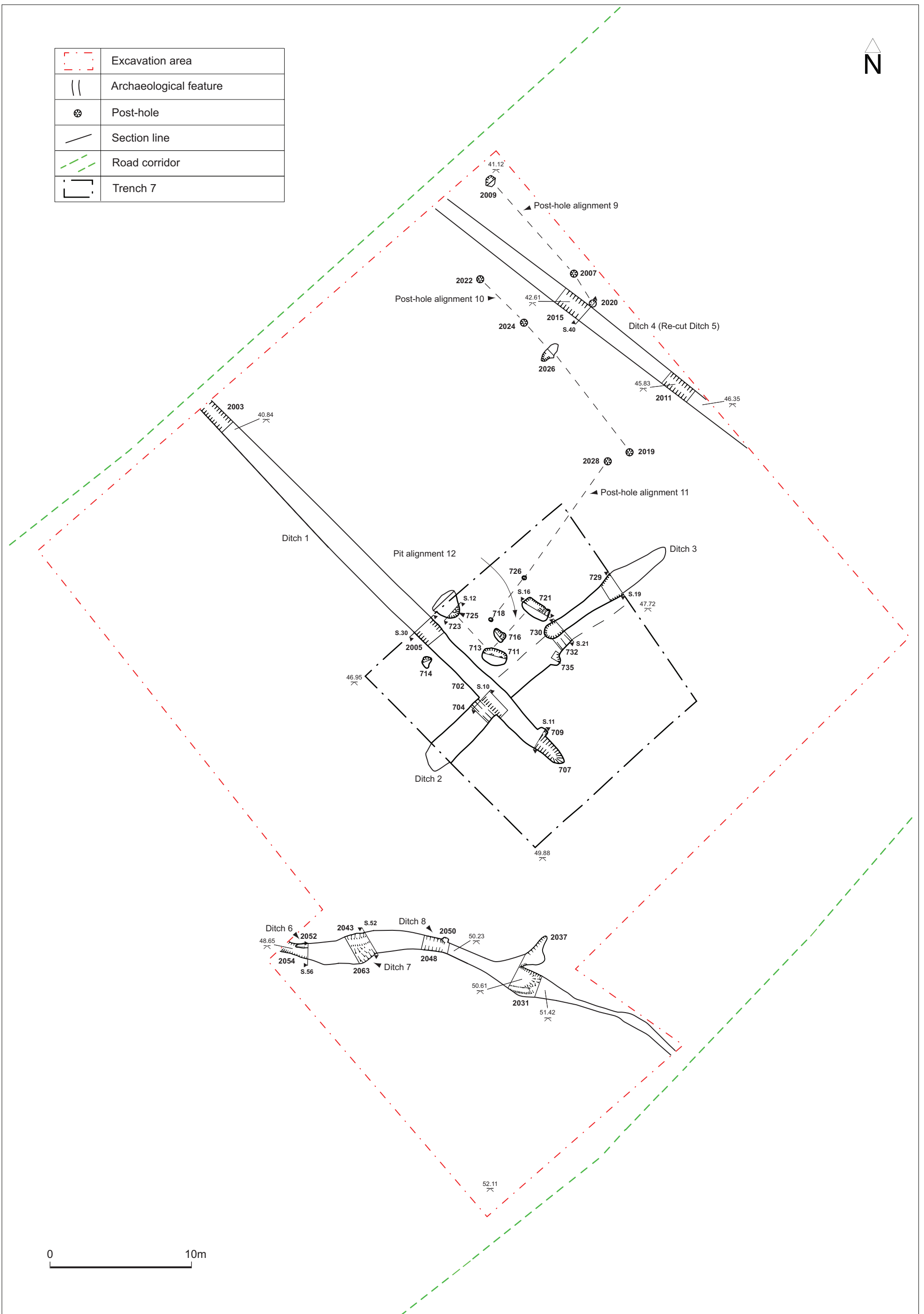
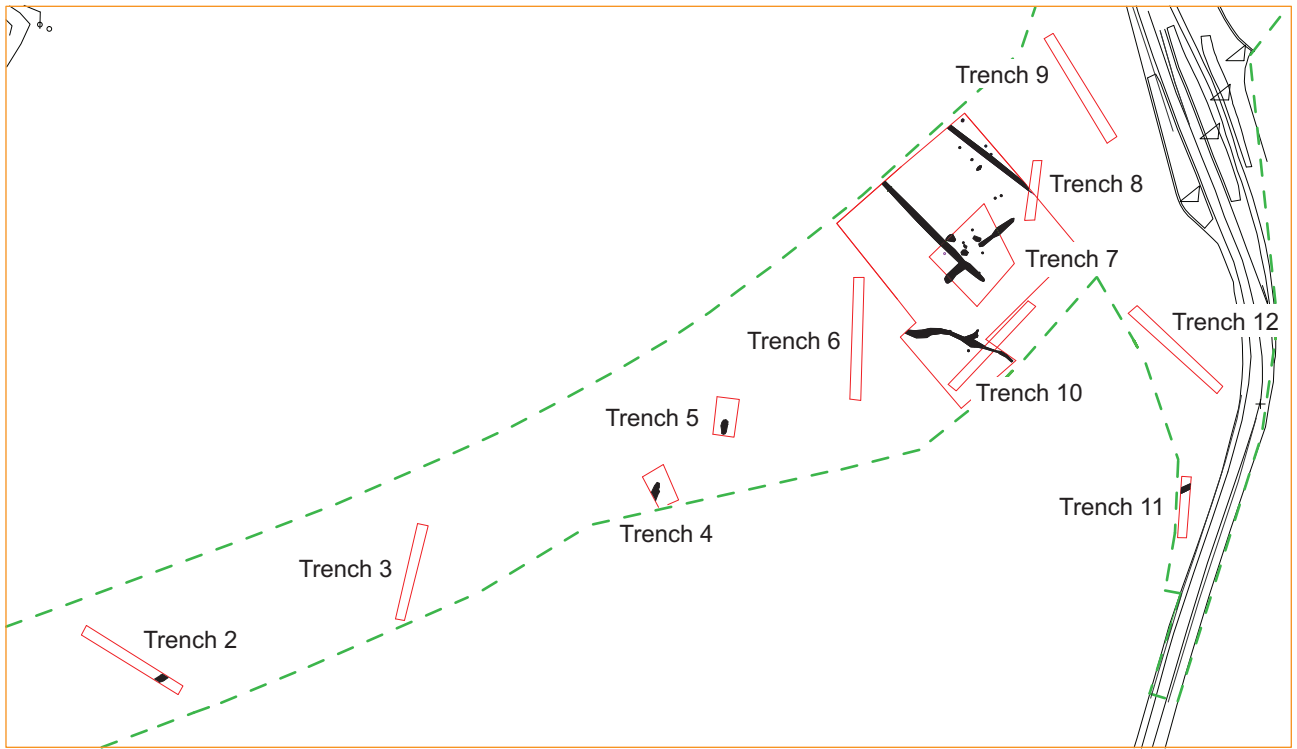
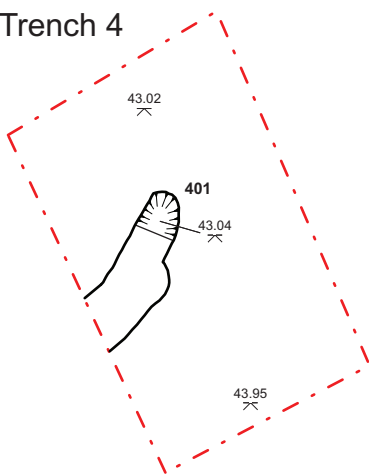


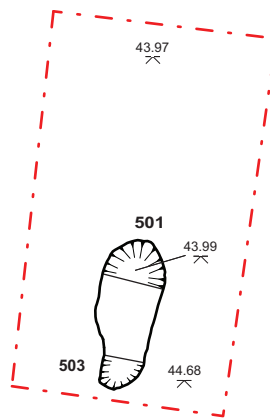
Fig. 3. Plan of Trench 7 and open area excavation (Scale 1: 250)



Trench 4



Trench 5



Trench 11



Trench 2

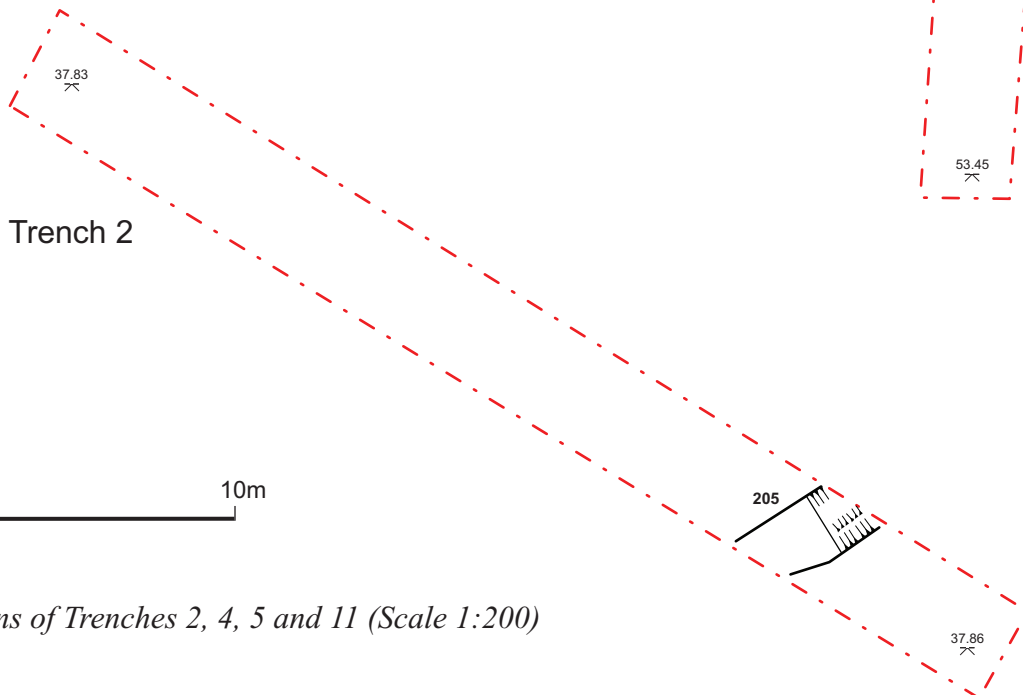


Fig. 4. Plans of Trenches 2, 4, 5 and 11 (Scale 1:200)



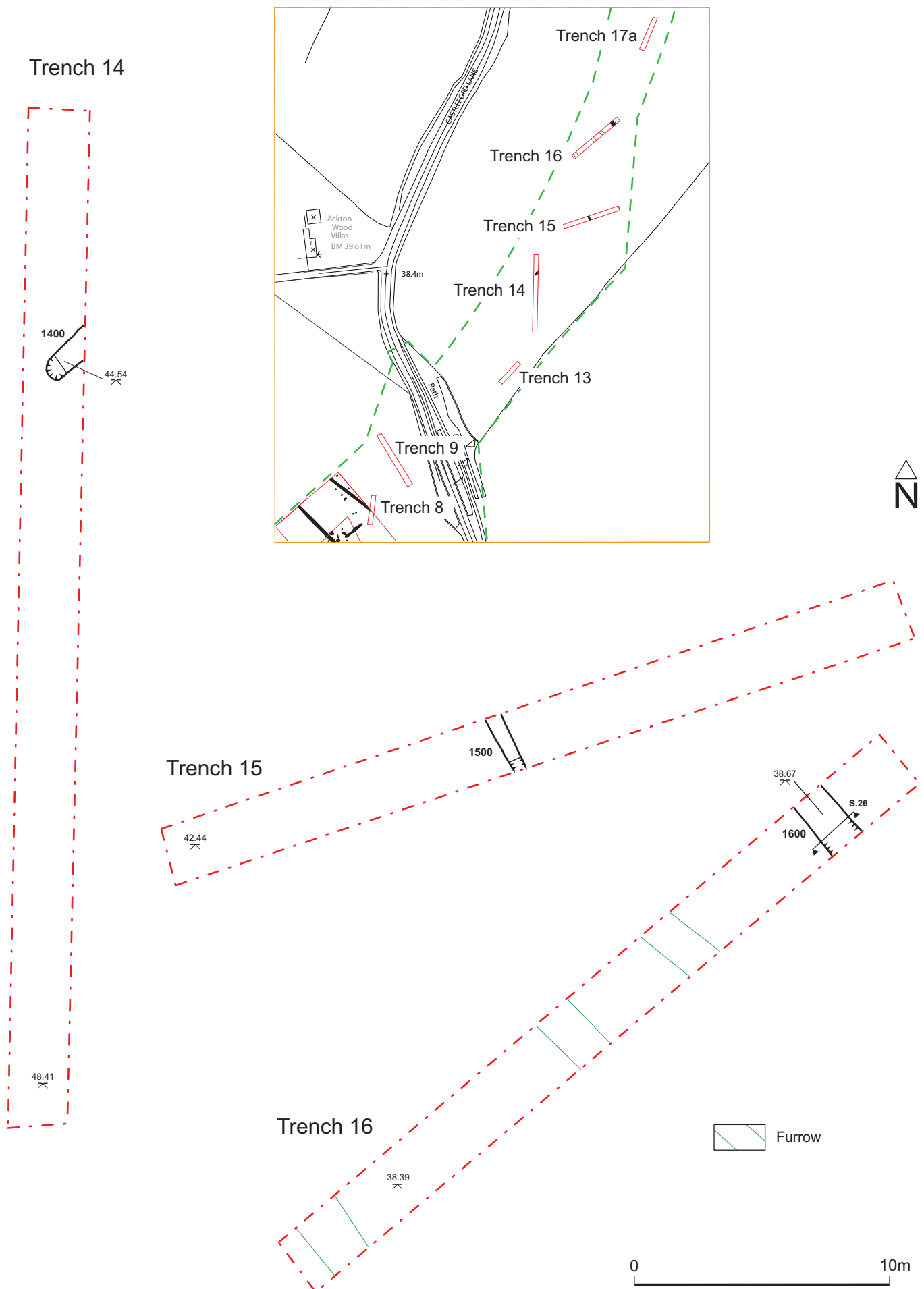


Fig. 5. Plans of Trenches 14, 15 and 16 (Scale 1:200)

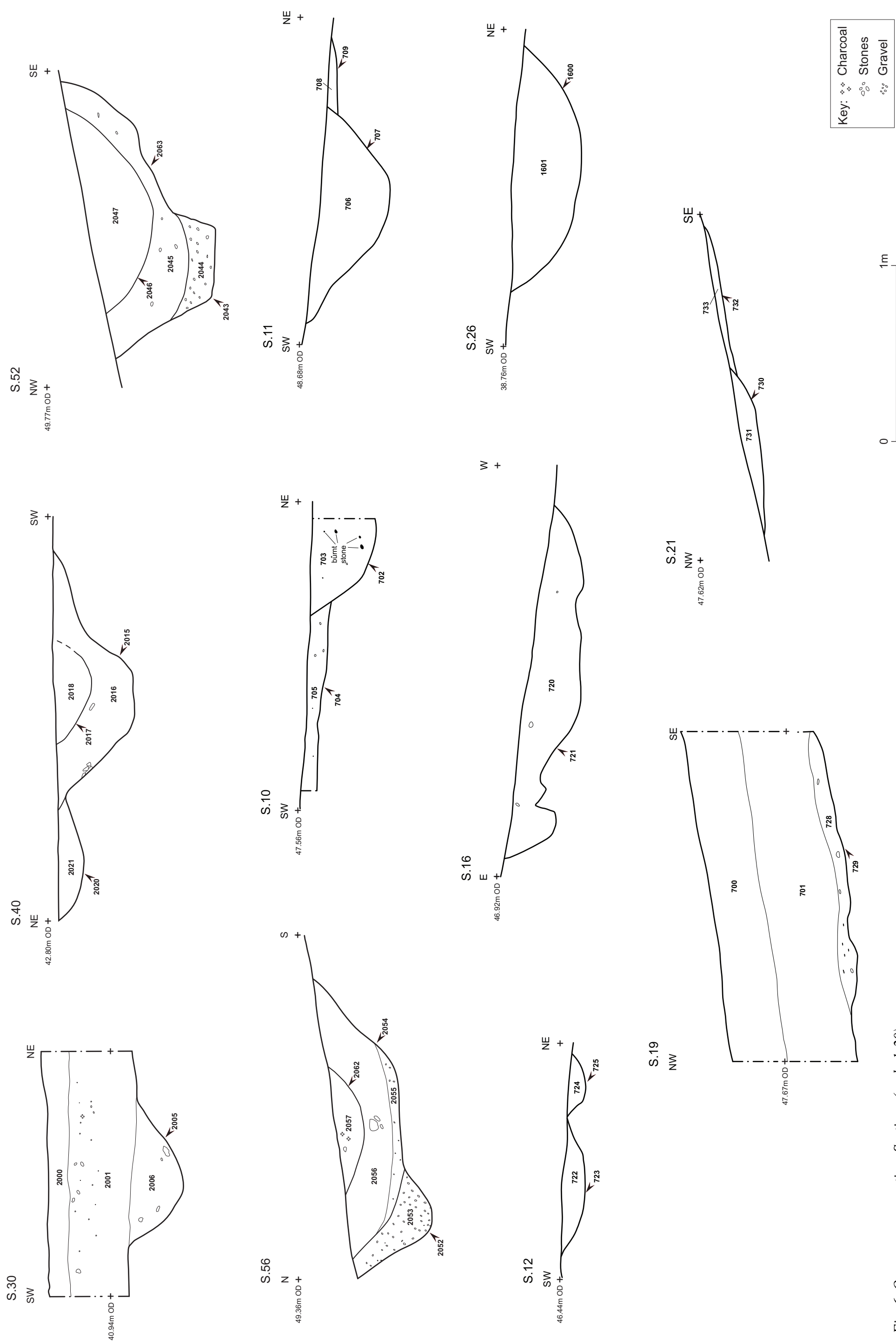
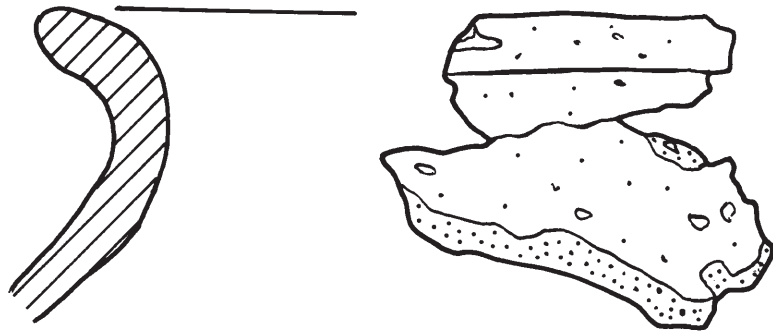


Fig. 6. Open area excavation. Sections (scale 1:20)



*Fig. 7: Pot sherd rim (2057), (Scale 1:1)*

**PLATES 1-9**



*Plate 1: Trench 18, looking southwest, dumped mining waste in the foreground*



*Plate 2: The excavation area around Trench 7, looking southeast, note the inclination of the ground towards the southwest*



*Plate 3: Trench 16, looking northwest, Ditch 1600 in the foreground*



*Plate 4: Trench 11, Ditch 1100, looking northeast*



*Plate 5: Trenches 14, 15 and 16, looking southeast*



*Plate 6: Stripping the excavation area around Trench 7, looking southwest*



*Plate 7: Ditch 6, with re-cuts 7 and 8, looking northeast*





*Plate 8: Ditch 6, with re-cuts 7 and 8, looking west*



*Plate 9: Ditch 6, looking East*



*Plate 10: Rim of a plain jar (2057)*

**Appendix 1: Inventory of primary archive**

Phase	File/Box No	Description	Quantity
Evaluation	File no. 1	Context register sheets	12
		Drawing register	3
		Level sheets	0
		Sample register sheets	1
		Finds register sheets	0
		Photo register sheets	2
		Colour negative strips	5
		B&W negative strips	7
		Daily record sheets	12
		Trench sheets	18
Evaluation	File no. 2	Context sheets	53
		Environmental Lab sheets	4
Evaluation	File no. 3	Small drawing sheets	9
		Large drawing sheets	1
Excavation	File no. 4	Context register sheets	3
		Drawing register sheets	3
		Levels sheets	5
		Sample register sheets	1
		Finds register sheets	0
		Photo register sheets	4
		Colour negative strips	2
		B&W negative strips	2
Excavation	File no. 5	Context sheets	64
		Environmental Lab sheets	19
Excavation	File no. 6	Small drawing sheets	64

## **APPENDIX 2: CONTEXT SUMMARY AND FINDS CONCORDANCE**

Context	Group	Description	Dimensions (m)	Findings and samples	Date
<b>Evaluation</b>					
Trench 1					
100		Mid to light grey brown topsoil (all trenches)	Th. 0.20 – 0.40	-	
101		Mid to dark orangey brown Subsoil (all trenches)	Th. 0.25 – 0.60	-	
102		Mid yellowish mottled grey clayey sand Natural drift geology	-	-	
Trench 2					
200		Dark brownish grey clay, uppermost fill of Ditch 205	W 0.60 / Th. 0.14	-	
201		Light bluish grey clay, quaternary fill of Ditch 205	W 0.16 / Th. 0.20	-	
202		Dark brownish grey sandy clay, tertiary fill of Ditch 205	Th. 0.19	-	
203		Bluish grey clay, secondary fill of Ditch 205	Th. 0.05	-	
204		Mottled orangey grey clay, primary fill of Ditch 205	Th. 0.10	-	
205		U-shaped cut of linear ditch	W 1.40 / D 0.43	-	
Trench 3					
300		Light bluish grey clay, single fill of Ditch 301	Th. 0.1	-	
301		U-shaped cut of possible ditch terminus or natural feature	W 1.0 / D 0.1	-	
Trench 4					
400		Light orangey brown sandy clay, single fill of Ditch 401	W 1.10 / Th. 0.18	-	
401		U-shaped cut of linear ditch	W 1.10 / D 0.18	-	
Trench 5					
500		Light greyish brown sandy clay, single fill of Pit 501 see 502	W 1.52 / Th. 0.18	-	
501		U-shaped cut of sub-oval pit See 503, filled by 500	W 1.52 / D 0.18	-	
502		Fill of oval pit 503, same as 500	W 1.10 / Th. 0.05	-	
503		Cut of oval pit, Same as 501, filled by 502	W 1.10 / D 0.05	-	
Trench 7					
700		Topsoil same as 100	Th. 0.30	-	
701		Subsoil same as 101	Th. 0.45	-	
702	1	U-shaped cut of linear ditch not fully sectioned filled by 703, truncates Ditch 704	D 0.35	-	
703	1	Orangey brown sandy silt, single fill of 702	Th. 0.35	Burnt stones / GBA 1	
704	2	U-shaped cut of linear ditch, filled by 703	D 0.10		1

<b>Context</b>	<b>Group</b>	<b>Description</b>	<b>Dimensions (m)</b>	<b> Finds and samples</b>	<b>Date</b>
705	2	Light greyish brown sandy silt, single fill of Ditch 704	W 1.70 / D 0.10	GBA 3	
706	1	Dark greyish brown sandy clay, single fill of Ditch 707	Th. 0.40	-	
707	1	U-shaped cut of linear ditch filled by 706	W 1.24 / D 0.40	-	2
708		Light orangey grey sandy clay, single fill of 709	Th. 0.40	-	
709		U-shaped cut of possible post hole, filled by 708	W 0.40 / D 0.60	-	
710	12	Dark reddish brown silty clay, single fill of Pit 711	-	-	
711	12	U-shaped cut of possible pit, filled by 710, unclear relationship with Pit 713	W 0.45 / D 0.09	-	1
712	12	Dark reddish brown silty clay, single fill of 713	-	-	
713	12	U-shaped cut of possible pit, filled by 712	W 0.90 / D 0.10	-	1
714		Shallow and irregular cut of possible pit filled by 715	W 0.80 / 0.09	-	
715		Mid orangey brown sandy silt, single fill of 714	-	-	
716	12	Steep irregular cut of pit, filled by 717	L 0.92 / W 0.56 / D 0.22	-	1
717	12	Mid orangey brown sandy silt, single fill of 716	-	GBA 4 / 1x unidentified pot	
718	11	U-shaped cut of possible post hole, filled by 719	L 0.24 / W 0.20 / D 0.09	-	2
719	11	Light greyish brown sandy silt, single fill of 718	-	-	
720	12	Light greyish brown sandy clay, fill of 721	-	-	
721	12	Tree bole, filled by 720	W 2.03 / D 0.32	-	1
722	12	Light orangey brown sandy clay, single fill of 723	-	-	
723	12	U-shaped cut of possible post hole, filled by 722	W 0.60 / D 0.14	-	1
724	12	Light brownish grey sandy clay, single fill of 725	-	-	
725	12	U-shaped cut of possible post hole, filled by 724	W 0.35 / 0.10	-	1
726	11	Irregular cut of possible post hole, filled by 727	L 0.30 / W 0.23 / D 0.07	-	2
727	11	Mid orangey brown sandy silt, single fill of 726	-	-	
728	3	Dark greyish brown sandy clay, single fill of 729	-	GBA 2	
729	3	U-shaped cut of linear ditch, filled by 728	W 1.63 / D 0.10	-	1
730	3	U-shaped cut of linear ditch, filled by 731	W 0.95 / 0.11	-	1
731	3	Mid orangey brown sandy silt, single fill of 730	-	-	

Context	Group	Description	Dimensions (m)	Finds and samples	Date
732		Irregular cut of shallow ditch, filled by 733	W 0.85 / D 0.04	-	
733		Light orangey brown sandy silt, single fill of 732	-	-	
734		Mid orangey brown sandy silt, single fill of 735	-	-	
735		Irregular cut of possible post hole, filled by 734	W 0.35 / D 0.11	-	
Trench 11					
1100		U-shaped cut of linear ditch filled by 1101	W 1.20 / 0.30		
1101		Mid orangey brown silty clay, single fill of 1100	-		
Trench 14					
1400		U-shaped cut of ditch terminus, filled by 1401	W 0.75 / 0.53		
1401		Dark brown sandy clay, single fill of 1400	-	Mod pot	
Trench 15					
1500		V-shaped with flat base cut of gully, filled by 1501	W 0.40 / D 0.18		
1501		Mid yellowish brown silty clay, single fill of 1500	-		
Trench 16					
1600		U-shaped cut of ditch, filled by 1601	W 1.40 / 0.40		
1601		Mid orangey grey silty clay, single fill of 1600	-		
Excavation					
2000		Mid greyish brown clayey silt, topsoil (all site)	Th. 0.20-0.25		
2001		Mid orangey brown clayed silt, subsoil (all site)	Th. 0.35-0.45		
2002		Mid mottled yellowish brown, natural (all site)	-		
2003	1	U-shaped cut of ditch, filled by 2004, same as 2005	W 0.44 / D 0.44		C2nd AD /2
2004	1	Mottled orangey brown sandy silt, single fill of ditch 2003	-	GBA 5 / 1 x Amphora E C2	C2nd AD /2
2005	1	U-shaped cut of ditch, filled by 2006, same as 2003	W 1.19 / D 0.45	-	C2nd AD /2
2006	1	Mottled brownish grey clayey silt, single fill of ditch 2005	-	GBA 6 / stone with a 'groove' / burnt stones	C2nd AD /2
2007		U-shaped cut of post hole/small pit , filled by 2008	W 0.70 / D 0.34	-	
2008		Mid yellowish brown, single fill of 2007	-	GBA 7	
2009	9	Irregular cut of post hole/small pit, filled by 2010	W 0.80 / D 0.30		2
2010	9	Mid yellowish brown silty clay, single fill of 2009	-	GBA 8 hazel and oak	

Context	Group	Description	Dimensions (m)	Findings and samples	Date
				charcoal	
2011	4	U-shaped cut of ditch, filled by 2012	W 1.16 / D 0.46		2
2012	4	Mid orangey brown silty clay, single fill of 2011	-	GBA 9	
2013	5	U-shaped re-cut of ditch 2011, cuts 2012	W 0.40 / D 0.20	-	2
2014	5	Mid yellowish brown silty clay, single fill of 2013	-		
2015	4	U-shaped cut of ditch, filled by 2016 truncates 2020	W 1.50 / D 0.45		2
2016	4	Mid orangey brown silty clay, single fill of 2015	-	GBA 11	
2017	5	U-shaped re-cut of ditch 2015, filled by 2018	W 0.60 / D 0.22		2
2018	5	Light yellowish brown silty clay, single fill of 2017	-		
2019	10	Spread of mid yellowish brown silty clay deposit with burnt material, burnt tree bole	L 0.50 / W 0.50 / D 0.10	GBA 10 burnt peat, oak charcoal	2
2020	9	Shallow cut of post hole, filled by 2021	W 0.60 / D 0.15	Burnt stones	2
2021	9	Mid orangey brown, single fill of 2020	-		
2022	10	U-shaped cut of post hole, filled by 2023	W 0.55 / D 0.15		2
2023	10	Mid orangey brown, single fill of 2022			
2024	10	Shallow cut of post hole, filled by 2023	W 0.55 / D 0.07		2
2025	10	Mid yellowish brown silty clay single fill of 2024	-		
2026	10	Irregular cut of pit, filled by 2027	W 0.85 / D 0.27		2
2027	10	Mid orangey brown silty clay single fill of 2026	-		
2028	11	Shallow cut of post hole, filled by 2029 and 2030	L 0.60 / W 0.55 / D 0.18		RB/ 2
2029	11	Mid greyish brown clayey silt, primary fill of 2028	-	GBA 12 hazel charcoal / 1 x RB pot	
2030	11	Mid orangey brown sandy silt, secondary fill of 2028	-		
2031	6	U-shaped cut of ditch, filled by 2032	W 1.50 / D 0.54		
2032	6	Light orangey brown sandy silt, fill of 2031	-	GBA 13	
2033	7	Re-cut of Ditch 2031, filled by 2034	D 0.54	-	
2034	7	Light orangey brown sandy silt, fill of 2033	-	GBA 14	
2035	8	U-shaped re-cut of ditch 2031, filled by 2036	W 1.20 / D 0.47		1
2036	8	Light orangey, reddish clayey silt, single fill of 2035	-	GBA 15 burnt peat	



<b>Context</b>	<b>Group</b>	<b>Description</b>	<b>Dimensions (m)</b>	<b> Finds and samples</b>	<b>Date</b>
2037		Cut of irregular feature, filled by 2038	W 1.30 / D 0.20		
2038		Light orangey brown clayey silt, single fill of 2037	-	GBA sample 16	
2039	6	U-shaped cut of ditch, filled by 2040	D 0.44	-	1
2040	6	Light orangey grey sandy silt single fill of 2039	Th. 0.35	GBA 17	
2041	8	Shallow re-cut of 2039 or 2031	W 1.18 / 0.32	-	2
2042	8	Light orangey brown clayey silt, single fill of 2041	-	GBA 18	
2043	6	Cut of ditch, filled by 2044, truncated by ditch 2063	D 0.60	-	2
2044	6	Mid greyish brown clayey silt, fill of 2043	-	GBA sample 21	
2045	7	Mottled orangey grey silty clay, single fill of ditch 2063			
2046	8	Re-cut of ditch 2063, filled by 2047	W 1.16 / D 0.38		2
2047	8	Dark orangey brown clayey silt, single fill of ditch re-cut 2046	-		
2048	8	U-shaped cut of ditch, filled by 2049	W 0.70 / D 0.36		
2049	8	Mottled orangey grey sandy silt, fill of 2048	-		
2050		Rectangular cut of post hole, filled by 2051	L 0.50 / W 0.40		
2051		Mid greyish brown clayey silt single fill of 2050	-		
2052	6	V-shaped cut of ditch, filled by 2052	-		2
2053	6	Mid greyish brown clayey silt, single fill of 2052	-		
2054	7	U-shaped re-cut of ditch 2052, filled by 2055 and 2056	W 1.60 / 0.40	GBA 20	2
2055	7	Mottled orangey brown silty clay, primary fill of re-cut 2054	-		
2056	7	Mid yellowish brown silty clay, secondary fill of 2054	-		
2057	8	Dark orangey brown clayey silt, single fill of re-cut 2062		23 x RB pot	C14 120-260 AD (SUERC 19938)
2058		Cut of ditch as seen through machine slot 3			
2059		Mid orangey brown silty clay, single fill of 2058		GBA 22	
2060		Cut of ditch as seen through machine slot 1			
2061		Mid orangey brown silty clay, single fill of 2060			
2062	8	U-shaped re-cut of ditch 2054, filled by 2057	W 0.73 / D 0.18		c. C2nd AD
2063	7	U-shaped re-cut of 2043	W 1.60 / D 0.40		2

**APPENDIX 3: RADIOCARBON DATING CERTIFICATE**

**Scottish Universities Environmental Research Centre**

Director: Professor A B MacKenzie Director of Research: Professor R M Ellam

Rankine Avenue, Scottish Enterprise Technology Park,

East Kilbride, Glasgow G75 0QF, Scotland, UK

Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

**RADIOCARBON DATING CERTIFICATE**

29 August 2008

Laboratory Code SUERC-19938 (GU-17155)

**Submitter** Alison Morgan  
Archaeological Services WYAS  
PO Box 30, Neshaw Lane South  
Morley  
Leeds LS27 0UG

**Site Reference** Glasshoughton Coalfields Link Rd

**Sample Reference** GCL07/2057

**Material** pot residue : Burnt residue on pottery

**$\delta^{13}\text{C}$  relative to VPDB** -27.8 ‰

Radiocarbon Age BP 1815  $\pm$  30

- N.B. 1. The above  $^{14}\text{C}$  age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email [g.cook@suerc.gla.ac.uk](mailto:g.cook@suerc.gla.ac.uk) or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :-

Date :-

Checked and signed off by :-

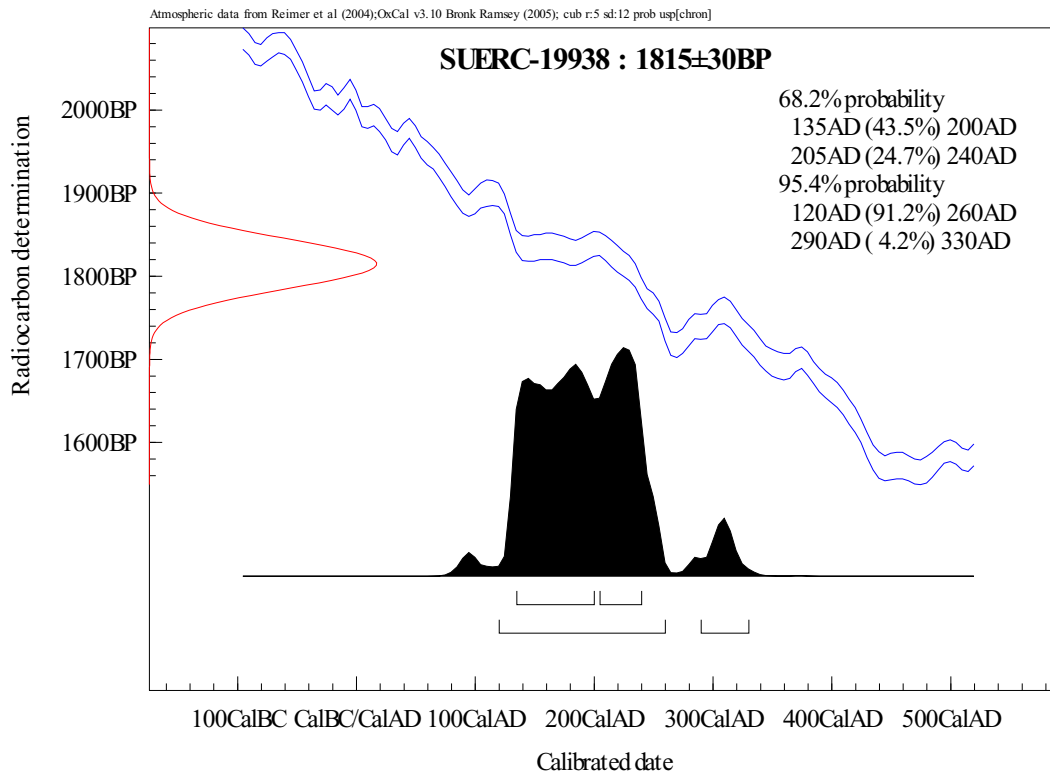
Date :-



The University of Glasgow, charity number SC004401

The University of Edinburgh is a charitable body,  
registered in Scotland, with registration number SC005336

### Calibration Plot



## **APPENDIX 4: SPECIFICATIONS**

**WEST YORKSHIRE ARCHAEOLOGY ADVISORY SERVICE:****SPECIFICATION FOR AN ARCHAEOLOGICAL EVALUATION (TRIAL TRENCHING) ALONG THE ROUTE OF THE GLASSHOUGHTON COALFIELDS LINK ROAD**

**Specification prepared on behalf of WMDC Planning Authority for Mr John Shilleto of WMDC Highways & Engineering**

**1. Summary**

1.1 A limited amount of archaeological work consisting trial trenching is proposed to help establish the archaeological significance of the above site. Any work arising from the results of this evaluation will be covered by further specifications.

1.2 This specification has been prepared by the curatorial branch of the West Yorkshire Archaeology Advisory Service, the holders of the West Yorkshire Sites and Monuments Record.

NOTE: The requirements detailed in paragraphs 6.3, 6.4, 6.5, 6.6 and 8.1 are to be carried out by the archaeological contractor **prior** to the commencement of fieldwork by completing and returning the attached form to WYAAS.

**2. Site Location & Description****Grid Reference: SE 417232**

2.1 The western end of the Glasshoughton Coalfields Link Road will join the Normanton Bypass at the roundabout with Havertop Lane at SE 403227. The road will cross the Normanton Industrial Estate / Employment Park (currently under construction) and adjacent fields to join Castleford Lane at SE 417232. From there the road will cross the M62 (at SE 418236) to join Cutsyke Road and then continue north-eastwards towards Flass Lane, over the Castleford to Pontefract railway, and link with the A639 Leeds Roads via two roundabouts close to the Asda Superstore. The easternmost point of the road lies at SE 431244.

2.2 The western end of the road, from Chainage 0 – 1000, will be constructed by PPG Land and the eastern end, from Chainage 3100 onwards, will be constructed by Waystone Ltd and Asda. The central stretch from Ch 1000 – 3100 will be constructed by WMDC and is the subject of this specification (see Fig. 1).

2.3 Archaeological interest in the WMDC-constructed section of this road is restricted to the area south of the M62 (Ch 1000 – 1800; SE 413230 – SE 418424) (see Figs 2 & 3). No further archaeological work is warranted within the Link Road corridor to the north of the motorway.

2.4 The road crosses Middle Coal Measures containing deposits of sandstones and shales. The soils are Carboniferous and Jurassic clay and shale based and tend to be seasonally waterlogged.

2.5 The area of archaeological interest lies within the District of Wakefield and in the historic Township of Ackton.

### **3. Background**

3.1 Planning consent for the construction of the road was granted by Wakefield Metropolitan District Council (refs: 99/99/59954 & 99/99/59954a).

3.2 The Planning Authority was advised by the West Yorkshire Archaeology Advisory Service that there is reason to believe that important archaeological remains may be affected by the scheme and that a programme of archaeological works is required in order to assess the likely impact of the proposals and mitigate any impacts. The archaeological work was secured as a condition to planning consent.

3.3 This specification has been prepared by the West Yorkshire Archaeology Advisory Service, at the request of Mr John Shilleto of WMDC Highways & Engineering Division to detail what is required for the initial phase of evaluation and to allow an archaeological contractor to provide a quotation.

### **4. Archaeological Interest**

4.1 The Link Road crossed an area of archaeological potential identified from cropmarks visible on aerial photographs. These show that field boundaries, trackways and enclosures of probable prehistoric/Romano-British date are present across a large area. Recent archaeological investigations (including geophysical survey and detailed excavations) near Havertop Lane, to the east of Castleford Lane and to the north of the M62 at the Glasshoughton Community Stadium site have demonstrated that this area was relatively intensively occupied during the prehistoric to Roman periods, and that sites typically extend beyond the areas predicted by cropmarks. The majority of the current scheme has been subject to a geophysical survey.

4.2 This area is also known to have been settled during the Anglo-Saxon period: Normanton, Ackton and Whitwood are all recorded in the Domesday Survey of 1086. The area affected by the current scheme appears to lie between major medieval settlements and the cropmarks show that at this time the area was in agricultural use and was divided into 'ridge and furrow' strips. Documentary evidence indicates that there was a small medieval settlement at Loscoe and that coal has been mined in this area since at least the 13<sup>th</sup> century. The exact location of the medieval settlement is not known but Loscoe Grange and Farm lie at the western end of the scheme.

4.3 There is evidence of mineral extraction along the route, including a group of cropmarked bell pits just south of the M62 indicating pre-19<sup>th</sup> century mining. Industrial activity intensified in the 19<sup>th</sup> and 20<sup>th</sup> centuries, focussed at the western end of the route at the Don Pedro Colliery, a railway line, the Loscoe Brickworks and a clay pit, and at the eastern end at the railway, Glasshoughton Colliery (and associated spoil heaps) and the Mickle Hill Sewage Works. This industrial activity, along with the construction of the M62 in the mid 20<sup>th</sup> century, caused considerable disturbance to a large area to the north of the motorway. Apart from a small area outside of the road corridor, it is considered unlikely that any archaeological remains could survive to the north of the M62.

## **5. Aim of the Evaluation**

5.1 The aim of the evaluation is to gather sufficient information to establish the extent, condition, character and date (as far as circumstances permit) of any archaeological features and deposits within the area of interest and to record at an appropriate level, archaeological features encountered in the excavation trenches. The results will enable WYAAS to determine whether further archaeological work is required to mitigate the destruction of archaeological remains during development.

5.2 The nature and scope of any further work will depend upon the results of the evaluation. It is possible that a larger excavation area may be identified as being warranted, or alternatively a wider watching brief may be required during ground-works for the development, possibly with provision for rapid salvaging recording. All possibilities will be considered depending upon the results of this exercise and it would be anticipated that if further significant fieldwork is required, then the contractor would draft the specification and agree it with the WYAAS (see section 8.1).

5.3 It is a primary aim of the specified work that all aspects should be placed in the public domain by depositing the results with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE).

## **6. General Instructions**

### **6.1 Health and Safety**

6.1.1 The archaeologist on site will naturally operate with due regard for Health and Safety regulations. This work may require the preparation of a Risk Assessment of the site, in accordance with the Health and Safety at Work Regulations. The West Yorkshire Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries that may occur to outside contractors while attempting to conform to this specification. Any Health and Safety issues which may hinder compliance with this specification should be discussed with WYAAS at the earliest possible opportunity.

### **6.2 Location of Services, etc.**

6.2.1 The archaeological contractors will be responsible for locating any drainage pipes, service pipes, cables *etc.* which may cross any of the trench lines, and for taking the necessary measures to avoid disturbing such services.

### **6.3 Confirmation of Adherence to Specification**

6.3.1 Prior to the commencement of *any work*, the archaeological contractor must confirm adherence to this specification (on the attached form) to WYAAS, or state (with reasons) any proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of WYAAS to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor. Modifications presented in the form of a re-written specification/project design will not be considered by WYAAS. Any technical queries arising from the specification detailed below should be addressed to WYAAS *without delay*.



## 6.4 Confirmation of Timetable and Contractors' Qualifications

6.4.1 Prior to the commencement of *any work*, the archaeological contractor must provide WYAAS in writing with:

- a projected timetable for the site work;
- details of the staff structure and numbers;
- names and CVs of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*),

6.4.2 All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard, subject to the ultimate judgement of WYAAS.

## 6.5 Notification

6.5.1 WYAAS should be provided with as much notice as possible in writing (and certainly not less than one week) of the intention to start work. A copy of the archaeological contractor's risk assessment of the site should accompany the notification.

6.5.2 The Wakefield Museums Keeper of Archaeology, Pam Judkins, should be notified of the date of commencement of fieldwork (Tel.: 01924 305352; email: pjudkins@wakefield.gov.uk).

6.5.3 As a courtesy, English Heritage's Regional Science Adviser, Dr Andy Hammon, should also be notified of the intention to commence fieldwork (Tel.: 01904 601983; email: andy.hammon@english-heritage.org.uk).

## 6.6 Documentary Research

6.6.1 Previous archaeological work on this site has been carried out by Archaeological Services WYAS. If a different contractor is commissioned to undertake the work covered by this specification they will need to familiarise themselves with the results so far. Therefore, prior to the commencement of *fieldwork*, the HER should be visited by either the project manager or the site supervisor, in order to gain an overview of the archaeological/historical background of the site and environs and to view reports of previous surveys. In addition to providing a knowledge base for the work in hand, the results of this assessment may be incorporated into the contractor's report where they are considered to contribute to that report, but any extraneous material should be omitted. Please note that the HER makes a charge for consultations of a commercial nature.

## 7. Methodology

### 7.1 Trench Locations

7.1 The evaluation will involve the excavation of 18 trenches, which can be machine-opened (see Figs 2 & 3). The contractor should also allow for a contingency amount of up to 150 square metres. The use of the contingency will depend upon the results obtained in the initial trial trenching. The use of the contingency will be at the decision of the WYAAS, whose decision will be issued in writing, if necessary in retrospect after site discussions.

Trench	Dimensions (m)	Area (m <sup>2</sup> )	Rationale
1	30 x 2	60	To test a 'blank' area
2	30 x 2	60	To test a 'blank' area
3	30 x 2	60	To test a 'blank' area & poss. continuation of cropmark
4	10 x 5	50	To test geophysical anomalies (discretes)
5	10 x 5	50	To test geophysical anomalies (discretes)
6	30 x 2	60	To test a 'blank' area & poss. continuation of cropmark
7	15 x 15	125	To test geophysical anomalies (enclosure)
8	15 x 2	30	To test geophysical anomalies (enclosure)
9	30 x 2	60	To test poss. continuation of geophysical anomalies
10	30 x 2	60	To test poss. continuation of geophysical anomalies
11	15 x 2	30	To test cropmarks (enclosure)
12	30 x 2	60	To test a 'blank' area
13	15 x 2	30	To test poss. continuation of cropmark
14	30 x 2	60	To test poss. continuation of cropmark
15	30 x 2	60	To test a 'blank' area & poss. continuation of cropmark
16	30 x 2	60	To test a 'blank' area & poss. continuation of cropmark
17	30 x 2	60	To test a 'blank' area
18	20 x 25	500	To investigate cropmark feature (bell-pit)

Total area of trenching: **1475m<sup>2</sup>**

Contingency: **150m<sup>2</sup>**

## 7.1 Method of Excavation

7.2.1 The trial trenches may be opened and the topsoil and recent overburden removed down to the first significant archaeological horizon in successive level spits of a maximum 0.2m thickness, by the use of an appropriate machine using a wide toothless ditching blade. Under no circumstances should the machine be used to cut arbitrary trenches down to natural deposits. All machine work must be carried out under direct archaeological supervision and the machine halted if significant archaeological deposits are encountered. The top of the first significant archaeological horizon may be exposed by the machine, but must then be cleaned by hand and inspected for features and then dug by hand. The full depth of archaeological deposits must be assessed. The contractor should make provision for the use of shoring/stepping to accomplish this if necessary. All trenches are to be the stated dimensions at their base.

7.2.2 All archaeological remains will be hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the project. The **complete** stratigraphic sequence, down to naturally occurring deposits will be excavated and the work will investigate and record **all** inter-relationships between features. The following strategy will be employed:

- Linear boundary features: a minimum sample of 20% of each linear boundary feature such as ditches and trackways. Each section should be at least 1m wide and, where possible, sections will be located and recorded adjacent to the trench edge. All intersections will be investigated to determine the relationship(s) between the component features. All termini will be investigated.
- Other linear and discrete features: all stake-holes, post holes, pits, ring ditches, kilns, and other structural/funerary/industrial features will be 50%

excavated in the first instance, recorded in section, and then fully excavated. All intersections will be investigated to determine the relationship(s) between the component features. Where possible, sections will be located and recorded adjacent to the trench edge.

- Built structures: walls, floors etc will be excavated sufficient to establish their form, phasing, construction techniques. All intersections will be investigated to determine the relationship(s) between the component features.

7.2.3 All artefacts are to be retained for processing and analysis except for unstratified 20<sup>th</sup>-century material, which may be noted and discarded. Finds will be stored in secure, appropriate conditions following the guidelines in First Aid for Finds (3<sup>rd</sup> edition).

### **7.3 Method of Recording**

7.3.1 The trenches are to be recorded according to the normal principles of stratigraphic excavation. The stratigraphy of each trial trench is to be recorded even where no archaeological deposits have been identified.

7.3.2 The actual areas of trenching and any features of possible archaeological concern noted within the trenches should be accurately located on a site plan and recorded by photographs, summary scale drawings and written descriptions sufficient to permit the preparation of a report on the material. The photographic record will consist of colour transparencies and monochrome prints, supplemented (not replaced) by digital photographs. The site grid is to be accurately tied into the National Grid and located on the largest scale map available of the area (either 1:2500 or 1:1250).

### **7.4 Environmental Sampling Strategy**

7.4.1 Bulk samples must be taken from **all** securely stratified deposits using the methodologies outlined by English Heritage in the Centre for Archaeology Guidelines no.1 (2002), "Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation".

7.4.2 Samples for specialist environmental analysis and scientific dating (soil profiles, archaeomagnetic dating, dendrochronology etc.) should be taken if suitable material is encountered during the excavation. The English Heritage Regional Science Advisor should be consulted (Dr Andy Hammon, tel.: 01904 601983, email: andy.hammon@english-heritage.org.uk) and provision should be made for an appropriate specialist(s) to visit the site, take samples and discuss the sampling strategy, if necessary.

### **7.5 Conservation Strategy**

7.5.1 A conservation strategy must be developed in collaboration with a recognised laboratory. All finds must be assessed in order to recover information that will contribute to an understanding of their deterioration and hence preservation potential, as well as identifying potential for further investigation. Furthermore, all finds must be stabilised and packaged in accordance with the requirements of the receiving museum. As a guiding principle only artefacts of a "displayable" quality would warrant full conservation, but metalwork and coinage from stratified contexts

would be expected to be X-rayed if necessary, and conservation costs should also be included as a contingency.

## **7.6 Human Remains**

7.6.1 Any human remains that are discovered must initially be left in-situ, covered and protected. The West Yorkshire Archaeology Advisory Service will be notified. If removal is required the remains must be excavated archaeologically in accordance with the *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* published by English Heritage (2005), a valid Department of Constitutional Affairs licence and any local environmental health regulations.

## **7.7 Use of Metal Detectors on Site**

7.7.1 Spoil heaps are to be scanned for ferrous and non-ferrous metal artefacts using a metal detector capable of making this discrimination, operated by an experienced metal detector user (if necessary, operating under the supervision of the contracting archaeologist). Modern artefacts are to be noted but not retained (19<sup>th</sup>-century material and earlier should be retained.)

7.7.2 If a non-professional archaeologist is to be used to carry out the metal-detecting, a formal agreement of their position as a sub-contractor working under direction must be agreed in advance of their use on site. This formal agreement will apply whether they are paid or not. To avoid financial claims under the Treasure Act a suggested wording for this formal agreement with the metal detectorist is: "In the process of working on the archaeological investigation at [*location of site*] between the dates of [*insert dates*], [*name of person contributing to project*] is working under direction or permission of [*name of archaeological organisation*] and hereby waives all rights to rewards for objects discovered that could otherwise be payable under the Treasure Act 1996."

## **7.8 Treasure Act**

7.8.1 The terms of the Treasure Act 1996 must be followed with regard to any finds that might fall within its purview. Any finds must be removed to a safe place and reported to the local coroner as required by the procedures as laid down in the "Code of Practice". Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.

## **7.9. Unexpectedly Significant or Complex Discoveries**

7.9.1 Should there be unexpectedly significant or complex discoveries made that warrant, in the professional judgement of the archaeologist on site, more detailed recording than is appropriate within the terms of this specification, then the archaeological contractor should urgently contact the West Yorkshire Archaeology Advisory Service with the relevant information to enable them to resolve the matter with the developer.

## **7.10 Access/Monitoring Arrangements**

7.10.1 The representative of the West Yorkshire Archaeology Advisory Service will be afforded access to the site at any reasonable time. It is usual practice that the visit is arranged in advance, but this is not always feasible. The Advisory Service's representative will be provided with a site tour and an overview of the site by the senior archaeologist present and should be afforded the opportunity to view all trenches, any finds made that are still on site, and any records not in immediate use. It is anticipated that the records of an exemplar context that has previously been fully recorded will be examined. Any observed deficiencies during the site visit are to be made good to the satisfaction of the Advisory Service's representative, by the next agreed site meeting.

7.10.2 Access is also to be afforded at any reasonable time to English Heritage's Regional Archaeological Science Advisor (Dr Andy Hammon, Tel.: 01904 601983).

## **8. Post-Fieldwork**

### **8.1 Requirement for Further Fieldwork**

8.1.1 It is anticipated that upon (or approaching) completion of fieldwork a meeting with WYAAS will be arranged by the archaeological contractor, either at the WYAAS offices or on site, to discuss the results and agree what, if any, additional work may be warranted. The developer should also be invited to attend this meeting. The meeting may take the form of a telephone discussion at WYAAS' discretion. Following the meeting the archaeological contractor will either produce a report (if no further archaeological work is warranted), or draft a specification (if further work is required) to be submitted to WYAAS for written approval prior to the commencement of any further work.

8.1.2 If further fieldwork is required, the results of the evaluation will be integrated into an overall report encompassing all stages of work. However, if a different contractor is employed by the developer to undertake subsequent works, then a full, formal evaluation report (see paragraph 9.3 below) should be prepared and accepted by WYAAS before further fieldwork commences.

### **8.2 Finds and Samples**

8.2.1 On completion of the fieldwork, any samples taken shall be processed and any finds shall be cleaned, identified, assessed/analysed, dated (if possible), marked (if appropriate) and properly packed and stored in accordance with the requirements of national guidelines.

8.2.2 Samples should be processed for the recovery of artefactual material, animal/fish/human bones, industrial residues, shell, molluscs, charcoal and mineralised plant remains as a minimum. 'Specialist' samples (e.g. monoliths, cores, plant/invertebrate macrofossils) should be processed separately as appropriate.

8.2.3 Material suitable for scientific dating (e.g. charcoal) should be identified to species and assessed for suitability by an environmental specialist prior to submission to a dating laboratory. Any human remains submitted for C14 dating

should also have carbon ( $\delta^{13}\text{C}$ ) and nitrogen isotope analysis carried out by the radiocarbon laboratory.

8.2.4 All finds and biological material must be analysed by a qualified and experienced specialist.

8.2.5 Following identification, finds of 20<sup>th</sup>-century date should be noted, quantified and summarily described, but can then be discarded if appropriate. All finds which are of 19<sup>th</sup> century or earlier date should be retained and archived.

### **8.3 Field Archive**

8.3.1 A fully indexed field archive shall be compiled consisting of all primary written documents, plans, sections, photographic negatives and a complete set of labelled photographic prints/slides. An index to the field archive is to be deposited with the West Yorkshire Archaeology Advisory Service (preferably as an appendix in the report).

8.3.2 The original archive is to accompany the deposition of any finds, providing the landowner agrees to the deposition of finds in a publicly accessible archive (see section 12 below). In the absence of this agreement the field archive (less finds) is to be deposited with the West Yorkshire Archaeology Advisory Service.

## **9. Reporting**

9.1 A report should be produced, which should include background information on the need for the project, a description of the methodology employed, and a full description and interpretation of results produced. It is not envisaged that the report is likely to be published, but it should be produced with sufficient care and attention to detail to be of academic use to future researchers.

9.2 Location plans should be produced at a scale which enables easy site identification and which depicts the full extent of the site investigated (a scale of 1:50,000 is not regarded as appropriate unless accompanied by a more detailed plan or plans). Site plans should be at an appropriate scale showing trench layout (as dug), features located and, where possible, predicted archaeological deposits. Upon completion of each evaluation trench all sections containing archaeological features will be drawn. Section drawings (at a minimum scale of 1:20) must include heights O.D. Plans (at a minimum scale of 1:50) must include O.D. spot heights for all principal strata and any features. Where no archaeological deposits are encountered at least one long section of each trench will be drawn.

9.3 Artefact analysis is to include the production of a descriptive catalogue, quantification by context and discussion/interpretation if warranted, with finds critical for dating and interpretation illustrated.

9.4 Environmental analysis is to include identification of the remains, quantification by context, discussion/interpretation if warranted, and a detailed description of the processing methodology. Radiocarbon results must be presented in full (laboratory sample number, conventional radiocarbon age,  $\delta^{13}\text{C}$  value, calibration programme). Copies of the laboratory-issued dating certificates must be included as an appendix to the report.

9.5 Details of the style and format of the report are to be determined by the archaeological contractor, but should include a full bibliography, a quantified index to the site archive, and as an appendix, a copy of this specification.

## **9.6 Summary for Publication**

9.6.1 The attached summary sheet should be completed and submitted to the West Yorkshire Archaeology Advisory Service for inclusion in the summary of archaeological work in West Yorkshire to be published on WYAAS's website.

## **9.7 Publicity**

9.7.1 If the project is to be publicised in any way (including media releases, publications etc.), then it is expected that the West Yorkshire Archaeology Advisory Service will be given the opportunity to consider whether it wishes its collaborative role to be acknowledged, and if so, the form of words used will be at the Advisory Services' discretion.

## **9.8 Consideration of Appropriate Mitigation Strategy**

9.8.1 The report should not give a judgement on whether preservation or further investigation is considered appropriate, but should provide an interpretation of results, placing them in a local and regional, and if appropriate, national context. However, a client may wish to separately commission the contractor's view as to an appropriate treatment of the resource identified.

## **10. Report Submission and Deposition with the HER**

10.1 A copy of the report is to be supplied **directly** to the West Yorkshire Archaeology Advisory Service within a period of **two months** following completion of fieldwork, unless specialist reports are awaited. In the latter case a revised date should be agreed with the Advisory Service. Completion of this project and advice from WYAAS to the Planning Authority regarding an appropriate mitigation strategy are dependant upon receipt by WYAAS of a satisfactory report which has been prepared in accordance with this specification. Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken account of in finalising the report, within a timescale which has been agreed with WYAAS.

10.2 The report will be supplied on the understanding that it will be added to the County Historic Environment Record and will become publicly accessible once it is deposited with WYAAS, unless confidentiality is explicitly requested in which case it will become publicly accessible six months after deposition.

10.3 A copy of the final report shall also be supplied to English Heritage's Regional Science Advisor (Dr Andy Hammon, English Heritage, 37 Tanner Row, York Y01 6WP).

## **11. Archive Deposition**

11.1 Before commencing any fieldwork, the archaeological contractor must contact the relevant District museum archaeological curator to determine the museum's requirements for the deposition of an excavation archive. In this case the contact is Wakefield M.D.C. Museum and Arts, Wakefield Art Gallery, Wentworth Terrace, WF1

3QW; telephone 01924 305352; Keeper of Archaeology: Mrs Pam Judkins. Agreement for deposition should be confirmed in writing by the archaeological contractor; this correspondence is to be copied to the West Yorkshire Archaeology Advisory Service.

11.2 It is the policy of Wakefield Museum to accept complete excavation archives, including primary site records and research archives and finds, from all excavations carried out in the District that it serves.

11.3 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with Wakefield Museum.

11.4 It is the responsibility of the archaeological contractor to meet Wakefield Museums' requirements with regard to the preparation of excavation archives for deposition.

## **12. General Considerations**

### **12.1 Authorised Alterations to Specification by Contractor**

12.1.1 It should be noted that this specification is based upon records available in the Historic Environment Record. A site visit has not been undertaken. Archaeological contractors submitting tenders should carry out an inspection of the site prior to submission. If, on first visiting the site or at any time during the course of the recording exercise, it appears in the archaeologist's professional judgement that:

i) a part or the whole of the site is not amenable to evaluation as detailed above, and/or

ii) an alternative approach may be more appropriate or likely to produce more informative results,

then it is expected that the archaeologist will contact WYAAS as a matter of urgency. If contractors have not yet been appointed, any variations which WYAAS considers to be justifiable on archaeological grounds will be incorporated into a revised specification, which will then be re-issued to the developer for redistribution to the tendering contractors. If an appointment has already been made and site work is ongoing, WYAAS will resolve the matter in liaison with Wakefield Metropolitan District Council.

### **12.2 Unauthorised Alterations to Specification by Contractor**

12.2.1 It is the archaeological contractor's responsibility to ensure that they have obtained WYAAS's consent in writing to any variation of the specification prior to the commencement of on-site work or (where applicable) prior to the finalisation of the tender. Unauthorised variations are made solely at the risk of the contractor.

### **12.3 Technical Queries**

12.3.1 Similarly, any technical queries arising from the specification detailed above, should be addressed to the West Yorkshire Archaeology Advisory Service without delay.



## **12.4 Valid Period of Specification**

12.4.1 This specification is valid for a period of one year from date of issue. After that time it may need to be revised to take into account new discoveries, changes in policy or the introduction of new working practices or techniques.

**Andrea Burgess**

**April 2007**

### **West Yorkshire Archaeology Advisory Service**

Registry of Deeds

Newstead Road

Wakefield

WF1 2DE

Telephone: (01924) 305178

Fax: (01924) 306810

E-mail: [aburgess@wyjs.org.uk](mailto:aburgess@wyjs.org.uk)

## **WEST YORKSHIRE ARCHAEOLOGY ADVISORY SERVICE: SPECIFICATION FOR AN ARCHAEOLOGICAL EXCAVATION ON THE ROUTE OF THE GLASSHOUGHTON COALFIELDS LINK ROAD**

**Specification prepared on behalf of WMDC Planning Authority for Russell Jacques of WMDC Highways & Engineering**

### **2. Summary**

1.1 A limited amount of archaeological work consisting of open-area excavation is proposed to mitigate the impact of development at the above site.

1.2 This specification deals with the excavation and the preparation of an assessment report on the results of the fieldwork. The results will indicate whether any further archaeological monitoring (in the form of a watching brief during development) will be required. The assessment report will establish whether further analysis and the preparation of a publication report is required. Any work arising from the results of the excavation and the assessment report will be additional to this specification.

1.3 This specification has been prepared by Archaeological Services WYAS on behalf of the curatorial branch of the West Yorkshire Archaeology Advisory Service (WYAAS), the holders of the West Yorkshire Sites and Monuments Record.

NOTE: The requirements detailed in paragraphs 6.1, 6.2, 6.3, 6.4, 6.5, 7.6, 7.7 and 9.1 are to be met by the archaeological contractor **prior** to the commencement of fieldwork by completing and returning the attached form to the WY Archaeology Advisory Service.

### **2. Site Location & Description (Fig.1)**

#### **Grid Reference: SE SE 417232**

2.1 The western end of the Glasshoughton Coalfields Link Road will join the Normanton Bypass at the roundabout with Havertop Lane at SE 403227. The road will cross the Normanton Industrial Estate / Employment Park (currently under construction) and adjacent fields to join Castleford Lane at SE 417232. From there the road will cross the M62 (at SE 418236) to join Cutsyke Road and then continue north-eastwards towards Flass Lane, over the Castleford to Pontefract railway, and link with the A639 Leeds Roads via two roundabouts close to the Asda Superstore. The easternmost point of the road lies at SE 431244.

2.2 The western end of the road, from Chainage 0 – 1000, will be constructed by PPG Land and the eastern end, from Chainage 3100 onwards, will be constructed by Waystone Ltd and Asda. The central stretch from Ch 1000 – 3100 will be constructed by WMDC and is the subject of this specification (see Fig. 1)

2.3 The road crosses Middle Coal Measures containing deposits of sandstones and shales. The soils are Carboniferous and Jurassic clay and shale based and tend to be seasonally waterlogged.

### **3. Planning Background**

3.1 Planning consent for the construction of the road was granted by Wakefield Metropolitan District Council (refs: 99/99/59954 & 99/99/59954a). An archaeological evaluation was undertaken in partial fulfilment of a condition attached to planning consent.

3.2 Evaluation of the site by Archaeological Services WYAS (ASWYAS) in September 2007 revealed that archaeological remains were present on part of the site. These remains will be destroyed by the development of the site and further archaeological excavation and recording works are required to mitigate this impact.

3.3 This specification has been prepared by ASWYAS on behalf of WYAAS, at the request of Russell Jacques of WMDC Highways & Engineering Division, to detail what is required and to allow an archaeological contractor to provide a quotation.

### **4. Archaeological Interest**

The Link Road crossed an area of archaeological potential identified from cropmarks visible on aerial photographs. These show that field boundaries, trackways and enclosures of probable prehistoric/Romano-British date are present across a large area. Recent archaeological investigations (including geophysical survey and detailed excavations) near Havertop Lane, to the east of Castleford Lane and to the north of the M62 at the Glasshoughton Community Stadium site have demonstrated that this area was relatively intensively occupied during the prehistoric to Roman periods, and that sites typically extend beyond the areas predicted by cropmarks. The majority of the current scheme has been subject to a geophysical survey.

4.2 This area is also known to have been settled during the Anglo-Saxon period: Normanton, Ackton and Whitwood are all recorded in the Domesday Survey of 1086. The area affected by the current scheme appears to lie between major medieval settlements and the cropmarks show that at this time the area was in agricultural use and was divided into 'ridge and furrow' strips. Documentary evidence indicates that there was a small medieval settlement at Loscoe and that coal has been mined in this area since at least the 13<sup>th</sup> century. The exact location of the medieval settlement is not known but Loscoe Grange and Farm lie at the western end of the scheme.

4.3 There is evidence of mineral extraction along the route, including a group of cropmarked bell pits just south of the M62 indicating pre-19<sup>th</sup> century mining. Industrial activity intensified in the 19<sup>th</sup> and 20<sup>th</sup> centuries, focussed at the western end of the route at the Don Pedro Colliery, a railway line, the Loscoe Brickworks and a clay pit, and at the eastern end at the railway, Glasshoughton Colliery (and associated spoil heaps) and the Mickle Hill Sewage Works. This industrial activity, along with the construction of the M62 in the mid 20<sup>th</sup> century, caused considerable disturbance to a large area to the north of the motorway. Apart from a small area outside of the road corridor, it is considered unlikely that any archaeological remains could survive to the north of the M62.

## 5. Aims of the Excavations

5.1 The objective of the project is to fully record, analyse and report all archaeological remains within the areas of interest ('preservation by record') prior to their destruction during the development of the site, and to place the results of this work in the public domain by depositing it with the WY Historic Environment Record (Registry of Deeds, Newstead Road, Wakefield WF1 2DE).

5.2 The specific aims are to: excavate an area of approximately 2000m<sup>2</sup> around ditches and pits of a putative Iron Age / Romano-British date identified during the evaluation (Fig. 2), and if possible recover pottery or other dating evidence, and; to place the remains in the context of the wider landscape of field systems and enclosures dating to this period (see Figs 1 and 2).

## 6. General Instructions

### 6.1 Health and Safety

6.1.1 The archaeologist on site will naturally operate with due regard for Health and Safety regulations. Regard should also be taken of any reasonable additional constraints that the developer or other contractors may impose. The excavation may require the preparation of a Risk Assessment of the site in accordance with the Health and Safety at Work Regulations. WYAAS and its officers cannot be held responsible for any accidents or injuries that may occur to outside contractors while attempting to conform to this specification. Any Health and Safety issues which may hinder compliance with this specification should be discussed with WYAAS at the earliest possible opportunity (see section 13.2).

6.1.2 A Risk Assessment should be prepared, in accordance with the Health and Safety at Work Regulations; this risk assessment must include a specific element of hazard identification and assessment in relation to the potential for hazardous chemical contaminants/pollutants on the site. Any Health and Safety issue which may hinder compliance with this specification must be quantified and presented to WYAAS at the earliest possible opportunity. Subject to the relevant Health and Safety Legislation, the final decision on whether it is possible to proceed with excavation should be made by the WY Archaeology Advisory Service (in their capacity as advisory archaeologists to the LPA).

### 6.2 Confirmation of Adherence to Specification

6.2.1 Prior to the commencement of *any work*, the archaeological contractor must confirm adherence to this specification in writing to WYAAS, or state (with reasons) any proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of WYAAS to any variations is required prior to work commencing. Unauthorised variations are made at the sole risk of the contractor. **Modifications presented in the form of a re-written specification/project design will not be considered by WYAAS.** Any technical queries arising from the specification detailed below should be addressed to WYAAS without delay.

### 6.3 Confirmation of Timetable and Contractors' Qualifications

6.3.1 Prior to the commencement of *any work*, the archaeological contractor **must** provide WYAAS **in writing** with:

- a projected timetable for the site work;
- details of the staff structure and numbers;
- names and CVs of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*).

6.3.2 All project staff provided by the archaeological contractor must be suitably qualified and experienced for their roles. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard, subject to the ultimate judgement of WYAAS.

## 6.4 Notification

6.4.1 The excavations will be monitored as necessary and practicable by WYAAS in its role as curator of the county's archaeology. WYAAS should be provided with **as much notice as possible in writing** (and certainly not less than one week) of the intention to start work. A copy of the archaeological contractor's risk assessment of the site should accompany the notification.

6.4.2 The museums officer named in paragraph 9.1 should be notified in writing of the commencement of fieldwork at the same time as WYAAS.

6.4.3 As a courtesy, English Heritage's Regional Science Adviser, Andy Hammon should also be notified of the intention to commence fieldwork. (Tel.: 01904 601983; email: Andy.Hammon@english-heritage.org.uk).

## 6.5 Documentary Research

6.5.1 Prior to the commencement of fieldwork, the West Yorkshire Historic Environment Record should be visited, by either the project manager or the site supervisor, in order to gain an overview of the archaeological/historical background of the site and environs and to familiarise themselves with the results of the evaluation of the site. In addition to providing a knowledge base for the work in hand, the results of this assessment may be incorporated into the contractor's report where they are considered to contribute to that report, but any extraneous material should be omitted. A formal desk-based report is not required and the results of this exercise should be used to inform the whole project. Please note that the HER makes a charge for consultations of a commercial nature.

## 6.6 Location of Services, etc.

6.6.1 The archaeological contractor will be responsible for locating any drainage pipes, service pipes, cables etc which may cross any of the trench lines, and for taking the necessary measures to avoid disturbing such services.

## 7. Fieldwork Methodology

### 7.1 Trench Size and Location (Fig. 2)

7.1.1 The work will involve the excavation of one totalling 2,000 m<sup>2</sup>. The contractor should also make provision for a contingency area of up to 200 m<sup>2</sup>. The use of the contingency will depend upon the results obtained during the initial excavations and

will be implemented at the discretion of WYAAS. The decision to invoke all or part of the contingency area will be issued in writing, in retrospect after site discussions if necessary.

7.1.2 The open-area excavation trenches should be located as shown on Figure 2.

	Area (m <sup>2</sup> )	Rationale
Area A	2,000	Investigate and if possible date field system ditches and associated remains

Total excavation area: **2,000 m<sup>2</sup>**

Contingency allowance: **up to 200 m<sup>2</sup>**

## 7.2 Method of Excavation

7.2.1 The excavation areas may be opened using an appropriate machine fitted with a wide toothless ditching bucket. The topsoil and recent overburden should be removed down to the first significant archaeological horizon in successive level spits of maximum 0.2m thickness. **Under no circumstances should the machine be used to cut arbitrary trenches down to natural deposits.** All machine work must be carried out under direct archaeological supervision and the machine halted if significant archaeological deposits are encountered. The top of the first significant archaeological horizon may be exposed by the machine, but must then be cleaned by hand and inspected for features. Excavation should then continue manually.

7.2.2 All archaeological remains will be hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the project. The excavation will record the **complete** stratigraphic sequence, down to naturally occurring deposits and will investigate and record **all** inter-relationships between features. The following excavation strategy will be employed:

- Linear boundary features: a minimum sample of 20% of each linear boundary feature such as ditches and trackways. Each section should be at least 1m wide and, where possible, sections will be located and recorded adjacent to the trench edge. All intersections will be investigated to determine the relationship(s) between the component features. All termini will be investigated.
- Other linear and discrete features: all stake-holes, post holes, pits, ring ditches, kilns, and other structural/funerary/industrial features will be 50% excavated in the first instance, recorded in section, and then fully excavated. All intersections will be investigated to determine the relationship(s) between the component features. Where possible, sections will be located and recorded adjacent to the trench edge.
- Built structures: walls, floors etc will be excavated sufficient to establish their form, phasing, construction techniques. All intersections will be investigated to determine the relationship(s) between the component features.

7.2.4 All artefacts are to be retained for processing and analysis except for unstratified 19<sup>th</sup> & 20<sup>th</sup>-century material, which may be noted and discarded.

7.2.5 Samples for environmental analysis and scientific dating should be taken if suitable material is encountered during the excavation. Provision should also be made for specialist sampling if appropriate (soil profiles, archaeomagnetic dating, dendrochronology etc.) (Also see paragraph 7.5.)

### **7.3 Method of Recording**

7.3.1 Archaeological remains are to be recorded according to the normal principles of stratigraphic excavation.

7.3.2 Section drawings (at a minimum scale of 1:20) must include heights A.O.D. Plans (at a minimum scale of 1:50) must include O.D. spot heights for all principal strata and any features. At least one section of each trench edge, showing a representative and complete sequence of deposits from the modern ground surface to the natural geology, will be drawn.

7.3.3 The actual areas of excavation and all archaeological (and possibly archaeological) features should be accurately located on a site plan and recorded by photographs, scale drawings and written descriptions sufficient to permit the preparation of a detailed archive and report on the material. The excavation area, as excavated, will be accurately surveyed, tied into the O.S. National Grid and located on an up-to-date 1:1250 O.S. map base.

### **7.4 Use of Metal Detectors**

7.4.1 Spoil heaps are to be scanned for non-ferrous metal artefacts using a metal detector capable of making this discrimination, operated by an experienced metal detector user (if necessary, operating under the supervision of the contracting archaeologist). Modern artefacts are to be noted but not retained (19<sup>th</sup>-century material and earlier should be retained.)

7.4.2 If a non-professional archaeologist is to be used to carry out the metal-detecting, a formal agreement of their position as a sub-contractor working under direction must be agreed in advance of their use on site. This formal agreement will apply whether they are paid or not. To avoid financial claims under the Treasure Act a suggested wording for this formal agreement with the metal detectorist is: "In the process of working on the archaeological investigation at [*location of site*] between the dates of [*insert dates*], [*name of person contributing to project*] is working under direction or permission of [*name of archaeological organisation*] and hereby waives all rights to rewards for objects discovered that could otherwise be payable under the Treasure Act 1996."

### **7.5 Environmental Sampling Strategy**

7.5.1 Bulk samples must be taken from **all** securely stratified deposits using the methodologies outlined by English Heritage in the Centre for Archaeology Guidelines no.1 (2002), "Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation".

7.5.2 Samples for specialist environmental analysis and scientific dating (soil profiles, archaeomagnetic dating, dendrochronology etc.) should be taken if suitable material is encountered during the excavation. The English Heritage Regional Science Advisor should be consulted (Dr Andy Hammon, tel.: 01904 601983, email:

andy.hammon@english-heritage.org.uk) and provision should be made for an appropriate specialist(s) to visit the site, take samples and discuss the sampling strategy, if necessary.

## **7.6 Conservation Strategy**

7.6.1 A conservation strategy must be developed in collaboration with a recognised laboratory. All finds must be assessed in order to recover information that will contribute to an understanding of their deterioration and hence preservation potential, as well as identifying potential for further investigation. Furthermore, all finds must be stabilised and packaged in accordance with the requirements of the receiving museum. As a guiding principle, only artefacts of a “displayable” quality would warrant full conservation, but metalwork and coinage from stratified contexts would be expected to be x-rayed if necessary, and conservation costs should also be included as a contingency.

## **7.7 Human Remains**

7.7.1 Any human remains that are discovered must initially be left *in-situ*, covered and protected. WYAAS will be notified at the earliest opportunity. If removal is necessary the remains must be excavated archaeologically in accordance with the *Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* published by English Heritage (2005), a valid Ministry of Justice licence, if appropriate, and any local environmental health regulations.

## **7.8 Treasure Act**

7.8.1 The terms of the Treasure Act 1996 must be followed with regard to any finds that might fall within its purview. Any finds must be removed to a safe place and reported to the local coroner as required by the procedures as laid down in the “Code of Practice”. Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.

## **7.9 Unexpectedly Significant or Complex Discoveries**

7.9.1 Should there be unexpectedly significant or complex discoveries made that warrant, in the professional judgement of the archaeologist on site, more detailed recording than is appropriate within the terms of this specification, then the archaeological contractor should urgently contact WYAAS with the relevant information to enable them to resolve the matter with the developer.

## **8. Monitoring**

8.1 The project will be monitored as necessary and practicable by WYAAS, in its role as curator of the county’s archaeology and advisor to the local Planning Authority. WYAAS’s representative will be afforded access to the site at any reasonable time. It is usual practice that the visit is arranged in advance, but this is not always feasible.

8.2 WYAAS’s representative will be provided with a site tour and an overview of the site by the senior archaeologist present and should be afforded the opportunity to view all trenches, any finds made that are still on site, and any records not in immediate use. It is anticipated that the records of an exemplar context that has



previously been fully recorded will be examined. Any observed deficiencies during the site visit are to be made good to the satisfaction of WYAAS's representative, by the next agreed site meeting. Access is also to be afforded at any reasonable time to English Heritage's Regional Archaeological Scientific Advisor.

## **9. Archive Deposition**

9.1 Before commencing any fieldwork, the archaeological contractor must contact the relevant District museum archaeological curator to determine the museum's requirements for the deposition of an excavation archive. In this case the contact is The Wakefield Museums Keeper of Archaeology, Pam Judkins. Agreement for the deposition of the archive should be confirmed in writing by the archaeological contractor and copied to WYAAS.

9.2 It is the policy of Wakefield Museum to accept complete excavation archives, including primary site records and research archives and finds, from all excavations carried out in the District that it serves.

9.3 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with Wakefield Museum.

9.4 It is the responsibility of the archaeological contractor to meet Wakefield Museums' requirements with regard to the preparation of excavation archives for deposition.

## **10. Post-excavation Assessment and Analysis**

### **10.1 Initial Treatment of Artefacts and Samples**

Upon completion of fieldwork all finds will be cleaned, identified, marked (if appropriate) and properly packed and stored in accordance with the requirements of national guidelines. Metalwork will be x-rayed (as per paragraph 7.6) and assessed by a conservator. Any samples taken shall be processed appropriately.

### **10.2 Archive Consolidation**

10.2.1 The site archive will be checked, cross-referenced and made internally consistent. A fully indexed archive shall be compiled consisting of all primary written documents, plans, sections, photographic negatives and a complete set of labelled photographic prints/slides.

10.2.2 Standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007). The contractor should also take account of any additional requirements imposed by the recipient museum (see section 9 above).

10.2.3 The original archive is to accompany the deposition of any finds, providing the landowner agrees to the deposition of finds in a publicly accessible archive (see paragraph 9.3 above). In the absence of this agreement the field archive (less finds) is to be deposited with the West Yorkshire Archaeology Advisory Service.

### **10.3 Assessment - Artefacts**

All artefacts must be assessed by a qualified and experienced specialist. Assessment should be generally based on MAP2 but should include:

- preparation of a descriptive catalogue;
- dating (where possible);
- an assessment of the significance of the assemblage;
- an assessment of the potential for further analysis to contribute to the interpretation of the archaeology of this site;
- an assessment of the potential for further analysis to contribute to artefact studies;
- recommendations for additional artefact illustration/photography;
- an assessment of the condition of the assemblage and recommendations for conservation, retention/discard and archiving.

### **10.4 Assessment - Samples**

All environmental material must be assessed by a qualified and experienced specialist. Assessment should be generally based on MAP2 but should include:

- preparation of a descriptive table/catalogue;
- identification of material suitable for scientific dating;
- an assessment of the significance of the assemblage;
- an assessment of the potential for further analysis to contribute to the interpretation of the archaeology of this site;
- an assessment of the potential for further analysis to contribute to environmental studies;
- an assessment of the condition of the assemblage and recommendations for retention/discard and archiving.

### **10.5 Dating**

Scientific dating should be undertaken at this stage if it is required to fulfil the aims of the project.

## **11 Reporting (Stage 1) – Interim Assessment of Potential**

11.1 Following the return of the specialist reports to the archaeological contractor, but prior to the commencement of preparation of the detailed site report, the contractor should arrange a meeting with the WY Archaeology Advisory Service and (at his discretion) English Heritage's Regional Science Adviser (Andy Hammon, English Heritage, 37 Tanner Row, York YO1 6WP). The purpose of this meeting is to discuss the results of the initial stratigraphic synthesis and initial scientific analyses, and to determine

- the ability of the available data to fulfil the stated aims and objectives of the project
- any requirement for further scientific analyses prior to the formulation of the full report on the site.

The meeting may take the form of a telephone discussion, at the discretion of the WY Archaeology Advisory Service.

**11.2** Prior to the meeting, documentation sufficient to enable the Advisory Service and English Heritage's Regional Science Adviser to evaluate any proposals for further analysis should be made available to WYAAS and EH. This documentation should consist of the following as a minimum, but should not include a detailed site narrative or constitute a draft of the final report:

#### 11.2.1 Text

- A brief narrative outline of the results of the excavation (**N.B.** this is not intended to be a detailed description of the stratigraphic sequence, but should provide sufficient detail to permit the form and development of the site to be understood by a third party who has not visited the excavation);
- Detailed description of any features/feature groups, the interpretation of which may be affected by the results of further scientific analysis;
- A re-evaluation of the aims and objectives of the project in the light of the initial specialist analysis;
- A descriptive context catalogue;
- Unedited copies of specialist reports;
- Detailed and specific recommendations for further artefact and environmental analysis;
- Detailed and specific recommendations for any additional scientific dating;
- Detailed and specific recommendations for further documentary research;
- Costings for any recommended further research, scientific analysis or dating;
- Recommendations for general publication in monograph form or in an appropriate journal, if warranted by the results of the excavation.

#### 11.2.2 Illustrations

Illustrations should be sufficient to permit the summary discussion to be understood by a third party, and should include:

- Location plan;
- Trench locations (as excavated), overlaid on an up-to-date 1:1250 O.S. map base;
- Draft phase plans (these should be at a scale sufficient to illustrate major context and feature groups important to an understanding of the site narrative)
- Plans, sections and photographs sufficient to permit the narrative outline to be understood, and to support recommendations for further specialist analysis. Draft drawings and marked-up digital photographs are acceptable as long as these are legible.

## **12. Reporting (Stage 2) – Full Report**

12.1 If further specialist analysis is judged by the WY Archaeology Advisory Service to be necessary and appropriate, this work should be commissioned and the results incorporated into a full report. If no further specialist analysis is required, then a full report will be produced.

12.2 Details of the style and format of the full report are to be determined by the archaeological contractor. However, it should be produced with sufficient care and

attention to detail to be of academic use to future researchers. The report should be fully illustrated and include:

- background information;
- a description of the methodology;
- a full description of the results;
- an interpretation of the results in a local/regional/national context as appropriate;
- a full bibliography.

Appendices to the report should include:

- Unedited copies of final specialist reports;
- a quantified index to the site archive
- written confirmation from the relevant museum or other repository that the archive has been accepted for long-term storage, with full location details of the archive
- a copy of this specification.

12.3 Location plans should be produced at a scale which enables easy site identification and which depict the full extent of the site. A scale of 1:50,000 is not regarded as appropriate unless accompanied by more detailed plan(s). The location of the trenches (as excavated) should be overlaid on an up-to-date 1:1250 O.S. map base.

12.4 All illustrations should be executed to publication standard. Site plans should be at an appropriate, measurable scale showing the trenches as excavated and all identified (and, if possible, predicted) archaeological features/deposits. Trench and feature plans must include O.D. spot heights for all principal strata and any features. Section drawings must include O.D heights and be cross-referenced to an appropriate plan.

12.5 Finds that are critical for dating and interpretation should be illustrated.

12.6 Discrete features crucial to the interpretation of the site should be illustrated photographically.

12.7 In addition to the full report to be deposited with the WY Historic Environment Record, the results of this excavation may merit publication in monograph form or in a suitable archaeological journal (subject to the judgement of the WY Archaeology Advisory Service). If further publication is considered to be necessary, the archaeological contractor will be expected to approach the editor of the appropriate publication (after discussions with WYAAS) to confirm the journal's requirements and views with regard to the suitability of the proffered material.

12.8 The full report will be submitted directly to the WY Archaeology Advisory Service within a timescale agreed by both parties. The report will then be assessed by WYAAS to establish whether or not it is suitable for accession into the WY Historic Environment Record. Any comments made by WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS. Completion of this project and a recommendation from WYAAS for the full discharge of the archaeological condition is dependant upon receipt by

WYAAS of i) a satisfactory full report and, should publication be warranted, ii) a copy of a letter from an appropriate journal editor or publisher confirming acceptance of the article.

12.9 The full report, once accepted by WYAAS, will be supplied on the understanding that it will be added to the West Yorkshire Historic Environment Record and will become a public document after an appropriate period of time (generally not exceeding six months).

12.10 The attached summary sheet should be completed and submitted to the West Yorkshire Archaeology Advisory Service for inclusion on WYAAS's website.

### **13. General Considerations**

#### **13.1 Authorised Alterations to Specification by Contractor**

13.1.1 It should be noted that this specification is based upon records available in the West Yorkshire Historic Environment Record. It is recommended that archaeological contractors should carry out a site inspection prior to submitting a tender. If, upon visiting the site or at any time during the course of the recording exercise, it appears in the archaeologist's professional judgement that:

i) a part or the whole of the site is not amenable to recording as detailed above, and/or

ii) an alternative approach may be more appropriate or likely to produce more informative results, then it is expected that the archaeologist will contact WYAAS as a matter of urgency. If contractors have not yet been appointed, any variations which WYAAS considers to be justifiable on archaeological grounds will be incorporated into a revised specification, which will then be re-issued to the developer for redistribution to the tendering contractors. If an appointment has already been made and site work is ongoing, WYAAS will resolve the matter in liaison with the developer and the Local Planning Authority.

#### **13.2 Unauthorised Alterations to Specification by Contractor**

13.2.1 It is the archaeological contractor's responsibility to ensure that they have obtained WYAAS's consent in writing to any variation of the specification prior to the commencement of on-site work or (where applicable) prior to the finalisation of the tender. Unauthorised variations may result in WYAAS being unable to recommend determination of the planning application to the Local Planning Authority based on the archaeological information available and are therefore made solely at the risk of the contractor.

#### **13.3 Technical Queries**

13.3.1 Any technical queries arising from the specification detailed above, should be addressed to WYAAS without delay.

#### **13.4 Publicity**

13.4.1 If the project is to be publicised in any way (including media releases, publications etc.), then it is expected that WYAAS will be given the opportunity to

consider whether its collaborative role should be acknowledged, and if so, the form of words used will be at WYAAS's discretion.

### **13.5 Valid Period of Specification**

13.5.1 This specification is valid for a period of one year from date of issue. After that time it may need to be revised to take into account new discoveries, changes in policy or the introduction of new working practices or techniques.

Andrea Burgess September 2007

West Yorkshire Archaeology Advisory Service

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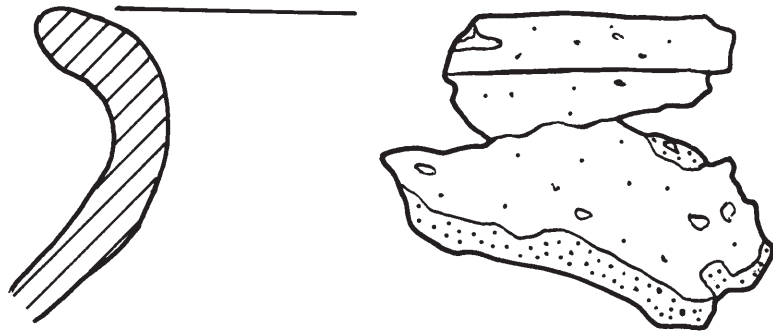
E-mail: [aburgess@wyjs.org.uk](mailto:aburgess@wyjs.org.uk)

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*Fig. 7: Pot sherd rim (2057), (Scale 1:1)*