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WYAS

Went Edge Quarry
Kirk Smeaton
North Yorkshire

Archaeological Excavation and Watching Brief

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Report No. 1230

CLIENT
Ennstone Breedon Ltd

Went Edge Quarry

Kirk Smeaton

North Yorkshire

Watching Brief and Archaeological Excavation

Contents

Summary

An archaeological watching brief and excavation was carried out at Went Edge Quarry in advance of aggregate extraction. The archaeological investigations have confirmed the results of the geophysical survey locating part of two ditched enclosures in the north-west corner of the site, and a segmented linear ditch to the south. The absence of any artefactual evidence together with the lack of internal features suggests the enclosure was probably located some distance from any settlement activity and that its primary function was for livestock control.

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Archaeological Services WYAS

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1. Introduction

1.1 Archaeological Services WYAS was commissioned by Mr Dennis Moss, Engineering Services Manager of Ennstone Breedon Ltd, to undertake an archaeological watching brief and excavation in advance of the planned expansion of Went Edge Quarry, Kirk Smeaton for aggregate extraction. The expansion area (Planning Application C8/45/13P/PA) was approximately 1 hectare in size being centred at NGR SE 501 172 (see Figs 1 and 2). The staged watching brief was undertaken on days between October 25th 2002 and January 9th 2003, when the quarry was operated by T and T Aggregates, with the excavation being undertaken between September 1st and 22nd 2003.

1.2 The site is close to the county boundary between North and West Yorkshire lying in the district of Selby within the parish of Kirk Smeaton, located approximately 1.5km to the north-west of the village. The existing quarry lies immediately to the west of the expansion area to the south of Smeaton Crags. Earth bunds delimit the site to the south and east with fields behind. Immediately to the north is woodland that slopes steeply down to the River Went. Within the site boundaries the land exhibits little variation in elevation, the ground surface averaging at 56m Above Ordnance Datum (AOD).

1.3 The geology comprises Permian Magnesian Limestone bedrock overlain by thin soils of the Aberford Association (British Geological Survey 1967).

2. Archaeological Background

2.1 The site lies within a landscape of late Prehistoric/Romano-British settlement enclosures and field systems, mostly evidenced by cropmarks from aerial photographic mapping (Boucher 1996, Deegan 2001). Some of these sites have been confirmed to be of this period by excavations such as those at Barnsdale Bar Quarry, approximately 3km to the south-east (Burgess 2001).

2.2 To the west of the application area, on the northern edge of the quarry, is Castle Hill Earthwork. This feature, of uncertain date, can be seen on the first edition (1853) Ordnance Survey map of the area and has since probably been quarried away.

2.3 The archaeological interest in the site is due to the identification of cropmarks, interpreted as being caused by infilled archaeological features such as ditches and enclosures, both within and immediately to the east of the expansion area. To locate these cropmark features a geophysical (magnetometer) survey was undertaken (Hancock 2002) and this identified linear magnetic anomalies, interpreted as infilled archaeological boundary ditches, in the north-west corner of the proposed expansion area as well as other linear anomalies to the south that were thought to be either archaeological or geological in origin.

3. Method

3.1 In order to establish the nature of the magnetic anomalies a staged programme of archaeological investigations were undertaken in line with a Written Scheme of Investigation prepared by North Yorkshire County Council, Heritage Unit (Falkingham 2003; Appendix V).

3.2 The aims and objectives of the investigations were:

- To locate, sample, record and interpret any archaeological deposits exposed by preliminary topsoil stripping,
- To locate, recover, identify and conserve (as appropriate) any archaeological artefacts exposed during excavation.

3.3 The archaeological investigations were undertaken in two phases. Firstly a watching brief was maintained during the phased topsoil strip across the majority of the site, targeting linear anomalies to the south (see Fig. 2). The second phase comprised an archaeologically controlled topsoil strip, in the north-west corner of the site in the area of the possible enclosure, followed by manual excavation. An exclusion zone of 7m was left around the northern edge of the site to protect the Site of Special Scientific Interest.

3.4 Both the watching brief and the monitored topsoil strip was carried out using a 360^{o} tracked excavator fitted with a toothless ditching bucket. The strip was conducted in level spits until the first archaeological horizon or undisturbed natural was encountered. All features were planned using a 600 series robotic Geodimeter total station theodolite. The recording of the archaeology from

both the watching brief and excavation followed the Archaeological Services WYAS standard method (ASWYAS 2003).

3.5 All archaeological features were excavated by hand in a controlled and stratigraphic manner with 10% of each linear feature being excavated, with a minimum of 1m sections being excavated if the feature was less than 10m in length. Discrete features were half sectioned to determine and record their form.

3.6 All features were drawn and recorded with sections produced at a scale of 1:10 or 1:20 and plans at 1:20. The excavation limits were surveyed using a 600 series Geodimeter total station theodolite and fixed in relation to nearby permanent structures and roads.

3.7 A soil-sampling strategy was undertaken for the recovery and identification of carbonised plant remains, vertebrate remains and molluscs. Soil samples of up to twenty litres were taken from the primary fills of all excavated features.

3.8 Following completion of the archaeological investigations, the site archive was prepared in accordance with the specification outlined in the Management of Archaeological Projects, Map 2 (English Heritage 1991). The site archive contains all the information collected during the fieldwork and the records have been checked and indexed as necessary. Inventories of the archive, contexts, artefacts and environmental samples are provided below (Appendices I-IV). The paper archive and artefacts are currently held by Archaeological Services WYAS in appropriate and stable environments. These will be deposited with an appropriate museum within a timescale agreed between ASWYAS and the recipient museum.

3.9 Colour slides and monochrome negative photographs were taken of excavated features.

3.10 A metal detector survey was undertaken over all features.

4. Results

Summary

4.1 The total area under investigation covered approximately 1 hectare including the detailed excavation in the north-west corner measuring 1800m²; 60m by

30m (Fig. 2). Machine stripping of the topsoil revealed a segmented linear ditch to the south of the site and two curvilinear ditches forming the south-eastern corners of two enclosures (Fig. 3) to the north-west. Several post-holes were found associated with the terminus of one ditch that left a gap forming an entranceway from the south-west corner into the enclosure (Fig. 4). No other features were identified within the enclosure. A number of possible pit features (not recorded) were investigated but all appeared to be naturally formed shallow depressions filled with subsoil. All the features were cutting the natural Magnesian Limestone bedrock.

Detailed

4.2 Across the site the depth of the topsoil/plough-soil (001) varied between 0.2m and 0.3m with the reddish brown, clayey silt subsoil (002) only surviving the ploughing disturbance in isolated patches to a maximum depth of 0.15m.

4.3 Only a single linear ditch (see Fig. 3 – ditch 1), aligned from north to south, was identified during the watching brief. It was recorded over a distance of approximately 36m, was segmented into three portions, each approximately 10m in length and correlates with the linear magnetic anomaly identified in the geophysical survey. The profile of the ditch varied from steep near vertical sides with a flat base to a broader almost U-shaped profile but retaining a flat base (Fig. 5). The width ranged from 0.66m to 1.23m, and the depth between 0.2m and 0.5m.

4.4 Two gaps (entrances?) along its length were each 1.5m in width although it was not clear whether these gaps were real or reflected differential plough damage. Three of the four possible ditch 'termini' were excavated and recorded during the watching brief. The single fill of this feature comprised a mid reddish-brown clay silt (003, 005, 007, 009, 0011, 013) with occasional angular limestone fragments, and was consistent throughout the interrupted sections. No finds were recovered from this feature, the environmental sample containing only a very small quantity of charcoal.

4.5 If real the gaps in the ditch appeared to be wide enough to allow access across by humans or animals, suggesting it may have been a boundary demarcating a space/area rather than a physical enclosure for animals. No dating evidence was found in the fill of this feature. The ditch holds a slightly different alignment to the probable late prehistoric/Romano-British enclosure features to the north and so may predate these features, being Prehistoric in date.

However, this is only speculative and a later date of anything up to the post-Medieval period is considered possible, especially as it is noticeable that the ditch follows the same north to south alignments that the present field boundaries hold, which have been in place since at least 1853.

4.6 Ditch 2 formed part of the southern and eastern sides of an enclosure as well as also functioning as the western boundary of the adjacent enclosure, as defined by ditch 3 (see Fig. 3). From the limit of excavation the ditch on the eastern side was orientated north to north-east for 30m, turning to the northwest to form 15m of the southern edge, before being lost into the quarry face edge. It was between 2.76m and 3.50 in width, with a maximum depth of 1.1m (Fig. 6 – S.10).

4.7 In profile the ditch was U-shaped with steeply sloping sides and a flat base. The two sections recorded revealed a general trend of primary silting (023, 024, 037, 040, 041) from the ditches initial phase including slumped deposits (025, 026). It appears to have then been partially backfilled with a limestone rubble and clayey silt deposit (027, 044). This deposit contained a small number of bone fragments and two cattle teeth, as well as some oyster shell. There was also tentative evidence for a re-cutting of the ditch, though this was not conclusive. The final deposit may have occurred through ploughing resulting in a levelling of the land and the eradication of the feature in the landscape.

4.8 The cropmarks seen in the aerial photographic interpretation show the south-western corner of the same enclosure, suggesting it was a considerable size, extending possibly a further 50m to the west.

4.9 Ditch 3 formed the southern and eastern boundaries of the second enclosure. From the limit of excavation it was orientated north to north-east for 15m, turning to the north-west for a length of 30m before terminating just before ditch 2. A gap of 2.5m forms an entranceway to the enclosure from the south-east. This ditch was less substantial than ditch 2 with an average width of 1.9m and depth of 0.9m (Fig. 6 – S.13). The single fill of this feature was mid orangey brown sandy silt (033, 035) with 40% angular limestone inclusions. This deposit may be a deliberate backfill similar to that encountered in ditch 2.

The high percentage of stone in this backfill suggests it may have come from a bank adjacent to the ditch, which in turn would have been derived from the cutting of the ditch, upturning the natural limestone. No actual evidence was found otherwise for the presence of a bank.

4.10 The only artefacts recovered from ditch 3 were from the floated environmental sample of the backfill of the butt end (033), sample <13>. A small fragment of ceramic building material (<1g), a vole tooth and tiny fragment of burnt bone (<1g), an iron nail (22mm long and 3mm in width) along with three ferri-magnetic pieces (2-3mm in size) were retrieved from the retent.

4.11 The only other features found related to the enclosure ditches were twenty eight post-holes clustered around the butt end of ditch 3 that formed the entrance way. The profiles of the post-holes varied between a rounded point and a blunt point all having tapering sides and ranging in depth from 0.15m to 0.45m, with an average diameter of 0.2m (Fig. 7). The change in profile is partially due to the changing geology of limestone from soft to hard stone. All had a single mid reddish brown, sandy silt fill (047 - 104).

4.12 Of the twenty-eight recorded post-holes none cut, or are cut by, other features and so are stratigraphically isolated (Fig. 4). However, the location of the cluster suggests they are connected to the entranceway of the enclosure, possibly housing a movable barrier or gate.

5. Environmental Record by Jane Richardson

Animal bone

5.1 Twenty-six large mammal long bone fragments and two cattle teeth were recovered from a fill (27) of ditch 2. In addition, four undiagnostic fragments of animal bone were retrieved from ditch 2 and a vole tooth and burnt bone fragment were recovered during the processing of an environmental sample from ditch 3. Unfortunately, the bones were in very poor condition and while they are likely to represent the debris from food consumption, this cannot be confirmed.

Shell

5.2 Eight fragments of poorly preserved oyster shell from a fill (27) of ditch 2 probably represent food waste.

Land snails

5.3 'Garden snails' (*Helix aspersa*) were recovered from the fills (44 and 33) of ditch 2 and 3. These are commonly associated with sites of human habitation.

Environmental samples

5.4 A sample of between 0.5 and 10 litres of soil was processed from seven ditch fills. The samples were subjected to a system of flotation in an Ankara-style flotation tank. The floating remains (the flot) were collected in a 300μm sieve and the heavy fraction (the retent) was collected in a 1mm mesh. The flots, once dry, were scanned using a binocular microscope and the results are presented below (Table 01). The retents were scanned by eye and a number of ecofacts were noted.

5.5 No charred cereals or chaff were identified from the flots and consequently evidence of crop processing was not indicated.

5.6 The retents contained rare fragments of charcoal and fragments of land snails (cf. *Helix aspersa)* were recovered from ditch fills 5, 33 and 43.

Table 1. Flot samples

Context number	Sample number	Flot volume	Charcoal		Uncharred plant	Magnetic material	Additional data
			qty.	large frags.			
5	15	1ml	+		++	++	Snails ++++ (many burrowing species)
23	1	<1ml	+		++		
24	2	1ml	+		++		Snails +
33	13	25ml	+		++++		Snails ++++
41	12	5ml			++++		Many modern elderflower seeds
43	11	5ml	+		+++		Snails ++
51	5	25ml			++++		Modern roots

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

- = sufficient charred material for identification to species

6. Conclusions

6.1 The excavation has confirmed the results of the geophysical survey locating part of two ditched enclosures in the north-west corner of the site, and a segmented linear ditch to the south. The lack of artefacts in these features suggest they are probably located a considerable distance from any settlement activity. This alongside the lack of internal features to the enclosure is suggestive that they may have functioned as livestock enclosures. The postholes next to the entranceway provide evidence for a probable temporary fence/gate acting as a movable barrier to allow movement in and out of the enclosure. Any domestic settlement would appear from the aerial photograph interpretations to be further to the east of the area of investigation.

6.2 The aerial photographs of the area did not show the features found in the field proposed for extraction but the field directly to the west of the site evidenced the western half of the enclosure that would have adjoined ditch 2, now quarried away. A possible double ditch trackway observed from aerial photograph interpretation was not evident in the field in either the geophysics results or in the watching brief phase of works.

6.3 No dating evidence was recovered during the investigations and so a date can only be inferred from the type of field enclosures present, which appear to be fairly typical of the late Prehistoric/Romano-British period. The segmented linear ditch to the south followed a slightly different alignment and has an uncertain orign.

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Maps consulted

British Geological Survey, 1969. Sheffield. England and Wales Sheet 88. Solid Edition. 1 inch Series

Map of area (1:10000) showing Aerial Photographic Interpretation, provided by NYCC Heritage Unit

OS 1853 1st edition 25 inch to 1 mile (WYAS partial copy)

Acknowledgements

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Alistair Webb

Report

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James Gidman

Marina Rose

Jason Smith

Joseph Warham

Survey

Alastair Hancock

Louise Martin

Marina Rose

Paula Whittaker

Specialists

Jane Richardson

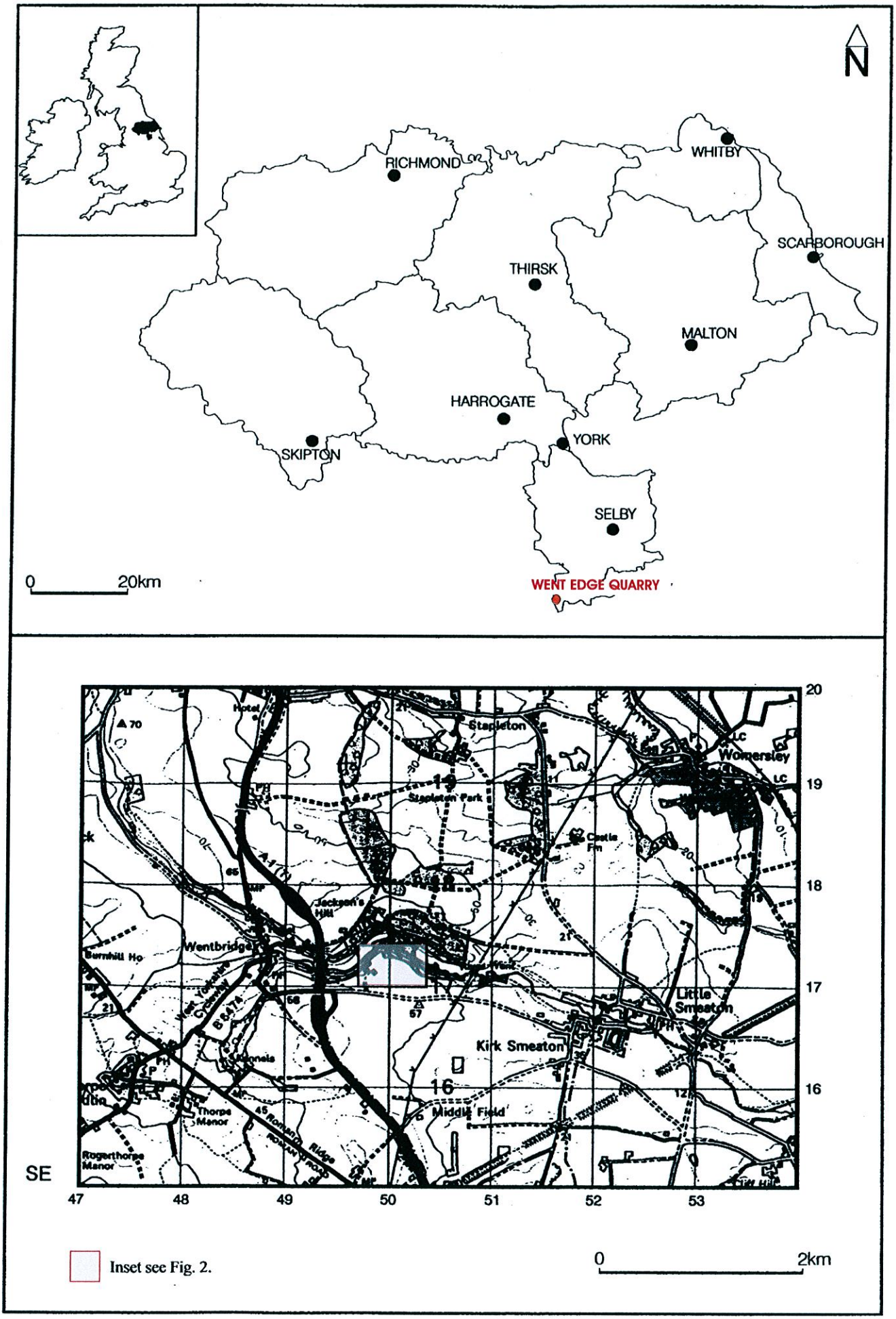


Fig. 1. Site location

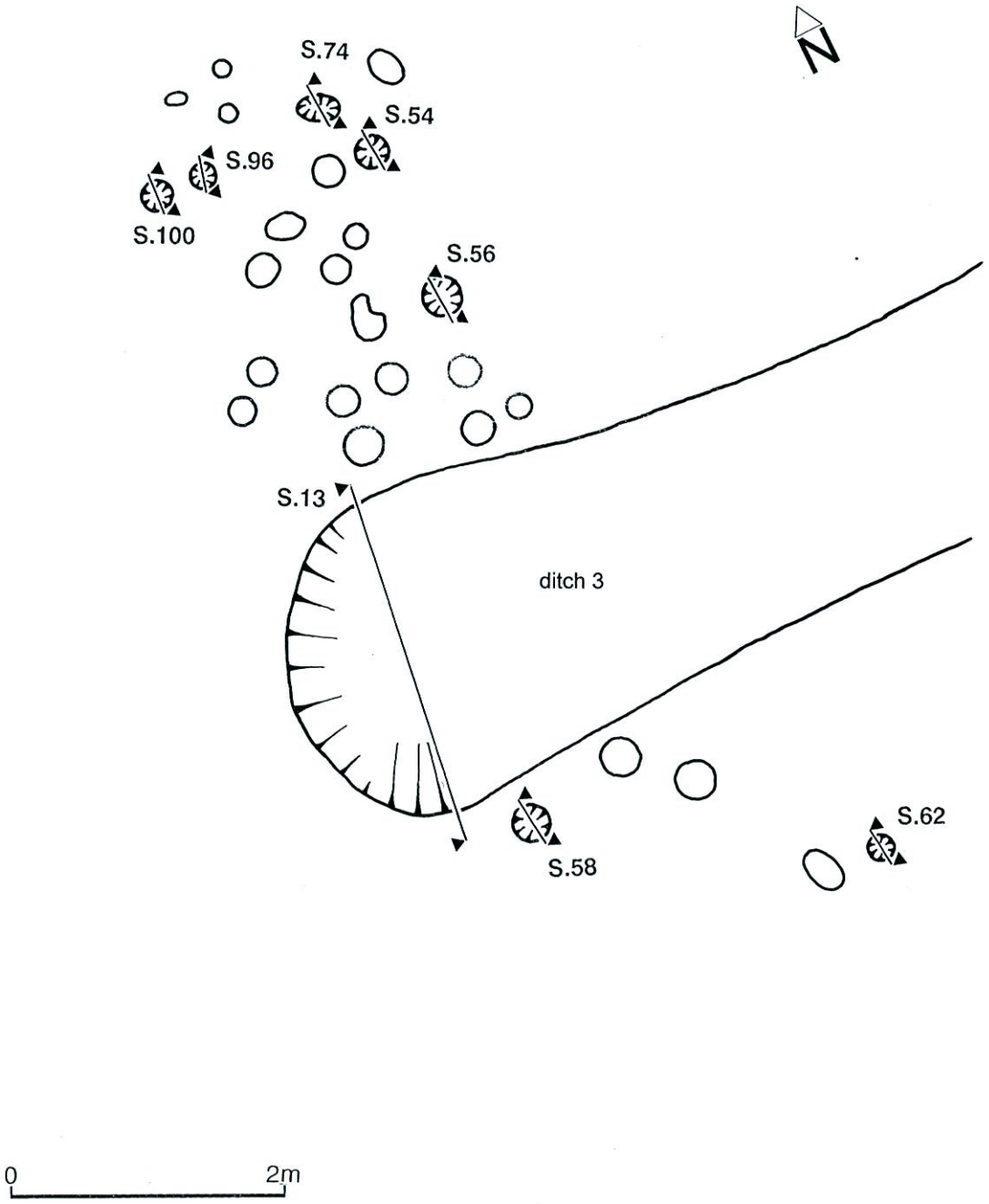
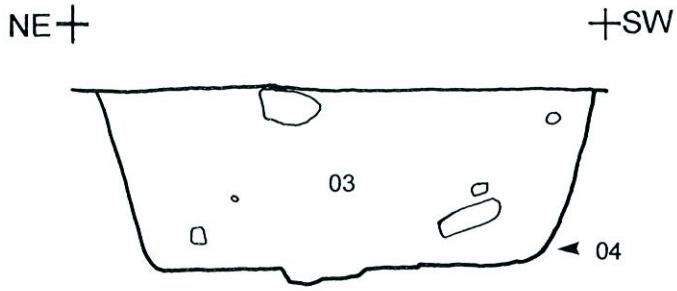
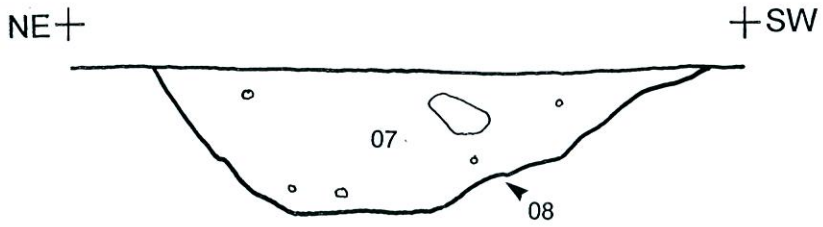


Fig. 4. Ditch 3 showing post-holes

S.1



S.3



S.5

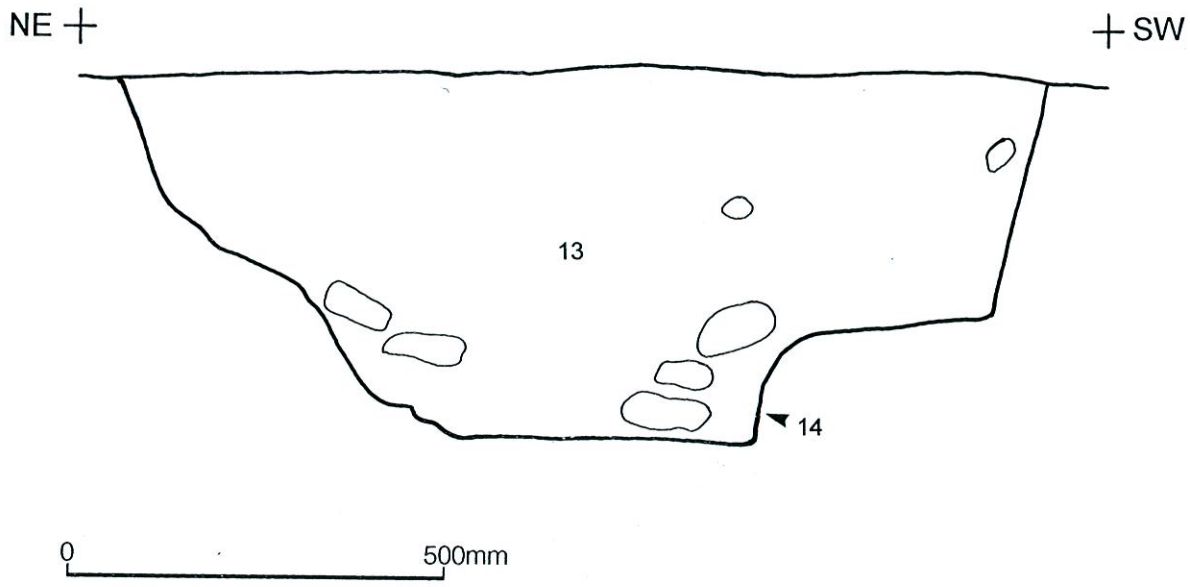


Fig.5. Sections through ditch 1.

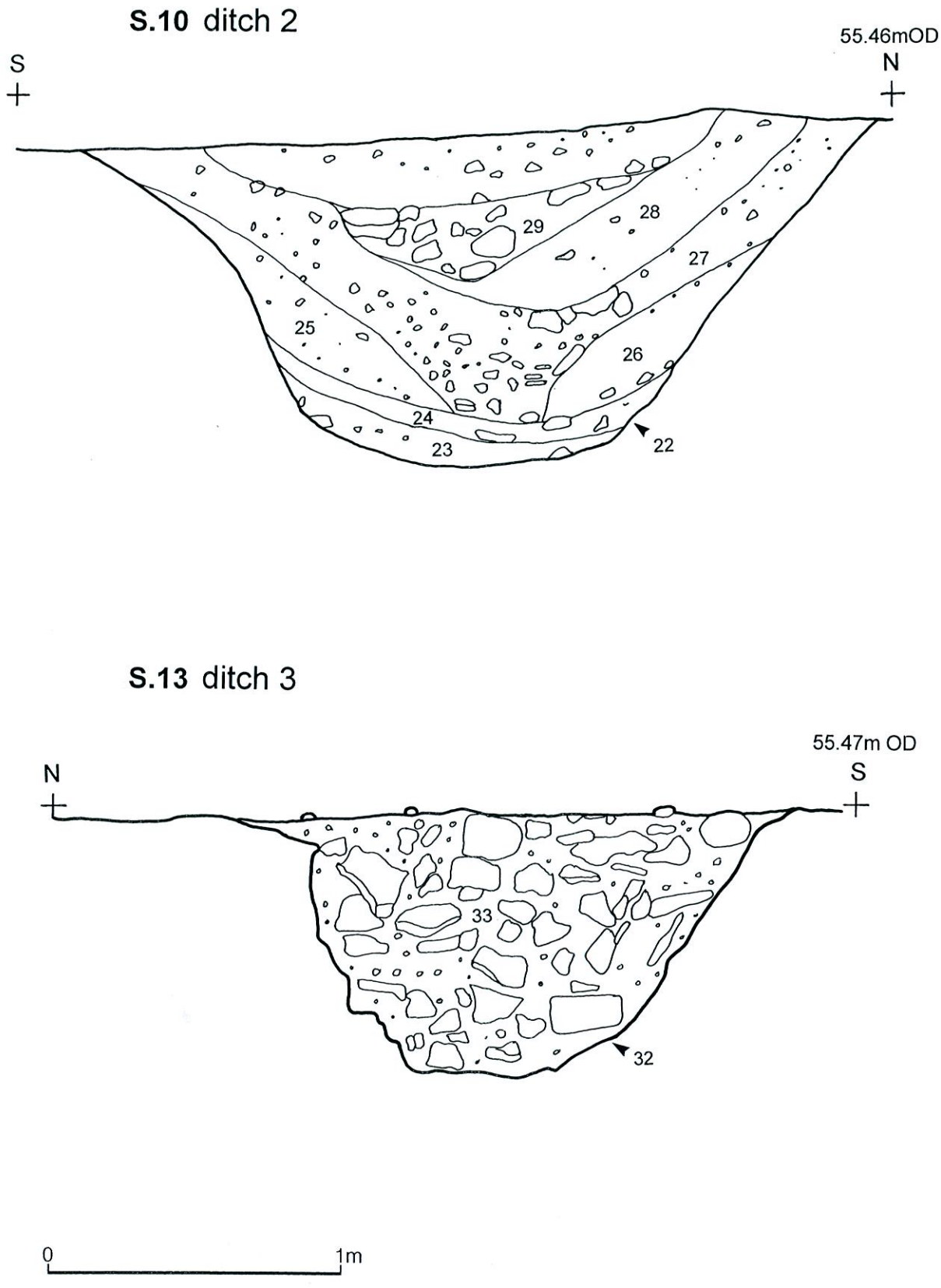


Fig. 6. Sections through ditches 2 and 3.

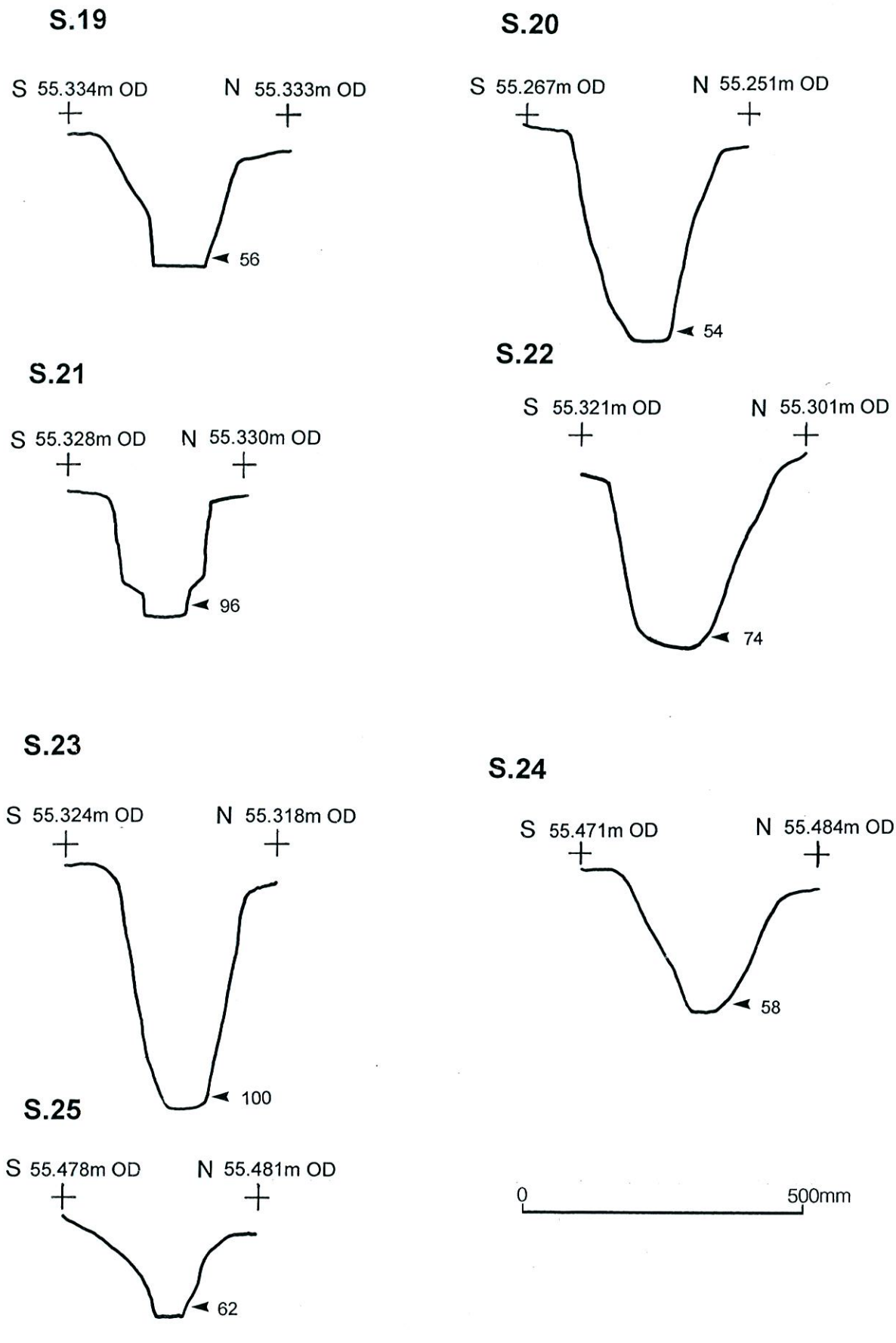


Fig. 7. Sections of post-holes.

Appendix I

Inventory of primary archive

File no.	Description	Quantity
1	Context register	6
1	Context cards	78
1	Site risk assessment	1
1	Environmental sample register	1
1	Drawing register	2
1	Levelling sheet	2
1	Drawings	12
1	Photographic record sheets	4
1	Contact sheet	2
1	Film sheets	4

Appendix II

Inventory of contexts

Context	Description
1	Topsoil
2	Subsoil
3	Fill of ditch
4	Cut of ditch
5	Fill of ditch
6	Cut of ditch terminus
7	Fill of ditch
8	Cut of ditch terminus
9	Fill of ditch
10	Cut of ditch
11	Fill of ditch
12	Cut of ditch
13	Fill of ditch
14	Cut of ditch
22	Cut of ditch
23	Primary fill of ditch [22]
24	Secondary fill of ditch [22]
25	Slumping into ditch [22]
26	Slumping into ditch [22]
27	Rubble infill of ditch [22]
28	Less stoney band filling ditch [22]
29	Fill of ditch [22]
32	Cut of ditch butt-end
33	Fill of ditch butt-end
34	Cut of ditch
35	Fill of ditch
36	Cut of ditch
37	Fill of ditch [36]

38	Fill of ditch [36]
39	Fill of ditch [36]
40	Fill of ditch [36]
41	Fill of ditch [36]
42	Fill of ditch [36]
43	Fill of ditch [36]
44	Rubble fill of ditch [36]
45	Stoney fill of ditch [36]
46	Stoney fill of ditch [36]
47	Fill of post hole [48]
48	Cut of posthole
49	Fill of [50]
50	Cut of post hole
51	Fill of [52]
52	Cut of posthole
53	Fill of [54]
54	Cut of posthole
55	Fill of [56]
56	Cut of posthole
57	Fill of [58]
58	Cut of posthole
59	Fill of [60]
60	Cut of posthole
61	Fill of [62]
62	Cut of posthole
63	Fill of [64]
64	Cut of post hole
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99	Fill of [100]
100	Cut of post hole
101	Fill of [102]
102	Cut of post hole
103	Fill of [104]
104	Cut of post hole

Appendix III

Inventory of artefacts

Fabric	Context	SF no.	Quantity	Details
Fe	U/S		2	Fe objects modern recovered from topsoil
Fe	33		1	Small Fe nail from retent of sample 13 from 2mm sieve
Ferri-magnetic	5		24	Recovered from retent of sample 15 from 2mm sieve
CBM	33		1	Recovered from retent of sample 13 from 2mm sieve
Animal Bone	29		28	Large mammal bone fragments, 2 cattle teeth
Animal Bone	33		2	Vole tooth, burnt bone fragment, from retent of sample 13 from 2mm sieve
Animal Bone	43		1	Undiagnostic fragments
Animal Bone	44		3	
Total			62	

Appendix IV

Inventory of samples

Sample	Context	Type	Description
1	23	GBA	
2	24	GBA	
3	47	GBA	
4	49	GBA	
5	51	GBA	
6	53	GBA	
7	55	GBA	
8	57	GBA	
9	59	GBA	
10	61	GBA	
11	43	GBA	
12	41	Spot	
13	33	GBA	
14	35	GBA	
15	5	GBA	

Appendix V

Specification for archaeological evaluation