

Shafton Bypass

Shafton, Barnsley

South Yorkshire

Archaeological Excavation and Watching Brief

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An archaeological excavation and watching brief in advance of the Coalfields Link Road (Shafton Bypass) revealed the remains of an enclosure dating from the later Iron Age that is then redefined in the early Romano-British period. In the surrounding fields, disperse evidence for the location of contemporary field boundaries were found.

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1. Introduction

- 1.1 Archaeological Services WYAS was commissioned by Barnsley Metropolitan Borough Council (BMBC) to conduct an archaeological excavation and watching brief in advance of the construction of the Coalfields Link Road Phase 2/3 (Shafton Bypass).
- 1.2 The site extends along a corridor from Pontefract Road west of Engine Lane and across Engine Lane to Brierley Road (Fig. 1). The area is centred on SE398100 and was subjected to an archaeological watching brief along the proposed road line and an open area excavation to the east of Engine Lane. The open area was positioned over an identified enclosure, although only part of this feature is within the proposed road corridor (Fig. 2).
- 1.3 The underlying geology of the area is Middle Coal Measures comprising Parkgate and Mexborough sandstones and grits (British Geological Survey 1976). The soils are permeable seasonally waterlogged loams of the Bardsey Association (713a, Soil Survey of England and Wales 1983).

2. Archaeological Background

- 2.1 Extensive archaeological remains have been identified within the area of the proposed road development through aerial photographs (Keith 2000), geophysical survey (Webb 2000), and archaeological trial trenching (Martin 2001).
- 2.2 These methods identified a sub-circular ditched enclosure with internal subdivisions dating to the Romano-British period to the east of Engine Lane and evidence for mine workings dating from the medieval period and including modern workings of the Shafton coal seam.
- 2.3 A series of geophysical anomalies identified to the west of Engine Lane were investigated during the evaluation (Martin 2001) and were found to be the remains of extremely shallow features possibly indicating former field boundaries.
- 2.4 Three evaluation trenches were located over sections of the enclosure on the east side of Engine lane and found the remains of substantial ditches and a few internal discrete features (Martin 2001). Recommendations following the evaluation suggested further work on the enclosure to clarify and consolidate the evaluation findings.
- 2.5 A recent excavation to the north-west of the site on land off High Street Shafton has also revealed the remains of a Romano-British enclosure dating from the 1st to 2nd century AD (Burgess 2002). This identified evidence of domestic activity in terms of structures and hearths, but evidence of later Iron Age activity was sparse.

3. Method

3.1 The aims of the investigation were to establish the presence or absence of any archaeological remains within the development area. To determine the extent, condition, function, relationship, character, quality of survival, importance, and date of all archaeological remains present and to provide information to allow a full understanding of the significance of the archaeological record.

3.2 Excavation

3.2.1 Topsoil was stripped from an area measuring 4500m² defined by the limits of the enclosure and the maximum width of the road corridor (Fig. 2). This was done under direct archaeological supervision using a 21 tonne mechanical excavator with a toothless ditching bucket.

3.2.2 Topsoil was removed in level spits onto the first archaeological horizon or undisturbed natural. The resultant surface was then inspected for archaeological remains. Areas requiring further clarification were cleaned by hand.

3.2.3 All features were hand excavated and recorded according to Archaeological Services WYAS standard method (ASWYAS 2002) and the Written Scheme of Investigation (Wheelhouse 2002; Appendix IX).

3.2.4 After consultation with the South Yorkshire Archaeology Service, additional sections of the exposed ditches were investigated, using a JCB, under direct archaeological supervision. Upper ditch fills were removed by the machine, with the remaining 0.50m of deposits excavated by hand.

3.2.5 The excavation took place between 29th June 2002 and 2nd August 2002.

3.3 Watching Brief

3.3.1 An archaeological watching brief was conducted on the area immediately to the west of Engine Lane, the area to the east of Engine Lane not covered by the open area trench and the area west of Brierley Road (Fig. 2).

3.3.2 The watching brief covered the removal of topsoil from the above areas within the limits of the road corridor and was carried out with a mechanical excavator using a toothless ditching bucket. The topsoil removal was carried out under archaeological supervision and was stripped in level spits onto the first archaeological horizon or undisturbed natural.

3.3.3 The stripped area was inspected for any archaeological remains and all identified features were excavated and recorded according to Archaeological Services WYAS standard method (ASWAYS 2002).

3.3.4 The watching brief took place between 17th June and 28th June 2002, 5th and 6th August 2002, 18th and 19th September 2002 and 24th March to 26th March 2003.

4. Results

4.1 Excavation

- 4.1.1 The area investigated revealed the north-western extent of a sub-circular enclosure comprising an enclosure ditch (Plate 2) and two internal ditches. In addition two discrete features were identified beyond the enclosures and nineteen discrete features within its limits (Fig. 3).
- 4.1.2 Ditch 100 measured 38m in length and forms part of the western side of the main enclosure. It ran from the south-eastern limit of the excavation area on a south-east to north-west alignment and terminated in a butt end at roughly the centre of the exposed eastern side. This ditch was V-shaped in profile with a flat base (Fig. 4), a depth of up to 1.15m and an average width of 2.8m. Ditch 100 contained four to six clay fills that were associated with successive episodes of silting. Within section 117, the upper fill (1064), seemed to comprise a redeposited natural clay probably created by the cutting of Ditch 300. Sections 116 and 117 of Ditch 100 show the later cutting of Ditch 300 which seemed to contain fewer fills. This can also be seen in section 125 and therefore may suggest that Ditch 300 continued to recut along the previous line of Ditch 100.
- 4.1.3 In opposition to the butt end of Ditch 100, with a gap of 3m, was the terminus of Ditch 200. These opposing ends formed an entranceway into the enclosure facing west which was later blocked off by the creation of Ditch 300. Ditch 200 forms the rest of the exposed portion of the enclosure.
- 4.1.4 Ditch 200 measured 80m in length, approximately 3m in width and 1.10m in depth and was U-shaped in profile on the western limits of the enclosure and V-shaped on the northern side (Fig. 5 and Plate 3). The nature of the fill of this linear also changed from clay to a silty sand as its cut continued into the sandstone bedrock from the clay natural. Again, there were a number of fills associated with the infilling of this ditch, however, there were not as many as seen at the entrance to the enclosure.
- 4.1.5 Ditch 300 measured approximately 10m in length, 3m in width and contained between two and five clay fills. This ditch is quite shallow and U-shaped, at only 0.7m in depth, where it cuts across and effectively cuts off the western entrance to the enclosure. Where Ditch 300 cuts Ditch 200 it doubles in depth to 1.4m. Ditch 300 was proven to cut down through all the fills of Ditch 200 and therefore it is suggested that this cut carried on within the line of the earlier ditch, although it does not follow the previous line exactly especially at the western entrance where it deviates inwards. Evidence for the continuation of this ditch as a recut was seen sporadically throughout the excavated sections.
- 4.1.6 Radiocarbon dates gained from the analysis of carbonised wood samples from the primary fill of Ditch 300 have given a date range of cal 60 BC to cal AD 140 where the date range gained from the primary fill of Ditch 200 is cal 400 BC to cal 200 BC.
- 4.1.7 Ditch 400 is 25m long and runs from the south-eastern excavation limit in a roughly east to west alignment and terminates 3m to the east of Ditch 300. Excavated sections revealed a V-shaped ditch that widens towards the south-

east edge of the excavation area and measures between 1.65m and 2.8m in width and was approximately 1m in depth (Fig. 6). The excavated terminal of this ditch recovered, from the upper limit of its primary fill (1052), the only example of Roman glass from the site (Fig. 10) (Cool, this volume). A radiocarbon date gained for this ditch lies between cal 380 BC and cal 50 BC placing it as contemporary with the first enclosure ditch.

- 4.1.8 Ditch 500 is 30m in length and runs on a north-west to south-east alignment from the south-east excavation boundary and terminates 5m to the south of Ditch 200. Three hand excavated sections across this feature revealed a V-shaped ditch with a flat base (Plate 4) with an average width of 1.72m and a depth of 0.9m (Fig. 7). A radiocarbon date from carbonised wood from this has a range from cal AD 70 to cal AD 340 suggesting that it was redefined at the same time as the redefinition of the enclosure ditch.
- 4.1.9 The apparent gap between Ditches 200 and 500 is cut off by the creation of feature 800 which cuts Ditch 500 (Fig. 7). Measuring 1.3m wide and a maximum of 0.46m deep, this feature begins where it meets Ditch 200 and runs on a north-east to south-west alignment before turning through 90° to recut along part of the length of Ditch 500. The south-east end of this ditch was not found during the course of the excavations as it becomes very shallow at its intersection with Ditch 200 and so its relationship with Ditch 200 is not known.
- 4.1.10 Ditch 200 is seen to cut an earlier feature, 700, (Section 103) which seems to continue the line of internal Ditch 500 but does not continue outside the enclosure. It is possible that the later recutting of Ditch 200 cuts this feature and not the original phase of ditch. Feature 700's relationship to Ditch 500 is lost due to later feature 800 cutting through the intersection. Also within section 103 is shown later truncation of the features by plough furrows associated with medieval ridge and furrow agriculture. Feature 700 measures 5m in length and is 0.55m wide and 0.19m deep at its greatest point. The single fill of this gully contained a large amount of heat-affected stone.
- 4.1.11 Two linear features (Fig. 9), located between Ditch 100 and the terminus of Ditch 400, seem to form a blockage to that gap which is later shortened by the later Ditch 300. The first of these features (1061) is curvilinear in nature begins 0.6m west of the terminus of Ditch 400, it continues on a south-west alignment for 2.5m before turning 90° to the south-east and terminating. Feature 1061 contained a single clay fill and measured 0.49m wide and 0.1m deep.
- 4.1.12 Within the arc created by feature 1061 lies a shallow linear 1059 measuring 2.5m in length, 0.19m in depth and 0.29m in width; this feature also contained a single clay fill. These features may have formed part of a controlled entranceway between the various divisions within the enclosure.
- 4.1.13 Group 600 is a concentration of discrete features (Fig. 8) roughly in the centre of the area defined by Ditch 500 to the east, 400 to the south and 200 on the north and west sides. This concentration of discrete features within the enclosure suggests the presence of a structure, and it maybe possible to impose two linear alignments onto the excavated features with 1088, 1151, 1096 and 1100 forming the northern alignment and 1107, 1138 and 1140 forming the

southern alignment. This forms a footprint measuring approximately 9.5m long by 7m wide. However the fact that the site in general has suffered quite heavy erosion due to ploughing techniques from the medieval period to the present day further features may have been lost.

- 4.1.14 The features forming the projected building are of various shapes and sizes ranging from 0.26m to 0.79m in length, 0.25m to 0.53m in width and 0.11m to 0.45m in depth. Feature 1088 contained a sherd of pottery (Evans 2002, Appendix V).
- 4.1.15 Six features lay within the interior of this group, the first of which, 1111, is a pit located near to post hole 1107 (Fig.8). It measures 1.48m in length, 0.83m wide and 0.46m deep. Roughly oval in shape it was orientated east-north-east to west-south-west and contained a single fill with no finds.
- 4.1.16 Five post holes lay within the putative structure. Three of these were quite small, of a similar size and all were placed to the northern side of the structure. They had an average length of 0.21m, a width of 0.19m and an average depth of 0.09m. A fourth post hole, 1136, was larger at a diameter of 0.45m and a depth of 0.35m and contained three sherds of pottery. The fifth post hole was located near to post hole 1140. This feature seemed to contain two intercutting features with a smaller post hole cutting an earlier larger feature. The fill of the later post hole, 1146, contained a single sherd of pottery.
- 4.1.17 Three further discrete features were excavated outside of the projected structure. On the southern side, features 1105 and 1109 were placed together. Feature 1105 seemed to be another very shallow post hole measuring 0.22m in diameter and only 0.08m in depth. Feature 1109 was curvilinear in shape with a shallow V-shaped profile. It measured 1.32m in length, 0.45m in width and contained a single sandy fill measuring 0.1m deep.
- 4.1.18 At the north-west corner of the feature group was located a pit (1090). Measuring 0.66m in diameter and 0.19m deep (Fig.8), it contained two fills the lower of which seemed to be a clay lining that had been quite heavily heat-affected. The upper sandy fill of this feature contained large amounts of heat-affected and fire-cracked stone.
- 4.1.19 Another apparently heat-affected feature was located away from Group 600 by the south-eastern edge of excavation. This comprised of quite a large pit (1145) measuring 1.3m long by 1.13m wide and 0.35m deep. It contained a single sandy fill that included fragments of charcoal and heat-affected sandstone.
- 4.1.20 Three other features were excavated during the course of the works that did not seem to be related to any of the other features investigated. Features 1057 and 1055 were small shallow features located outside of the terminus of Ditch 200 (Fig. 9), they were an average of 0.48m in length, 0.32m in width and 0.09m in depth. Feature 1149/1154 was an irregular pit located between Ditches 400 and 500 near to the south-east excavation limit and may have been the result of root action.

4.2 Watching Brief

- 4.2.1 Within the area to the west of Engine Lane, the archaeological watching brief identified a small shallow gully of unknown function and date located close to

Engine Lane measuring at least 29m in length. This feature was a continuation of a gully seen within trial trenches 3 and 4 (Martin 2000), measuring 0.52m in width and 0.28m in depth it contained a single clay fill.

- 4.2.2 Located 20m to the south of gully 003 was a collection of features associated with previous mine workings. This group comprised of an infilled air shaft 3m long and 2.52m wide, and two heat-affected features (Plate 1). These features were used to carry the fire which helped draw the air up through the shaft and so provide ventilation in the mine workings.
- 4.2.3 During the final stage of the watching brief to the east of Brierley Road only one feature of archaeological significance was found. A gully orientated north to south was exposed for a length of 16m, 0.82m wide and 0.19m deep and contained a single clay fill.

5. *Artefact Record*

5.1 The Animal Bone

- 5.1.1 Ten pieces of animal bone were recovered from the primary fill (1049) of Ditch 400. Due to the heavily burnt and fragmentary nature of the pieces, however, these bones were not diagnostic.

5.2 The Pottery

by Dr Jeremy Evans with contributions by M. Ward

Chronology

- 5.2.1 The chronological span of pottery deposition on the site can be viewed in two ways, as an assemblage as a whole, and as dating evidence from individual features.
- 5.2.2 The overall assemblage seems to have a clear emphasis on pottery deposition in the 2nd century, both mortaria are of this date, as are the closely datable South Yorkshire types, the samian sherd, and some of the BB1. Pottery deposition might start in the later 1st century with the whiteware vessels, but these need not necessarily be so early, and it seems of note that grog tempered greywares found on some sites in this region are absent here. These are perhaps most likely to be of 1st century date.
- 5.2.3 Some of the BB1 from the site seems likely to date to the early 3rd century, but after this date there is very little evidence with just two questionable pieces which may be of later 3rd or 4th century date. This date range largely parallels the nearby site at High Street, Shafton (Evans 2001), which had evidence of 1st-2nd century occupation, but little of later date.
- 5.2.4 Individual features produce generally similar dating evidence. Ditch 200 contains material giving a 2nd century span, possibly originating in the later 1st century. Ditch 500 seems to have a similar span, possibly with emphasis on the earlier part of it. Ditch 400, apart from two intrusive post-mediaeval sherds also seem to have a Hadrianic-Antonine span.

- 5.2.5 Ditch 100, in contrast, seems to have evidence that runs a little later than the other ditches, and perhaps dates to the later 2nd-early 3rd century.
- 5.2.6 Dating evidence from the rectilinear posthole building is scant and rather questionable, but it seems to suggest that this was much later than the rest of the site, dating to the very late 3rd or 4th century.

Fabric supply

- 5.2.7 Table 1 shows the fabric proportions in the assemblage by sherd count and sherd weight. The assemblage is small at 128 sherds and the count and weight figures do not correlate well, mainly because the BB1 sherds are much more macerated than others. The weight data, therefore, are probably better for gaining an impression of fabric supply. South Yorkshire greywares are the dominant fabric type, nonetheless, they are relatively rare compared with the 86% from the High Street site (Evans 2001). This latter figure is generally typical of South Yorkshire rural sites.
- 5.2.8 BB1 is the second commonest fabric on the site, and is much more common than at the High Street site (Evans 2001) where it amounts to only 7.4%. The other unusual component of the assemblage is the 15% of whitewares, a considerable quantity.

Table 1. Fabric proportions from Shafton

Fabric	% Number of sherds	% Wt
B01	57.8	23.1
F01	0.8	0.3
M01	0.8	4.6
M02	0.8	2.0
O01	4.7	8.4
R01	11.7	31.3
R02	1.6	0.5
R03	1.6	1.1
R04	0.8	0.4
R05	2.3	9.1
R06	2.3	0.7
S20	0.8	3.1
W01	6.3	10.3
W02	6.3	4.6
Post-mediaeval	1.6	0.5
Total	128	1,149 Kg

Function and finewares

- 5.2.9 Finewares on the site amount to 1.6% by count, and 3.4% by weight. Both these figures are fairly low and fall into the typical range for basic level rural sites in the area.
- 5.2.10 Table 2 shows a functional analysis of the assemblage. It is small, but just about large enough to show major trends. Some 63% of vessels are jars, compared with just 16% of tablewares. These data again fall comfortably within the range of other basic level rural sites in the area. Thus all the indicators suggest, as might be expected, that this was a reasonably typical basic level rural site.

Table 2. Functional analysis of the Shafton assemblage by minimum numbers of rims

Flagons	Wide-mouthed jars	Jars	Bowls	Dishes	Mortaria	Lids	Total
5.3	26.3	36.8	0	15.8	10.5	5.3	19 rims

5.3 The Glass

by Hilary Cool PhD

- 5.3.1 The fragments of glass recovered from the terminal of Ditch 400 come from a short length of a bangle of Kilbride-Jones (1938) Type 2 (see Appendix VI for description). This type can have additional decoration in the form of multi-coloured 'eyes' applied to the sides (see for example Price 1988, fig. 19.2), but as these tend to be widely spaced it is impossible to say whether the bangle this fragment came from would have had this decoration as well as the central cord. Class 2 bangles were being made and used in the Flavian period and in Yorkshire are found on both military and native sites.
- 5.3.2 Glass bangles are frequently found as small fragments rather than as complete objects or as substantial lengths. This might suggest that fragments themselves may have been valued. It may be significant that a glass bangle fragment was found amongst a cache of worked flints, fossils, coloured stones and other distinctive *objets trouvés* that was found in Cairnhill, Aberdeenshire (Anderson 1901-2; Stevenson 1967); and which has been interpreted as a group of charms. If fragments were valued, then clearly the Flavian date can only be indicative of the earliest period when the fragment could have arrived in the ditch fill, and an early to mid 2nd-century date could not be ruled out. The location of the fragment, in the primary fill of a ditch terminal, is of some interest if these bangle fragments were perceived as something special, as it might hint at structured deposition.

6. Environmental Record

by Jane Richardson PhD with charcoal identifications by Diane Alldritt

6.1 Introduction

- 6.1.1 As part of the archaeological investigations, it was appropriate to undertake the analysis of selected soil samples in order to assess the recovery of environmental material. These deposits may provide some indication of the activities associated with the Roman-British enclosure, while the recovery of charred material may be useful for obtaining AMS dates.

6.2 Method

- 6.2.1 Ten litres of soil were processed from 24 ditch deposits and two posthole fills, with the exception of a two litre sample from ditch fill 1079. For the purposes of analysis, these samples were subjected to a system of flotation in an Ankara-style flotation tank. The floating remains (the flot) were collected in a 300 μ m sieve and the heavy fraction (the retent) was collected in a 1mm mesh. The flots, once dry, were scanned for botanical material using a binocular microscope (Appendix VII). The retents were scanned by eye for ecofacts and artefacts and subsequently discarded (Appendix VIII). Both flots and retents were scanned for metallurgical debris.

6.3 Results

Flot samples

- 6.3.1 Wood charcoal fragments were commonly recorded, but only four deposits (1046, 1058, 1079 and 1146) contained pieces of sufficient size to be identified to species. Species identification (required prior to AMS dating) has revealed wood charcoal from hazel and oak (Table 3). Hazel, as a relatively short-lived species would be most appropriate for radiocarbon dating.
- 6.3.2 The fill (1041) of gully 1042 contained the only charred cereal grain and weed seed recovered from the excavations. A single barley grain and a weed seed of *Polygonum arenastrum*, however, are insufficient to be used as evidence of crop processing.
- 6.3.3 No hammerscale was recovered from the flot samples.

Retent samples

- 6.3.4 Many of the retents contained wood charcoal fragments, although only four deposits (1114, 1120, 1126 and 1133) produced diagnostic fragments that were identified as hazel, oak or alder (Table 3). No charred cereals, chaff or weed seeds were retrieved, however.
- 6.3.5 A few fragments of flake hammerscale and spheroidal hammerslag were recovered from the fill (1114) of internal ditch 1115. This suggests that iron smithing may have occurred in the vicinity, but as the fragments are so few and can be carried some distance, this should not be treated as significant.

Table 3. Wood charcoal identified from both flots and retents

Context	Sample	Wood charcoal
1046	111	<i>Corylus</i> sp.
1058	116	<i>Quercus</i> sp.
1079	120	<i>Corylus</i> sp.
1114	137	<i>Corylus</i> sp.
1120	139	<i>Quercus</i> sp.
1126	140	<i>Alnus</i> sp.
1133	141	cf. <i>Corylus</i> sp. <i>Quercus</i> sp.
1146	148	<i>Corylus</i> sp.

6.4 Conclusions

6.4.1 Given the scarcity of cereal grains or weed seeds, evidence of crop processing was not identified from the environmental record. Poor preservation is unlikely to be responsible for this dearth, as wood charcoal fragments were abundant. Instead it is likely that crops were not utilised within the enclosure.

7. Radiocarbon Dating

7.1 Four samples of carbonised wood were used for radiocarbon dating. The samples were chosen from separate areas of the enclosure and internal division ditches to confirm the dates at which they were in use and possibly to clarify the phasing and probable recutting of the ditches.

7.2 The late Iron Age to early Roman date attributed to the construction of the ditches from the analysis of the pottery assemblage was confirmed by the radiocarbon age ranges which also confirmed a phase of later recutting of the main enclosure ditch.

Table 4. Radiocarbon dating results

Ditch	Context	Species	Sample	Radiocarbon Age BP	1 σ date range	2 σ date range
200	1133	cf. <i>Corylus</i> sp.	AA-53264	2260 \pm 45	cal 400 BC- cal 200 BC	cal 400 BC- cal 200 BC
400	1126	<i>Alnus</i> sp.	AA-53263	2160 \pm 50	cal 360 BC- cal 110 BC	cal 380 BC- cal 50 BC
300	1079	<i>Corylus</i> sp.	AA-53261	1955 \pm 45	cal AD 1- cal AD 120	cal 60 BC- cal AD 140
500	1114	<i>Corylus</i> sp.	AA-53262	1825 \pm 50	cal AD 120- cal AD 320	cal AD 70- cal AD 340

8. Discussion

- 8.1 Although only the north-western limits of the enclosure were investigated during the excavation, geophysics revealed a sub-circular enclosure of approximately 5,951m². This was in use during the later Iron Age and was redefined in the early Roman period when the west-facing entrance was blocked. Tentative evidence of a post-hole structure was identified and with the deposition of pottery and a heat-affected, clay lined pit (1090), it is suggested that the enclosure was used in part for habitation. Given the possibility that the pottery associated with the structure was later than that recovered from the ditches, the enclosure may have been used initially for stock control and only later adapted for habitation.
- 8.2 There is very little evidence from which to conclude any specific use for the site. Quite large amounts of charcoal from across the enclosure suggest activities requiring fuel but it is unclear whether these are domestic or industrial processes. A tenuous link to iron smithing in the area can be inferred from a small amount of hammerscale recovered from Ditch 500 and, during the evaluation (Martin 2000), two pieces of tap slag found within the later fills of Ditch 400, but, this does not point to a centre of activity located within the enclosure. The evaluation stage also produced a small amount of cereal grains (Martin 2000) but this does not point specifically to crop processing.

9. Conclusions

- 9.1 A sub-circular enclosure with internal divisions situated to the east of Engine Lane, Shafton, South Yorkshire was in use in the later Iron Age. The enclosure was redefined in the early Roman period when the western entrance was closed. Field systems and a sub-divided enclosure, also of 1st to 2nd-century AD date, were identified to the north-west at High Street Shafton (Burgess 2002).
- 9.2 Artefactual and environmental evidence retrieved from the site only hints at possible uses of the enclosure, which include stock control and industrial processes, with the pottery deposition indicating later domestic occupation of the site. It is possible that further areas of activity are situated within the uninvestigated part of the enclosure where geophysical survey (Webb 2002) has shown a further internal ditch.
- 9.3 A watching brief on the area surrounding the enclosure site revealed only sparse and very truncated remains of field systems. These may have been contemporary with the occupation of the enclosure site, although this was not confirmed by dateable artefacts.

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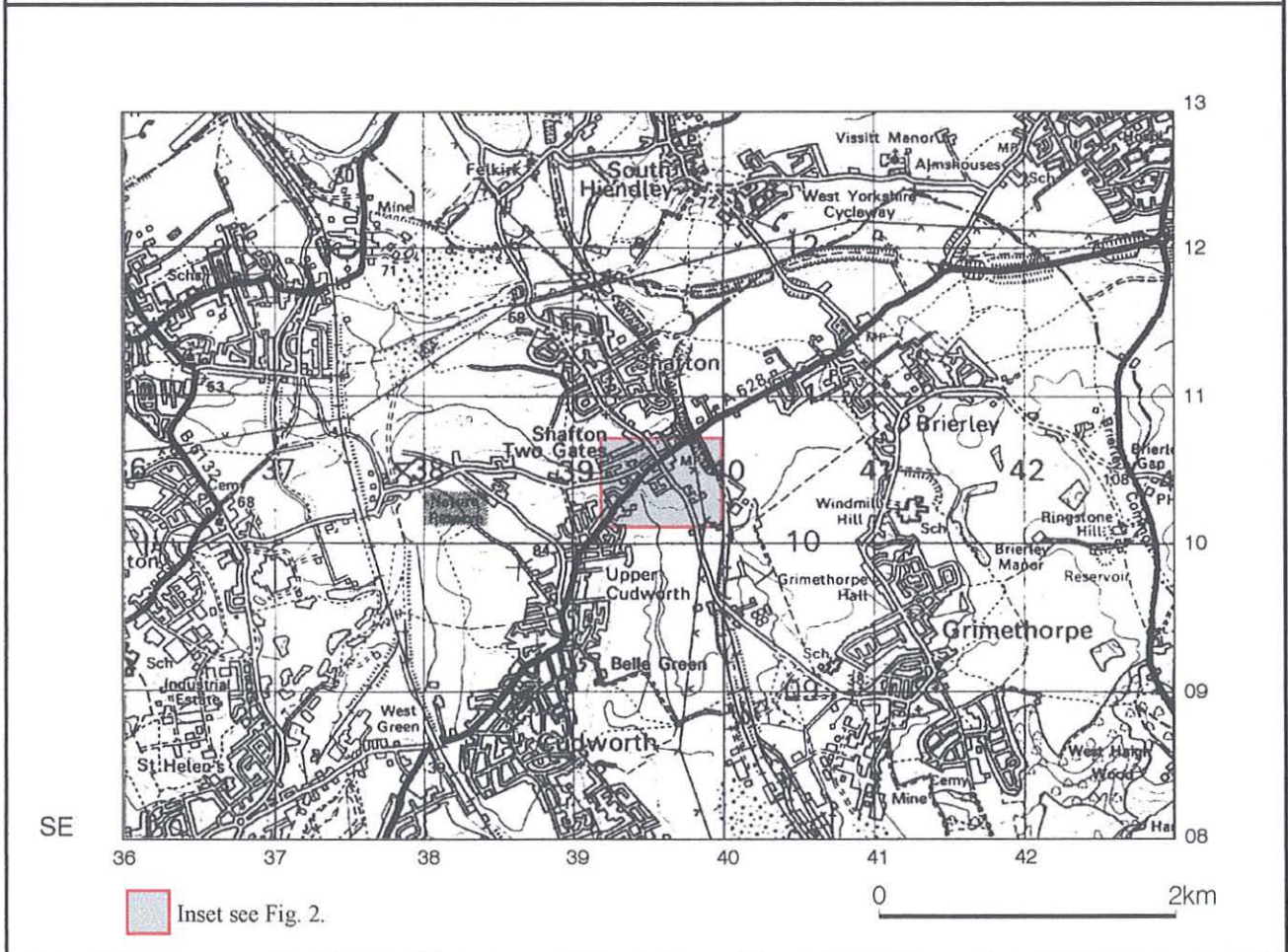
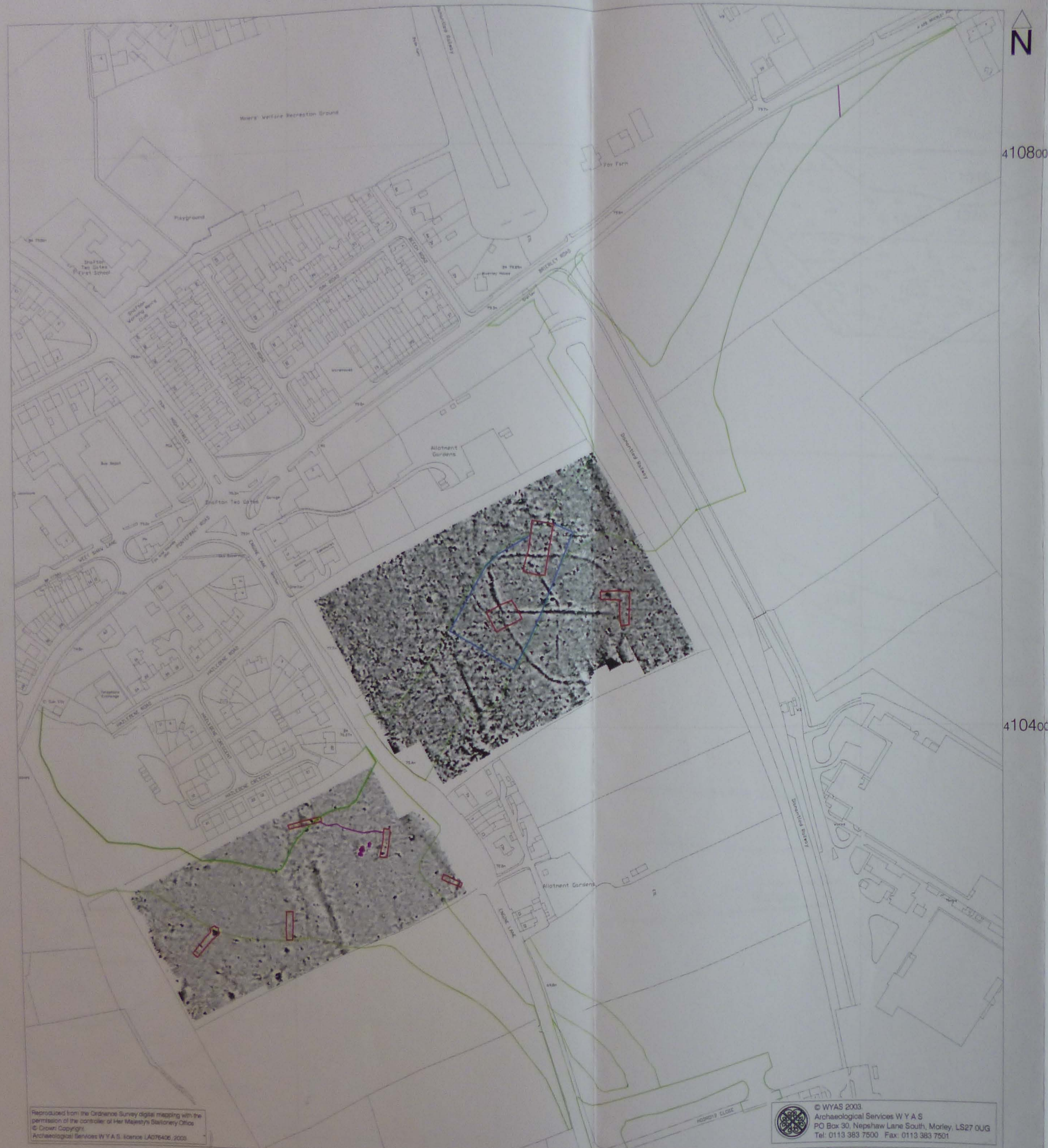


Fig. 1. Site location

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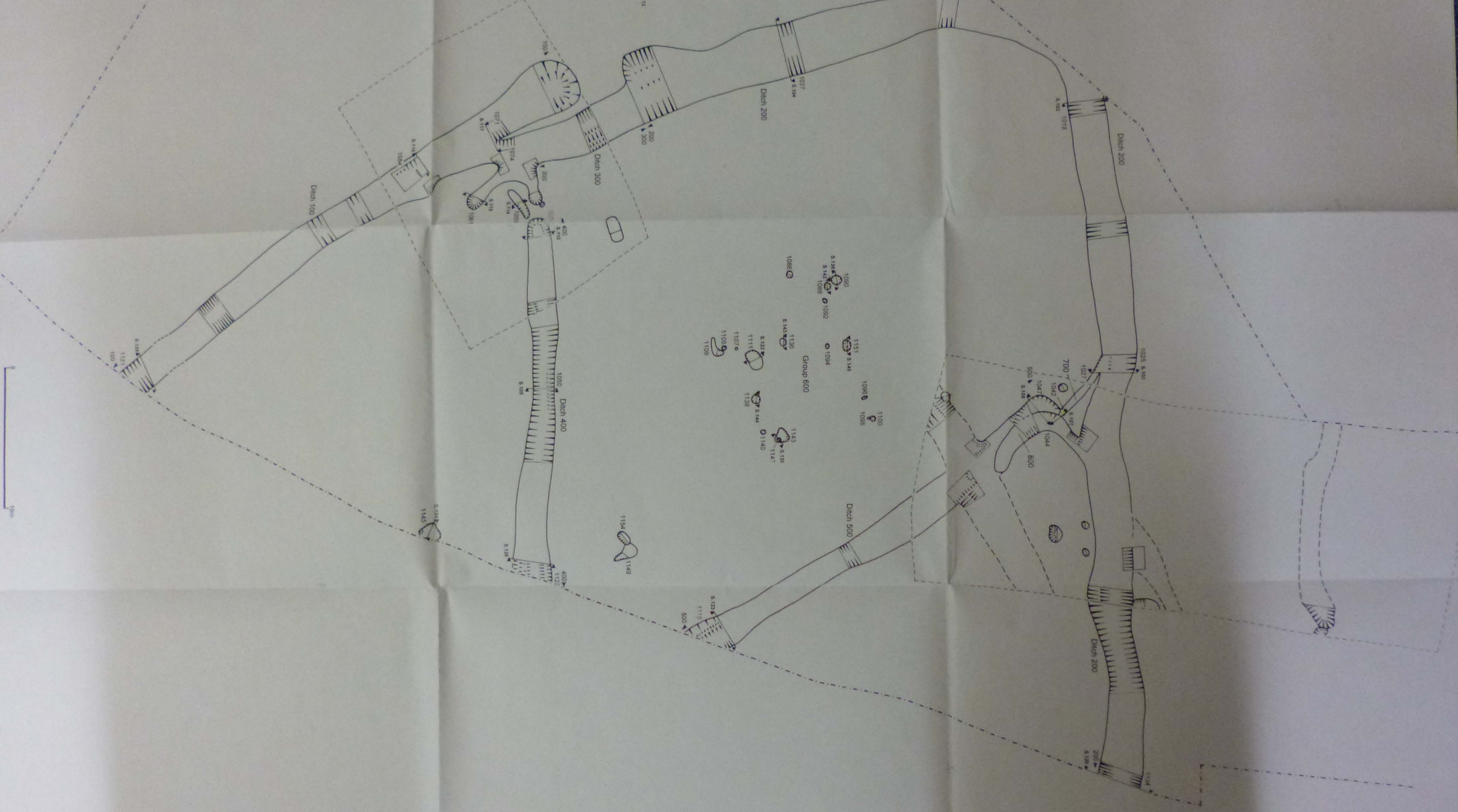
	ROAD CORRIDOR
	EVALUATION TRENCHES
	EXCAVATION AREA
	WATCHING BRIEF LINEAR
	WATCHING BRIEF FEATURES

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Fig. 2. Site location showing evaluation trenches and watching brief features

Fig. 3. Site plan.



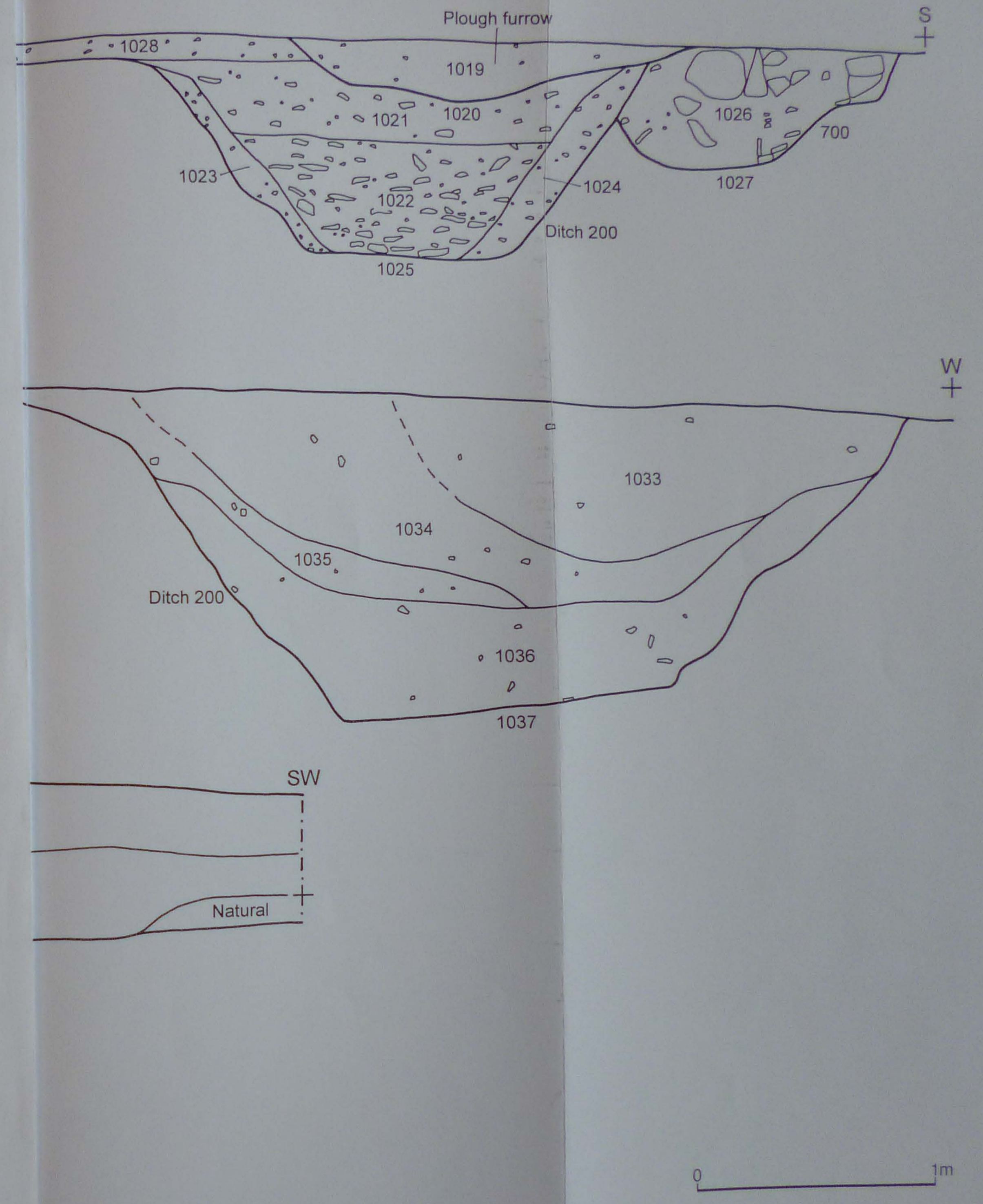
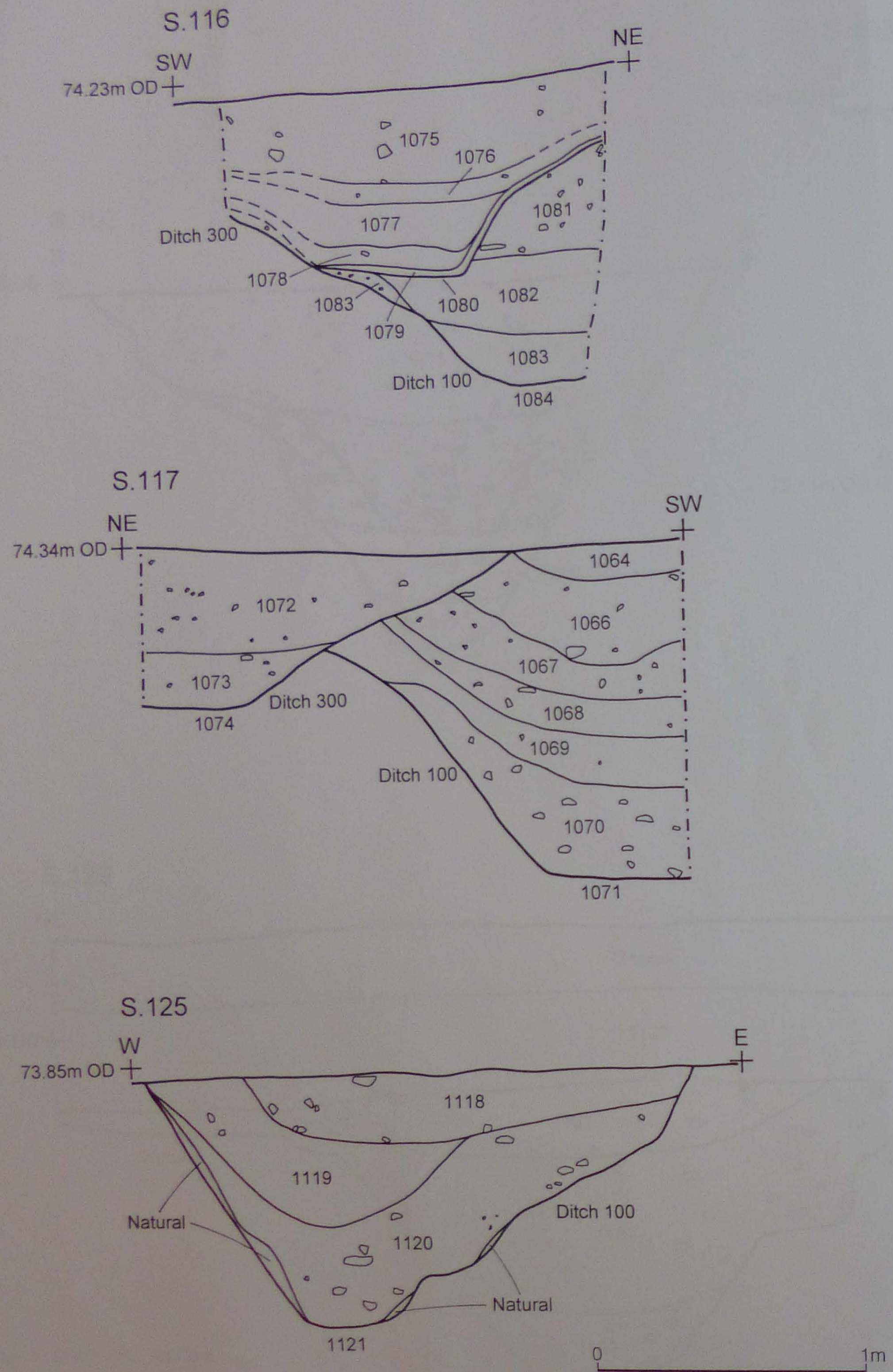


Fig. 4. Ditch 100, sections.

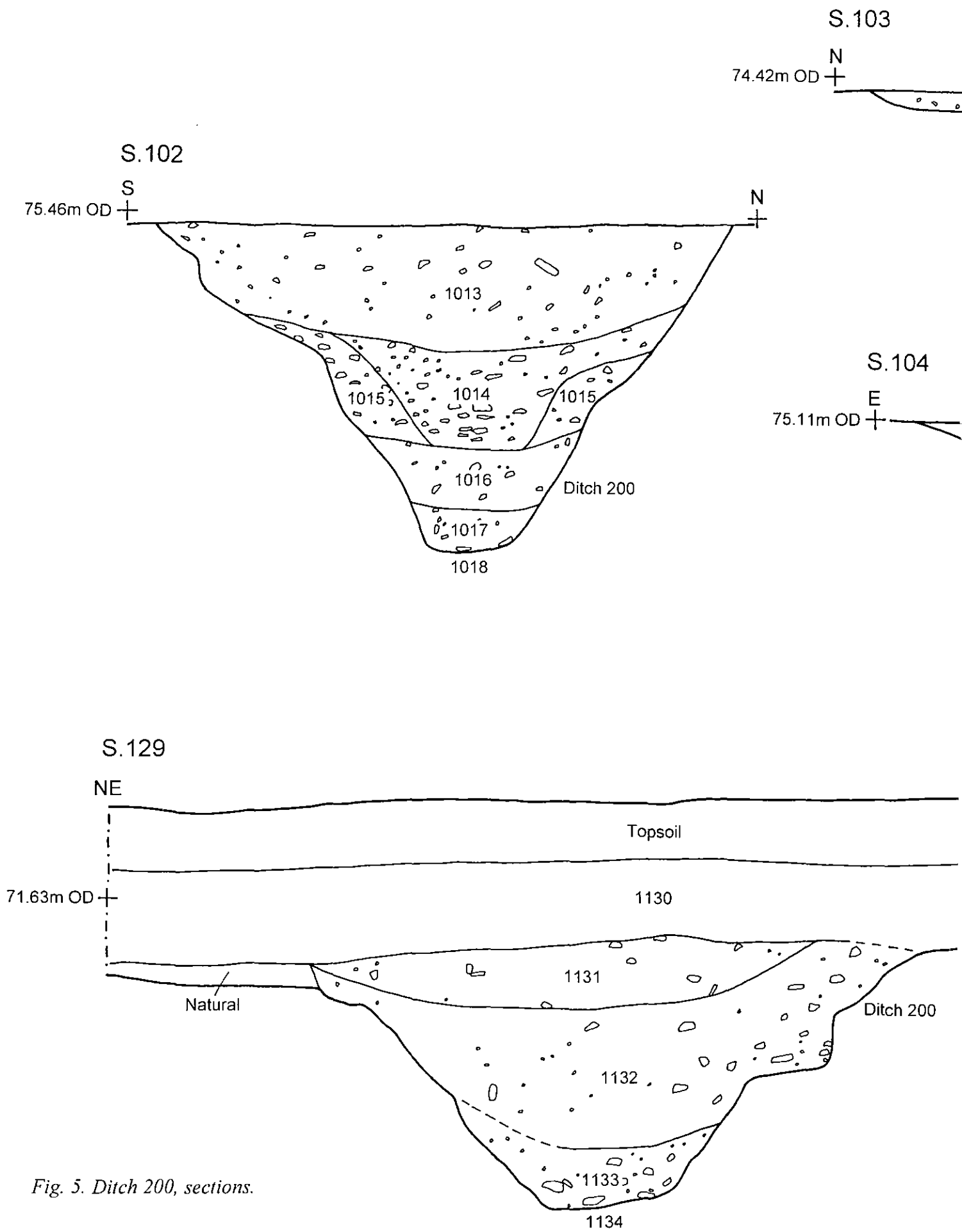


Fig. 5. Ditch 200, sections.

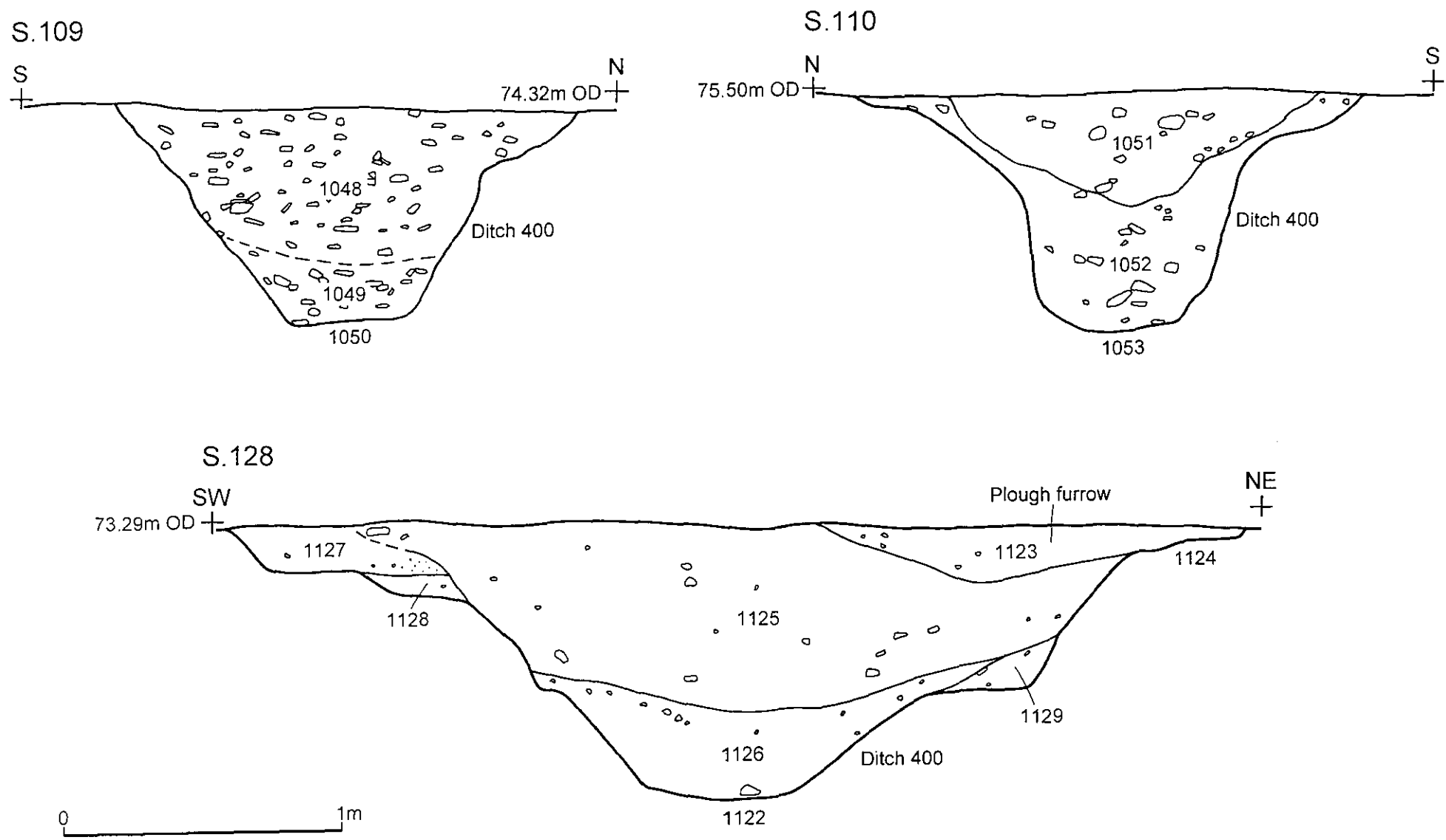


Fig. 6. Ditch 400, sections.

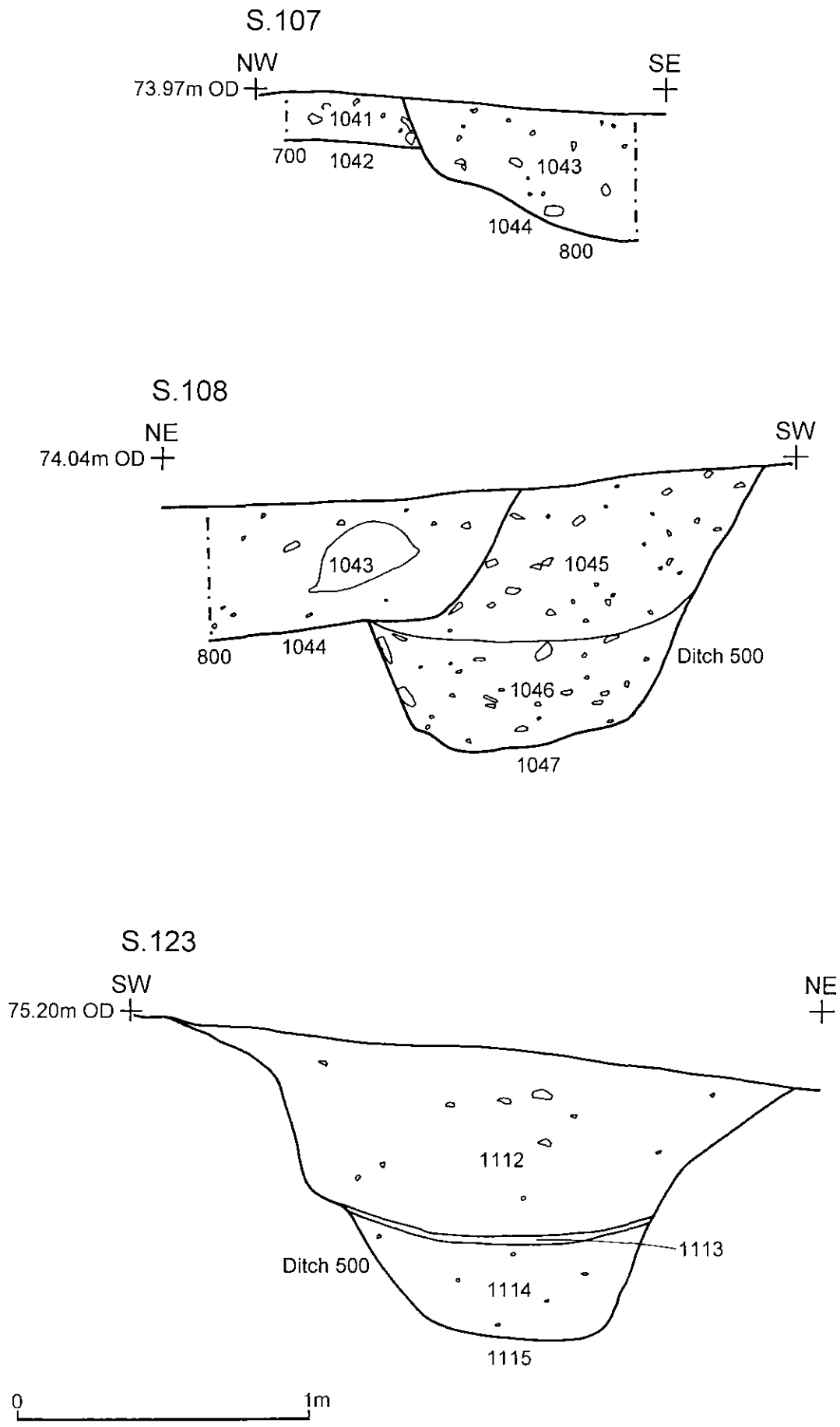


Fig. 7. Ditch 500, sections.

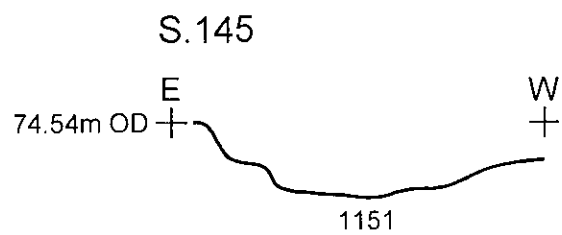
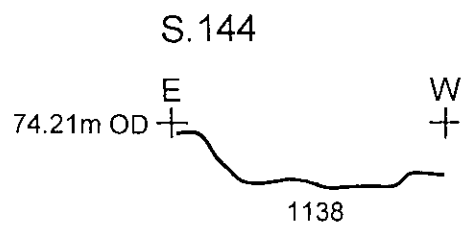
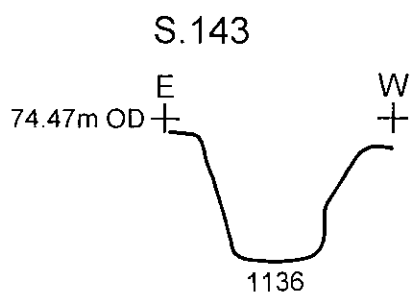
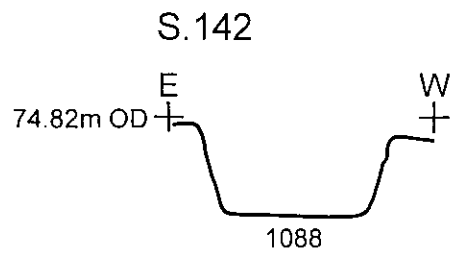
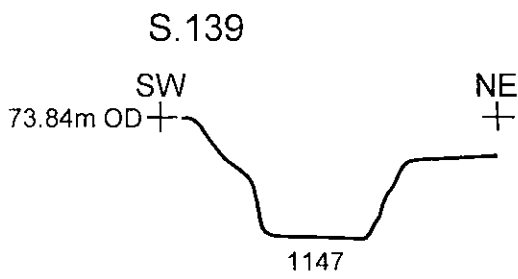
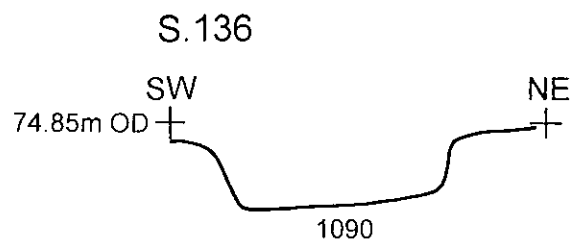
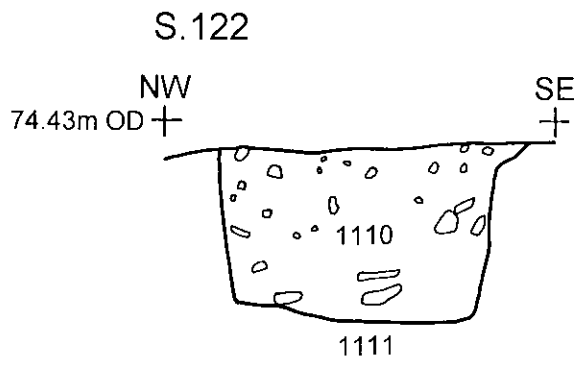


Fig. 8. Group 600, features.

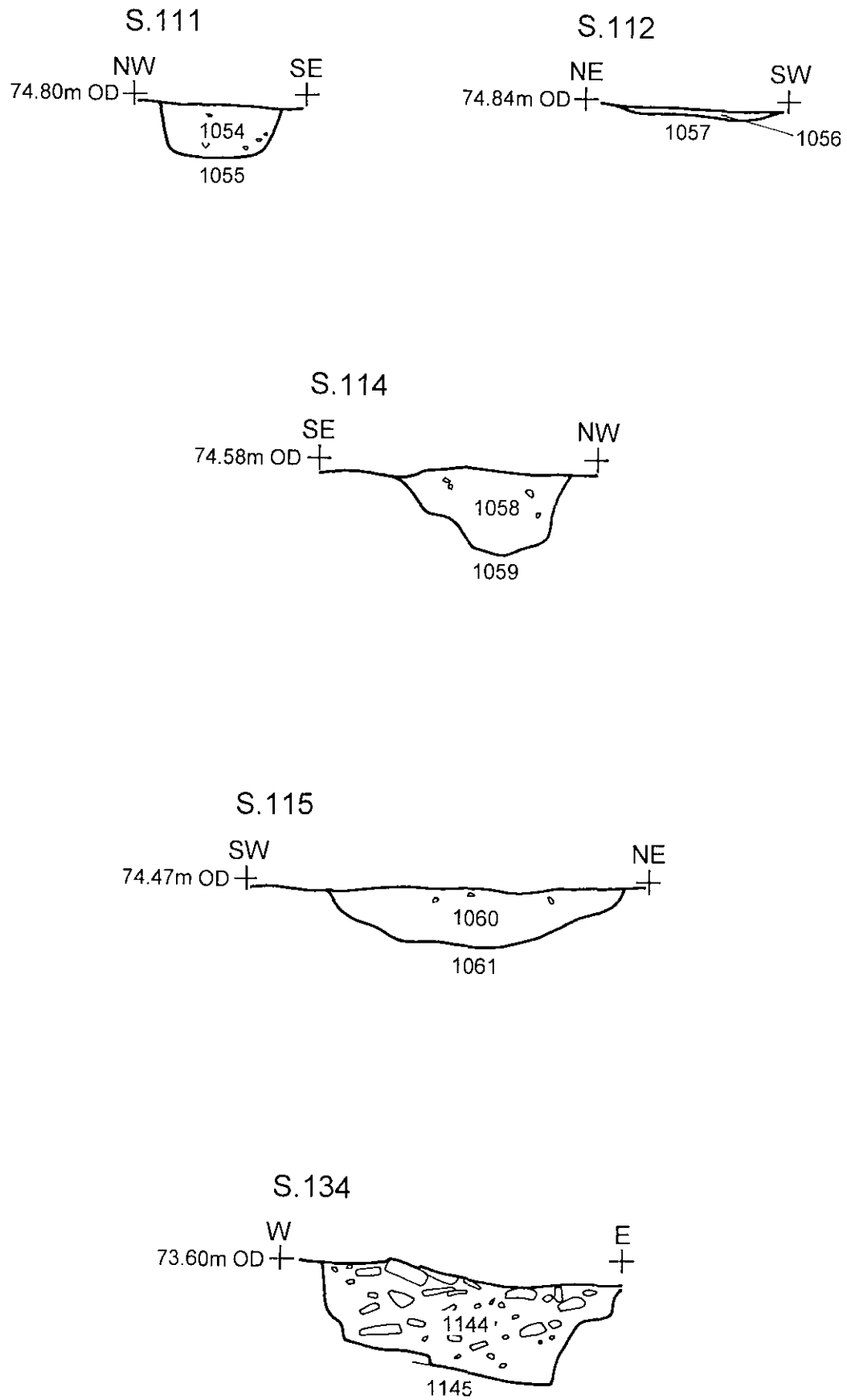
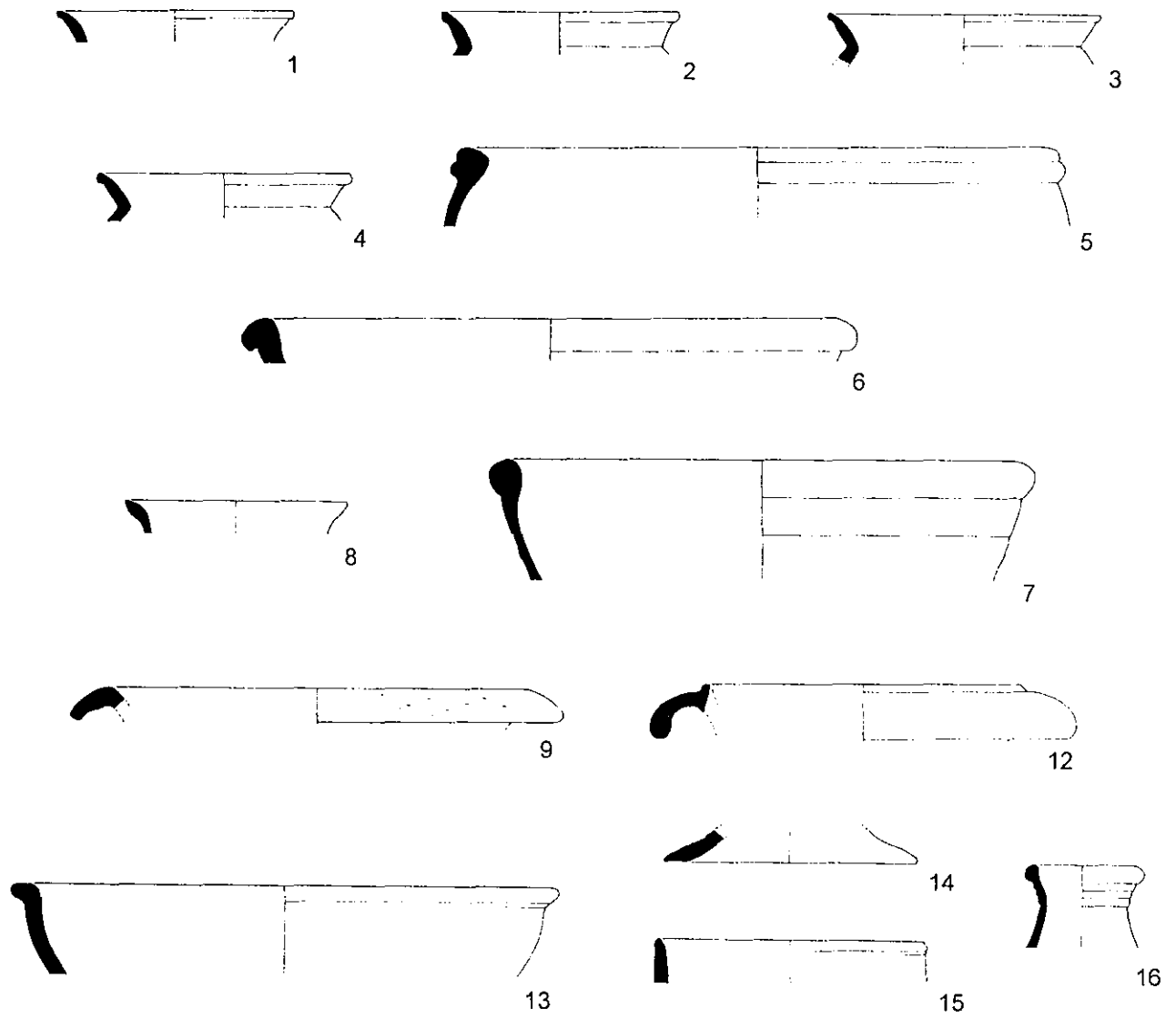
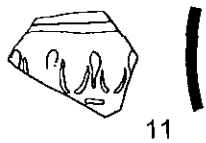


Fig. 9. Discrete feature sections.



0 200mm



0 100mm



0 50mm

Fig. 10. Pottery and glass illustrations.



Plate 1. Detail of fire box adjoined to mine air shaft



Plate 2. Excavation of enclosure ditch



Plate 3. Section of ditch 200



Plate 4. Section of ditch 500

Appendix I

Inventory of primary archive

File no.	Description	Quantity
1	Context register	7
1	Sample Register	2
1	Small Finds Register	1
1	Group Context Register	1
1	Group Context Sheets	10
1	Photographic Film Record	1
1	Finds and Samples Record	9
1	Environmental Laboratory Record Sheets	26
1	Artefact Inventory	1
1	Roman Potter Report Jerry Evans	8
1	Roman Glass report Hilary Cool	3
1	Environmental Report Jane Richardson	6
1	Written Scheme of investigation	10
1	Radiocarbon Dating Certificate	5
1	Finds and samples cross reference	4
2	Drawing Register	3
2	Small Permatrace Sheets	17
2	Photograph Record Sheets	12
2	Colour Positives (Film nos 6348, 6349, 6338, 6373 6365 & 6407)	6
2	Black and White Contact Sheets (Film nos 6350, 6351, 6337, 6374, 6375 & 6408)	6
2	Black an White Negatives (Films nos 6350, 6351, 6337, 6374, 6375 & 6408)	6
3	Context Cards (1000-1158)	158
4	Watching Brief Context Register	1
4	Watching Brief Context Cards (001-025)	25
4	Watching Brief Drawing Register	1
4	Watching Brief Small Permatrace Sheets	8
4	Watching Brief Sample Register	1
Loose	Levels Book	1
Loose	Large drawing sheets	15

Appendix II**Inventory of contexts (excavation)**

Context	Group	Description
1000	200	Upper fill of 1005
1001	200	Fill of 1003
1002	200	Fill of 1003
1003	200	Possible re-cut
1004	200	Primary fill of 1005
1005	200	Cut of enclosure ditch
1006	200	Upper fill of 1012
1007	200	Fill of 1008
1008	200	Fill of 1008
1009	200	Possible re-cut
1010	200	Fill of 1012
1011	200	Primary fill of 1012
1012	200	Cut of enclosure ditch
1013	200	Fill of 1018
1014	200	Fill of 1018
1015	200	Fill of 1018
1016	200	Fill of 1018
1017	200	Primary fill of 1018
1018	200	Cut of enclosure ditch
1019		Fill of 1020
1020		Cut of plough furrow
1021	200	Fill of 1025
1022	200	Fill of 1025
1023	200	Fill of 1025
1024	200	Primary fill of 1025
1025	200	Cut of enclosure ditch
1026	700	Fill of 1027
1027	700	Cut of gully
1028		Layer above 1021
1029	200	Fill of 1032
1030	200	Fill of 1032
1031	200	Primary fill of 1032
1032	200	Cut of enclosure ditch
1033	200	Fill of 1037
1034	200	Fill of 1037
1035	200	Fill of 1037
1036	200	Primary fill of 1037
1037	200	Cut of enclosure ditch
1038	500	Fill of 1040
1039	500	Primary fill of 1040
1040	500	Cut of enclosure ditch
1041	700	Fill of 1042

Context	Group	Description
1042	700	Cut of gully
1043	800	Fill of 1044
1044	800	Cut of ditch
1045	500	Fill of 1047
1046	500	Primary fill of 1047
1047	500	Cut of internal division ditch
1048	400	Upper fill of 1050
1049	400	Primary fill of 1050
1050	400	Cut of internal division ditch
1051	400	Fill of 1053
1052	400	Primary fill of 1053
1053	400	Cut of internal division ditch
1054		Single fill of 1055
1055		Cut of possible post hole
1056		Fill of 1057
1057		Cut of shallow heat affected feature
1058	1000	Single fill of ditch 1059
1059	1000	Cut of ditch
1060	900	Single fill of ditch 1061
1061	900	Cut of ditch
1062		Fill of 1063
1063		Cut of heat affected feature
1064	100	Fill of 1071
1065	100	Fill of 1071
1066	100	Fill of 1071
1067	100	Fill of 1071
1068	100	Fill of 1071
1069	100	Fill of 1071
1070	100	Primary fill of 1071
1071	100	Cut of enclosure ditch
1072	300	Fill of 1074
1073	300	Primary fill of 1074
1074	300	Cut of enclosure ditch
1075	300	Upper fill of 1080
1076	300	Fill of 1080
1077	300	Fill of 1080
1078	300	Fill of 1080
1079	300	Primary fill of 1080
1080	300	Cut of re-cut of ditch 1084
1081	100	Fill of 1084
1082	100	Fill of 1084
1083	100	Primary fill of 1084
1084	100	Cut of enclosure ditch
1085	600	Single fill of 1086
1086	600	Cut of post hole
1087	600	Single fill of 1088
1088	600	Cut of post hole

Context	Group	Description
1089	600	Fill of 1090
1090	600	Cut of post hole
1091	600	Single fill of 1092
1092	600	Cut of post hole
1093	600	Single fill of 1094
1094	60	Cut of post hole
1095	600	Single fill of 1096
1096	600	Cut of post hole
1097	600	Single fill of 1098
1098	600	Cut of post hole
1099	600	Single fill of 1100
1100	600	Cut of post hole
1101	200	Fill of 1103
1102	200	Primary fill of 1103
1103	200	Cut of enclosure ditch butt end
1104	600	Single fill of 1105
1105	600	Cut of post hole
1106	600	Single fill of 1107
1107	600	Cut of post hole
1108	600	Single fill of 1109
1109	600	Cut of curvy feature
1110	600	Single fill of 1111
1111	600	Cut of oval feature
1112	500	Upper fill of 1115
1113	500	Secondary fill of 1115
1114	500	Primary fill of 1115
1115	500	Cut of internal division ditch
1116		Single fill of 1117
1117		Cut of plough furrow
1118	100	Upper fill of ditch 1121
1119	100	Secondary fill of 1121
1120	100	Primary fill of 1121
1121	100	Cut of enclosure ditch
1122	400	Cut of internal division ditch
1123		Fill of 1124
1124		Cut of plough furrow
1125	400	Upper fill of 1122
1126	400	Primary fill of 1122
1127	400	Deposit through which 1122 is cut
1128	400	Deposit through which 1122 is cut
1129	400	Deposit through which 1122 is cut
1130		Subsoil above 1131
1131	200	Upper fill of 1134
1132	200	Secondary fill of 1134
1133	200	Primary fill of 1134
1134	200	Cut of enclosure ditch
1135	600	Single fill of 1136

Context	Group	Description
1136	600	Cut of post hole
1137	600	Single fill of 1138
1138	600	Cut of post hole
1139	600	Single fill of 1140
1140	600	Cut of post hole
1141	600	Fill of 1143
1142	600	Fill of 1143
1143	600	Cut of pit
1144		Single fill of 1145
1145		Cut of pit
1146	600	Single fill of 1147
1147	600	Cut of post hole
1148		Single fill 1149
1149		Cut of pit
1150	600	Single fill of 1151
1151	600	Cut of post hole
1152	600	Clay lining of pit 1090
1153		Single fill of 1154
1154		Cut of pit
1155	200	Primary fill of 1156
1156	200	Cut of enclosure ditch butt end
1157	300	Primary fill of 1158
1158	300	Cut of enclosure ditch

Inventory of contexts (watching brief)

Context	Description
001	Topsoil
002	Fill of 003
003	Cut of gully
004	Fill of 007
005	Fill of 007
006	Fill of 007
007	Cut of mine air shaft
008	Fill of 007
009	Fill of 007
010	Upper fill of 013
011	Lower fill of 013
012	Brick structure in 013
013	Cut of flue
014	Fill of 015
015	Cut of field drain
016	Fill of kiln
017	Cut of kiln flue
018	Cut of kiln
019	Fill of 021
020	Brick lining of 021
021	Cut of flue
022	Redeposited natural
023	Coal rich fill of 021
024	Fill of 025
025	Cut of gully

Appendix III

Inventory of artefacts

Fabric	Context	SF no.	Quantity	Details
Pottery	U/S		5	
	1006		1	
	1007		1	
	1010		1	
	1021		1	
	1029		1	
	1033		5	
	1036		2	
	1039		5	
	1048		15	
	1087		3	
	1112		4	
	1113		8	
	1118		74	
	1125		3	
	1130		2	
	1131		4	
	1135		3	
	1146		1	
	1157		1	
	631		2	
	701		1	
	712		1	
Total			144	
Animal bone	1049		c.10	Heavily burnt animal bone
Total			10	
Glass	1052	1	1	
Total			1	

Appendix IV

Inventory of samples

Sample	Context	Type	Description
100	1004	GBA	Primary fill of ditch 1005
101	1011	GBA	Primary fill of ditch 1012
102	1017	GBA	Primary fill of ditch 1118
103	1006	Charcoal	Fill of ditch 1012
104	1024	GBA	Primary fill of ditch 1025
105	1031	GBA	Primary fill of ditch 1032
106	1036	GBA	Primary fill of ditch 1037
107	1029	Charcoal	Fill of ditch 1032
108	1039	GBA	Primary fill of ditch 1040
109	1041	GBA	Single fill of gull 1042
110	1043	GBA	Single fill of ditch 1044
111	1046	GBA	Primary fill of ditch 1047
112	1049	GBA	Primary fill of ditch 1050
113	1052	GBA	Primary fill of ditch 1053
114	1054	GBA	Fill of post hole 1055
115	1056	GBA	Fill of 1057
116	1058	GBA	Single fill of ditch 159
117	1060	GBA	Single fill of ditch 1061
118	1062	GBA	Fill of 1063
119	1065	Charcoal	Fill of ditch 1071
120	1079	GBA	Primary fill of 1080
121	1083	GBA	Primary fill of ditch 1084
122	1070	GBA	Primary fill of ditch 1071
123	1073	GBA	Primary fill of ditch 1074
124	1085	GBA	Fill of post hole 1086
125	1087	GBA	Fill of post hole 1088
126	1089	GBA	Fill of post hole 1090
127	1091	GBA	Fill of post hole 1092
128	1093	GBA	Fill of post hole 1094
129	1095	GBA	Fill of post hole 1096
130	1097	GBA	Fill of post hole 1098
131	1099	GBA	Fill of post hole 1100
132	1102	GBA	Primary fill of ditch 1103
133	1104	GBA	Fill of post hole 1105
134	1106	GBA	Fill of post hole 1107
135	1108	GBA	Fill of 1109
136	1110	GBA	Fill of pit 1111
137	1114	GBA	Primary fill of ditch 1115
138	1113	Charcoal	Secondary fill of ditch 1115
139	1120	GBA	Primary fill of ditch 1121
140	1126	GBA	Primary fill of ditch 1122
141	1133	GBA	Primary fill of ditch 1134

Sample	Context	Type	Description
142	1135	GBA	Fill of post hole 1136
143	1137	GBA	Fill of post hole 1138
144	1139	GBA	Fill of post hole 1140
145	1141	GBA	Fill of pit 1143
146	1144	Charcoal	Fill of 1145
147	1144	GBA	Fill of 1145
148	1146	GBA	Fill of post hole 1147
149	1148	GB	Fill of pit 1149
150	1150	GBA	Fill of post hole 1151
151	1148	GBA/Charcoal	Fill of pit 1149
152	1153	GBA	Fill of pit 1154
153	1152	GBA	Clay lining of 1090
154	1155	GBA	Primary fill of ditch 1156

Appendix V

Roman pottery analysis by Jeremy Evans

Unstratified

Two greyware bodysherds, fabric R05. Wt 17g

Context 63, fill of gully 6321

Two eroded bodysherds in reduced ware (R02) from a closed form with stamped decoration in a black fabric, probably South Yorkshire roller-stamped ware, perhaps 1st-2nd century. Wt 5g (Fig 10, no.11)

Ditch 200

Context 701, subsoil above 1131

A buff-whiteware straight-walled dish (or bowl) rimsherd, surfaces eroded, with a slightly grooved rim. Fabric W01? D. 16cms, RE 6%, Wt 10g (Fig 10, no.15)

Context 1130, subsoil above 1131

A very eroded rimsherd in oxidised ware (O01?) From a wide-mouthed jar or bowl with a beaded rising rim. D. 32cms, RE 5%, Wt 47g (Fig 10, no.13)

Context 1131, upper fill of segment 1134

Two eroded South Yorkshire greyware bodysherds (R01) and an eroded rimsherd from a dish or bowl, perhaps of flange rimmed form, and perhaps Hadrianic-Antonine. D. 21cms, RE 7%, Wt 13g

Context 1006, upper fill of segment 1012

A BB1 (B01?) Jar shoulder bodysherd, burnt and eroded. Wt 13g

Context 1007, fill of segment 1012

A South Yorkshire greyware (R01) wide-mouthed jar rimsherd with beaded rim, 2nd-4th century. D. 36cms, RE 6%, Wt 46g (Fig 10, no.6)

Context 1010, secondary fill of segment 1012

A South Yorkshire greyware (R01) wide-mouthed jar rimsherd with bifid, beaded rim, 2nd century. D. 36cms, RE 6%, Wt 56g (Fig 10, no.5)

Context 1021, upper fill of segment 1025

Three greyware bodysherds, perhaps burnt. Fabric R06. Wt 8g

Context 1029, upper fill of segment 1032

An oxidised ware (M02) beaded and flanged mortarium rimsherd with eroded surfaces and high bead rising above an evenly curving, downpointing flange, 2nd century. Source uncertain, not a South Yorkshire industry product. D. 25+cms, RE <6%, Wt 23g (Fig 10, no.12)

Context 1033, upper fill of segment 1037

Four thick joining bodysherds in a sandy fabric, very heavily burnt, perhaps South Yorkshire greyware (R01). Wt 63g

A very eroded fragment, perhaps once the rim of a wide-mouthed jar, very burnt, probably South Yorkshire greyware (R01). D. ?, RE ?, Wt 25g

Context 1036, primary fill of segment 1037

Two joining very eroded whiteware footring baseshards, probably from a flagon and probably later 1st-2nd century. Fabric W01. B.D. 7cms, BE 54%, Wt 58g

Fill of isolated posthole 713

Context 712

A South Yorkshire greyware (R01) jar rim fragment from a jar with an everted, rising rim, possibly a BB copy, possibly 2nd century. D. 17cms, RE 6%, Wt 4g

Ditch 500

Context 1039, primary fill of segment 1040

A simple base sherd and four bodysherds from an oxidised ware jar, all burnt on the exterior, in a sandy oxidised fabric probably of South Yorkshire origin. Fabric O01. B.D. 9cms, BE 19%, Wt 50g

Context 1112, upper fill of segment 1115

Four sherds from a whiteware ring-necked flagon rim with prominent upper bead and flaring neck, cf Gillam (1970) types 2-5, cAD 70-150. Fabric W01 D. 7cms, RE 36%, Wt 28g (Fig 10, no.16)

Context 1113, secondary fill of segment 1115

Eight whiteware bodysherds from a closed form, perhaps a flagon or possibly a jar. Fabric W02. Wt 53g

Ditch 400

Context 1048, upper fill of segment 1050

- a) A samian bodysherd M. Ward writes 'It looks to be Central Gaulish and of forms form 18/31R or 31R, and probably Antonine. It is possible the piece has been re-worked to its present triangular form.' Fabric S20? Wt 36g
- b) Two oxidised bodysherds. Post-mediaeval. Wt 6g
- c) Two greyware closed form bodysherds, surfaces eroded. Fabric R03. Wt 13g
- d) A greyware jar base (recently broken into six), fabric R05. B.D. 10cms, BE 18%, Wt 87g
- e) A whiteware simple rimmed lid rim fragment. Fabric W01. D. 15cms, RE 6%, Wt 22g (Fig 10, no.14)

Context 1125, upper fill of segment 1122

- 1. A heavily sooted South Yorkshire greyware (R01) jar rimsherd from a BB copy jar, Hadrianic-Antonine. D. 13cms, RE 11%, Wt 10g (Fig 10, no.8)
- 2. A South Yorkshire white-slipped oxidised mortarium flange (M01) from under the spout, the excoriated surfaces showing the scored keying for affixing the spout to the rim. D. 29 cms, RE 8%, Wt 53g (Fig 10, no.9)

Rectilinear posthole building

Context 1087, fill of posthole 1088

- 3. A reduced fired clay fragment with common coarse sand, heavily fired. Wt 6g
- 4. A flange rimmed dish rimsherd, probably a BB copy and Hadrianic-Antonine in South Yorkshire greyware (R01). D. 18cms, RE 8%, Wt 8g

Context 1135, fill of posthole 1136

5. A South Yorkshire greyware (R01) bodysherd. Wt 1g
 A South Yorkshire greyware (R01) wide-mouthed jar rimsherd with heavily beaded rim. D. 32cms, RE 10%, Wt 107g (Fig 10, no.7)
6. A bodysherd with eroded, red-slipped surfaces, perhaps Oxfordshire red colour-coated ware (F01), perhaps AD 240-400. Wt 4g

Context 1146, fill of posthole 1147

An eroded greyware bodysherd in a fabric with a white core and margins and mid grey surfaces, with very fine sand temper <0.1mm. Fabric R04. Possibly Crambeck greyware, possibly cAD 285+ Wt 4g

Ditch 100

Context 1118, upper fill of segment 1121

7. Five bodysherds and fragments of a BB1 jar (B01), with burnished exterior. Wt 13g
 Two fragments from a BB1 jar with lattice decoration, type indeterminable. Wt 2g
 A fragment from a BB1 jar with obtuse lattice decoration, cAD 200+ Wt <1g
 Seven BB1 jar bodysherds, exterior burnished. Wt 22g
 Eight BB1 jar bodysherds, surfaces excoriated, burnt(?) Wt 14g
 Two BB1 jar bodysherds with obtuse(?) lattice decoration, cAD 200+(?) Wt 3g
 Two BB1 jar rimsherds, burnt and eroded (with common shale inclusions and therefore of Dorset, not local, origin), cf Gillam (1976) nos 2-6, Hadrianic-Antonine. D. 14cms, RE 20%, Wt 18g (Fig 10, no.1)
 Eight BB1 jar bodysherds, exterior burnished. Wt 39g
 Seven BB1 jar bodysherds, exterior excoriated and burnt(?), several sherds having shale inclusions. Wt 11g
 Four BB1 jar bodysherds, surfaces eroded, with obtuse lattice decoration, c AD 200+ Wt 16g
 Three BB1 jar bodysherds, probably with acute lattice, probably Hadrianic-Antonine. Wt 4g
 Three BB1 jar rimsherds, perhaps cf Gillam (1976) nos 5-7, Antonine. D. 14cms, RE 31%, Wt 32g (Fig 10, no.2)
 A BB1 jar rim fragment. Wt <1g
 Two joining BB1 jar rimsherds, surfaces eroded, cf Gillam (1976) nos 6-7, perhaps later 2nd-early 3rd century. D. 16cms, RE 10%, Wt 17g (Fig 10, no.3)
 A BB1 jar rimsherd, cf Gillam (1976) no 7, later Antonine-early 3rd century. D. 15cms, RE 13%, Wt 27g (Fig 10, no.4)
 Eleven BB1 jar bodysherds, burnt and excoriated (with shale inclusions). Wt 14g
 Two BB1 jar bodysherds, exterior burnished. Wt 8g
 Two BB1 jar bodysherds with square lattice, late Antonine(?) Wt 5g
 Two BB1 jar bodysherds, burnt, with obtuse lattice(?), cAD 200+(?) Wt 5g

8. Three fragments of reduced fired clay(?) with black surfaces and orange-brown core with common-abundant moderate sand temper. Wt 4g

Context 1157, fill of segment 1158 Ditch 300

A bodysherd from a large greyware jar or bowl in South Yorkshire greyware (R01).
Wt 27g

Fabric descriptions

B01 - BB1, much of this would appear to be of Dorset origin since it has shale inclusions. (Williams 1977).

F01 - Oxfordshire colour-coated ware(?), Young (1977). An oxidised fabric with buff-orange core and margins and red-slipped surfaces, with a 'soapy' texture with a 'cleanish' matrix with occasional-some sand c0.1-0.2mm and occasional red ironstone c0.1-0.2mm and some very fine silver mica.

M01 - South Yorkshire oxidised white-slipped mortarium with grey core and orange margins, with abundant sub-angular sand temper c0.3-0.5mm.

M02 - An oxidised mortarium fabric with a buff-orange core, margins and surfaces, with a 'cleanish' matrix with occasional sand c0.2mm.

O01 - South Yorkshire(?) oxidised ware, an oxidised fabric with orange core, margins and surfaces, with abundant sub-angular sand temper c0.3-0.5mm.

R01 - South Yorkshire greyware (Buckland *et al* 1980), a greyware with a grey-black core and grey margins and surfaces with abundant angular sand temper c0.3-0.5mm.

R02 - A reduced ware, probably of South Yorkshire origin, with a dark grey core and margins and black surfaces, with occasional moderate sand c0.3mm and common rounded fine white inclusions c0.1mm.

R03 - A reduced ware with a pale grey core, margins and mid grey surfaces, with some-common fairly fine sand c0.1-0.2mm and common rounded black ironstone(?) c0.1-0.3mm.

R04 - A reduced ware with white-pale grey core and margins and dark grey surfaces, with occasional-some fine sand temper c0.05-0.1mm and some very fine silver mica. Possibly Crambeck greyware, but this is not certain.

R05 - a reduced ware with a white-pale grey core and margins and dark grey surfaces, with abundant sub-angular translucent sand c0.3-0.4mm. Perhaps made from a Coal Measures clay, probably a fairly local product.

R06 - A reduced ware with a black core and margins and brown-black surfaces, with abundant fine sand c0.05-0.1mm and occasional moderate sand c0.3mm.

W01 - A whiteware, with a white core, margins and surfaces, with a fairly 'clean' matrix with occasional sand c0.3mm and some red ironstone up to 2mm.

W02 - A whiteware with a white core, margins and surfaces, with a 'soapy' texture and a 'clean' matrix with very occasional rounded red ironstone c0.3mm.

S20 - Lezoux, Central Gaulish samian ware.

Appendix VI***Roman Glass Bangle by Hilary Cool***

Bangle fragment. Blue/green D-sectioned bangle, interior pitted, exterior now dulled. Twisted cord of translucent blue and opaque white rods in right-hand (S-) twist centrally. Now broken into several fragments and chips. Current length c. 22.5mm, section 11 x 7mm. sf 1: 1052.

Appendix VII Results from the flot samples

Context number	Sample number	Flot volume	Cereal grain	Charred Seeds	Cereal chaff	Charcoal		Uncharred plant	Comments
						qty.	large frags.		
1004	100	5ml				++++		++++	
1011	101	5ml				+++		++++	
1017	102	1ml				++		++++	
1024	104	2ml				+		++++	
1031	105	1ml				+		++++	
1036	106	1ml				+		++++	
1039	108	2ml				+		++++	
1041	109	5ml	+ (1)	+ (1)				++++	<i>Hordeum vulgare</i> s.l., <i>Polygonum arenastrum</i> sp.
1043	110	5ml				+		++++	
1046	111	2ml				++	*	++++	
1049	112	>1ml				++		++	
1052	113	8ml				+++		++++	
1058	116	10ml				+++	*	++++	
1060	117	5ml				+++		++++	
1070	122	10ml				+		++++	

Context number	Sample number	Flot volume	Cereal grain	Charred Seeds	Cereal chaff	Charcoal		Uncharred plant	Comments
						qty.	large frags.		
1073	123	20ml				+		++++	
1079	120	>1ml				+++	*	+	
1083	121	1ml				+		++++	
1103	132	5ml						++++	
1114	137	5ml				+++		++++	
1120	139	4ml				+		++++	
1126	140	4ml				++		++++	
1133	141	1ml				+++		+++	
1135	142	8ml				++++		++++	Cinder
1146	148	10ml				++++	*	++++	
1155	154	1ml				++++		+++	

Key : + = rare (1-5), ++ = occasional (6-10), +++ = common (11-50), ++++ = abundant (>50)

* = sufficient charred material for AMS date

Appendix VIII. Results from the retents

Context number	Sample number	Retent volume	Cereal grain	Charred Seeds	Cereal chaff	Charcoal		Magnetic material	Comments
						qty.	large frags.		
1004	100	1200ml							Wholly inorganic
1011	101	3000ml				+++			
1017	102	2200ml				++	*		
1024	104	3000ml							Wholly inorganic
1031	105	5000ml				++			
1036	106	1000ml				++			
1039	108	2300ml				+			
1041	109	3100ml							Wholly inorganic
1043	110	5000ml				+			
1046	111	5000ml				+	*		
1049	112	2400ml				+			
1052	113	2000ml				+			
1058	116	1000ml				+++			
1060	117	1300ml				+			
1070	122	2000ml				+			
1073	123	1100ml				+			
1079	120	150ml				++++	*		

Context number	Sample number	Retent volume	Cereal grain	Charred Seeds	Cereal chaff	Charcoal		Magnetic material	Comments
						qty.	large frags.		
1083	121	2000ml				+			
1103	132	2000ml				+			
1114	137	3500ml				+++	*	+	
1120	139	1600ml				+	*		
1126	140	3500ml				+	*		
1133	141	3500ml				++++	*		
1135	142	2500ml				+++			
1146	148	5800ml				+++			
1155	154	1200ml							Wholly inorganic

Key : + = rare (1-5), ++ = occasional (6-10), +++ = common (11-50), ++++ = abundant (>50)

* = sufficient charred material for AMS date

Appendix IX
Written Scheme of Investigation

Coalfields Link Road (Phases 2 & 3)

Shafton By-Pass/Engine Lane Improvement, Barnsley, South Yorkshire

Written Scheme Of Investigation

1. Introduction

- 1.1 An archaeological excavation and programme of archaeological watching brief has been requested for part of the route of the proposed Shafton By-Pass (Fig. 1). The route of the by-pass, centred on SE398100, extends north from the vicinity of Hazeldene Farm and mainly follows the route of Engine Lane towards land south of Hazeldene Crescent, where it branches east and west, respectively leading to Weet Shaw Lane and Brierley Road.
- 1.2 This document details the required methodology for further investigation of the site via open area excavation and archaeological watching briefs. This scheme of work has been prepared following a meeting between Keith Holdroyd of Barnsley Metropolitan District Council, Roy Sykes of the South Yorkshire Archaeology Service and representatives of Archaeological Services WYAS. This document has been approved by the South Yorkshire Archaeology Service.
- 1.3 There is firm reason to believe, following a desk-top assessment (Keith 2000), geophysical surveys (Webb 2000; Whittingham 2002) and trial trenching (Martin 2001) of the proposed route, that archaeological remains are to be affected by the road construction. Archaeological Services WYAS, in consultation with the South Yorkshire SMR, has advised that the archaeological implications of the proposed development require investigation of a known archaeological site by record, via a detailed open area excavation. Areas outside this known site cannot be adequately assessed on the basis of the available information. It has been recommended therefore that a programme of archaeological watching briefs be carried out during the road construction programme. All archaeological work will be carried out, in line with government guidance as set out in D.O.E. Planning Policy on Archaeology and Planning (PPG16 1990). The results of this final phase of archaeological investigation will aim to obtain as much information about the archaeological remains present within the road corridor prior to their direct impact by the road construction. As preservation in-situ of the archaeological remains is not an option, the archaeological recording of the features present will be by detailed record.

2. Archaeological Background

- 2.1 The site of the proposed road scheme will have a direct impact upon archaeological remains in this area. A desk-top assessment (Keith 2000) undertaken by Archaeological Services WYAS highlighted the high archaeological potential of this area. In particular a crop mark in the field north-east of Engine Lane, is thought to locate an infilled sub-circular ditched enclosure

with internal subdivisions, potentially associated with prehistoric/Romano-British activity. The proposed route of the road will cut the northern and western sides of the enclosure, which has a dominant location on the crest of a ridge. It was also suggested that early coal mining remains possibly dating back to the medieval period were also located in this area. Later mine workings of the Shafton Coal Seam have also been recorded in the vicinity.

- 2.2 There are other sites and finds of archaeological interest in the immediate area of the proposed by-pass. In particular, a staged programme of geophysical survey, trial trenching and excavation has been carried out by Archaeological Services WYAS on land off High Street, Shafton, some 0.75km to the north-west which has revealed extensive remains dating to the Romano-British period (Burgess 2001).
- 2.3 On the basis of the results of the desk-top survey an archaeological evaluation was requested by the Sites and Monuments Record of the South Yorkshire Archaeology Service. Stage 1 of the evaluation was a gradiometer survey of 6ha in two fields to the north-east and the south-west of Engine Lane. The gradiometer survey further clarified the extent of the ditched enclosure in Field 2 to the north-east of Engine Lane and probable internal subdivisions, and also identified further linear anomalies potentially representing infilled ditches of prehistoric/Romano-British date, in Fields 1 and 2 to the south-west and north-east of Engine Lane respectively. In addition, numerous discrete features which may represent infilled coal pits or archaeological pits were also identified. On the basis of the results of the survey a second stage of archaeological evaluation via trial trenching of parts of the application area was devised.
- 2.4 The Stage 2 works comprised the excavation of eight trial trenches targeting the anomalies of the previous geophysical survey. The five trenches located on the west side of Engine Lane in Field 1 identified the presence of a number of archaeological features, although a post-medieval bell-pit was the only dateable feature. The remainder comprised isolated discrete pits and a number of linear features of unknown date. The three trenches on the eastern side of Engine Lane, in Field 2, were positioned to target internal and external elements of the sub-circular ditched enclosure. The presence of enclosure ditches, internal subdivisions and a number of discrete features, and from these a number of pottery sherds, confirmed the likely date of this site to lie in the Early Roman period. The environmental samples processed following the trial trenching indicate the site was unlikely to have been a major crop-processing centre. A few examples of flake and spheroidal hammerscale within a number of samples are indicative of localised iron smithing. In general, however, the site remains enigmatic as to its function, period of use and eventual abandonment. Questions also remain on the chronology of the enclosure's construction and it is not known whether all features are of the same date or were excavated in different phases.

3. Aims and Objectives

- 3.1 In the area of the proposed development, any below-ground works are likely to impact directly upon any surviving archaeological deposits within and below topsoil cover. It has been recommended therefore that an archaeological open area excavation should take place in order to obtain further information on the

presence and preservation of any archaeological deposits within and around that part of the enclosure site to be removed by the road construction programme.

3.2 The aims and objectives of such an excavation in the area of the proposed development will be:

- to establish the presence/absence of all archaeological remains within the excavated area;
- to determine the extent, condition, function, relationships, character, quality of survival, importance and date of all archaeological remains present and
- to provide information that will allow an full understanding of the significance of the archaeological record retrieved from the site to be made.

3.3 The specific aims and objectives will be to:

- to identify and record in plan all archaeological features within the excavated areas;
- to recover an adequate sample of the deposits and related artefactual and ecofactual materials to allow the determination of:
 - the chronology of the site, its components and detailed phases;
 - the inter-relationships between the various components of the site;
 - the function of the various components of the site and
 - the potential co-existence or succession of sites in the immediate vicinity.

3.4 The integration of the results of archaeological investigations (geophysical surveys, aerial reconnaissance, evaluations, excavations, SMR records, etc.) within the immediate area will be plotted on to a base plan along with the results of this work.

4. Proposed Method

4.1 The excavation will initially involve the topsoil stripping of one large area measuring approximately 4500m, as shown on the attached plan, using a 360° mechanical excavator. The machine used will not exceed 25 tonne and the toothless ditching bucket will be no more than 2m wide. The machine will be assisted in the removal of topsoil by dump trucks.

4.2 The area will be opened and the topsoil and any recent overburden removed using an appropriate mechanical excavator fitted with a toothless ditching bucket. Mechanical excavation will be used judiciously and carried out under direct archaeological control in level spits to the top of the first archaeological horizon or undisturbed natural. The resulting surface will be inspected for archaeological remains and where archaeological remains require clarification the relevant area will be cleaned by hand. Non-modern artefacts will be collected from the excavated topsoil.

- 4.3 In certain circumstances, the judicious use of mechanical excavation equipment may be used for the removal of modern deep intrusions or for the clarification of deposits perceived to be natural in origin. This will be discussed and agreed in advance with the South Yorkshire Archaeology Service.
- 4.4 All identified archaeological features will be accurately recorded in plan, initially by using a robotic 600 series Geodimeter system, then by hand drawing. Archaeological features within the stripped area will be hand excavated in an archaeologically controlled and stratigraphic manner in order to meet the aims and objectives outlined above. The sample of features investigated will be sufficient enough to fully understand the stratigraphic sequence, down to the naturally occurring deposits. This shall be achieved through the following sampling strategies:
- Linear features: An appropriate sample of each feature will be excavated, to its full depth. No section will be less than 1m in length. Where possible one section will be located and excavated adjacent to a trench edge and particular attention will be paid to butt-ends, corners and intersections. In general, a minimum sample of 10% of each linear feature will be excavated, and this may be increased (see 4.6 below) in order to attempt to recover dateable material.
 - Intersections of linear features: Excavation of an 'L'-shaped section to demonstrate and record relationships, expanded to the full widths if appropriate.
 - Discrete features: Pits and post-holes to be subject to 50-100% sample by volume as appropriate.
- 4.5 The scope of archaeological excavation will be flexible enough to allow a reassignment of priorities after the topsoil stripping and preliminary excavation, should the nature of the excavation warrant this. This shall be done at a post-strip site meeting to be held in consultation with the South Yorkshire Archaeology Service. If it is shown after the 10% sample of linear ditches is complete that the enclosure is not a multi-phase discussions will take place on the scope of further investigation of the enclosure ditches. It may prove appropriate, in an aid to recovering as much dateable material from the basal deposits as possible, to remove the upper fills using a mechanical excavator. This issue will be discussed at a site meeting during the course of the excavation.
- 4.6 A full written, drawn and photographic record will be made of all material revealed during the course of the excavation. A site grid will be set out in the area of excavation and this will be used to plan features at a scale of 1:50 with larger scale plans of features at 1:20, as appropriate. Sections of linear and discrete features will be drawn at 1:10. All sections, plans and elevations will include spot-heights related to Ordnance Datum in metres as correct to two decimal places.
- 4.7 All finds will be recorded, where practicable, three dimensionally using the robotic 600 series Geodimeter system. The resulting data will be downloaded

and processed using Landscape 3.1 software. All artefacts recovered will be retained and removed from the site for conservation and analysis. Where appropriate finds material will be stored in controlled environments. All artefacts recovered will be retained, cleaned, labelled and stored as detailed in the guidelines laid out in the IFA Guidelines for Finds Work. Karen Barker, an independent conservator will undertake conservation of artefacts, if required. UKIC guidelines will also apply.

- 4.8 Context recording will be by Archaeological Services WYAS standard method. All contexts, and any small finds and samples from them will be given unique numbers. Bulk finds will be collected by context. Colour transparency and monochrome negative photographs will be taken at a minimum format of 35mm.
- 4.9 Given the recommendations in the evaluation report a soil sampling programme will be undertaken for the identification and recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefactual material. This will be targeted on primary deposits and deposits that appear to be charcoal-rich. Soil samples of up to 5-10 litres will be taken from such contexts, and larger samples will be taken of any rich carbonised deposits. Particular attention will be paid to the sampling of primary ditch fills, large discrete features (e.g. refuse pits), structural and occupational evidence, skeletal remains and any surviving buried soils. Further, the recovery of material suitable for radiocarbon, archaeomagnetic, thermoluminescence and/or dendrochronological determinations will be sought, as appropriate. If buried soils or other appropriate deposits are encountered, column samples may be taken for micromorphological and pollen analysis. Where appropriate environmental material will be stored in controlled environments.
- 4.10 Where specialist environmental consultancy is required, including site visits, this will be undertaken by an appropriately qualified and approved (by the South Yorkshire Archaeology Service) environmental specialist.
- 4.11 All human remains will be recorded on-site prior to removal and analysis by the project's assigned osteoarchaeologist. Disturbance of human remains will only take place under appropriate Home Office and environmental health regulations, and in compliance with the Burial Act 1857 and the Disused Burial Grounds Act 1981. If human remains are identified the SMR and Coroner will be informed immediately. A Home Office licence will be obtained and any osteoarchaeological work will be undertaken by an appropriately qualified and experienced osteologist.
- 4.12 All finds of gold and silver shall be reported to HM Coroner according to the procedures relating to the Treasure Act 1996, after discussion with the Client and the SMR.
- 4.13 It is envisaged that the excavation and recording could be completed in five to six weeks by a team consisting of a Project Supervisor and up to three Site Assistants. Although the field team may be subject to change all Archaeological Services WYAS staff are professionals.

5. Additional work – archaeological watching briefs

- 5.1 Following the results of the evaluation on the west side of Engine Lane, where archaeological features of unknown date were identified, South Yorkshire Archaeology Service have recommended that an archaeologist be present to supervise the mechanical soil stripping in this area during the road construction programme. Further to the east, in the areas from Engine Lane to the site of the open area excavation and from the open area excavation to Brierley Road, an archaeologist is also required to supervise the machine stripping in order that archaeological remains, if present, are recorded prior to removal.
- 5.2 The machines used to strip the topsoil and subsoil within the road corridor are to be equipped with toothless ditching buckets, excavating in level spits. Should archaeological features be revealed during the course of these watching briefs, the archaeologist(s) should be afforded the opportunity to clean, sample excavate and record such features and deposits before stripping is recommenced.

6. Archive preparation and deposition

- 6.1 The site archive will contain all the data collected during the excavation, including records, finds and environmental samples. It will be quantified, ordered, indexed and internally consistent. Adequate resources will be provided during fieldwork to ensure that all records are checked and internally consistent. Archive consolidation will be undertaken immediately following the conclusion of fieldwork:
- the site record will be checked, cross-referenced and indexed as necessary;
 - all retained finds will be cleaned, conserved, marked and packaged in accordance with the requirements of the recipient museum;
 - all retained finds will be assessed and recorded using pro forma recording sheets, by suitably qualified and experienced staff. Initial artefact dating will be integrated within the site matrix;
 - all retained environmental samples will be processed by suitably experienced and qualified staff and recorded using pro forma recording sheets.
- 6.2 The archive will be assembled in accordance with the specification set out in English Heritage's "*Management of Archaeological Projects 2*" (English Heritage, 1991; Appendix 3). In addition to the site records, artefacts, ecofacts and other sample residues, the archive shall contain:
- site matrices where appropriate;
 - a summary report synthesising the context record;
 - a summary of the artefact record;
 - a summary of the environment record.
- 6.3 The integrity of the primary field record will be preserved. Security copies will be maintained where appropriate.

- 6.4 Provision will be made for the deposition of the archive, artefacts and environmental material, subject to the permission of the relevant landowner (and if no further archaeological work is to be initiated), in the appropriate recipient museum, in this instance Doncaster Museum. The museum will be advised of the timetable of the proposed investigation at the outset of the excavation programme. Further, Archaeological Services WYAS will adhere to any reasonable requirements the museum may have regarding conservation and storage of the excavated material and the resulting archive. The archive will be prepared in accordance with the guidelines published in "*Guidelines for the preparation of Excavation Archives for long-term storage*" (United Kingdom Institute for Conservation, 1990) and "*Standards in the Museum care of archaeological collections*" (Museums and Galleries Commission, 1994).
- 6.5 Should further archaeological excavation be initiated and/or additional archaeological work undertaken, this archive will be prepared accordingly for incorporation into the final archive.
- 6.6 The monitoring archaeologist (from South Yorkshire Archaeology Service) will be afforded the opportunity to inspect the contents of the archive prior to its final deposition. Archive deposition will be arranged in consultation with the recipient local institution/museum and will take into account all requirements of the recipient museum and of the relevant guidelines outlined in paragraph 5.4 above. The timetable for deposition will be agreed on completion of the site archive and narrative. Artefacts discovered during the course of the excavations are the property of Barnsley Metropolitan District Council (subject to the provisions of the Treasure Act 1996). Artefacts will be given to an approved museum or institution or loaned for such periods as are necessary for research and study.

7. Report preparation, contents and distribution

- 7.1 Upon completion of the investigations, the artefacts, ecofacts and stratigraphic information shall be assessed as to their potential and significance for further analysis.
- 7.2 A technical report will be prepared within six months of completion of on-site archaeological investigations, notwithstanding the completion of post-excavation analyses (e.g. radiometric dating) and will include the following :
- a non-technical summary of the results of the work;
 - a summary of the project's background;
 - the site location;
 - an account of the method;
 - the results of the excavation, including phasing and interpretation of the site sequence and the analysis of artefacts, if recovered, and
 - an appendix catalogue of the archaeological material recovered during the excavation.
- 7.3 The report will be supported by an overall plan of the site, accurately identifying the location of the open area excavation, indicating the location of archaeological features, supplemented with further detailed plans, sections, elevations and

photographs. The report will outline the archaeological significance of the deposits and artefacts/ecofacts identified, and provide an interpretation of the results in relation to other sites in the region.

- 7.4 The report, including all finds analysis and scientific dating results, shall be produced in accordance with English Heritage's "*Management of Archaeological Projects 2*" (English Heritage, 1991).
- 7.5 Copies of the report will be supplied to Barnsley Metropolitan District Council for distribution to the South Yorkshire Archaeology Service for accession to the South Yorkshire Sites and Monuments Record. These reports will be produced within an agreed timetable, notwithstanding any contractual requirements on confidentiality (see section 8 below).
- 7.6 It is envisaged that the results of the work will be published in the appropriate issue of *Archaeology in South Yorkshire*, and, if of regional or national significance, within an archaeological journal.

8. Copyright, Confidentiality and Publicity

- 8.1 Unless the client commissioning the project wishes to state otherwise, the copyright of any written, graphic or photographic record and reports rests with the originating body (Archaeological Services WYAS). Issues concerning copyright will be agreed between Archaeological Services WYAS and the client at the outset of the project.
- 8.2 The circumstances under which the report or records can be used by other parties will be identified at the commencement of the project, as will the proposals for the distribution of the report. Archaeological Services WYAS will respect the client's requirements over confidentiality, but will endeavour to emphasise the company's professional obligation to make the results of archaeological work known to the wider archaeological community within a reasonable time.
- 8.3 Archaeological Services WYAS will agree with the client all aspects of publicity at the outset of the project. South Yorkshire Archaeology Service have stated, if possible, that the archaeological investigations should be made public to sections of the local media. If this is to occur, this will be organised by Barnsley Metropolitan District Council and will be timetabled at the end of the fieldwork stage.

9. Health and Safety

- 9.1 Archaeological Services WYAS has its own Health and Safety policy which has been compiled using national guidelines such as SCAUM. These guidelines conform to all relevant Health and Safety legislation.
- 9.2 In addition each project undergoes a 'Risk Assessment' which sets project specific Health and Safety requirements to which all members of staff are made aware of prior to on-site work commencing.
- 9.3 All staff involved in the project must undergo the contractor's own induction process. The site is a 'hard hat' site. All staff and visitors must wear a hard hat, high-visibility bib and steel toe-capped boots. All staff and visitors must report to

reception at the contractor's offices upon arrival to sign in and to sign out on departure.

- 9.4 Health and safety will take priority over archaeological matters. Necessary precautions will be taken over underground services and overhead lines at the outset of the project. Barnsley Metropolitan District Council and their road construction contractor have identified the minimal risk of underground gas from redundant coal workings emitting into excavated trenches. A gas detector is being used during the course of the excavation.

10. Insurance

- 10.1 Archaeological Services WYAS is covered by the insurance and indemnities of the City of Wakefield Metropolitan District Council.
- 10.2 Insurance has been effected with: Zurich Municipal Insurance, Park House, 57-59 Well Street, Bradford, BD1 5SN.
- 10.3 The policy number is QLA 03R896 0013
- 10.4 Any further enquiries should be directed to :
Head of Financial Services, Central Services Department, City of Wakefield MDC, County Hall, Bond Street, Wakefield WF1 2QW.

11. Monitoring

- 11.1 The South Yorkshire Archaeology Service will be responsible for monitoring the project, acting on behalf of the local planning authority, and their officers will be afforded the opportunity to inspect the site and the records at any stage of the work. In undertaking the monitoring of the project Archaeological Services WYAS cannot accept any responsibility to officers visiting the site if they fail to comply with the procedures set out above.

12. Resources and Programming

- 12.1 Project personnel:

Project Management:	Paul Wheelhouse BA
Project Supervisor:	Marina Rose BSc
Site Assistants:	Jason Dodds BSc
	David Pinnock MA
	James Thompson BSc
Illustrator/CAD operator:	Andy Swann MAAIS
Photographer:	Paul Gwilliam BA

- 12.2 Post-excavation specialists:

Prehistoric pottery specialists:	Blaise Vyner
Roman pottery specialist:	Dr Jeremy Evans
Medieval pottery specialist:	Dr Chris Cumberpatch

Flint specialist:	Dr Ian P Brooks
Soils specialist:	Dr Stephen Carter
Environmental specialist:	Dr Ruth Young
Faunal analyst:	Dr Jane Richardson
Human bone specialist:	TBC
Metalwork specialist:	Holly Duncan
Artefact conservationist:	Karen Barker
Radiometric dating:	Dr Gordon Cooke

- 12.3 All appropriate specialists have been approached and are willing to undertake the work within the time-scales and parameters set out in the specification. The list of Archaeological Services WYAS project personnel may be subject to change.
- 12.4 It is anticipated that an on-site team of three or four, consisting of a Project Supervisor up to three Site Assistants will complete the necessary archaeological works within seven weeks. The start date for the work will be Monday 10th June 2002, with hopeful completion on-site by no later than Friday 2nd August 2002.