



SPROATLEY TO ALDBROUGH HIGH PRESSURE GAS PIPELINE

Archaeological Watching Brief

NETWORK ARCHAEOLOGY LTD

for

MURPHY PIPELINES LTD

on behalf of

NATIONAL GRID TRANSCO

rev 1.0: July 2007



**SPROATLEY TO ALDBROUGH
HIGH PRESSURE GAS PIPELINE**

Archaeological Watching Brief

NETWORK ARCHAEOLOGY LTD

for

MURPHY PIPELINES LTD

on behalf of

NATIONAL GRID TRANSCO

Project Code: SPA 66

Accession Number: ERYMS 2005/36

NGR: 519750 432670 to 526700 436800

Report no. 359

October 2006 (edited July 2007)

nationalgrid

MURPHY

network
archaeology

DOCUMENT CONTROL SHEET

Project title	Sproatley to Aldbrough High Pressure Gas Pipeline							
Document title	Watching Brief, Sproatley to Aldbrough High Pressure Gas Pipeline							
Report no.	359							
Document ref.	SPA wb							
Client 1	Murphy Pipelines							
Client 2	National Grid Transco, now part of National Grid							
Distribution	Maurice Corridan, Project Manager, Murphy Pipelines Ltd Dave Evans, Principle Archaeologist, Humber Archaeology Partnership							
Document Comprises	Doc. Control sheet	Table of contents	List of tables	List of figures	List of plates	List of appends	Text	Appends
	1	2	1	1	0	1	19	10

Version	Status	Author(s)	Reviewer	Approver	Date
0.1	Internal draft	Peter Sprenger	David Bonner		
0.2	Internal draft	Peter Sprenger	Sarah Ralph		
0.3	Internal draft	Peter Sprenger		David Bonner	20 Oct 06
1.0	Issue	Richard Moore			8 July 07
1.1	Re-issue following NG review	Richard Moore			20 th July 07
2.0	Revised after curator comment	Richard Moore			28 Aug 07



Network Archaeology
Northern Office
28 West Parade
Lincoln. LN1 1JT
Tel: 01522 532621
Email: enquiries@netarch.co.uk

Network Archaeology
Southern Office
22, High Street
Buckingham MK18 1NU
Tel: 01280 816174
Email: enquiries@netarch.co.uk

Network Archaeology delivers a complete consultancy and field service nationwide. The company's particular expertise is linear infrastructure, such as pipelines, roads, rail and cables. Their emphasis is upon good communication and recognition of client's individual needs and priorities. Network is known for delivering professional support, taking care of the archaeology and enabling projects to keep moving forward.

© Network Archaeology Ltd, October 2006
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means - electronic, mechanical, photocopying, recording or otherwise - unless the permission of the publisher has been given beforehand

CONTENTS

Document Control Sheet	i
List of Appendices	iii
List of Figures	iii
List of Plates	iii
Non-Technical Summary	1
1 Introduction	2
1.1 The pipeline	2
1.2 The landscape	2
1.3 Project history.....	2
2 The watching brief	3
2.1 Pipeline construction	3
2.2 Procedures	3
2.3 Recording	4
2.4 Assessment	4
3 Results	5
3.1 Introduction	5
3.2 Plot 4: Possible Roman or late Iron Age settlement site, Lelley.	5
3.3 Plot 17: Area of inter-cutting Iron Age pits NGR 525190 436390	8
3.4 Plot 3: Possible Iron Age gully, NGR: 520500 432960	10
3.5 Plot 13: Iron Age ditches.....	11
3.6 Plot 21: Flint scatters NGRs: 525745 436910; 525595 436810.....	11
3.7 Plot 1: Brick Dump, NGR: 520140 432800	11
3.8 Other recorded features	11
3.9 Surface finds.....	12
4 Discussion	13
5 Recommendations	14
6 Archive	15
7 Acknowledgements	16
8 References	16
9 Statement of Indemnity	18

LIST OF APPENDICES

Appendix A:	Context summary	A1 - A5
Appendix B:	An Assessment of the Flint Assemblage	B1 - B6
Appendix C:	An assessment of the pottery and other ceramic	C1 - C11
Appendix D:	Assessment of the Ceramic Building Material	D1 - D2
Appendix E:	The Animal Remains	E1 - E2
Appendix F:	The Whale bone	F1 - F3
Appendix G:	The Slag	G1
Appendix H:	Other finds: assessment	H1 - H3
Appendix I:	Plant macrofossils and other remains	I1 - I3
Appendix J:	Surface finds	J1 - J3

LIST OF FIGURES

1. Location of the pipeline, showing the plot numbers used in this report.
2. Location of the areas of archaeological remains recorded in plots 3 and 4.
3. Features seen in the pipe trench in plot 4.
4. Plan and sections of ring gully 4573.
5. Sections of plot 4 features.
6. Location of the excavation area in plot 17.
7. Post-excavation plan of features in plot 17.
8. Quadrant sections through group of inter-cutting pits in plot 17.
9. Plan and sections of small gully 3500 in plot 3.
10. Sketch section of the features seen in the pipe-trench in plot 13.
11. Distribution of worked flint on subsoil surface in plot 21.
12. Possible medieval mullion bricks from plot 1.
13. Sections through undated features in plot 8.

LIST OF PLATES

1. Gully 4510, showing pottery vessel in base of feature.
2. Ditches 4518 and 4520, south-east facing section.
3. Ring gully 4573.

4. Whale jawbone fragment during excavation.
5. Whale jawbone.
6. Overall view of plot 17 excavation.
7. Machine trench in plot 17, showing ditch 17500.
8. South facing section through ditch 1750 seen in pipe-trench.
9. Gully 3500.
10. Brick mullions from plot 1.

NON-TECHNICAL SUMMARY

In July and August 2005, Network Archaeology Ltd carried out a watching brief on the construction of a gas pipeline between Sproatley (NGR:519780 432670) and Aldbrough (525905 436990). Removal of the topsoil from the working width and excavation of the pipe-trench were monitored. The pipeline crosses the low-lying coastal terrain of the Holderness region and is wholly within the East Riding of Yorkshire.

A previously unsuspected site, possibly a Romano-British settlement, was found near the village of Lelley. This site was masked by a subsoil layer and was only found during excavation of the pipe-trench, when archaeological features could be seen along a 300m stretch of the pipeline route. These features included a small ring gully which contained pottery probably dating to the second century AD. Pottery of Late Iron Age or Roman date was also recovered from three other features. A large worked piece of whale jawbone found in the same area is believed to originate from the Hull whaling industry of the seventeenth to nineteenth centuries.

A small site excavated near Bail Wood, west of the B1242 Aldbrough Road, consisted of a group of pits which produced pottery probably dating from the end of the Iron Age. Similarly dated pottery was also found in a small isolated gully 500m to the south of the Romano-British site at Lelley.

Other recorded remains include a scatter of worked flint found near the eastern end of the pipeline, a surface dump of medieval or early post-medieval brick rubble, and a number of undated ditches.

The pipe-trench also intercepted a number of ditches and other features on the periphery of a significant Iron Age site excavated during the laying of electricity cables from Salt End to Aldbrough, which was in progress at the same time as the pipeline was being constructed.

Overall, the results suggest that the area may have a higher concentration of archaeological remains than was previously thought. In particular, it highlighted the difficulty in locating features in the prevalent alluvial and glacial soils and the limitations of prospecting techniques such as fieldwalking and geophysical surveys in this part of the country.

Summary of recommendations

A small number of recommendations for further work have been made:

- Further analysis of the worked fragment of whale bone, this to include: comparison with the reference collection of the Natural History Museum; comparison with recorded examples of whale jaw-bone arches; and radiocarbon dating;
- Publication of an article in an appropriate journal, summarising the findings of this further analysis;
- The significant findings from the evaluations and the watching brief, to be published alongside the results of the archaeological investigations on the Salt End to Aldbrough cabling scheme, the details to be decided when the assessment stage of that project is completed in January 2008.

1 INTRODUCTION

This report presents the results of an archaeological watching brief carried out during the construction of a 7.8km-long gas pipeline between Sproatley and Aldbrough in the East Riding of Yorkshire (Fig. 1). The watching brief was commissioned by Murphy Pipelines Ltd (MPL). The archaeological contractor was Network Archaeology Ltd.

1.1 The pipeline

The 36 inch (900 mm) diameter pipeline was constructed in the summer of 2005 to connect a newly built underground gas storage facility at Aldbrough to an existing pipeline at Sproatley, part of the national high-pressure gas transmission system.

The western end of the pipeline is 450m east of the B1240 Sproatley Road and 1km west of the Stag's Head Inn at Lelley (NGR: 519750 432670). It is on the south bank of Nuttles Drain, which here forms the boundary between the parishes of Burstwick and Sproatley to the north. Passing to the north of Nuttles Hall Farm, the route passes into Elstonwick parish before crossing Lelley Balk, a trackway leading to Sproatley Grange. It then runs in a north-easterly direction roughly parallel to Humbleton Road, which becomes Lelley Road where it crosses the parish boundary into Humbleton. Beyond Long Lane the route swings to a more easterly direction before crossing Aldbrough Lane.

In the next long section to the B1242 Aldbrough Road, there are two more of the deep, steeply banked watercourses so typical of the Holderness landscape: Humbleton Beck and Bail Drain. On crossing Bail Drain, the route enters the parish of East Garton. It skirts the southern edge of Bail Wood, before crossing the main road near Bail Bridge, immediately re-crossing the Bail Drain into Aldbrough parish. On the far side of the field to the east of the road, the last short section of the pipe was bored beneath the Cess Dale Drain into the gas storage facility (NGR: 526700 436800).

1.2 The landscape

The landscape is gently undulating but low-lying, only rising to 15m above Ordnance Datum (AOD) in a few parts of the pipeline route, notably to the north of Lelley village, on either side of Humbleton Beck and close to Bail Wood. Of the 21 fields crossed by the pipeline route, only one was used for pasture, one was arable set-aside and all of the others had standing crops of cereal or oil-seed rape at the time the watching brief was carried out.

The underlying solid geology is chalk. The main drift geology is glacial till, a blue-grey clay containing occasional lenticular masses of chalk, limestone, sandstone, sand and loam. There are patches of glacial-fluvial sands and gravels near Bail Wood and Sproatley Grange, and alluvium alongside some of the drains and in shallow surface depressions. The soils are classed by the Soil Survey as belonging to the Holderness (711u) and Burlingham 2 (572o) associations: slowly permeable, seasonally waterlogged fine loamy soil, and deep fine loamy soil with slowly permeable subsoils respectively (SSEW, 1983).

1.3 Project history

The gas storage facility at Aldbrough was built prior to construction of the pipeline. Geophysical survey, trial trenching and open area excavation carried out by Humber Archaeology Partnership at this site identified Iron Age and Romano-British settlement and also a low level of Neolithic/Early Bronze Age activity (*pers. comm.* Humber Archaeology Partnership).

The provisions of the Gas Act 1986 (amended 1995), and the Public Gas Transporter Pipeline Works (Environmental Impact Assessment) Regulations, 1999 (S.I. 1999/1672) applied to the construction of the pipeline. These included a requirement for an environmental impact assessment and an environmental statement. The environmental statement included the results of an archaeological desk-based assessment (Wardell Armstrong, 2005).

Archaeological field reconnaissance, fieldwalking and geophysical survey carried out in the autumn of 2004 identified two areas of extensive geophysical survey anomalies, which were thought might have resulted from settlement activity. One of these covered the field at the eastern end of the route, close to the site excavated at the gas storage facility. The other stretched either side of Humbleton Beck. Twenty other areas were identified as having minor archaeological potential; these included magnetic anomalies indicating possible pits, ditches or former field boundaries; earthworks of former field boundaries and a mound; low density artefact scatters possibly resulting from manuring of arable fields and isolated finds of Iron Age and Saxon pottery (NAL, 2005).

Trench evaluation was carried at two sites identified as possible areas of settlement. This showed that the geophysical anomalies were caused by variations in the geological deposits rather than archaeological features. An infilled drainage gully in the evaluation area near to Aldbrough storage facility contained heat-cracked stones, thought to perhaps derive from a prehistoric burnt mound somewhere in the vicinity. The other evaluation area produced five sherds of prehistoric pottery, including one possible Bronze Age sherd and two rim sherds from Iron Age vessels (NAL, 2007).

2 THE WATCHING BRIEF

The purpose of the watching brief was to gather sufficient information to establish the presence or absence of significant archaeological remains, and to assess the extent, condition, character, quality and date of any such archaeological, environmental and organic remains.

This watching brief was conducted according to the Institute of Field Archaeologists *Code of Conduct* (2000) and *Standard and Guidance for an Archaeological Watching Brief* (2001).

2.1 Pipeline construction

The pipeline was built within a 44m working width, except at field boundaries and other constrained areas where the width was reduced, and on each side of road crossings, and at the two ends of the pipeline, where wider areas provided access and parking space, and working areas for auger boring. Construction proceeded as a sequence of operations moving along the pipeline from the Sproatley to Aldbrough ends: surveying the route; fencing the working width; establishing a right of way by removing hedges and fluming or bridging watercourses; installing pre-construction drainage; topsoil stripping; stringing out the pipes; welding, coating and inspecting the welds; excavating the pipe-trench; lowering the pipe into the trench; and backfilling and reinstatement of the working width. Each activity moved forward at the rate of up to 1km per day. The pipe was auger-bored under the three roads crossed by the route.

2.2 Procedures

Of these construction stages, the topsoil stripping and the excavation of the pipe-trench offer the best opportunities for archaeological prospection, and a monitoring archaeologist was present on at all times while these operations were taking place. All archaeological features visible in the stripped surface, except for those clearly of modern or post-medieval agricultural origin, were planned, hand-excavated and recorded. The presence of the modern or post-medieval features which were not fully recorded was noted on the plot record sheets

(see Sec 2.3 below). There was a contingency for full-scale area excavation if significant remains discovered during the topsoil strip were of sufficient extent and complexity to warrant this. The spoil from all excavated features, and the topsoil stacks were scanned with a metal detector.

During pipe-trench excavation, the sides of the trench were inspected for presence of archaeological features. At this stage, excavation of features is rarely possible. The exposed sections were cleaned and drawn where access to the partly back-filled pipe-trench was permitted, but in some cases recording was limited to photographs and sketches because of health and safety considerations.

Concentrations of archaeological features recorded in the exposed subsoil surface were located using differential GPS equipment, by MPL surveyors. Features recorded in the side of the excavated pipe-trench were located by measurement from the nearest pipe welds; co-ordinates of the welds were later supplied by MPL. Features have therefore been located to a positional accuracy of $\pm 0.1\text{m}$ or better. The positions of isolated finds were recorded using an eTrex handheld GPS, which gives an accuracy of $\pm 15\text{m}$ or better.

All work was undertaken in accordance with the updated Written Scheme of Investigation (NAL, June 2005).

2.3 Recording

The project code for the watching brief is SPA 66 and the museum accession number for the project is ERYMS 2005/36.

There were 21 fields crossed by the pipeline. These were numbered, starting from the Sproatley end. Construction plot record sheets were completed for each of these fields, giving details of location, landuse, nature and depth of topsoil and subsoil, and any relevant archaeological observations. The plot number prefixed all allocated context numbers, which otherwise had three digits, thus, for instance, context 4012 came from plot 4, the fourth field from the western end of the pipe route, and 17012 came from plot 17.

2.4 Assessment

The recovered finds were processed and assessed by the following specialists:

- Flint: Tania Wilson;
- Pottery: Peter Didsbury;
- Ceramic building material: Alan Vince and Kate Steane;
- Slag: Jane Cowgill;
- Metal finds: Alan Vince and Kate Steane;
- Animal bone: Jen Kitch;
- Whale bone: Ian Riddler;
- Environmental archaeology: Patricia Shaw;
- Other finds: Wendy Booth.

3 RESULTS

3.1 Introduction

An area of Roman, and possibly late Iron Age, features was found near the village of Lelley towards the western end of the route. This is thought to be part of a settlement, and, if so, could be considered to be of regional importance. A single feature 500m to the south-west of this site produced a large sherd of Iron Age pottery. Another Iron Age site, to the south of Bail Wood, consisted of a group of large inter-cutting features. On its own, this group of features is of no more than local significance, but it could signal the presence of more extensive remains beyond the limit of the pipeline working width.

In addition to these sites, outlying features associated with a larger Iron Age site, found during the watching brief on the route of the adjacent Salt End to Aldbrough cabling project, were also seen in the pipe trench. This area was masked by layers of alluvium, and the features were not visible on the surface after topsoil stripping.

Six further areas, probably of no more than local archaeological significance, were also recorded: a loose scatter of seventeen pieces of worked flint; four sites with undated agricultural drainage ditches or gullies, and a dump of late medieval or early post-medieval building rubble.

3.2 Plot 4: Possible Roman or late Iron Age settlement site, Lelley.

Plot 4 is a large field, bounded on the south-east by Humbleton Road and is in Elstonwick parish (Fig. 2). The site, (NGR: 520800 433375 to 520975 433620) was in the centre of the field, where it slopes gently down to the south-west, towards Sproatley Drain.

No archaeological features were recorded when the topsoil was removed. When the pipe-trench was excavated, it was clear that there was a thick alluvial subsoil layer across the lower parts of the field. Twenty-nine archaeological features, masked by this subsoil layer, were recorded in the sides of the trench along a 300m long stretch of the pipeline (Fig. 3). With one exception (see ring gully 4573 below), none of the features were exposed in plan, so their form and orientation have been inferred from their appearance in section. Features visible in only one side of the trench have been interpreted as pits, while those visible in both sides have been interpreted as ditches, the offset between their locations in the two sides of the trench showing their orientation. In addition to this uncertainty of their form in plan, most of the features provided no dating evidence, so that it is not possible to say whether they related to the Iron Age or Roman phase of activity, or were the result of later agricultural activity.

Ring gully 4573

In section, ring gully 4573 could be seen to be up to 45cm wide and 25cm deep, with a broad U-shaped profile. It was initially recorded in the two sections showing in the side of the pipe-trench (4539 and 4541), but when its significance was realised, small areas on either of trench were cleared and the masking subsoil removed to expose the remainder of the feature (Fig. 4). It could then be seen to be annular, with an internal diameter of 3.4m. Further sections (4559 and 4561) were then excavated on each side of the pipe-trench (Plate 3). In each section, a single mid-greyish brown silty fill, with few inclusions, was noted.

Ring gully segment 4561 produced a single degraded sherd of late Iron Age to Early Roman pottery and three sherds, all from the same vessel, of wheel-thrown Roman greyware, the fabric suggesting a date before the mid third century AD. This fill also contained two pieces of struck flint: a blade-like flake and a lump with one flake removed.

Undated features to the north of the ring gully

The north-eastern side of the gully was cut by a broad, shallow linear feature (4543), interpreted as a furrow. The next 20m of pipe-trench revealed several other features. These included a 50cm-deep U-shaped ditch (4545) with an orange-brown clay upper fill over a bluish silty clay lower fill, cutting a shallower linear feature apparently on the same roughly north-to-south alignment. This would have formed a roughly right-angled intersection with another slightly deeper linear feature (4549) with an asymmetric profile (Fig. 5f). Feature 4551 was probably another furrow, parallel to furrow 4543, cut by a modern land-drain, while pits 4553 and 4555 were both very shallow but clearly visible because of their dark grey silty fills. Pit 4557, an isolated feature 40m further north, had a less distinctive mid-grey brown fill.

Gully 4510

The most noteworthy feature in the south part of the site, gully 4510 had a steep-sided V-shaped profile and a single orange-brown mottled silty clay fill (Fig. 5a). Near the base of the feature, two large joining sherds of Roman greyware, comprising the base and lower body of a wheel-thrown jar, were retrieved from the section exposed by the pipe-trench (Plate 1). The fabric most closely resembles South Yorkshire products, probably from the Cantley kilns, while the treatment of the base, and the style of decoration, both suggest a second-century date.

Undated features at the south end of the site

Ditch 4508, a larger and deeper feature with a distinct orange-brown clay upper fill, was just over 1m south of gully 4510 and probably on a parallel alignment (Fig. 5a). Further south, pit 4506 and ditch 4504 were rather ill-defined features with broad, shallow profiles. Ditch 4504 was cut by ditch 4502, which had a steep-sided profile similar to that of gully 4510. This was cut in turn by a modern land-drain. The south end of the site was marked by ditch 4500 with a U-shaped profile and silty clay fills, orange-brown at the top and bluish-grey below.

Pit 4516 and features to the north of gully 4510

A group of features recorded just over 30m to the north of gully 4510 included a shallow pit 4516 which yielded a small fragment of pottery in a sandy to gritty reduced ware (Fig. 5b). This was not closely datable and could be either Iron Age or early Roman. The pit was cut by a steep-sided ditch with a U-shaped profile (4518) apparently re-cut to the north as ditch 4520 (Plate 2). Ditch 4523, which would have intersected these features to the west of the pipe-trench, was shallower and less well defined. To the south of pit 4516, a modern drain, shown on the 1999 OS Explorer sheet 292, was recorded as ditch 4514. Ditch 4512, a further 4m to the south, was probably parallel to it.

Undated features in the centre of the site

Five features were recorded within a 13m length of the pipe-trench, 40m to the north of ditch 4533. Ditches 4527 and 4529 were both rather irregular and ill-defined and the relationship between them was unclear as they both had similar mid orange-brown clean silty fills (Fig. 5d). Pit 4531 was also poorly defined, its edges only clear towards the base where its orange mottled silty fill contrasted with the underlying natural clay. To the south, pit 4525 was clearer, and had steep sides and a flat base (Fig. 5d). Aligned obliquely to the pipe-trench, ditch 4533 had a slightly asymmetric profile, and had a paler greyish silt fill beneath a thin brownish upper fill.

Ditches 4535 and 4537

Ditch 4535 was on a roughly perpendicular alignment to ditch 4533, 25m further to the north and, although shallower, had a similar slightly asymmetric profile suggesting that the two features might have been part of the same field system. Its single fill was distinctive, being very dark grey, almost black. There were few visible inclusions but the colour suggests that it

contained comminuted charcoal. This fill contained sherds of both hand-made and wheel-thrown pottery. The hand-made material is probably Late Iron Age or early Romano-British, but is not more closely datable. The wheel-thrown material, body sherds from two different wheel-thrown greyware vessels, probably pre-date the mid-third century AD.

Feature 4537 was visible in both sides of the pipe-trench, but its slightly odd, steep-sided profile suggests that it may have been an elongated pit rather than a ditch (Fig. 5e).

Feature 4572 and whale jaw fragment

Seen embedded in the side of the excavated pipe-trench, a large piece of bone from the jaw of a whale appeared to have been deliberately set in position as it was almost perfectly vertical (Plate 4). Careful cleaning of the sides of the trench around it failed to reveal any cut feature around it, although the overlying alluvial sand and gravel layers dipped quite noticeably to form a shallow dip, recorded as feature 4572 (Fig. 5c). The bone extended for 20cm into the clay beneath this layer. This suggests that it was either an inclusion in the fill of an unrecognised cryptic feature or was set or driven into the base of a hollow, which was subsequently inundated with alluvium.

The bone fragment was 63cm long, 45cm wide and 27cm thick and weighed 29.7kg (Plate 5). As found, the distal end appeared to be at the bottom, although this is not completely certain from the site records. Both ends of the fragment were eroded, the upper end probably having suffered plough damage, so that it was not possible to tell how it was detached from the rest of the bone.

The size of the fragment suggests that it came from a large whale, quite possibly a bowhead or a northern right whale. Large northern whales of this type were not actively hunted before the 16th century and strand very rarely in English waters, suggesting that this is a fragment of post-medieval date (Appendix F).

Traces of working are visible on both sides of the bone. On one side a saw cut, c. 220 mm in length, runs parallel with the edge of the bone, cut approximately 15 mm into it, using a blade c. 0.7 mm in width. The cut splays out to a width of 2 mm at its upper end. The opposite side has been heavily worked and two strips of bone, 350 mm and 360 mm in length, have been removed with the aid of a large knife or (more likely) a small axe. They are 63 – 65 mm wide and one extends to a depth of 47 mm. The strips would both have included sizeable segments of the outer surface of the bone, which is more compact than the inner, trabecular core. The location of the strips is quite deliberate and well considered.

The flatter side of the bone also includes an inscription at one end, covering a space of 170 x 100 mm. The letters R and T can be read, the bone having fractured to the left of the R. The inscription could well be incomplete. The style of the lettering suggests a post-medieval date, possibly eighteenth to nineteenth century. If this can be confirmed, it suggests that the whalebone can be related to the Hull whaling fishery, which was particularly active at that time

Discussion

Most of the pottery finds were not closely datable, but would be consistent with a date from the late Iron Age to the second century AD. The material from the ring gully suggested a date towards the latter part of this range. The orientation of the linear features seems to imply at least two different phases of activity. Several of the features, notably ditches 4523, 4533, 4535, 4547 and 4549, were oblique to the pipe-trench and would have been elements of a roughly north-to-south and east-to-west aligned field system, whereas many of the other features crossed the pipeline more or less perpendicularly: these would have fitted more

closely into the present day alignment. However, of the two linear features with datable finds, ditch 4535 belongs with the first group, while gully 4510 aligns with the second.

The wide variety of feature profiles and dimensions provide little help in grouping linear features into larger field systems. The ditches perpendicular to the pipe-trench were generally around 1 to 1.5m wide with steep sides and concave bases 40 to 50cm deep, while the north-to-south ditches were slightly deeper and had more rounded profiles, but there were many exceptions in both groups. It is tempting to postulate that the features perpendicular to the pipe-trench are from a later phase and this tends to be supported by the few stratigraphic relationships observed.

The masking by alluvium would imply some antiquity to the features, but the dating of deposition is uncertain and it is likely that some of the perpendicular features were furrows from medieval or post-medieval ploughing. One recorded ditch (4514) was demonstrably modern.

Although very small, the ring gully probably represents the remains of a roundhouse, which would imply that this was a settlement site rather than simply a series of agricultural field systems. Rural Roman settlement sites are relatively rare in Holderness and this site would be of regional significance if it could be demonstrated that there was definite evidence of occupation. The spread of features would imply that it was a fairly large, if perhaps rather sparsely utilised site, which would extend for some distance beyond the pipe-line route. The alluvium layers would have provided some protection to underlying deposits and most of the site will still be largely preserved *in situ* even within the area covered by the pipeline working width, apart from the narrow strip removed by excavation of the pipe-trench.

The occurrence of the large piece of whale bone is intriguing. It seems most likely that this originated from the seventeenth- to nineteenth-century Hull whaling industry. This fragment is significant, therefore, as rare archaeological testimony of the industry. It is difficult to understand quite how a fragment of a large whale would end up on this site, however. It is possible that it is waste material from a site where whalebone was being worked, though this is unlikely given the distance from the coast. A second possibility is that the fragment formed part of a whalebone arch. These were fashionable at the time and are known from the Hull area, generally being located on the estates of affluent landowners (Redman 2004).

The signature on the mandible could be a symbol of its destination (intended for the RT workshop), an indication of ownership or a craftsman's mark. Some of the best parts of the whalebone segment have been removed with the aid of an axe, by a craftsman who was well aware of the characteristics of the raw material and deliberately chose to remove areas of compact bone, probably for subsequent working. It is not clear at this stage whether that working was carried out in England or in the Arctic. The fragment represents an early stage in the working process and this is a stage that has seldom been seen in the archaeological record for any period. Fragments of whalebone from English contexts of any period can usually be weighed in grams rather than kilograms and this is one of the largest pieces of whalebone to have been excavated in the country. This fragment is important testimony to an industry that has a tremendous written record, but very little archaeological testimony (Appendix F).

3.3 Plot 17: Area of inter-cutting Iron Age pits NGR 525190 436390

This site was recorded during stripping of topsoil from the working width, appearing as an irregular area of dark deposits distinct from the underlying natural clays. It was in the field immediately south of the western side of Bail Wood, 30m south of the boundary with the wood, and roughly equidistant from the western and eastern field boundaries (Fig. 6; NGR: 525190 436390). Plot 17 was an arable field under crop at the time of the watching brief, and

slopes down quite markedly to the north-west from a high point of 16m AOD at its eastern boundary. It is in the civil parish of East Garton.

Much of the area investigated was occupied by a large shallow feature with bluish grey silty clay fills, almost certainly deposited by silting in waterlogged conditions. To the east, a group of inter-cutting pits had siltier fills, some very dark and organic. Four hand-dug sections were excavated, together with a machined trench through the area of the clay filled features (Plate 6).

Hollow 17019 and ditch 17500

Hollow 17019 was initially seen in section in the north-west quadrant excavated through the pit cluster at the eastern side of the site (Fig. 7). It appeared as a shallowly dished hollow up to 40cm deep, with an irregular base. To the north, it was cut by a furrow (17024 = 17040), a component of the medieval or post-medieval ridge and furrow. An extension of the excavated trench showed that beyond this furrow, a feature (17038) similar in appearance to hollow 17019 continued northwards to the limit of the pipeline easement. Two deeper silt-filled dips in its base (fills 17033, 17034, 17036) were thought to be irregularities rather than distinct features. The feature was also visible, numbered 17032, in another section against the northern limit of excavation.

Because of the limitations of time, a machine was used to excavate a 40cm-deep trench in the top of this area. This indicated that hollows 17019 and 17038 were probably the same feature, which was numbered 17026 in the section exposed in the side of the machine trench. It was also recorded (17042) in a further hand-dug section to the west. Overall, this feature was around 15m wide where it ran into the northern limit of excavation tapering rapidly, to the south. At the level where machine excavation stopped, the fill of a ditch was visible running along its base (Plate 7). This ditch (17500) was later recorded in section in the side of the pipe-trench (Plate 8).

The relationship between ditch 17500 and hollow 17019 was not clear. It is quite likely that they were contemporary, the hollow area having formed by erosion of the bank of the ditch, but it is also possible that the ditch was a later feature, dug to drain the hollow area. No interruption in the two furrows crossing the area (17024 and 17028) was noted, implying that ditch 17500 pre-dated the ridge and furrow ploughing regime..

Although feature 17019 had the appearance of a natural hollow, with a very clean homogeneous mottled bluish grey silty clay fill containing patches of dark orange brown silt, it did produce a number of finds. Five body sherds from two pottery vessels, as well as a over fifty pieces of heat-affected stone were recovered from context 17018. One of the pottery vessels bears complex incised decoration. Dating of this vessel is not straightforward, but a general Late Iron Age date has been suggested (see Appendix C). Other sections produced a tiny fragment of pottery, also probably Iron Age, as well as heat affected clay and stone. No finds were recovered from ditch 17500.

In one of the recorded sections, hollow 17019 could be seen to overlie an earlier feature (17044). This had a paler clay fill with some charcoal flecks and contained a small quantity of burnt animal bone. Although recorded as a separate feature, this may have been no more than an irregularity in the base, as those to the north (fills 17033, 17034, 17036).

Inter-cutting pits

The stratigraphic relationships between the pits to the east of hollow 17019 were not completely clear, but pit 17014 seemed to be the earliest of this group (Fig. 8). It was rather irregular with steep sides, partly undercut to the west, and an asymmetric base. Its lower fill, mottled reddish orange clay, produced thirty pieces of heat-affected stone, but no other finds.

To the west, pit 17014 was cut by a small feature (17017), only 7cm deep, with a fill of fire-cracked stones within a dark sandy clay matrix. Pit 17011, cutting the eastern side of pit 17014, continued as Pit 17002 in the opposing excavated quadrant. It was nearly 4m wide and over 75cm deep, with three distinct fills. The upper, greyish brown silty fill produced seven sherds of rather undiagnostic Iron Age pottery, while the lower fills together produced a further four sherds.

Pit 17008, cutting the north side of pit 17011, was a similar depth, though probably slightly smaller overall. Its dark upper fill, up to 64cm thick, produced 15 sherds of pottery in two different fabrics. Two small joining fragments from the upright flat-topped rim of a jar indicated a date in the first millennium BC, with the closing stages of the regional Iron Age being the most probable.

Pit 17002, smaller and only having a single fill, cut the southern edge of pit 17003, and produced 16 sherds of pottery in the same two fabrics. This again is thought to indicate a Late Iron Age date, possibly as late as the peri-Conquest period.

Discussion

This site appears to be the remains of an area of activity alongside a natural hollow. The activity could have been short-lived, with all the pottery finds consistent with a late Iron Age date. The hollow then seems to have filled up with colluvial clay from the slightly higher ground to the east. Activity within the area of the site itself appears to have been largely limited to the digging of a series of pits. These could perhaps have been quarry pits for clay extraction, but numerous other functions could be proposed.

Despite the dark, organic nature of some of the fills, seven bulk soil samples taken yielded very few plant remains or other environmental evidence (Appendix I). The fire-cracked stones, and the modest, but significant, quantities of pottery recovered, suggest that there was some activity occurring nearby and, whatever their function, it is unlikely that a group of inter-cutting pits such as these would have been dug at any great distance from a settlement site. That it signals the possibility of a nearby area of settlement greatly increases the significance of this site.

3.4 Plot 3: Possible Iron Age gully, NGR: 520500 432960

A very small gully containing Late Iron Age pottery was recorded in plot 3. It was just over 500m south of the plot 4 Roman site (above) and 150m north of Lelley Balk trackway (Fig 2). The field, which is in Humbleton civil parish, sloped gently down towards Sproatley drain 90m to west of the pipeline route.

Although clearly visible in the surface after topsoil stripping, gully 3500 was a seemingly insignificant feature, no more than 2.5m long and 25cm wide, it had a shallow U-shaped profile (Fig. 9; Plate 9). However, its fill, a mid-orange-brown or brownish grey silty clay with occasional chalk flecks and pebbles, produced nine sherds of pottery, of which five were from a single vessel, a large jar with a rim diameter of around 380mm. This kind of jar had its origins in the Late Pre-Roman Iron Age (LPRIA) south of the Humber, and continued to be made throughout the second century AD. Comparison with other local examples justifies a strong assumption that it dates to the mid first century AD. The other four sherds are also from a single vessel, almost certainly closely contemporary. The feature would seem to have been open in the middle of the first century AD, before the appearance of the Roman power on the north bank of the Humber.

The only other feature recorded in this plot, 17m to the north-east of gully 3500, was a substantial ditch (3504) which corresponds with the former field boundary shown on the 1999 OS Explorer sheet 292 at this position (NGR: 520510 432971).

3.5 Plot 13: Iron Age ditches

The archaeological remains in this plot were found in the side of the pipe-trench after the Iron Age site on the adjacent Salt End to Aldbrough cabling scheme had been discovered. However, at the time that the pipe-trench was excavated, wet weather had made the ground unstable and access was restricted because of safety considerations. Because of this, and the need to backfill the trench rapidly as soon as the pipe was laid, the only recording possible was a sketch section and photographs (Fig. 10). Features were visible in the trench side, including two ditches and smaller pits and gullies, masked by layers of subsoil. The density of features was less than that seen in the cable trench to the south, suggesting that the pipeline passed through the northern periphery of the site.

Features were seen and sketched in the trench sides from NGRs: 524212 435926 to 524247 435938. Plot 13 slopes very gently down to the Bail Drain, which forms the west and north boundaries to the field. It is in East Garton civil parish.

3.6 Plot 21: Flint scatters NGRs: 525745 436910; 525595 436810

Seventeen pieces of struck flint were recovered from the surface of this field after topsoil stripping. Eleven of these were found in an 80m long stretch of the route towards the western side of the field, including six pieces within 5m of one another (Fig. 11). The flints appeared to be largely working fragments and not particularly diagnostic but would be consistent with a broadly late Neolithic or early Bronze Age technology (Appendix B).

This field, in Aldbrough parish, between the B1242 Garton Road and the newly completed gas storage facility, was one of the evaluation sites. The occurrence of worked flint, providing evidence of prehistoric activity, would tend to reinforce the interpretation of the fire-cracked stones which were recorded in the fill of a small gully, as redeposited material from a nearby burnt mound.

3.7 Plot 1: Brick Dump, NGR: 520140 432800

A small spread of bricks and burnt stone (1001), was noted at the eastern edge of this field during the topsoil stripping. Plot 1 is north of Nuttle Hall Farm at the northern extremity of Burstwick civil parish.

The bricks and stone formed a spread in both the topsoil and subsoil, and no distinct cut was visible. From this it was inferred that the material was a dump of building debris rather than the remains of an *in situ* structure or demolition rubble

Four fragments of brick were recovered as a representative sample. These included three mullion fragments (Fig. 12; Plate 10), probably of late medieval or later date (Appendix D). The presence of brick mullions suggest that at least part of the rubble came from a high-status structure such as a manor house. The nearest such site to the spread is Sproatley Grange, about 1km to the north.

3.8 Other recorded features

Five undated features were recorded in plot 8. Near the south-western end of the field, gully 8003 was a small, round-bottomed feature with a brownish grey silty fill (NGR: 521930 434930, Fig. 13b). At the other end of the field, the boundary with plot 9 is shown on the 1999 OS map, but was no longer visible on the ground. The infilled field boundary ditch was

visible in the pipe-trench and was recorded as feature 8005 (NGR: 522491 435401). A small asymmetric feature (8007) around 4m to the south-west was probably also associated with this former field boundary (NGR: 522488 435397). The two other recorded features (8000 NGR: 522452 435353, Fig. 3a; and 8009 (NGR: 522455 435356, Fig. 3c) were a further 60m south-west, both fairly shallow and wide with irregular bases. It was not clear whether these were ditches, crossing the pipe-trench at an oblique angle, or shallow pits.

Gully 10500, recorded in plot 10, was 34cm wide and 21cm deep with a rather pale silty fill. It was located within 10m of one of the few sherds of Iron Age pottery recovered during the fieldwalking.

A wide, well-defined ditch (11000; NGR 523337 435658) with moderately steep sides was visible in the side of the pipe trench beneath a thick layer of alluvium (11003). Its regular profile suggests that it was aligned more or less perpendicularly to the pipe. No dating evidence was recovered, but the fact of its being sealed by this colluvial layer implies that it is of some antiquity. The large feature seen in plot 11 during the evaluation trenching (NAL, 2007: layer 2016 in evaluation trench 3) was clearly visible in the pipe-trench, where it appeared as a silted hollow, 27-5m wide and 1.8m deep.

3.9 Surface finds

In addition to the sites described above, 154 surface finds were recovered during the course of the watching brief. These included 33 pieces of worked flint, 28 sherds of Iron Age pottery, and 13 sherds of medieval pottery. All the finds are listed in Appendix J.

4 DISCUSSION

The watching brief has successfully highlighted two areas of local or possibly regional significance along the route: the Roman settlement in plot 4 and the possible Iron Age settlement suggested by the pits in plot 17. It also recorded a number of smaller sites, probably of no more than local significance, including the earliest evidence of archaeological activity, the two small flint scatters in plot 21 probably dating from the late Neolithic or Bronze Age.

This watching brief was one element of a programme of investigative stages and followed the desk-based assessment, field surveys and evaluation trenching. Because of the construction timetable and difficulties with land access, the schedule for these earlier stages was more tightly constrained than is usual; in particular there was little time available for evaluation trenching. However, taken together, these previous stages of work had tended to suggest that the archaeological potential of the pipeline route was rather low. The findings of the watching brief, especially when considered along with the results from the concurrent Salt End to Aldbrough cabling scheme, contradict this suggestion and imply that significant evidence of activity, especially from the late Iron Age and Roman periods, survives in a number of places along the route.

The relative sparsity of recorded archaeological remains in the area is partly the result of a lack of earlier infrastructure developments in what is a largely agricultural landscape, giving little opportunity for large scale investigation, but the nature of the local soils and geological strata is also a contributing factor. Visibility of archaeological deposits is not aided by the alluvial and glacial clays and silts with their tendency to gleying, but, more significantly, masking subsoil deposits develop readily in this low-lying landscape, as the watching briefs on the pipeline and cabling scheme showed. Neither of the two most significant sites, in plots 4 and 13, was visible when the topsoil was removed and they were only discovered during trenching.

The earlier stages of work offered few clues to the presence of the sites in plot 4 or in plot 17. Three sherds of Iron Age pottery were recovered from plot 4 during the fieldwalking survey, but all three were from a part of the field well to the south of the site seen in the pipe-trench, between 75m and 210m beyond southernmost feature.

The geophysical survey did not highlight either of these two plots. In retrospect, it is possible to see ditch 4535 in the magnetometer survey results, this feature probably showing up because of the nature of its fill. None of the other plot 4 features seem to correspond with any geophysical anomalies; indeed, the part of the field coinciding with the features is relatively quiet magnetically, presumably because of the effect of the masking layers. There are a number of anomalies in plot 17, but the main concentration is further west than the intercutting pit group. Neither of these plots showed heightened magnetic susceptibility measurements.

A more intensive programme of targeted trench evaluation may have identified the site in plot 13, as there was an area of magnetic disturbance in the middle of this plot. However, the density of geological features producing magnetic responses along the route as a whole was such that a considerable number of trenches would have needed to be excavated in order to reliably identify which anomalies resulted from archaeological features and which were background noise. This was amply demonstrated by the two areas which were evaluated.

The sites in plots 4 and 17 were both on slightly elevated land on west-facing slopes. In a part of the country where landuse would have been very dependent on hydrology, and particularly on changing sea levels, patterns of areas of past occupation and activity are likely to reflect

small differences in topography. Landscape analysis perhaps offers the best hope of non-invasive prediction of archaeological potential in this area.

All non-invasive prospecting methods will have limitations where there are masking layers, however, and a pipeline watching brief, particularly during pipe-trenching, can be regarded as an effective technique of archaeological investigation in such circumstances. Regarded in this way, the watching brief on the Sproatley to Aldbrough pipeline has been successful in that it has helped to refine understanding of the archaeological potential of this part of Holderness.

5 RECOMMENDATIONS

The assessment report on the ceramic building material recommended thin sectioning and chemical analysis of four samples of the brick from plot 1, including the possible medieval window mullions. However, the utility of these analyses is questionable as the material was not from a clearly dated deposit. The ceramic building material will be retained with the archive, and will be available for future research.

Further analysis on the piece of whale bone from plot 4 is recommended. Finds of whale bone, particularly fragments of this size, are rare, and it is of potential regional or national significance. Further attempts should be made to identify the species, by comparison with reference collections held by the Natural History Museum. If the species can be identified, it may help to link the find with the post-medieval whaling industry, but otherwise provision should be made for radiocarbon dating of the bone, as it was not recovered from a securely dated context. The bone may have formed part of a whale jaw-bone arch; this should be investigated by seeking documentary evidence of local land holding and of comparative examples of similar whale-bone arches.

Taken together, the results form a disparate body of archaeological evidence, and it would not be easy to present them in a single, satisfactory publication article. It is therefore proposed that the analysis of the whale bone, especially if it should prove to be of post-medieval date, should be published as a separated short article in an appropriate journal. The Iron Age and Roman material should be included in a future publication article in combination with the results from the archaeological investigations carried out on the adjacent Salt End to Aldbrough cabling scheme.

6 ARCHIVE

The documentary archive for the watching brief includes:

- a copy of this report
- relevant and non confidential documents and correspondence relating to the site held by Network Archaeology
- original notes relating to the finds or post excavation assessments
- site records, as detailed in the table below:

Item	Count
Number record	1
Construction plot records	21
Context indexes	11
Context records	147
Drawing indexes	3
Permatrace drawings	9
Photographic indexes	8
B&W contact prints and negatives	3
Colour contact prints and transparencies	5
Sample indexes	1
Sample records	7

The accession number for the archive is ERYMS 2005/36

The project archive will be managed in accordance with current guidelines (Ferguson and Murray, 1997 and BCM, 2004).

The site archive is currently held at the Lincoln office of Network Archaeology Ltd. Upon completion of the project the site archive will be deposited at the East Riding of Yorkshire Museum Service.

Prior to the deposition of the archive, the necessary arrangements will be made with the site owner regarding the transfer of ownership of any archaeological finds.

On completion of the reporting stages of the project, the archive will be prepared for long-term storage, to a standard from which post-excavation assessment could proceed and in a format agreed in advance with the relevant local depository. This will be in accordance with guidelines prepared by the UK Institute of Conservation (Walker, 1990) and the Museums and Galleries Commission (MGC, 1992).

In the event that deposition cannot be concluded, Network Archaeology will store the archive to a suitable standard until deposition can be arranged. Ownership of the document archive will be retained by Network Archaeology until the document archive and its ownership is passed to an appropriate museum.

7 ACKNOWLEDGEMENTS

The work described in this report was commissioned by Murphy Pipelines Ltd on behalf of National Grid. We would like to thank Maurice Corridon, Jim Aspinall and Len Grey for their help during the course of the project. Dave Evans of Humber Archaeology Partnership monitored the work.

For Network Archaeology Ltd, the project was managed by David Bonner and fieldwork was carried out by Mike Morrell assisted by Becky Wegiel. Gordon Shaw and Caroline Kemp, supervised by Wendy Booth, processed the finds. Digitised drawings were by Anni Byard, and other illustrations by Dave Watt. The text of this report was written by Peter Sprenger, and edited by Richard Moore.

8 REFERENCES

- Allen C. and Hopkins D. 2000, *Bronze Age Accessory Cups from Lincolnshire: Early Bronze Age Pot*, Proceedings of the Prehistoric Society 66, 297-317.
- Ambrose, T.M. 1981, *Waddington Roman British Burial*, Lincolnshire History and Archaeology 16, 76-78.
- Annable, F.K. 1960, *The Roman-British Pottery at Cantley Housing Estate, Doncaster: Kilns 1-8*, Doncaster Museum and Art Gallery.
- Armstrong, P. and Ayers, B. 1987, *Excavations in High Street and Blackfriargate*, East Riding archaeologist 8.
- Bartlett Clarke Consultancy, 2005, *Sproatley to Aldbrough Proposed Transco Pipeline: Report on Archaeogeophysical Survey 2004-5*, Unpublished client report.
- Cardwell, P. and Speed, G. 1996, *Prehistoric Occupation at St Giles by Brompton Bridge, North Yorkshire*, Durham Archaeological Journal 12, 27-40
- Challis, A. and Harding, D.W. 1975, *Later Prehistory from the Trent to the Tyne*, British Archaeological report 20 (Oxford).
- Darling, M.J. 1981, *The Cremation Vessel* in Ambrose 1981, 77.
- Didsbury, P. and Watkins, G. 1992, *The Pottery* in Evans and Tomlinson (eds), 1992, 81-120.
- Didsbury, P. 2004, *The Iron Age and Roman Pottery* in Rahtz and Watts 2004, 169-170.
- Didsbury, P. in preparation, Publication report on the Iron Age and Roman pottery from excavations at Easington, on behalf of West Yorkshire Archaeological Services.
- Department of Trade, Local Government and the Regions, 1999, *Protected Trees: A Guide to Tree Preservation Procedures*.
- Elsdon, S. 1996, *Iron Age Pottery in the East Midlands, a Handbook*, Department of Classics and Archaeology, University of Nottingham.
- English Heritage, 1991, *The Management of Archaeological Projects, 2nd edition*, London.
- Evans, D.H. and Tomlinson, D.G. 1992, *Excavations at 33-35 Eastgate, Beverly, 1983-1986*, Sheffield Excavation Report 3 (Sheffield).
- Ferguson, L.M. and Murray, D.M. 1997, *Archaeological Documentary Archives: Preparation, Curation and Storage, Paper 1*, Institute of Field Archaeologists.
- IFA, 2000a, *Code of Conduct*, Institute of Field Archaeologists.

- IFA, 2000b, *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, Institute of Field Archaeologists.
- IFA, 2001, *Standard and Guidance documents (Desk-Based Assessments, Watching Brief, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds)*, Institute of Field Archaeologists.
- IFA, 2001, *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*, Institute of Field Archaeologists.
- Kent, P. and Gaunt, G.D. 1980, *British Regional Geology: Eastern England from the Tees to The Wash*.
- Lawrence, H. 1974, *Yorkshire Pots and Potteries*, Newton Abbot.
- Manby, T.G. 1996, *Iron Age Pottery*, in Cardwell and Speed, 1996, 35-36.
- May, J. 1996, *Dragonby*, Oxford Monograph 61.
- MGC, 1992, *Standards in the Museum Care of Archaeological Collections*, Museums and Galleries Commission London.
- NAL, 2003, *Health and Safety Policy, version 9*, Network Archaeology, August 2004.
- NAL, 2005, *Sproatley to Aldbrough Proposed Pipeline, Archaeological reconnaissance, fieldwalking and geophysical survey*, Network Archaeology, March 2005.
- PCRG, 1997, *The study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication*, Prehistoric Ceramics Research Group Occasional Papers 1 and 2.
- Powlesland, D. 1986, *Excavations at Heslerton, North Yorkshire 1978-82*, The Archaeological Journal 143, 53-173.
- Saville, A. 1981, *Grimes Graves, Norfolk. Excavations 1971-72: Volume II. The Flint Assemblage*.
- Rahtz, P.A. and Watts, L. 2004, *The North Manor Area and the Northwest Enclosure. Wharram: a study of settlement on the Yorkshire Wolds 9*, York University Archaeological Publications 11.
- Redman, N., 2004 *Whales' Bones of the British Isles*, London.
- Rigby, V. and Stead, I.M. 1976, *Coarse Pottery*, in Stead 1976, 136-190.
- Rigby, V. 1986, *The Later Prehistoric and roman Pottery*, in Powlesland 1986, 141-156.
- Rigby, V. 2004, *Pots in Pits: The British Museum East Yorkshire Settlement Project. 1988-1992*, East Riding Archaeologist 11.
- SMA, 1995, *Towards an accessible archaeological archive - the transfer of archaeological archives to museums: guidelines for use in England, Northern Ireland, Scotland and Wales*, Society for Museum Archaeologists, London.
- SSEW, 1983, *1:250,000 Soil Survey of England and Wales*.
- Stead, I.M. 1976, *Excavations at Winterton Roman Villa and Other Roman Sites in North Lincolnshire, 1958-1967*, DOE Archaeological Report 9. (HMSO).
- Tibbles, J. 2001, *Notes and information on pan tile with particular reference to East Yorkshire*, unpublished document in the authors possession.
- Walker, K. 1990, *Guidelines for the preparation of excavation archives for long-term storage*, United Kingdom Institute for Conservation, Archaeology Section, London.

Wardell-Armstrong, 2005, Heritage Assets chapter of Environmental Statement for the Sproatley to Aldbrough natural gas pipeline.

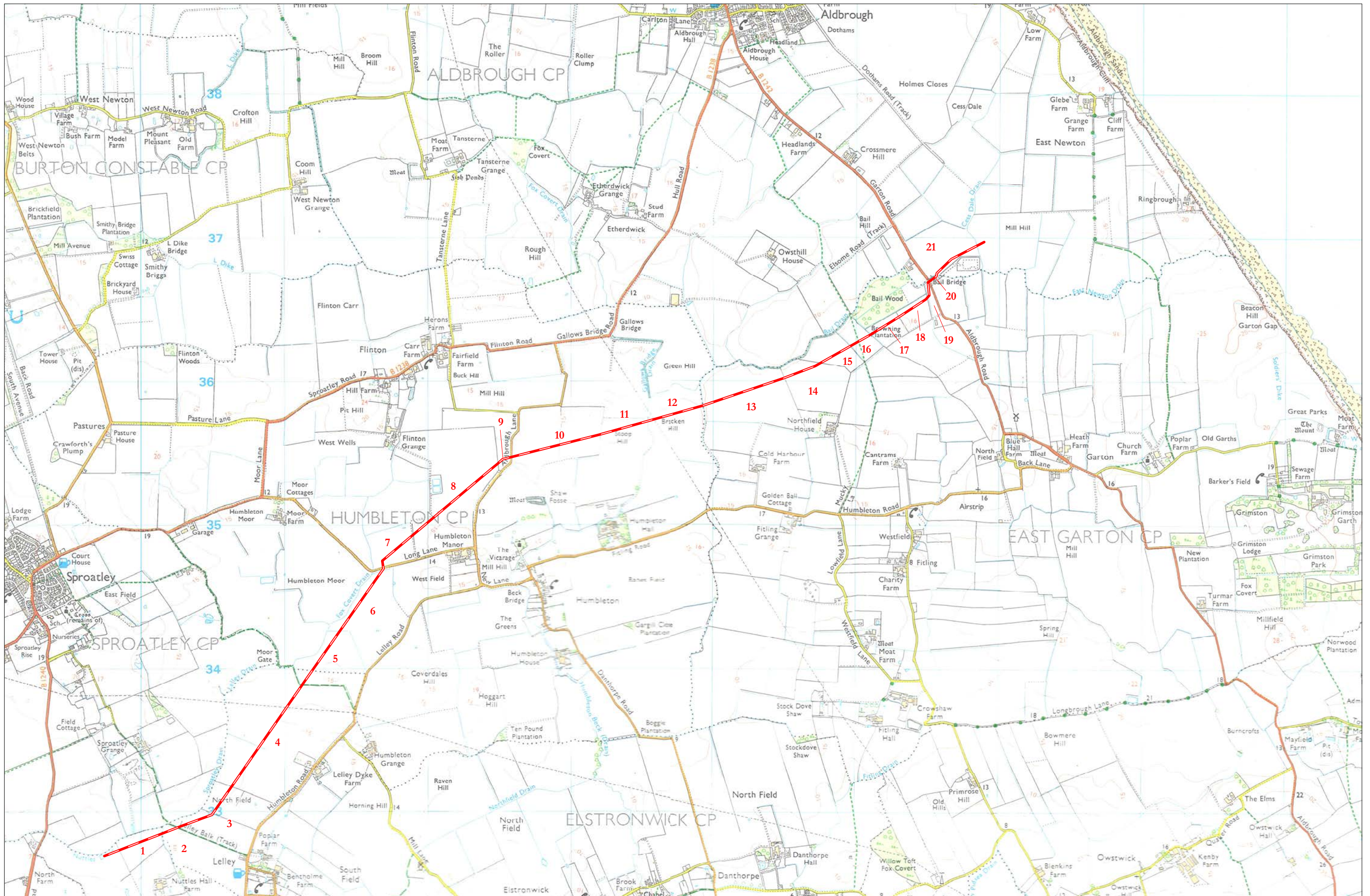
Watkins, J.G. 1987, *The Pottery*, In Armstrong and Ayers (eds), 1987.

9 STATEMENT OF INDEMNITY

Every effort has been taken in the preparation and submission of this report in order to provide as complete an assessment as possible within the terms of the brief, and all statements and opinions are offered in good faith. Network Archaeology Ltd cannot accept responsibility for errors of fact or opinion resulting from data supplied by any third party, or for any loss or other consequences arising from decisions or actions made upon the basis of facts or opinions expressed in this report and any supplementary papers, howsoever such facts and opinions may have been derived, or as a result of unknown and undiscovered sites of artefacts.

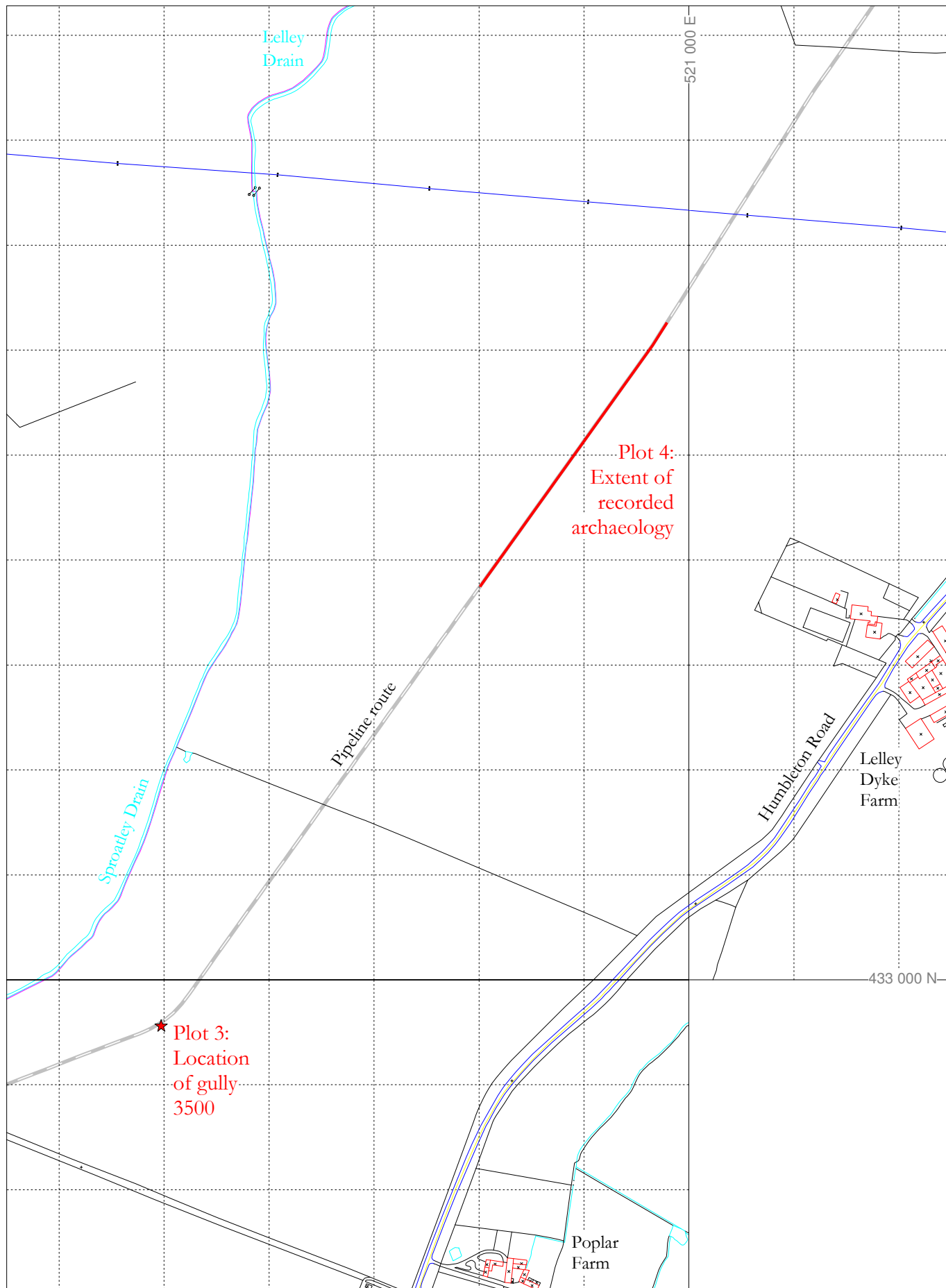
FIGURES 1 – 13

1. Location of the pipeline, showing the plot numbers used in this report.
2. Location of the areas of archaeological remains recorded in plots 3 and 4.
3. Features seen in the pipe trench in plot 4.
4. Plan and sections of ring gully 4573.
5. Sections of plot 4 features.
6. Location of the excavation area in plot 17.
7. Post-excavation plan of features in plot 17.
8. Quadrant sections through group of inter-cutting pits in plot 17.
9. Plan and sections of small gully 3500 in plot 3.
10. Sketch section of the features seen in the pipe-trench in plot 13.
11. Distribution of worked flint on subsoil surface in plot 21.
12. Possible medieval mullion bricks from plot 1.
13. Sections through undated features in plot 8.



Extract from Explorer 292 reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright 2007. All rights reserved. Ordnance Survey Licence number 100021059.

Figure 1: Location of the pipeline, showing plot numbers used in this report, scale 1:25 000



Background 1:2500 mapping reproduced by permission of Ordnance Survey on behalf of HMSO.
 © Crown copyright 2007. All rights reserved. Ordnance Survey Licence number 100021059.

Figure 2: Location of the areas of archaeological remains recorded in plots 3 and 4, scale 1:5000

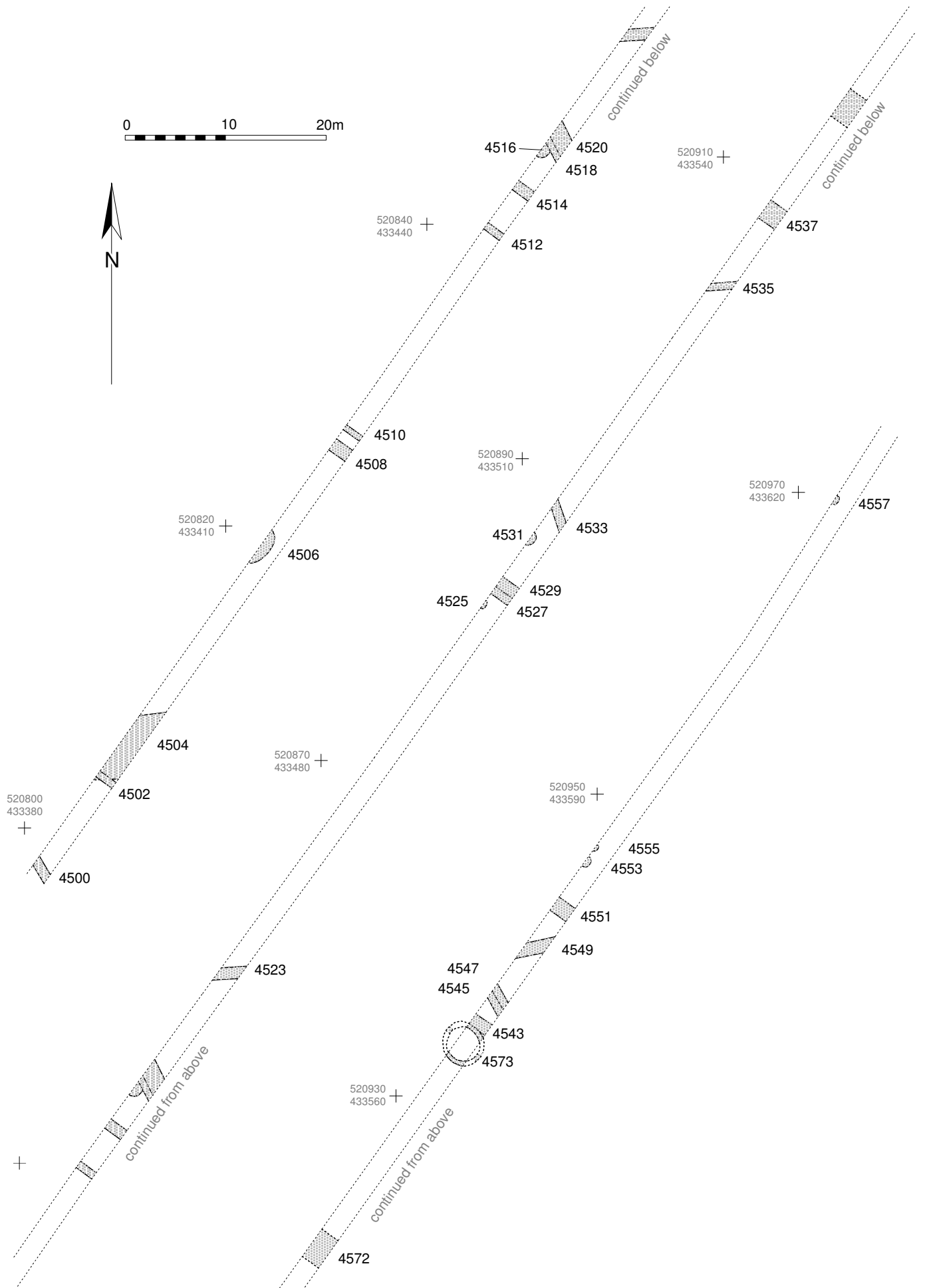


Figure 3: Features seen in the pipe-trench in plot 4, scale 1:500

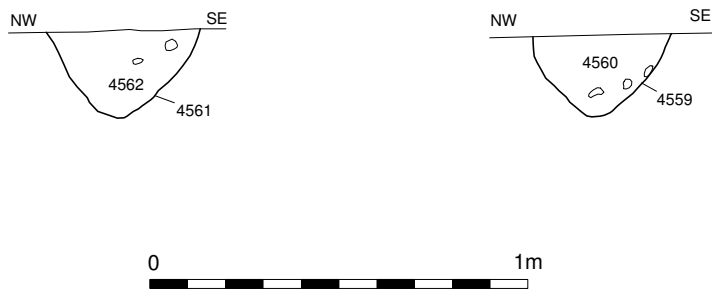
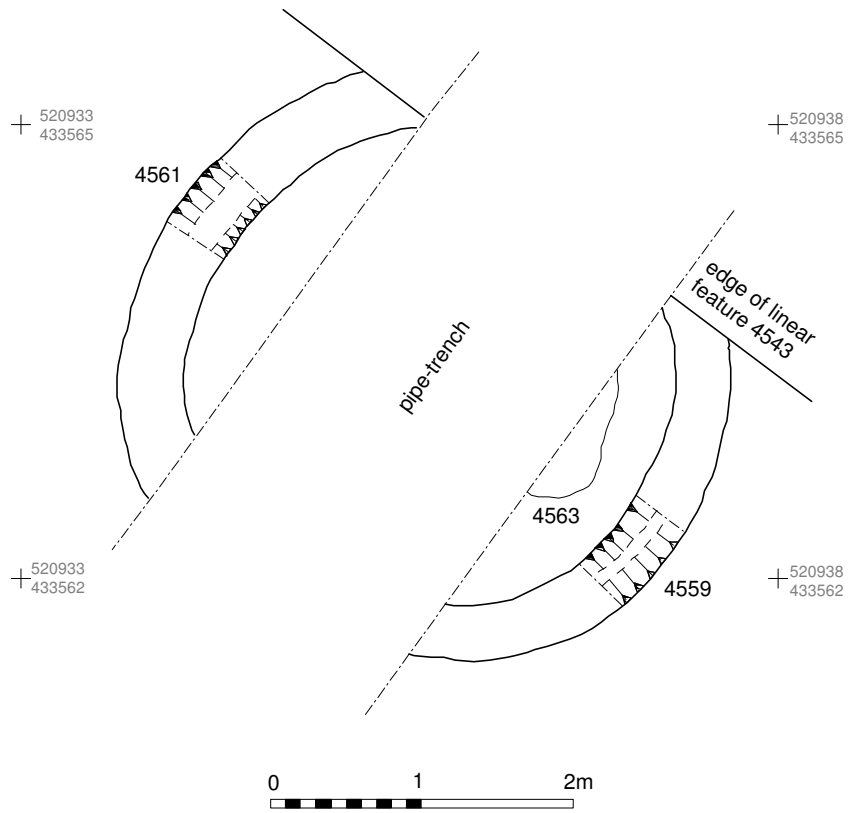


Figure 4: Plan and sections of ring gully 4573, scale (plan) 1:50, (sections) 1:20.

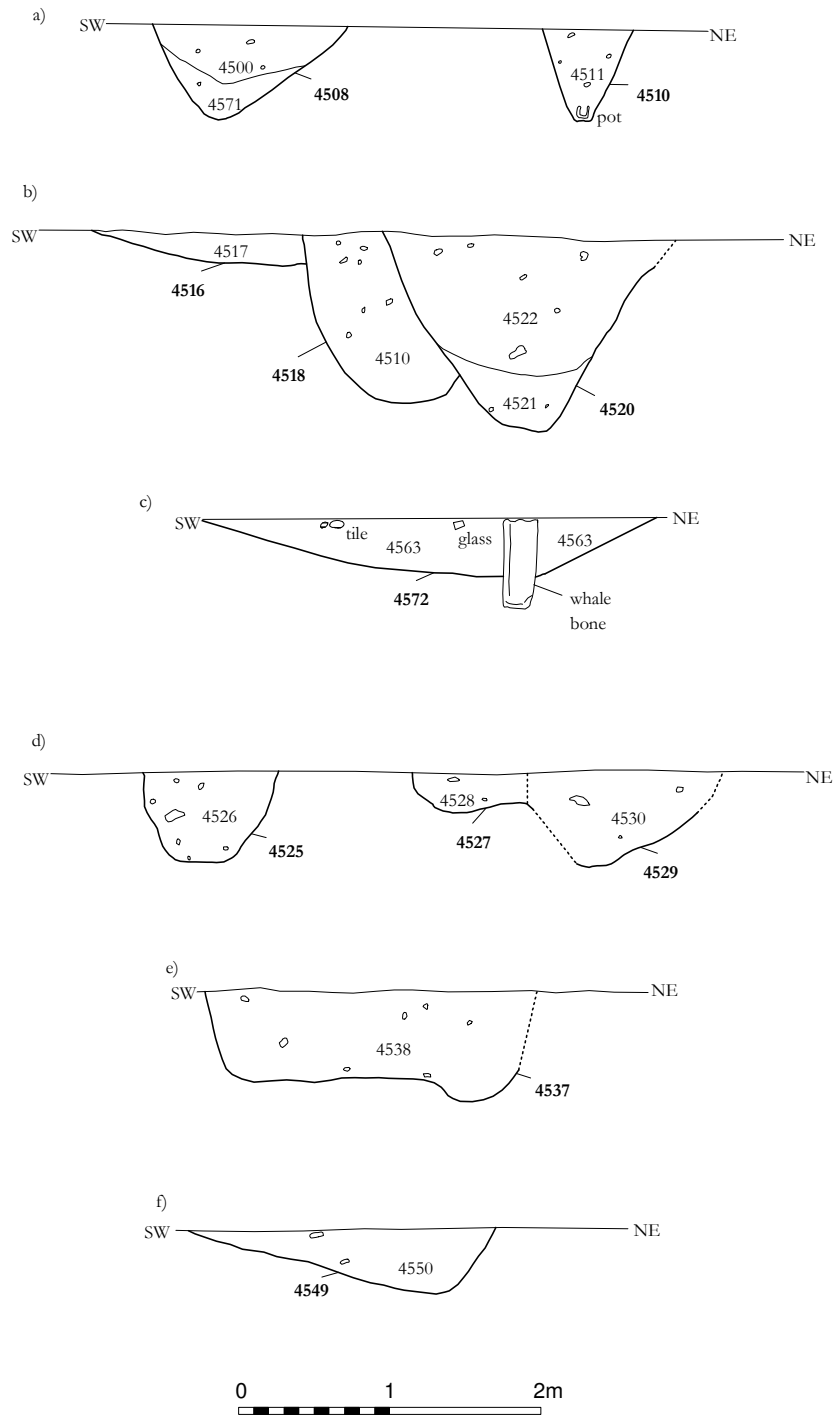
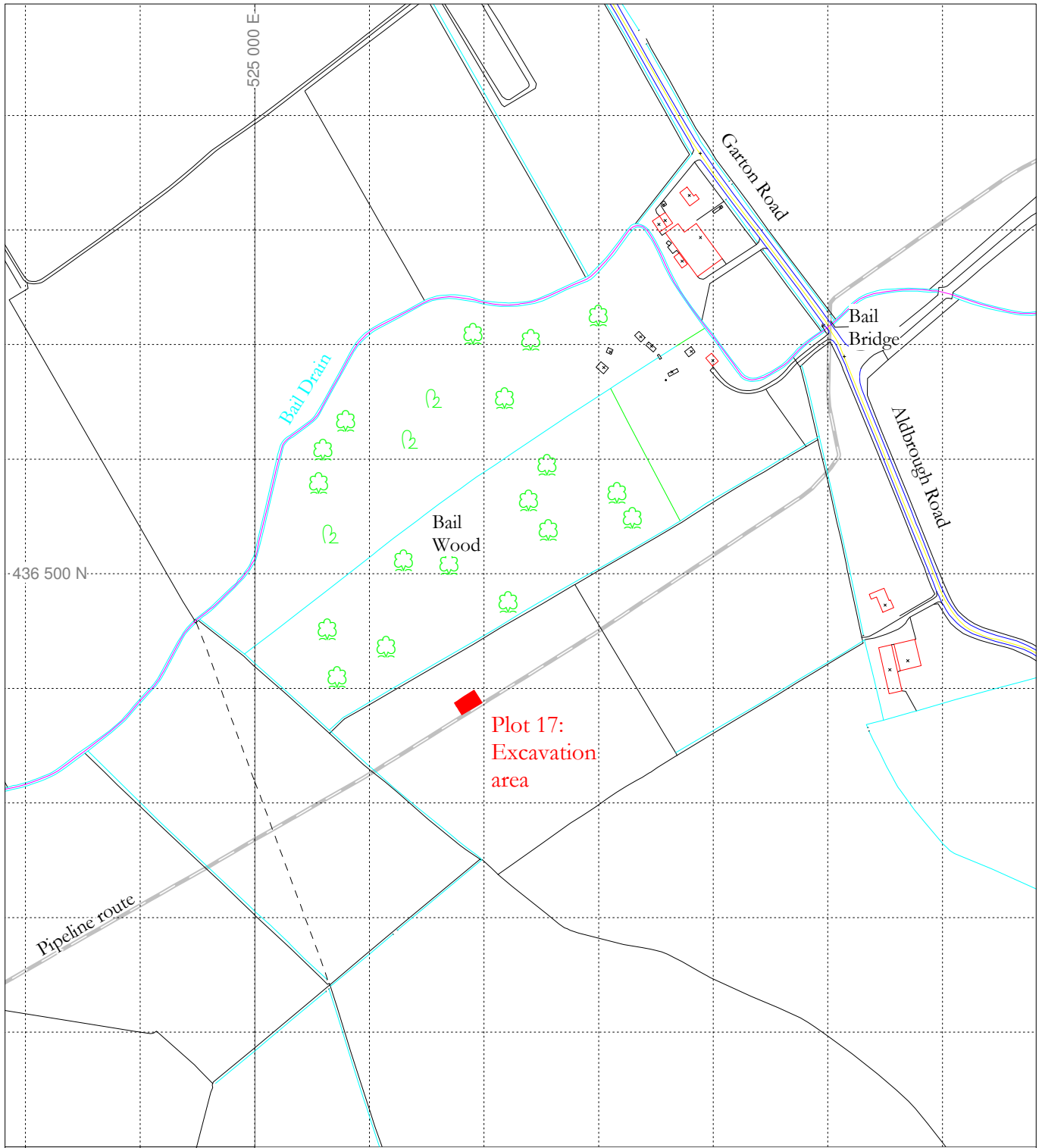


Figure 5: Sections of plot 4 features, scale 1:50



Background 1:2500 mapping reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright 2007. All rights reserved. Ordnance Survey Licence number 100021059.

Figure 6: Location of the excavation area in plot 17, scale 1:5000

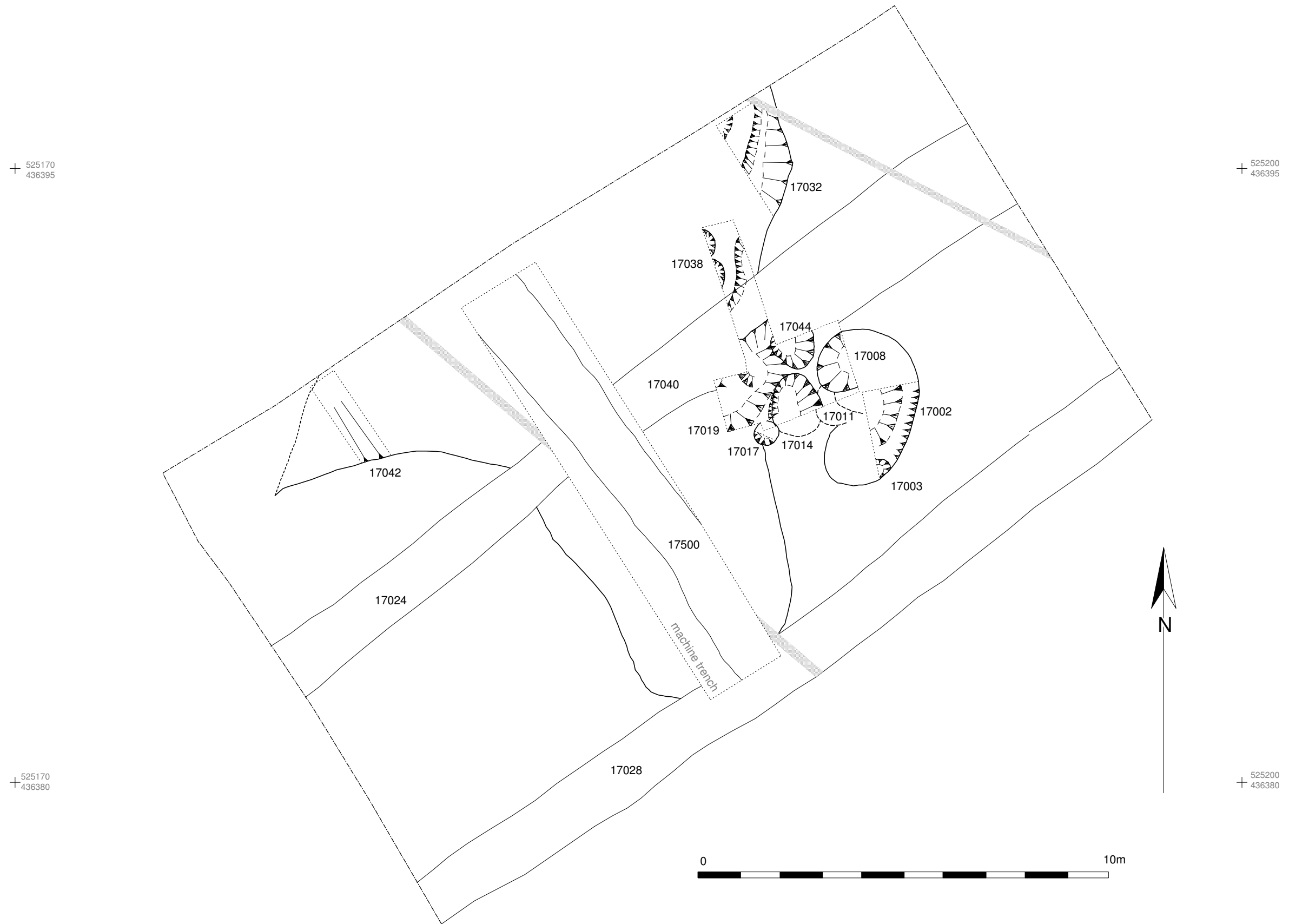


Figure 7: Post-excavation plan of features in plot 17, scale 1:100

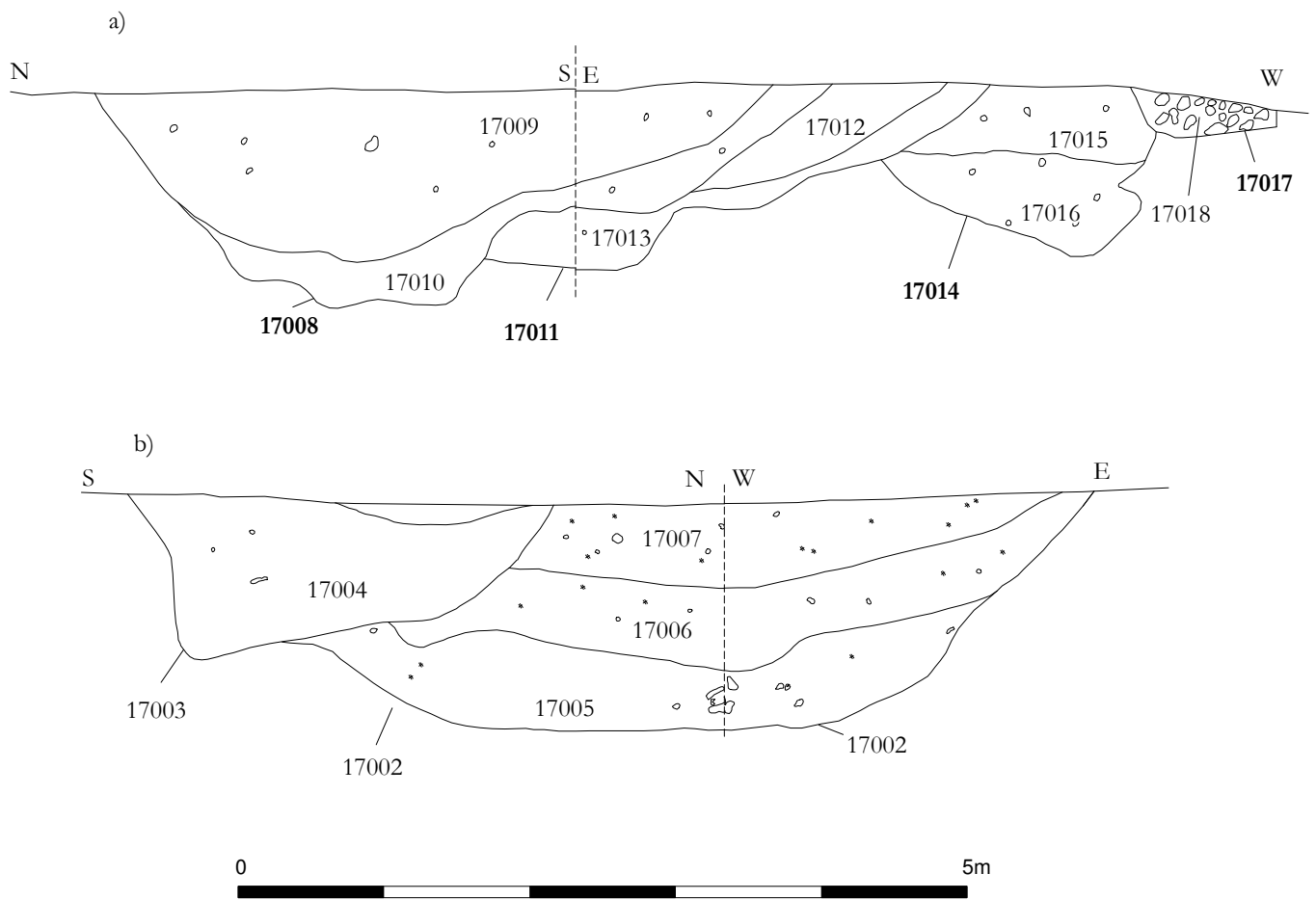


Figure 8: Quadrant sections through group of inter-cutting pits in plot 17, scale 1:50.

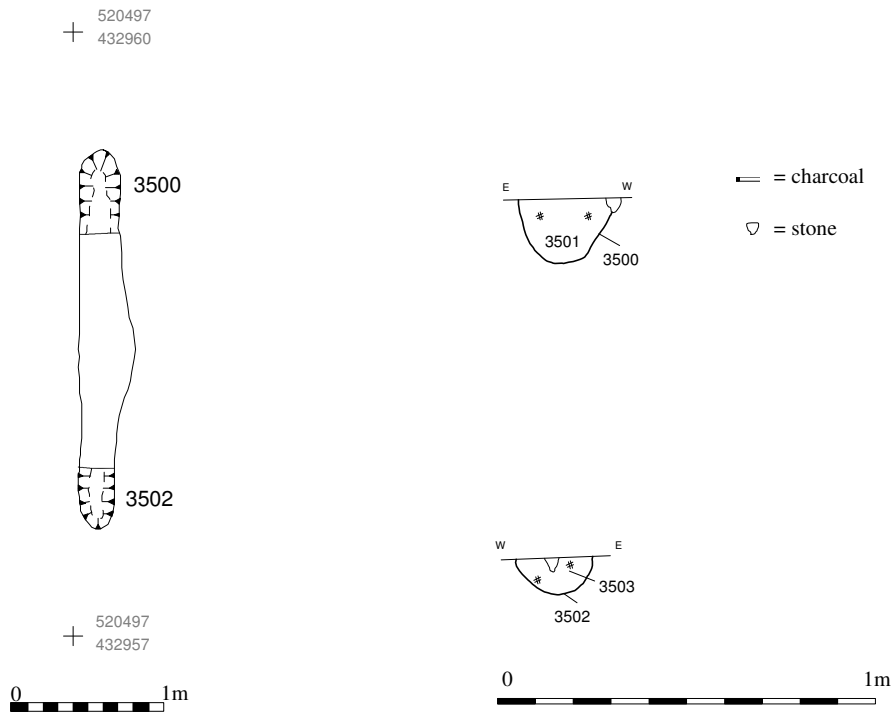


Figure 9: Plan and sections of small gully 3500 in plot 3, scale (plan) 1:50; (sections) 1:20.

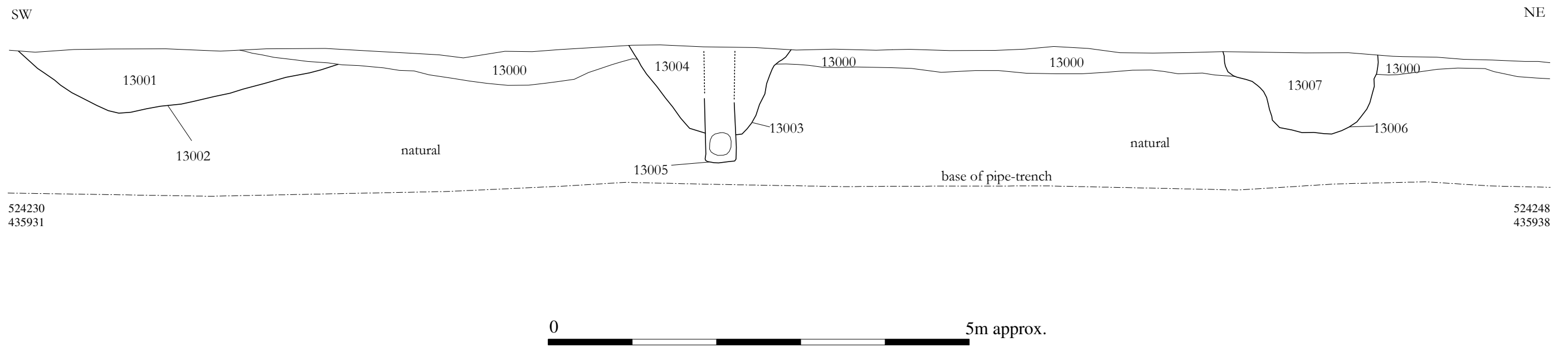
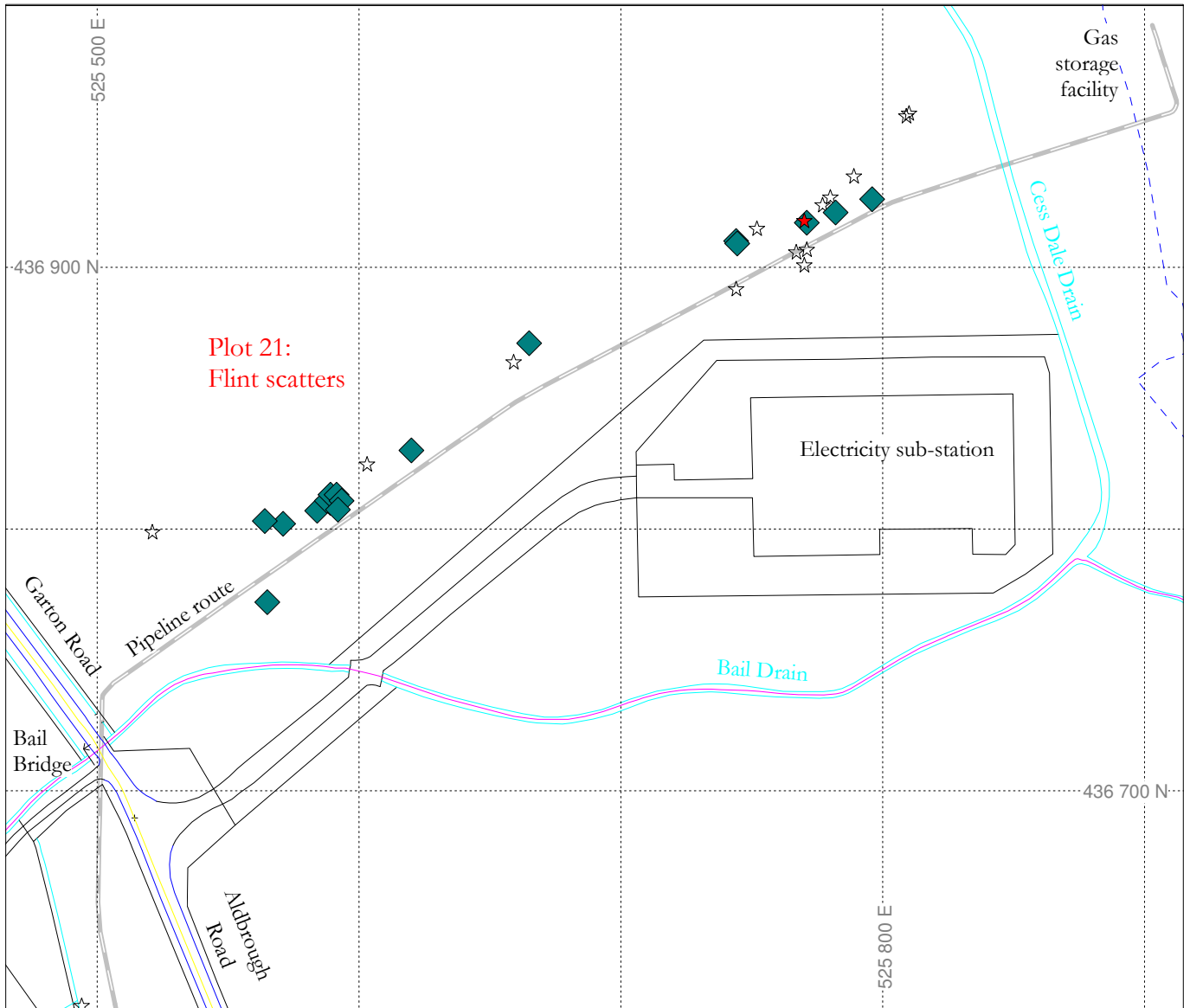


Figure 10: Sketch section of the features seen in the ppe-trench in plot 13, not to scale, approximately 1:50.



Background 1:2500 mapping reproduced by permission of Ordnance Survey on behalf of HMSO.
 © Crown copyright 2007. All rights reserved. Ordnance Survey Licence number 100021059.

- ◆ Struck flint
- ★ Iron Age pottery sherd
- ☆ Post-medieval, modern or undated find

Figure 11: Distribution of worked flint on subsoil surface in plot 21, scale 1:2500

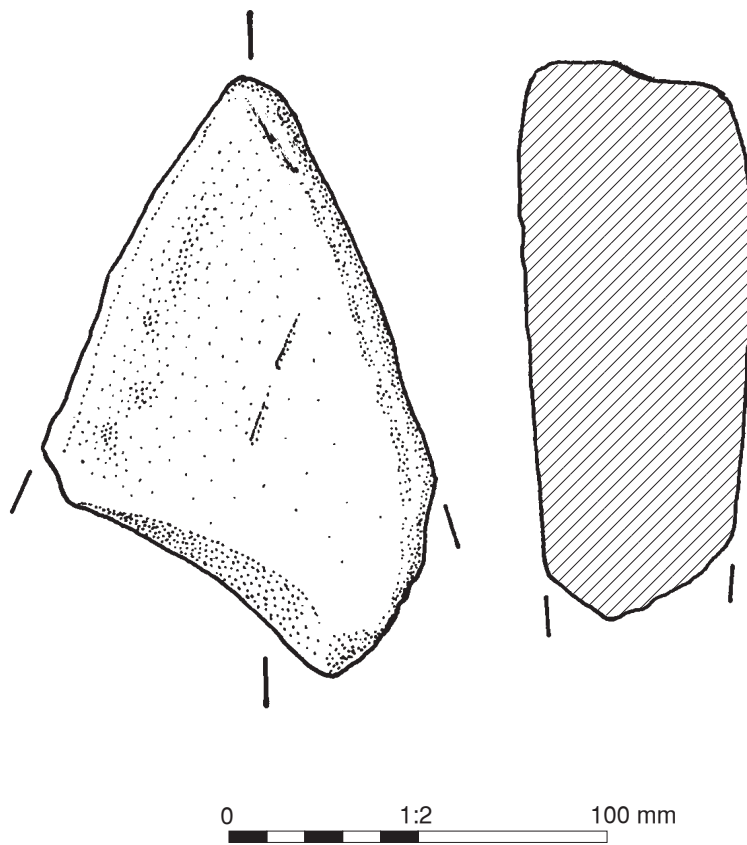


Figure 12a: Possible medieval mullion brick from plot 1.

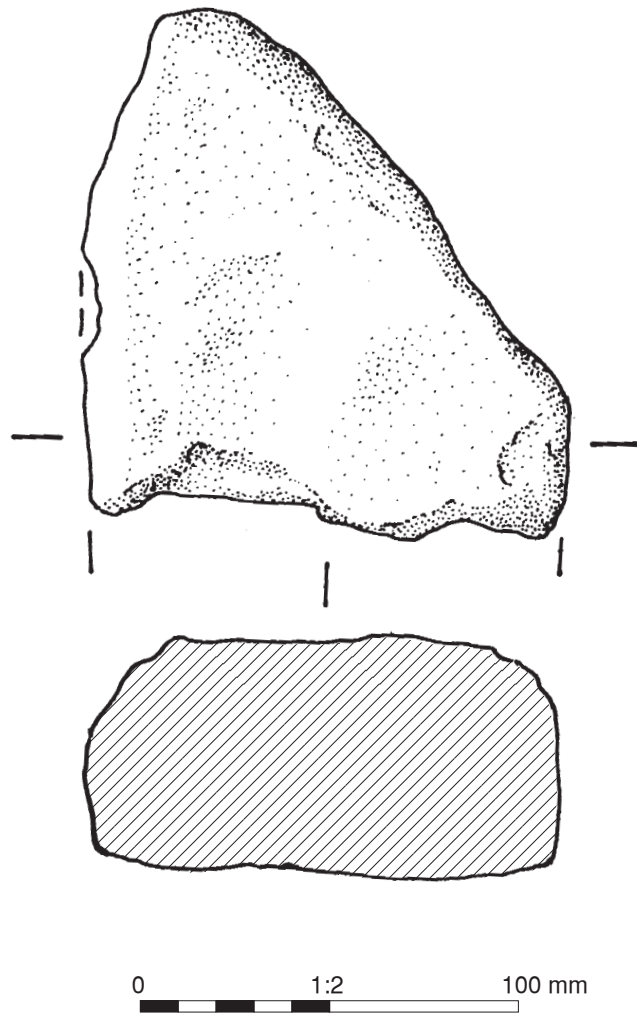


Figure 12b: Possible medieval mullion brick from plot 1.

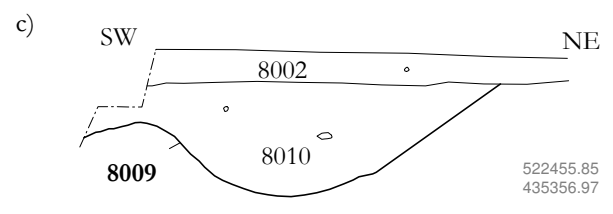
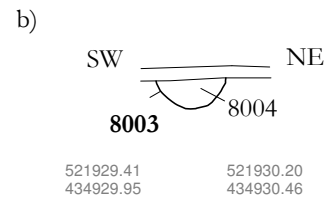
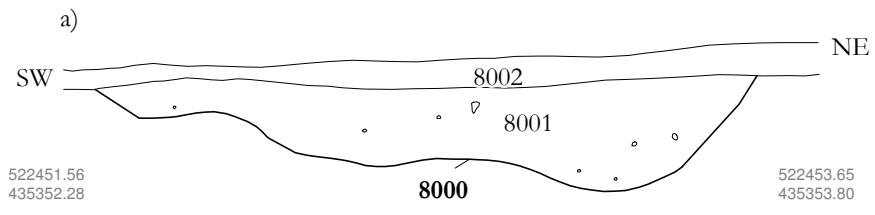


Figure 13: Sections through undated features in plot 8, scale 1:50.

PLATES

1. Gully 4510, showing pottery vessel in base of feature.
2. Ditches 4518 and 4520, south-east facing section.
3. Ring gully 4573.
4. Whale jawbone fragment during excavation.
5. Whale jawbone..
6. Overall view of plot 17 excavation.
7. Machine trench in plot 17, showing ditch 17500.
8. South facing section through ditch 1750 seen in pipe-trench.
9. Gully 3500.
10. Brick mullions from plot 1.



Plate 1: Gully 4510, showing pottery vessel in base of feature.



Plate 2: Ditches 4518 and 4520, south-east facing section.



Plate 3: Section 4561 of ring gully 4573.



Plate 4: Whale jawbone fragment during excavation.



Plate 5: Whale jawbone.



Plate 6: Overall view of plot 17 excavation.



Plate 7: Machine trench in plot 17 showing ditch 17500.

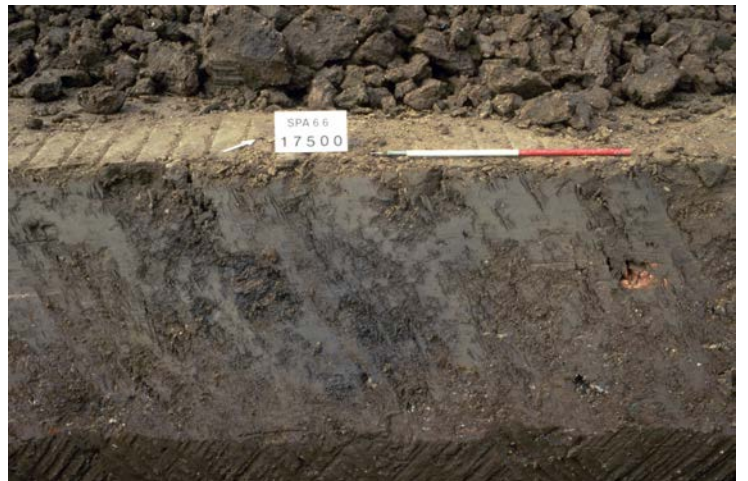


Plate 8: South-facing section through ditch 17500.

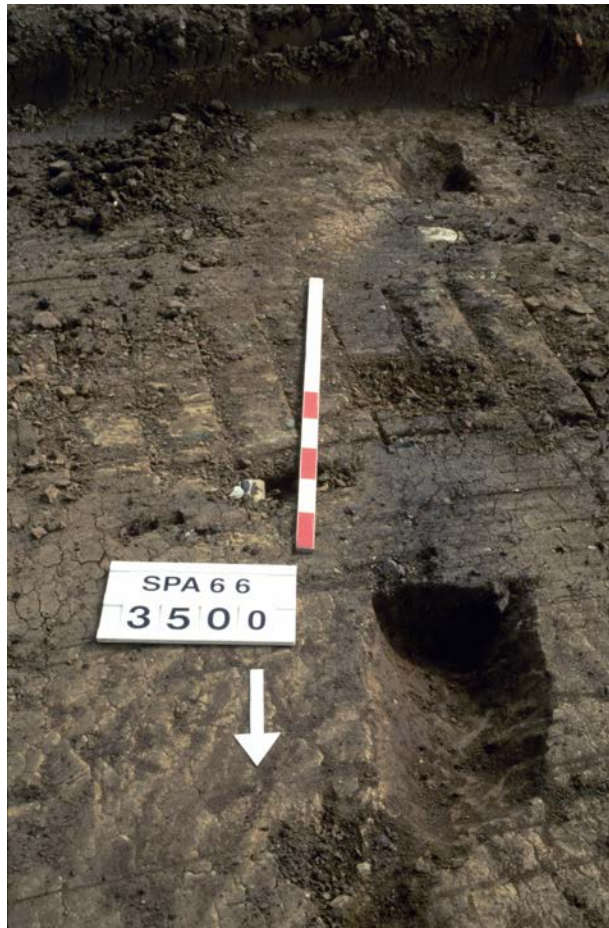


Plate 9: Gully 3500, north-facing section.



Plate 10: Mullion bricks from plot 1.

APPENDICES

Appendix A
Context Summary

Plot	Context	Context type	Description	Dimensions	Interpretation
1	1001	Layer	Spread of cbm in topsoil and subsoil	2.2m wide, 0.01-0.2m deep	Dump of brick/cbm
1	1002	Layer	Topsoil		
3	3500	Cut	Terminal segment. of short N-S gully, =3502, steep sided, U shaped profile	2.47m long, 0.27m wide, 0.15m deep	Gully cut
3	3501	Fill	Fill of 3500, mid-dark brownish grey silty clay, occasional pebbles	0.15m deep	Fill of gully
3	3502	Cut	S terminus of gully, =3500	2.47m long, 0.23m wide, 0.11m deep	Gully cut
3	3503	Fill	Fill of 3502, mid orange-brown silty clay, occasional chalk flecks	0.11m deep	Fill of gully
3	3504	Cut	Linear visible only in pipe trench, steep w side, more gradual E side, narrow base	0.9m deep, 1.6m wide	Ditch cut
3	3505	Fill	Fill of 3504, dark greyish-brown silty clay	0.9m deep	Fill of ditch
4	4500	Cut	Cut only visible in pipe trench section, U shaped, N-S aligned	1.1m wide, 0.51m deep	Assumed to be ditch cut
4	4501	Fill	Dark bluish-grey silty clay, occasional chalk flecks	0.3m deep	Primary ditch fill
4	4502	Cut	Cut only visible in pipe trench section, steep sided 'V' shape with rounded base. Truncated to SW by land drain	0.8m deep.	Ditch cut, appears to project NW-SE
4	4503	Fill	Pale bluish-grey silty clay, occasional chalk flecks and flint pebbles	0.8m deep.	Sole fill of ditch 4502
4	4504	Cut	Cut visible only as oblique section in pipe trench section. Profile unclear. Aligned E-W. Truncated by 4502	0.38m deep	Probable ditch
4	4505	Fill	Mid-dark greyish brown silty clay	0.32m deep	Upper fill of ditch 4504
4	4506	Cut	Cut visible in one section of pipe trench only. Shallow sloping W side, steeper stepped e side, concave base	3.9m wide, 0.7m deep	Assumed to be pit as only visible in one section of pipe trench.
4	4507	Fill	Mid brownish grey clay, occasional chalk flecks	0.7m deep	Sole fill of 4506
4	4508	Cut	Cut visible in trench section, NW-SE, 'V' shaped, rounded base	1.28m wide, 0.62m deep	Assumed to be linear ditch cut
4	4509	Fill	Mid orange-brown clayey silt, occasional flint pebbles and chalk flecks	0.38m deep	Upper fill of ditch 4508
4	4510	Cut	Cut visible in pipe trench, steep sided 'V' shape with flat base, NW-SE	0.6m wide, 0.6m deep	Assumed to be linear ditch cut
4	4511	Fill	Mid orange brown silty clay	0.6m deep	Sole fill of ditch 4510
4	4512	Cut	Cut visible only in trench sides, U shaped, NW-SE	0.78m wide, 0.4m deep	Assumed to be linear ditch cut
4	4513	Fill	Mid greyish brown silty clay, occasional chalk flecks and flinty pebbles	0.4m deep	Sole fill of ditch 4512
4	4514	Cut	Cut visible in trench sides. Steep sided 'U' shape, NW-SE	1.2m wide, 1.1m deep	Assumed to be linear ditch cut
4	4515	Fill	Black silt, containing modern debris	1.1m deep	Sole fill of ditch 4514
4	4516	Cut	Cut visible in one side of trench only. Gradual W side. Truncated to NE by 4518	1.4m wide, 0.2m deep	Assumed to be pit as only visible in one section of pipe trench.
4	4517	Fill	Mid orange-brown clayey silt, frequent chalk flecks	0.2m deep	Sole fill of pit 4516
4	4518	Cut	Cut visible in sides of pipe trench. Steep sided 'U' shape, truncated to NE by 4520. Aligned N-S	1.1m deep	Assumed to be linear ditch cut
4	4519	Fill	Mid orange-brown silty clay, occasional flint and chalk pebbles, occasional chalk flecks	1.1m deep	Sole fill of ditch 4518
4	4520	Cut	Cut visible in sides of trench. Irregular 'V' shape. Aligned N-S. Cuts 4519 to SW	1.93m wide, 1.28m deep	Assumed to be linear ditch cut
4	4521	Fill	Mid blackish-grey clay, occasional chalk pebbles and flecks	0.38m deep	Primary fill of ditch 4520
4	4522	Fill	Mid orange-brown silty clay, occasional flint and chalk pebbles, occasional chalk flecks	0.92m deep	Upper fill of ditch 4520
4	4523	Cut	Cut visible in sides of trench. Steep W side, shallower E side, Flattish base. E-W aligned	1.44m wide, 0.5m deep	Ditch cut
4	4524	Fill	Mid brownish grey clayey silt, frequent flint and chalk pebbles and flecks	0.5m deep	Sole fill of ditch 4523
4	4525	Cut	Cut visible in one side of trench only, steep concave sides, flat base	0.89m wide, 0.59m deep	Assumed to be pit as only visible in one section of pipe trench.
4	4526	Fill	Mid brownish grey clayey silt, frequent flint and chalk pebbles and flecks	0.59m deep	Sole fill of pit 4525

Appendix A
Context Summary

Plot	Context	Context type	Description	Dimensions	Interpretation
4	4527	Cut	Cut seen in sides of trench, U shaped E side unclear. Aligned NW-SE	0.22m deep, width unclear	Cut of gully or pit
4	4528	Fill	Mid orange-brown clayey silt, occasional chalk pebbles and flecks	0.22m deep, width unclear	Sole fill of 4527
4	4529	Cut	Cut visible in trench sides. Irregular 'U' shape, NW-SE	0.62m deep width unclear	Cut of pit or ditch. Unclear as no plan view
4	4530	Fill	Mid orange-brown clayey silt, occasional chalk pebbles and flecks	0.62m deep width unclear	Sole fill of 4529
4	4531	Cut	Cut seen in only one side of trench. Broad U shape, concave base	1.5m wide, 0.55m deep	Assumed to be pit as only visible in one section of pipe trench.
4	4532	Fill	Mid orangey grey-brown silty clay, occasional flint and chalk pebbles and flecks	0.55m deep	Sole fill of 4531
4	4533	Cut	Cut visible in trench sides. N-S aligned, steep W side, more gradual W side, flat base.	1.08m wide, 0.59m deep	Assumed to be linear ditch cut
4	4534	Fill	Mid greyish orange-brown clayey silt, occasional chalk flecks	0.54m deep	Lower fill of 4533
4	4535	Cut	Cut visible in sides of trench. E-W aligned, irregular 'U' shape	0.87m wide, 0.22 deep	Gully cut
4	4536	Fill	Dark grey-black clayey silt, occasional charcoal and sandstone	0.22m deep, width unclear	Burnt fill of 4535
4	4537	Cut	Cut visible in sides of trench. NW-SE aligned, steep sides, flat base with 'U' shaped hollow at E end	2.2m wide, 0.72m deep	Possible ditch cut
4	4538	Fill	Slightly orange greyish brown clayey silt, occasional chalk and flint pebbles and flecks	0.72m deep	Naturally accumulated fill of ditch 4537
4	4539	Cut	Cut of ring gully in pipe trench. Circular linear, steep sides, rounded base. =4561, 4559, 4541	4.05x3.05m ring. Ditch 0.4m wide, 0.17m deep	Ring gully
4	4540	Fill	Firm mid grey-brown silty clay. Rare chalk flecks and flinty pebbles	0.17m deep	Naturally accumulated fill of ring gully 4539
4	4541	Cut	Semi-circular ring gully cut, 'U' shaped profile	0.18m deep	Cut of ring gully
4	4542	Fill	Firm mid grey-brown silty clay. Rare chalk flecks and flinty pebbles	0.18m deep	Naturally accumulated fill of ring gully 4541
4	4543	Cut	NW-SE linear. Shallow U shape. Truncated to e by land drain cut	0.22m deep, width unclear	Furrow truncating ring gully
4	4544	Fill	Mid orange-brown clayey silt, rare sandstone pebbles and chalk flecks	0.22m deep, width unclear	Sterile furrow fill
4	4559	Cut	Segment cut through ring gully. Steep sided 'U' shaped profile. =4539, 4541, 4561	0.4m wide, 0.23m deep	Ring gully cut
4	4560	Fill	Firm mid orange-brown silty clay, rare chalk flecks and flint pebbles	0.23m deep	Natural silting of ring gully
4	4561	Cut	Segment cut through ring gully. Steep sided 'U' shaped profile with narrow base. =4539, 4541, 4559	0.4m wide, 0.24m deep	Cut of ring gully
4	4562	Fill	Firm mid brown silty clay. Rare chalk flecks and flint pebbles	0.24m deep	Natural silting of ring gully
4	4563	Layer	Mid yellow-brown silty sand, frequent gravel and silty clay patches. Appears to contain SF 26000	0.33m deep	Sandy layer
4	4565	Cut	Cut visible in only 1 side of trench, enclosed by ring gully. Steep NE side, shallow SW side, narrow base. Appears sub oval in plan, but unclear.	0.9m long, 0.42m deep	Pit cut of uncertain function
4	4566	Fill	Mid bluish grey clayey silt, occasional flint and chalk pebbles and flecks	0.42m deep	Sole fill of pit 4565
4	4567	Fill	Mid grey clay, occasional chalk flecks	0.12m deep	Basal fill of ditch 4504
4	4568	Fill	Mid orange-brown silty clay, occasional flint pebbles, occasional chalk flecks	0.74m wide, 0.09m deep	Upper fill of ditch 4500. Possibly fill of recut
4	4569	Fill	Mid grey-brown silty clay, occasional chalk flecks	0.72m wide, 0.05m deep	Upper fill of ditch 4533
4	4570	Fill	Mid orange brown silty clay, occasional chalk flecks	0.74m wide, 0.1m deep	Upper fill of ditch 4545
4	4571	Fill	Mid grey brown silty clay, occasional chalk flecks and pebbles	0.26m deep	Lower fill of ditch 4508
8	8000	Cut	Cut visible in trench sides. Gently sloping stepped SW side, undulating base, NE side unclear	4.5m wide, 0.75m deep	Unclear if cut of pit or oblique section of ditch
8	8001	Fill	Dark grey brown clayey silt, occasional flint, chalk and sand stone fragments	0.75m deep	Sole fill of 8000

Appendix A
Context Summary

Plot	Context	Context type	Description	Dimensions	Interpretation
8	8002	Layer	Mid brown-yellow sandy silt, occasional chalk and flint pebbles. Seals 8001	up to 0.2m deep	Colluvial layer or subsoil interface
8	8003	Cut	N-S linear, 'U' shaped profile	0.45m wide, 0.18m deep	Gully cut
8	8004	Fill	Mid brown-grey silty clay, rare chalk flecks	0.18m deep	Silting fill of gully
8	8005	Cut	N-S linear, steep sides, flat base	1.35m wide (oblique section), 0.28m deep	Marked on maps as extant boundary, but only visible only after machining.
8	8006	Fill	Dark grey-brown silty clay, rare chalk flecks	0.28m deep	Fill of ditch 8005
8	8007	Cut	E-W linear, near vertical sides, flattish base	0.4m wide (oblique section), 0.28m deep	Shape suggests drainage gully.
8	8008	Fill	Mid yellow-grey clayey silt, occasional chalk flecks	0.28m deep	Fill of drainage gully 8007
8	8009	Cut	Cut visible in 1 side of trench only. Broad 'U' shaped profile.	2.5m wide, 0.75m deep	Assumed to be pit as does not extend to other side of trench
8	8010	Fill	Mid orangey grey-brown clayey silt, occasional chalk flecks and pebbles	0.75m deep	Sole fill of 8009
10	10500	Cut	N-S linear, flat based 'U' shaped profile	0.34m wide, 0.21m deep	Gully cut
10	10501	Fill	Mid brownish-grey clayey silt	0.21m deep	Fill of gully 10500
10	10000	Layer	Orangey grey-brown clayey silt, freq flint and occasional chalk	0.35m deep	Topsoil
10	10001	Layer	Pale yellow-brown/orange clayey silt, mod flint and chalk		Subsoil
11	11000	Cut	Cut visible in sides if trench. 'v' shaped, undulating sides, shallow 'U' shaped base. Aligned N-S	3.85m wide, 1.2m deep	Assumed to be ditch. May correspond with linear geophysical anomaly
11	11001	Fill	Mid bluish grey silty clay, occasional flinty pebbles and patches of orange sand	0.7m deep	Basal fill of 11000
11	11002	Fill	Pale orange-brown sandy silt, occasional chalk and sandstone pebbles and flecks	0.5m deep	Upper fill of 11000
11	11003	Layer	Pale buff yellow sandy silt, visible throughout plot	up to 0.3m deep	Colluvial layer
11	11004	Layer	Pale slightly yellow orangey-grey mottled clayey silt with occasional chalk and flint	ca. 0.6m D / 0.14m W	Fill of pond 11009
11	11005	Layer	Dark, slightly purple grey-black mottled clayey sandy silt	ca. 1m D / 20m W	Fill of pond 11009
11	11006	Layer	Mid greyish-orangey mottled clayey silt with patches of orange and red slightly sandy clay	ca. 1.6m D / 27m W	Fill of pond 11009
11	11007	Layer	Mid - dark slightly greenish-grey clayey sandy silt with patches of red silt	ca. 0.5m D / 13.5m W	Fill of pond 11009
11	11008	Layer	Dark purplish black slightly clayey silt	ca. 0.7m D / 9.9m W	Primary fill / siltation of pond 11009
11	11009	Cut	Wide and shallow, concave profile, flattish base	27.5m W, up to 2m D	Pond
11	11010	Layer	Pale buff sandy silt	27.5m W, max 0.3m T	Overburden layer sealing pond 11009
13	13005	Layer	Reddish brown silty clay with frequent chalk pebbles	1.6m W, 0.5m D	Variation of natural layer 13003
13	13006	Fill	Not recorded	1.9m W, 1m D	Fill of possible ditch 13007
13	13007	Cut	Moderately sloping, undulating sides, flattish base	1.9m W, 1m D	Possible linear ditch
13	13008	Cut	Vertical sides, flattish base	0.3m W, 1.2m D,	Modern land drain cut
13	13009	Fill	Not recorded	1.9m W, 1m D	Fill of pit or ditch terminus 13010
13	13010	Cut	Steep NE side, moderate, slightly stepped SW side, sharp BSB into flattish base	1.9m W, 1m D	Pit or ditch terminus
13	13011	Cut	Shallow bowl shaped profile with roughly flat base	0.8m D, 3.6m W	Possible natural hollow
17	17500	Cut	Cut visible in trench sides. 'U' shaped profile, NW-SE aligned	1.85m wide, 1.1m deep	Assumed to be linear ditch cut
17	17501	Fill	Mid brownish grey silty clay, occasional chalk flecks and sandstone pebbles	1.1m deep	Ditch fill
17	17502	Layer	Mid buff brown sandy silt, occasional chalk flecks. Visible over most of plot	up to 0.1m deep	Colluvial layer
17	17000	Layer	Slightly reddish brown silty clay, occasional flint and chalk pebbles	0.3m deep	Topsoil
17	17001	Layer	Orange-brown silty clay graduating to brownish red clay. Frequent chalk flecks and pebbles and flint fragments		Subsoil

Appendix A
Context Summary

Plot	Context	Context type	Description	Dimensions	Interpretation
17	17002	Cut	Irregular oval cut, aligned NW-SE. Steep irregular sides, flat base	3.95m long, 2.05m wide, 0.77m deep	Pit cut
17	17003	Cut	Sub circular cut, moderate sides, steep to S, flat base	1.5m long, 0.55m deep	Pit cut
17	17004	Fill	Dark grey brown silty clay	0.55m deep	Sole fill of pit 17003
17	17005	Fill	Mid orange-brown silty clay, occasional chalk flecks and flint pebbles	0.34m deep	Basal fill of pit 17002
17	17006	Fill	Mid grey brown clayey silt, orange patches. Occasional chalk flecks and chalk and flint pebbles	0.29m deep	Mid fill of pit 17002
17	17007	Fill	Dark grey-brown clayey silt, occasional sandstone, flint and chalk pebbles, occasional chalk flecks	0.28m deep	Top fill of pit 17002
17	17008	Cut	Circular cut, steep sides, rounded base	2.2m diameter, 0.74m deep	Pit cut
17	17009	Fill	Firm dark blue-grey silty clay, occasional pebbles, rare charcoal	0.44m deep	Secondary fill of pit 17008
17	17010	Fill	Mid blue-grey clay red mottle. Occasional stones	0.92m wide, 0.28m deep	Primary fill of pit 17008
17	17011	Cut	Truncated cut of uncertain shape, W side mod steep, stepped. Flat base	1m surviving width, 0.4m deep	Cut of pit
17	17012	Fill	Pale orange-grey silty clay, mod stones, occasional charcoal	0.86m wide, 0.33m deep	Secondary fill of pit 17011
17	17013	Fill	Soft mid blue-grey clayey silt, mod stones, occasional charcoal	0.3m wide, 0.2m deep	Primary fill of pit 17011
17	17014	Cut	Irregular truncated cut. Near vertical sides, undercut to W. Base slopes down to W	0.8m wide, 0.57m deep	Pit cut, possibly reused natural feature
17	17015	Fill	Mid grey-blue silty clay, red-orange mottle. Mod pebbles	0.91m wide, 0.21m deep	Secondary fill of pit 17014
17	17016	Fill	Red-orange sandy clay, grey brown mottle. Freq burnt stones, occasional charcoal	0.66m wide, 0.33m deep	Primary fill of pit 17014
17	17017	Cut	Oval cut, concave sides, flat base	0.77m long, 0.7m wide, 0.07m deep	Pit cut
17	17018	Fill	Dark blue-grey sandy clay, rare stone, occasional charcoal, freq burnt stone	0.07m deep	Fire debris backfill of pit 17017
17	17019	Cut	Irregular shape and profile, uneven base	0.4m deep	Part of large truncated natural feature
17	17020	Fill	Dark blue-grey silty clay, dark orange-brown mottle. Mod pebbles, rare charcoal	0.3m deep	Upper fill of natural feature 17019
17	17021	Fill	Mid orange brown silty clay, light grey mottle. Mod stones/pebbles	0.1m deep	Primary fill of natural feature 17019
17	17023	Fill	Light blue-grey sandy silty clay		Fill of pit 17019
17	17024	Cut	NE-SW linear, v shallow 'U' shaped profile	20m+ long, 1.3m wide, 0.1m deep	Furrow cut
17	17025	Fill	Mid brownish yellow silty clay	0.1m deep	Furrow fill
17	17026	Cut	Feature visible in machine trench sides. Amorphous, narrowing to south. Shallow sloping sides, undulating sides	12m N-S, 15m E-W, 0.3m deep	Natural hollow or pond
17	17027	Fill	Mid grey brown silty clay with orange mottle, occasional sandstone and flint pebbles, occasional chalk flecks	0.3m deep	Sole fill of 17026
17	17028	Cut	NE-SW linear, similar to 17024, unexcavated	20m+ long, 1.3m wide,	Furrow cut
17	17029	Fill	Mid yellow-brown silty clay	0.12m deep	Furrow fill
17	17030	Cut	E-W linear, shallow 'U' shaped profile	2.18m wide	Furrow cut
17	17031	Fill	light yellow-brown silty clay, occasional small stones		Furrow fill
17	17032	Cut	Segment cut into 17026, shallow sloping concave sides, undulating base	max depth 0.39m, but average 0.3m	Natural hollow or pond
17	17033	Fill	Mid orange-brown silty clay, yellow-orange mottle	0.05m deep	Silting deposit in 17032
17	17034	Fill	Mid orangish grey-brown silty clay	0.05m deep	Silting deposit in 17032
17	17035	Fill	Mid orangish grey-brown silty clay, rare flint pebbles	0.3m wide, 0.26m deep	Slump or inwash deposit on S edge of 17032
17	17036	Fill	Mid brown-grey clay	0.1m deep	Slumped deposit in feature 17032
17	17037	Fill	Mid bluish grey silty clay, brown mottle	0.32m max depth	Silting deposit in 17032
17	17038	Cut	Irregular discrete feature, irregular profile and base, truncated to S by 17040	0.35m max depth	Reused or backfilled natural hollow or possibly a group of contemporary pits

Appendix A
Context Summary

Plot	Context	Context type	Description	Dimensions	Interpretation
17	17039	Fill	Dark bluish grey clayey silt, orange patches. Occasional pebbles	0.35m deep	Sole fill of 17038
17	17040	Cut	E-W linear, shallow 'U' shaped profile	2.16m wide, 0.25m deep	Furrow
17	17041	Fill	Mid yellow-brown silty clay, occasional pebbles	0.25m deep	Fill of furrow
17	17042	Cut	Segment cut into 17026, shallow sloping concave sides, undulating base	max 0.2m deep	Pond or natural hollow
17	17043	Fill	Mid bluish grey-brown silty clay, occasional chalk flecks and flint pebbles	max 0.2m deep	Sole fill of 17042

AN ASSESSMENT OF THE FLINT ASSEMBLAGE.

1. Introduction.

A total of 31 struck flint artefacts were recovered during the archaeological watching brief on the route of the Sproatley to Aldbrough gas pipeline. In addition, some nine natural, unmodified pieces were also collected.

Flint artefacts were recovered from some eleven plots along the route of the pipeline, plots 1, 2, 3, 4, 5, 6, 8, 10, 11, 17 and 21. All of the artefacts were recovered by hand.

2. Methodology.

The assemblage has been catalogued in detail, with attributes such as the raw material, condition, and technological features being noted. For the purposes of this assessment the assemblage has been divided and examined per plot.

3. The Assemblage.

Table 1 shows the flint artefacts are very sparsely represented across the study area, with a slight increase in quantity within plot 21. Over the entire study area only two artefacts, a struck lump and a flake from plot 4, were recovered from a stratified deposit, layer 4563. The remainder of the flint artefacts were unstratified.

Plot	1	2	3	4	5	6	8	10	11	17	21
Blades	0	0	0	0	0	0	0	0	0	0	7
Cores & Struck Nodules	0	0	1	2	1	1	0	0	0	0	0
Flakes	3	0	0	1	0	0	0	0	1	0	7
Knapping Debris	1	0	0	0	0	0	0	0	0	0	0
Natural, Unmodified Pieces	0	0	0	7	0	0	0	1	0	0	1
Retouched & Utilised Pieces	0	1	0	0	0	0	1	0	0	2	2
Total	4	1	1	10	1	1	1	1	1	2	17

Table 1. Assemblage composition.

The majority of the assemblage is in a fresh condition with just two pieces, from plots 2 and 21, displaying slight patination. Edge damage or breakage has been noted on 52% of the overall assemblage. However the largest individual assemblage, that from plot 21, displays a greater level of damage, at some 69%.

Across the study area, a range of raw material types is represented. The types recovered from each plot are shown in Table 2. Each of the raw material types described in the table has examples containing opaque inclusions. Where the cortex could be observed it is buff or grey-coloured, thin and hard. Two examples recovered from plot 21 bore chatter marks and one piece from plot 6 appears to be water worn.

A small number of cores and struck lumps were recovered across the study area. However only one piece, a very small flat core recovered from plot 3, could be described as a good systematically flaked example. Of the remainder, plot 4 produced two struck lumps both sparsely flaked, one of which could be possibly be plough struck, and plot 5 also produced a

possibly plough struck lump. The final piece, recovered from plot 6, may represent a tested nodule as this piece appears to have been abandoned after very limited flaking.

	Plot	1	2	3	4	5	6	8	11	17	21
Brown / Black semi-translucent flint		50									6.7
Black, semi-translucent					33.3		100			50	33.3
Grey, semi-translucent		25			33.3				100		40
Grey / Brown, semi-translucent						100					
Honey, opaque											6.7
Honey, semi-translucent		25	100	100	33.3			100		50	13.3

Table 2. Raw material distribution – struck pieces (% per plot)

A total of six retouched and utilised pieces were recovered. Plot 2 produced a flake with possible utilisation damage along the right-hand side. A blade with possible retouch along the left-hand side was recovered from plot 8. Plot 17 produced two fragmentary blades, the first with utilisation damage along the left-hand side and the second with probable utilisation damage along both sides. Finally, plot 21 produced a retouched blade fragment with an area of concave retouch at the distal end and possible utilisation damage along the right-hand side, and a flake with possible utilisation damage along the left-hand side and the distal end.

4. Discussion.

Assemblages of this nature, where the artefacts are spread thinly over a large area, are not particularly diagnostic in terms of the date and types of activities that they might represent. However the recovery of struck flint from the plots noted above suggests that activity of prehistoric date is represented, albeit on a very small scale.

Given that the majority of the artefacts are in a fresh condition, it is likely that the artefacts were originally deposited within the vicinity. However the fact that the majority of the artefacts were unstratified and have evidence for post-depositional damage, demonstrates that they have been subject to some disturbance.

The range and types of raw material represented suggests that flint was probably collected from the surface. However, the water worn and chatter marked examples may also indicate the use of river gravel as a source for raw material.

The paucity of artefacts recovered from both the individual plots and the overall study area suggests very limited activity of prehistoric date. Hence this assemblage does not appear to demonstrate industrial or domestic activities taking place within the vicinity. Therefore it is likely that only transitory activity is represented.

Looking at the assemblage overall, based upon the forms present and the technological attributes, it appears that the artefacts are broadly contemporary. However none of the pieces collected from the study area are particularly diagnostic in terms of dating. Saville (1981, 43-44) has demonstrated that flake shapes change over time from long slender flakes of Neolithic date to broader, squatter forms of Bronze Age date. Therefore given that a number of blades and blade-like flakes are represented within this assemblage and, that the majority of the retouched and utilised pieces are modified blades, it is likely that the assemblage dates broadly to the Neolithic or early Bronze Age period. Based upon the core reduction techniques and the fresh condition of the assemblage, it is unlikely that an earlier date is represented.

5. Recommendations for Further Work.

Further analysis would not increase our understanding of this assemblage and would not therefore contribute considerably towards the understanding of the study area. Therefore no further work is recommended.

Tania Wilson MA AIFA

October 2006.

Bibliography.

Saville, A. (1981) *Grimes Graves, Norfolk. Excavations 1971-72: Volume II. The Flint Assemblage.*

Appendix B
Flint Assessment

Plot	Context	Quant	Identification	Breakage	Condition	Weight	Cortex		Amount	Butt	Plat Ab	Hinge	Comments
							Raw material	Type					
1	1003	1	D: Shatter		Fresh	23	Brown / Black semi-trans with opaque incl.	Buff, thin hard	1/2	*	*	*	
1	1004	1	F: Flake		Fresh	2	Grey, semi-trans with opaque incl.	*	*	Plain	Y	N	
1	1007	1	F: Flake		Fresh	3	Honey, semi-trans	Grey, thin hard	Butt	Cortex	N	N	Relict core edge.
1	1008	1	F: Flake	Damaged	Fresh	6	Brown / Black semi-trans with opaque incl.	Buff, thin hard	1/4	Nat	Y	N	
2	1010	1	U: Utilised flake		Slight patina	6	Honey, semi-trans	*	*	Plain	Y	Y	Poss utilisation damage along RHS.
3	1011	1	C: Core, multi-platform		Fresh	9	Honey, semi-trans with opaque incl.	*	*	*	*	*	V small, flat. ?illustrate.
4	1005	1	C: Struck lump		Fresh	27	Honey, semi-trans with opaque incl.	Grey, thin hard	1/2	*	*	*	Natural piece with sparse flaking, could be plough struck.
4	3006	1	N: Natural			21							
4	4546	1	N: Natural			25							
4	4550	1	N: Natural			5							
4	4563	1	C: Struck lump		Fresh	147	Black, semi-trans	Buff / Grey, thin hard	Trace	*	*	*	One flake removed from naturally shattered lump.
4	4563	1	FB: Flake, blade-like	Butt missing	Fresh	1	Grey, semi-trans	Buff, thin hard	1/4	*	*	*	
4	4563	4	N: Natural			88							
5	1025	1	C: Struck lump		Fresh	18	Grey / Brown, semi-trans with opaque incl.	Grey, thin hard	Trace	*	*	*	Probably plough struck.
6	1006	1	C: Tested lump	In 2 pieces	Fresh	288	Black, semi-trans with opaque incl.	Grey, thin hard. Water worn	1/4	*	*	*	Poss tested nodule, covered with natural scars.
8	1060	1	R: Retouched blade	Damaged	Fresh	4	Honey, semi-trans with opaque incl.	Buff, thin hard	Trace	Damaged	*	N	Poss retouch along LHS.
10	1037	1	N: Natural			44							
11	1075	1	F: Flake		Fresh	4	Grey, semi-trans with opaque incl.	Buff, thin hard	1/4 & Butt	Cortex	N	N	

Appendix B
Flint Assessment

Plot	Context	Quant	Identification	Breakage	Condition	Weight	Cortex		Amount	Butt	Plat Ab	Hinge	Comments
							Raw material	Type					
17	1114	1	U: Utilised blade	Medial portion	Fresh	1	Black, semi-trans	Grey, thin hard	1/2	*	*	*	Poss utilisation damage along LHS.
17	1115	1	U: Utilised blade	Medial portion	Fresh	1	Honey, semi-trans	Grey, thin hard	1/4	*	*	*	Poss utilisation damage along both sides. Relict core edge.
21	1088	1	B: Blade		Fresh	5	Black, semi-trans	Grey, thin hard	1/4	Plain	N	N	
21	1096	1	R: Retouched blade	Butt missing	Fresh	11	Black, semi-trans with opaque incl.	*	*	*	*	N	Area of concave ?retouch at distal end. Poss utilisation damage along RHS.
21	1098	1	F: Flake	Damaged	Fresh	3	Honey, opaque with incl.	Buff, thick hard	Butt	Cortex	N	N	
21	1100	1	B: Blade	Distal snap	Fresh	1	Honey, semi-trans with opaque incl.	*	*	Dihedral	N	*	
21	1100	1	F: Flake	Butt missing	Fresh	3	Honey, semi-trans with opaque incl.	*	*	*	*	N	
21	1103	1	B: Blade	Butt missing	Fresh	1	Grey, semi-trans with opaque incl.	*	*	*	*	N	
21	1104	1	F: Flake		Fresh	7	Grey, semi-trans with opaque incl.	*	*	Plain	N	N	
21	1109	1	B: Blade		Fresh	3	Grey, semi-trans with opaque incl.	Buff, thin hard	1/4 & Butt	Cortex	N	N	
21	1109	1	B: Blade	Medial portion	Slight patina	2	*	*	*	*	*	*	
21	1109	1	B: Bladelet		Fresh	1	Black, semi-trans	Buff, thin hard	1/2	Plain	Y	N	
21	1109	1	F: Flake	Distal snap	Fresh	4	Brown / Black semi-trans with opaque incl.	Grey, thin hard. Chatter	1/4	Plain	Y	*	
21	1109	1	F: Flake	Distal snap	Fresh	2	Grey, semi-trans with opaque incl.	Grey, thin hard. Chatter	1/4	Plain	Y	*	
21	1109	1	F: Flake	Damaged	Fresh	1	Grey, semi-trans with opaque incl.	*	*	Dihedral	Y	N	
21	1110	1	B: Blade	Damaged	Fresh	2	Black, semi-trans with opaque incl.	Buff, thin hard	Trace	Dihedral	N	N	
21	1111	1	U: Utilised flake	Damaged	Fresh	6	Black, semi-trans with opaque incl.	Grey, thin hard	Trace & Butt	Cortex	Y	N	Poss utilisation damage along LHS & distal end.

Appendix B
Flint Assessment

Plot	Context	Quant	Identification	Breakage	Condition	Weight	Cortex		Amount	Butt	Plat Ab	Hinge	Comments
							Raw material	Type					
21	1112	1	N: Natural			15							
21	1113	1	FB: Flake, blade-like		Fresh	7	Grey, semi-trans with opaque incl.	Buff, thick hard	1/2 & Butt	Cortex	Y	N	

AN ASSESSMENT OF THE POTTERY AND OTHER CERAMIC

Peter Didsbury M. Phil.

Introduction and methodology

A total of 147 sherds of pottery and ceramic building material, weighing 1904 grams, were submitted for examination. All material was quantified by the two measures of count and weight, according to fabric or material category within archaeological context. Data was entered onto an Access database, which is supplied as an integral part of this report and which should be consulted on matters of detail where appropriate. It is strongly recommended that a copy of the database be included in any final compilation. Fabric terminology and codes employed in the database are set out in an appendix, below.

A note on Iron Age fabrics

The Iron Age to early Roman handmade pottery found during the watching brief is of two fabric types, here given the fabric codes H2 and H4:

H2 The fabric contains moderate to abundant angular non-soluble stone temper. This is usually a combination of quartz, sandstones and igneous rock fragments, particularly quartz dolerite. Coarseness grades are very variable, the finer examples being best described as ‘sandy’ or ‘coarse sandy’, the medium grades as ‘gritty’, and the coarser having large angular inclusions < 2mm in size.

H4 The material is vesicular. In most cases, the voids probably result from the post-depositional leaching of original calcareous tempering agents, but in a few cases they might result from the burning out of vegetable matter.

A bimodality between stone-tempered and calcareously tempered wares is familiar on East Yorkshire sites through much of the first millennium BC, cf. Rigby’s (1986) ‘erratic-tempered’ and ‘calcareously-tempered’ wares (ETW and CTW). The factors which determine the relative frequency of different fabric types, both within and between sites, are not completely understood (Rigby 1986, 146), though in general terms it is clear that the choice of tempering material might be conditioned by such factors as the proximity of different resource bases, the suitability of different tempering agents for different vessel types, cultural tradition, and socio-economic contact with other groups.

Hand-made vessels in Iron Age tempering traditions continued to be made after the Roman Conquest, and it is clear that, on non-nucleated rural sites in particular, they tended to dominate assemblages in the region throughout the second century AD. In the absence of diagnostic form characteristics, it is often impossible to date sherds more closely than to the Iron Age or Early Roman period.

Table 1. Relative distribution of Iron Age fabric types

Fabric type	% no. of sherds (n = 87)	% wt (n =946 grams)
H2	85.1	71.1
H4	14.9	28.9
TOTALS	100	100

Discussion: the assemblages

PLOT 3

Excavated material

Fill 3501 of cut 3500 produced 9 sherds of hand-made pottery (fabric H4), weighing 235 grams. The majority of these (5 sherds, 228 grams) were rim sherds and fragments of a large jar (rim diameter up to c. 380mm) with heavy, externally thickened rim. The fabric is reduced, with a reddish surface on top of the rim and oxidisation patches externally. It contains occasional quartz sand grains and common voids, the latter probably vegetable in origin.

This kind of jar has its origins in the Late Pre-Roman Iron Age (LPRIA) south of the Humber, and continued to be made throughout the second century AD, in a variety of fabrics, ranging from grog- and shell-tempered wares through to finer, fully Romanised, sand-tempered greywares. Both hand-built and wheel-thrown versions were produced. LPRIA and early Romano-British examples may be illustrated by several vessels from ceramic Stages 9-11 at Dragonby (cf. May 1996, illus. nos 608, 609). A hand-built vessel containing a first- or second-century cremation was found in a cist burial at Waddington, Lincolnshire (Darling 1981, fig. 10), while other examples may be cited from: Dragonby Kiln 3 (Rigby and Stead 1976, fig. 64, no. 4 – Flavian/Trajanic); Old Winteringham (Rigby and Stead 1976, fig. 74, no. 11 – Claudio-Neronian, and fig. 78, no. 76 – unstratified); Winterton (Rigby and Stead 1976, fig. 80, no. 19 – Antonine). As Darling (*op. cit.*) remarks, the date at which the form ceased to be made is uncertain. The present writer is not aware of examples from North Lincolnshire which appear to post-date the second century AD. Indeed, there would seem to have been little need for such vessels far into the third century, once both Dalesware and a range of large wide-mouthed jars and bowls produced by the greyware industries became available.

The Claudio-Neronian vessel from Old Winteringham, cited above, provides a very close parallel for the vessel under discussion, and justifies a strong assumption that it dates to the mid first century AD.

The remaining material from 3501 is four fragments of a single vessel in a reduced, abundantly sand-tempered ware with occasional quartz grains to c. 2mm. The exterior surface is well-smoothed, if not burnished. It is here categorised as H2, though the vessel from which it comes might conceivably be wheel-thrown. It is almost certainly closely contemporary with the vessel discussed above.

The feature would seem to have been open for the reception of material in the middle of the first century AD, i.e. before the appearance of the Roman power on the north bank of the Humber in AD 71. The principal vessel certainly, and the fragments probably, emanate from North Lincolnshire and point to a level of socio-economic contact between Parisian and Corieltavian territory, the latter probably after its incorporation into the Roman Empire.

Surface finds

Find no. 1012 refers, a single body sherd of weathered Roman wheel-thrown greyware. Although not datable, its fabric probably suggests a date before the mid third century, rather than later.

PLOT 4

Excavated material

Small assemblages of Iron Age and Roman material were obtained from fills 4511, 4517, 4536 and 4560 (of cuts 4510, 4516, 4536 and 4561, respectively). Cut 4561 is described as a ring gully.

Fill 4511 contained 2 large joining (freshly fractured) sherds of Roman greyware (259 grams), comprising the 'complete' base/lower body of a wheel-thrown jar, diameter 85 mm. The fabric is hard blue-grey with abundant sand. The base is turned but there are traces of wire removal marks remaining. An encircling groove c. 60mm above the base appears to demarcate a zone of scribed acute-angled lattice decoration above it. A North Lincolnshire origin is possible for this vessel, but the fabric most closely resembles South Yorkshire products, probably from the Cantley kilns. The treatment of the base, and the style of decoration, both suggest a second-century date. Cf. Annable 1960, fig.14, no. 303, from Cantley Kiln 3.

Fill 4517 contained a small fragment (3 grams) of H2 in a sandy to gritty reduced ware. It could be either of Iron Age or early Romano-British date. See also fill 4560, below.

Fill 4536 contained both hand-made and wheel-thrown material. The former consists of a body and flake (7 grams) of reduced vesicular ware (H4). The voids most probably result from the post-depositional leaching of original calcareous temper. Calcareous temper in this region was used throughout the first millennium BC and at various points during the Roman period. These examples are probably Late Iron Age or early Romano-British, but are not more closely datable. The wheel-thrown material comprises body sherd from two different wheel-thrown greyware vessels. Their fabrics, described in the database, suggest that they pre-date the mid third century AD.

Fill 4560 also contained mixed material. A single sherd of H2 (3 grams) is closely comparable to that from 4517 (q.v.) and is probably also of Late Iron Age to Early Roman date. Also present were 3 sherds of wheel-thrown Roman greyware, from the same vessel. Once again, the fabric suggests a date before the mid third century AD.

The pottery from the above features is of disappointingly low evidential value. It is most suggestive of site activity at the close of the Iron Age and/or the early part of the Roman period.

Surface finds

Find nos 1016, 1019, 3004, 3005 and 3007 refer.

1016 is a fragment (2 grams) of Roman oxidised ware, not otherwise datable.

3004 is a basal flake from a jar in H4, of similar fabric to the material in 4536 (see above).

3005 is two sherds (24 grams) of sandy/gritty ware from the same vessel, either hand-made (H2) or Roman greyware (RG).

1019 and 3007 are sherds of Late Blackware, an iron-glazed product of country potteries and larger factories in Yorkshire from the later eighteenth to the earlier twentieth century (Lawrence 1974, *passim*).

PLOT 5

Surface finds

Find nos 1021-24, 1026-1028 and 1031 refer. The total 'assemblage' amounted to 9 sherds (66 grams).

1023 is a fragment (3 grams) of Iron Age or Early Roman H2. The database may be consulted for fabric description.

1028 is an unglazed body sherd of unattributed medieval ware (6 grams). The database may be consulted for fabric description.

The remaining sherds are all of broadly nineteenth-century date. Fabrics are FPWW, LBLAK, MODSW, UGRE and WHDIP. The database may be consulted for details.

PLOT 6

Surface finds

Find nos 1032, 1033, 1035, 1049 and 1054 refer. Pottery amounted to 5 sherds, weighing 106 grams. 1033 and 1049 were medieval, the former a sherd of c. late twelfth- to early fourteenth-century 'sandy orangeware' (SANOW) and the latter a sherd of unattributed medieval coarseware (UNATCO) of broadly the same date. The remainder were sherds of nineteenth- to early twentieth-century LBLAK and MODSW.

PLOT 7

Surface finds

Find numbers 1055, 1057 and 1058 refer.

1055 is a body sherd of Iron Age pottery (H2), weighing 11 grams. It is not closely datable. See database for description and parallel elsewhere along the pipeline.

The remaining items are ceramic building material, being fragments of black-glazed pantiles. Such iron-glazed products, of either English or Dutch origin, are recorded on standing buildings in the East Riding from 1733 onwards (Tibbles 2001, 1).

PLOT 8

Surface finds

Find nos 1029, 1041-1042, 1059 and 1062-1064 refer.

1029 is a 6-gram sherd of fourteenth- or fifteenth-century West Cowick-type Humberware (HUM1).

1062 comprises 2 body sherds (17 grams) from two different SANOW vessels (see above).

1063 is a fragment of black-glazed pantile (18 grams). See above.

The remainder are sherds of 'nineteenth-century' FPWW, LBLAK and MODSW. The database may be consulted for details.

PLOT 9

Surface finds

Find nos 1030, 1043-1044 and 1080 refer. Surface-collected material amounts to 5 sherds, weighing 53 grams. All the material is of 'nineteenth-century' date, fabrics represented being LBLAK and WHDIP. The database may be consulted for details.

PLOT 10

Surface finds

Find nos 1036, 1045-1046, 1066-1067, 1069, 1071 and 1073 refer. Surface-collected material amounts to 26 sherds, weighing 233 grams.

1036 is an assemblage of Late Iron Age H2 material, comprising 18 sherds, weighing 120 grams. It consists of bodies, scrap, crumbs and a single rim sherd from an uncertain number of vessels. Fabrics are mixed, generally hard and reduced, and many tempered with a mixture of quartz dolerite, sandstones and quartz. The rim is simple and upright, from a (probably small) jar of uncertain diameter. The type is common and hardly datable, though a close parallel is provided by Challis and Harding 1975, fig. 46, no. 11. This comes from Great Ayton Moor, a site attributed by the authors to their 'Late La Tène', third to first century BC (*op. cit.*, 134). Hard reduced fabrics of this type were certainly in production from the fourth century BC onwards (Manby 1996, 35-36; Cardwell and Speed 1996, 38).

1046 and 1066 were sherds of *c.* late twelfth- to early fourteenth-century SANOW (see above).

1045 and 1067 were sherds of fourteenth- or fifteenth-century West Cowick-type Humberware (HUM1).

The remainder result from nineteenth- or earlier twentieth-century activity, fabrics represented being LBLAK, MODSW and PORC.

PLOT 11

Surface finds

Find no. 1078 refers. This is a (5-gram) basal angle in a wheel-thrown sand-tempered ware, unattributed to named fabric or period. The database may be consulted for details.

PLOT 12

Surface finds

Find no. 1079 refers. This is a rouletted and beaded glossy black Late Factory Product (LFP). A later nineteenth- or twentieth-century date seems appropriate.

PLOT 13

Surface finds

Find nos 1081 and 1083 refer. Both are single sherds of H2.

1081 (8 grams) is an upright jar rim, with 'constricted', 'hollowed', 'furrowed' or 'necked' exterior. The fabric is reduced, with common quartz up to 2mm, but also possible igneous fragments and sandstone, and a grey fine-grained pebble. The form is difficult to parallel in Late Iron Age assemblages in the region, though it has some similarity to a vessel such as Challis and Harding 1975, fig. 24, no. 12, from Pit 2 at Manor Farm, Kilham, possibly late fifth or fourth century BC. There are also similarities to Rigby 2004, fig. 19, no. 9. This comes from Pit EE5 at East Field, Burton Agnes, a feature which is described as belonging to 'a period of active pit digging before 500 BC' (*op. cit.*, 106). In terms of the form typology used in the volume, the pottery is described as belonging to 'Typological Grouping d (900-600 BC)'.

The vessel profile is not extant enough to allow dating with any degree of confidence, but the possibility should be borne in mind that the sherd might belong to the first half of the first millennium BC, rather than later.

1083 is a 2-gram body fragment in a coarse sandy/gritty fabric, not closely datable within the Iron Age or early Roman period.

PLOT 14

Surface finds

Find no. 1082 refers. This is a basal sherd (9 grams) in White-Dipped Ware. If, as may be the case here, it is a local imitation of Staffordshire Slipware, an eighteenth- rather than nineteenth-century date might be appropriate.

PLOT 17

Excavated features

Pottery was recovered from a series of intercutting pits, viz. 17002, 17003, 17008, 17011, 17017 and 17024. These had multiple fills in each case and truncated an earlier natural feature, possibly a pond (17019).

Fill 17004 contained Iron Age pottery, consisting of 13 sherds of H2 (210 grams) and 3 sherds of H4 (9 grams). The H2 included a jar rim cf. Challis and Harding 1975, fig. 35, no. 7 (from Ousethorpe), and Didsbury 2004, fig. 102, no. 35 (from Wharram Percy North Manor). A Late Iron Age, possibly peri-Conquest, date is indicated.

Fills 17006 and 17007 yielded further body sherds and fragments of H2 and H4. The database may be consulted for details.

Fill 17009 yielded a fairly large assemblage, consisting of 14 sherds of H2 (200 grams) and a single sherd of H4 (17 grams). The H2 included two small joining fragments from the upright flat-topped rim of a jar. Jars with such rims occur throughout the first millennium BC, but are particularly common in the closing stages of the regional Iron Age. The database may be consulted for fabric descriptions.

Fill 17012 contained 2 body sherds of H2 (15 grams). The database may be consulted for fabric descriptions.

Fill 17020 contained 5 body sherds of H2 (9 grams). These come from two vessels, one of which (represented by three joining fragments) bears complex incised decoration. It is just possible that this may be part of an infilled (cross-hatched?) chevron or lozenge pattern, though the fragments are too small for certainty. Neither the coarse sandy/gritty fabric, nor the complex and rather irregular nature of the decoration, are suggestive of Beaker material; neither is it possible easily to compare the decoration with incised examples from the early to mid first millennium BC in the region, such as that seen on an angular bowl from Pit 3 at Manor Farm, Kilham, which has a rather open and neatly executed three-line chevron, or a vessel from Castle Hill, Scarborough, again with multiple-line chevrons (Challis and Harding 1975, fig. 26, no. 4; fig. 42, no. 12). It is possible that the sherd is an (unconvincing) 'imitation' of Late Iron Age decoration seen on vessels from Dragonby, south of the Humber. Finally, and possibly most likely, it might be considered as an example of Scored Ware (*sensu* Elsdon 1993, 2-3). Scored Ware appears to have been in production from the fourth century BC and has a clear East Midlands distribution, most of it occurring in an area bounded by the Rivers Trent and Nene (Elsdon *op. cit.*, fig. 3). North of this area, only a scattering of finds is known, though the type appears to last longer in the north, overlapping with the advent of wheel-made pottery, Gallo-Belgic imports and Roman greywares (Elsdon 1993, *loc. cit.*) Late dates are certainly the case at two of the three East Riding sites at which it has now been found, *i.e.* Faxfleet 'A' on the north bank of the Humber and Saltshouse School in Hull, the latter site conventionally attributed to the first century AD, before the Roman entry into Yorkshire in AD 71 (Challis and Harding 1975, 80; fig. 39, no. 7; fig. 41, nos 12, 14). The third example, from Easington, may also be of late date (Didsbury, in prep.). If considered as

Scored Ware, this would be the fourth example from the northern bank of the Humber known to the present author.

Finally, fill 17035 contains a single 2-gram fragment of H2, described in the database.

Only hand-made material occurred in these features. Lack of diagnostic form characteristics make dating difficult, though a general 'Late Iron Age' date is perhaps to be preferred.

Surface finds

Find nos 1085-1086 and 1094 refer.

1085 is a further sherd of H2 (5 grams).

1086 is from the base of a fourteenth- or fifteenth-century Humberware jug (42 grams).

1094 (14 grams) is from the base of a SANOW jar (?). The fabric is reminiscent of twelfth- to early thirteenth-century Beverley 1 coarseware fabrics (Didsbury and Watkins 1992) but contains more abundant and larger sand.

PLOT 19

Surface finds

Find no. 1087 refers. This is a single sherd (8 grams) of some intrinsic interest, being from the gallery of a Neo-Classical teapot in Basalt Ware. Basalt Ware, a black stoneware, was produced at several centres in the very late eighteenth and early nineteenth century, including Castleford (Roussel 1982, 29-30). The sherd has a moulded frieze of recurring floral motifs but does not appear to be a Castleford product. A date in the period c. 1795-1815 would be appropriate.

PLOT 21

Surface finds

Find nos 1089, 1093, 1097, 1099, 1106 and 1107 refer.

A total of 6 sherds (95 grams) was recovered during surface collection. With the exception of 1089, a single sherd of presumably Iron Age H2, the material was of nineteenth- or early twentieth-century date, consisting of sherds of GREB, LBLAK, MODSW and WHDIP.

Conclusions and recommendations

Evidence of Iron Age and early Romano-British occupation was found at several points along the pipeline. Much of the material submitted is of low diagnostic potential, particularly the handmade wares in Iron Age tempering traditions. Much of it is not closely datable, but there are clear indications of mid first-century AD activity in Plot 3 and second-century AD activity in Plot 4. The material from Plots 10 and 17 suggests activity in the closing centuries of the Iron Age. There is also the intriguing possibility of material dating to the first half of the first millennium BC in Plot 13.

Post-Roman activity is represented by a small amount of High and Late Medieval pottery, and by typical nineteenth- and early twentieth-century factory products. These are of little significance and are likely to derive from various types of agricultural activity.

No further work is thought necessary on these assemblages, though clearly they have the potential to inform further work in the area, and to contribute to future fabric characterisation studies. All material should therefore be retained in an appropriate material archive.

Appendix: fabric terminology and database codes

Fabric terminology and codes for Iron Age material are explained earlier in this report. Roman and some other fabrics have generic codes. For medieval and later fabrics the terminology usually follows that set out in the published Hull and Beverley type series (Watkins 1987, Didsbury and Watkins 1992). Some common names are self-explanatory or in accepted regional or national use.

Code	Fabric/remarks
BSLT	Basalt Ware
CBM	Ceramic building material
FPWW	Factory-produced white earthenwares
GREB	Post-medieval brown-glazed red earthenwares
H2	Stone-tempered hand-made wares in the regional Iron Age tempering tradition
H4	Vesicular hand-made wares in the regional Iron Age tempering tradition
HUM1	West Cowick-type Humberware
LBLAK	Late Blackware
LFP	Late Factory Products (excluding FPWW)
MODSW	Modern stonewares, kitchen and bottle types
PORC	Porcelain
RG	Roman wheel-thrown greyware
RO	Roman oxidised wares
SANOW	Sandy orangewares, similar to, probably broadly contemporary with, Beverley wares but from an unknown centre or centres
UGRE	Unglazed red earthenware, flowerpots etc.
UMED	Unattributed medieval fabric
UNAT	Unattributed
UNATCO	Unattributed medieval coarseware
WHDIP	White-dipped earthenware

References

- Ambrose, T.M. 1981 'Waddington, Romano-British Burial', *Lincolnshire History and Archaeology* **16**, 76-78
- Annable, F.K. 1960 *The Romano-British Pottery at Cantley Housing Estate Doncaster. Kilns 1-8*. Doncaster Museum and Art Gallery
- Armstrong, P. and Ayers, B. 1987 *Excavations in High Street and Blackfriargate, East Riding Archaeologist* **8**
- Cardwell, P. and Speed, G. 1996 'Prehistoric occupation at St Giles by Brompton Bridge, North Yorkshire', *Durham Archaeological Journal* **12**, 27-40
- Challis, A. and Harding, D.W. 1975 *Later Prehistory from the Trent to the Tyne*, British Archaeological Report **20** (Oxford)
- Darling, M.J. 1981 'The Cremation Vessel', in Ambrose 1981, 77
- Didsbury, P. and Watkins, G. 1992 'The pottery', in Evans and Tomlinson (eds), 81-120
- Didsbury, P. 2004 'The Iron Age and Roman pottery', in Rahtz and Watts 2004, 169-170

Didsbury, in prep. Publication report on the Iron Age and Roman pottery from excavations at Easington, on behalf of West Yorkshire Archaeological Services

Elsdon, S. M. 1993 *Iron Age Pottery in the East Midlands. A Handbook*. University of Nottingham.

Evans, D.H. and Tomlinson, D.G. 1992 *Excavations at 33-35 Eastgate, Beverley, 1983-86*. Sheffield Excavation Report **3** (Sheffield)

Lawrence, H. 1974 *Yorkshire Pots and Potteries* (Newton Abbot)

Manby, T. G. 1996 'Iron Age Pottery' in Cardwell and Speed 1996, 35-36

May, J. 1996. *Dragonby*. Oxbow Monograph 61 (Oxford)

Powlesland, D. 1986 'Excavations at Heslerton, North Yorkshire 1978-82', *The Archaeological Journal* 143, 53-173

Rahz, P. A. and Watts, L. 2004 The North Manor Area and North-West Enclosure. Wharram: A Study of Settlement on the Yorkshire Wolds **9**. *York University Archaeological Publications* **11**

Rigby, V. and Stead, I.M. 1976 'Coarse Pottery', in Stead 1976, 136-190

Roussel, D. E. 1982 *The Castleford Pottery 1790-1821*. Wakefield Historical Publications (Wakefield)

Rigby, V. 1986 'The Later Prehistoric and Roman Pottery', in Powlesland 1986, 141-156

Rigby, V. 2004 *Pots in Pits. The British Museum East Yorkshire Settlements Project. 1988-1992. East Riding Archaeologist* **11**.

Stead, I.M. 1976 *Excavations at Winterton Roman Villa and Other Roman Sites in North Lincolnshire, 1958-1967*. DOE Archaeological Report **9**. HMSO (London)

Tibbles, J. 2001 'Notes and information on pantile with particular reference to East Yorkshire', unpublished document in the author's possession.

Watkins, J.G. 1987 'The Pottery', in Armstrong and Ayers (eds) 1987, 53-182

Appendix C
Pottery Assessment

ID	Plot	Context	Fabric	Number of		Remarks
				Sherds	Weight	
1	9	01030	LBLAK	2	8	Base and body, two vessels.
2	9	01043	WHDIP	1	17	Pancheon rim. Buff fabric, brown band on top of rim.
3	9	01044	LBLAK	1	11	Body.
4	9	01080	WHDIP	1	17	Body. Internal glaze.
5	12	01079	LFP	1	8	Glossy Black base. Teapot? Rouletted and beaded.
6	14	01082	WHDIP	1	9	Base. Egg yolk yellow glaze over white slip on interior. Reddish fabric. May be imitating Staffordshire Slipwares and therefore be contemporary.
7	19	01087	BSLT	1	8	Gallery sherd from neo-classical teapot. See text.
8	21	01106	WHDIP	1	20	Body.
9	21	01099	LBLAK	1	14	Body.
10	21	01097	LBLAK	1	35	Body.
11	21	01107	MODSW	1	4	Body. Stamped decoration, external brown salt glaze, interior blue-lined.
12	21	01093	GREB	1	6	Body, greenish brown glaze both sides.
13	10	01069	LBLAK	1	3	Body. Glazed both sides.
14	10	01067	HUM1	1	47	Jug/cistern body.
15	10	01066	SANOW	1	5	Body. Sandy orange, thin-walled.
16	10	01046	SANOW	2	17	Freshly fractured bodies, reduced core with oxidised exteriors. Thick-walled, sandy orange.
17	10	01045	HUM1	1	8	Body, olive-green suspension glaze.
18	10	01071	MODSW	1	20	Body. Large bottle? Brown salt glaze, whitish fabric. 19th or 20th century.
19	10	01073	PORC	2	13	Plain white footring base.
20	4	01019	LBLAK	1	15	Closed form base, internally glazed.
21	4	03007	LBLAK	1	8	Body, glazed both sides, rather worn.
22	5	01026	LBLAK	1	6	Body, glazed both sides. 'Cup' form?
23	5	01028	UMED	1	6	Thick sandy greyware body with reduced interior. Unglazed.
24	5	01024	WHDIP	2	16	Pancheon rim and body. Brown band on interior of rim.
25	5	01031	MODSW	1	10	Body, white salt-glaze.
26	5	01021	UGRE	1	12	Large flowerpot rim.
27	5	01022	FPWW	1	9	Basal flake.
28	7	01058	CBM	1	29	Edge fragment of black-glazed pantile. See text.
29	7	01057	GREB	1	12	Dished (lid-seated) open form. 18th?
30	6	01032	MODSW	1	35	Bowl with heavy bead rim, lead-glazed interior.
31	6	01054	MODSW	1	55	Jar/bottle base, lead-glazed interior.
32	6	01035	LBLAK	1	5	Base fragment.
33	6	01033	SANOW	1	2	Sandy orange.
34	6	01049	UNATCO	1	9	Reduced core, oxidised surfaces, fine sand.
35	8	01064	MODSW	1	8	Jar rim. Brown liquid glaze (also in fracture).
36	8	01063	CBM	1	18	Black-glazed pantile, see text.
37	8	01059	LBLAK	1	21	Everted rim of wide-mouthed vessel. Hard almost stoneware fabric.
38	8	01029	HUM1	1	6	Body.
39	8	01042	LBLAK	1	5	Body.
40	8	01041	FPWW	1	5	Base plate of flatware with backstamp IRON[STONE] above Royal coat of arms. Several manufacturers used this style of stamp. Not Mason.
41	8	01062	SANOW	2	17	Sandy orange bodies, two vessels.
42	17	01094	SANOW	1	14	Jar (?) base, sandy orange with reduced core. More like Beverley 1 than 2, but larger sand.
43	17	01086	HUM1	1	42	Jug base. Brown glaze edging to olive green patches. Slightly sandier and softer than usual.
44	3	01012	RG	1	7	Body. Pale slightly sandy fabric with brown exterior, possibly due to weathering. Not datable.
45	4	04560	RG	3	7	Bodies, one vessel (2 joining). Sandy brownish-grey ware. On fabric grounds likely to be pre mid 3rd, rather than later.
46	4	01016	RO	1	2	Slightly sandy fragment, not datable.

Appendix C
Pottery Assessment

ID	Plot	Context	Fabric	Number of Sherds	Weight	Remarks
47	4	04536	RG	2	19	Bodies, two vessels. 1. Hard sandy very dark grey with worn light exterior. 2. Light buff surfaces/margins on very dark grey core. Sandy and fairly soft. Mineral accretions on exterior. Both 'early' rather than 'late' Roman?
48	4	04511	RG	2	259	'Complete' jar base/lower body, base diam. 85 mm. Hard blue grey with abundant sand. Base turned but traces of wire marks remain. Encircling groove c. 60mm above base, with slight traces of acute-angled lattice above. Probably Cantley fabric. Cf. Annable 1960, fig. 14, no. 303. 2nd century. See further, report text.
49	11	01078	UNAT	1	5	Basal angle in a hard reduced sandy fabric with red exterior. Flat base and upright wall. Mainly angular sand but some rounded greensand grains. Horizontal micro-grooving probably due to dragging of grits. Wheel-thrown (?). Medieval (?).
50	21	01089	H2	1	16	Body, 8mm wall. Reduced with brownish exterior. Fairly hard. Abundant igneous inclusions extrusive through both surfaces. Sub-angular to sub-rounded, ill-sorted, 2-8 mm. Mainly quartz dolerite (?) with occ. rounded clear quartz and sandstones. First millennium BC?
51	7	01055	H2	1	11	Body, as 1089. Reddish-brown exterior, and perhaps somewhat harder.
52	5	01023	H2	1	4	Thin-walled body. Reddish brown reduced with abundant ill-sorted sub-angular to sub-rounded quarts c. 0.5 - 1.5mm. IA/RB? (Post-Roman coarse sandy ware less likely).
53	5	01027	H2	1	3	Fragment. Reduced brownish grey, sand temper with occasional grit fragments. IA/RB?
54	3	03501	H4	5	228	Two large rim sherds of large jar with heavy thickened rim, diam. c. 380mm. Occasional quartz grains, and common vegetable voids. Reduced dark grey with reddish top of rim and oxidisation patches on exterior. See text for discussion.
55	3	03501	H2	4	7	Fragments, one vessel. Fully reduced, abundant sand, with occasional larger grains up to 2mm. Well smoothed, if not burnished, exterior.
56	10	01036	H2	18	120	Bodies, scrap, crumbs and a single rim sherd. Uncertain no. of vessels, mixed fabrics. Many with quartz dolerite (?), sandstones, quartz. Hard reduced fabrics. Rim simple upright from jar of uncertain diameter, but probably small. Common type, cf. in particular Challis and Harding 1975, fig. 46, no. 11, from Great Ayton Moor.
57	13	01081	H2	1	8	Jar rim, upright with constricted/hollowed/furrowed exterior. Reduced, mainly quartz up to 2mm, but also possible igneous fragments and sandstone, and a grey pebble. See text for discussion of form and date.
58	13	01083	H2	1	2	Sandy/gritty sherd. Thick oxidised outer, thick very dark grey inner. Hardly datable.
59	4	04560	H2	1	3	Body. Reduced with brown surfaces. Sandy/gritty. IA/RB.
60	4	04536	H4	2	7	Reduced body and flake. Leached calcareous temper? Not datable. IA or RB.
61	4	04517	H2	1	3	Body. Sandy/gritty. As 4560.
62	4	03004	H4	1	10	Basal angle flake. As 4536.
63	4	03005	H2/RG	2	24	Joining bodies, smoothed reduced surfaces, grey core, buff/red margins. Coarse sandy. Late IA or early RB most likely.
64	17	17009	H2	6	175	Bodies, thick-walled. Reduced with oxidised exteriors, extrusive temper, mainly igneous.
65	17	17009	H4	1	17	Body, thick-walled, 12mm. Voids most likely vegetable.
66	17	17004	H2	13	210	Bodies, base and one rim. Mainly igneous, quartz dolerite (?) and quartz sand/grit. Best parallels are probably Challis and Harding 1975, fig. 35, no. 7(Ousethorpe), and Didsbury 2004, fig. 102, no. 35 (Wharram Percy North Manor).
67	17	17004	H4	3	9	Body. Nature of voids uncertain, possibly vegetable (some shell?).
68	17	17006	H2	2	8	Fragments. 1. Reduced core, oxidised surfaces. Large angular quartz to 4mm. 2. Fairly soft, reduced with buff surfaces, possibly some igneous inclusions.
69	17	17009	H2	8	25	Large igneous fragments, including quartz dolerite, as well as sandy/gritty sherds. Two joining jar rim fragments, upright and flat-topped, aggressively hand made. Not datable, though common in late La Tene.
70	17	01085	H2	1	5	Reduced body/flake, igneous inclusions with large possible grey sandy grog inclusion.
71	17	17035	H2	1	2	Body, sandy, very dark grey with reddish exterior. Date?
72	17	17012	H2	2	15	Bodies, different vessels. One with large angular quartz and igneous including quartz dolerite (?), other with quartz sand/grit. Reduced with brownish surfaces.
73	17	17007	H2	4	43	Bodies, probably three vessels. All reduced with reddish exteriors. One sherd (one vessel) has fairly fine sand. One sherd (one vessel) with large quartz fragments to 4mm. Two sherds (one vessel) with igneous including quartz dolerite (?).
74	17	17007	H4	1	2	Fragment.
75	17	17007	H2	2	4	Fragments. Quartz sand/grit.
76	17	17020	H2	2	4	Fragments, same vessel, reduced with coarse quartz sand, reddish orange exterior.
77	17	17020	H2	3	5	Joining bodies. Sandy reduced fabric with brown surfaces. Incised decoration perhaps an infilled (cross hatched) lozenge or chevron. See text for discussion.

ASSESSMENT OF THE CERAMIC BUILDING MATERIAL

Alan Vince and Kate Steane

A small collection of ceramic building material was recovered from the archaeological watching brief carried out on the line of the Sproatley to Aldborough Pipeline by Network Archaeology Ltd (Site Code: SPA-66).

The material consists mainly of standard rectangular bricks and flat roof tile fragments but includes a possible fragment of pan tile and three moulded window mullions. The latter are of late medieval or early post-medieval date and come from a high status structure.

Description

The fabric of the brick and tile was not examined in detail but it was noted that no examples with fabrics known from the medieval tiling at Beverley were noted. Furthermore, two of the flat roof tiles had a variegated fabric containing lenses of light-firing clay. Visually, these did not appear to be calcareous clay and the only other option is that they are kaolinite-rich clays, which do not outcrop in East Yorkshire either in the “solid” geology but conceivably might be present in boulder clays containing middle Jurassic material derived from the North Yorkshire Moors.

A number of fragments have a calcareous body, clearly visible at x20 magnification, and/or salt-whitened surfaces. These features suggest the use of marine clays, such as occur in the Humber estuary. Untempered calcareous fabrics appear to be characteristic of the later post-medieval and modern periods. One of the three mullions also has a salt-surface, however, and this feature is therefore not a reliable guide to age.

Bricks are the most common form present in the collection. They include two with complete widths 105mm and 115mm. The latter is a calcareous, salt-surfaced brick. Thicknesses were present on eight fragments, ranging from 51mm (the calcareous brick just noted) to 75mm.

Flat roof tiles are the second most common form, represented by four fragments.

Three brick mullions were present, two being large enough to illustrate. They have a rough diamond shape and have no rebate for inserting glass. These were made in a purpose-build mould rather than being shaped using a knife after moulding, or sawn or abraded to shape after firing. The use of these moulded bricks is limited to the late medieval to early post-medieval periods and they are found solely on high status structures, where brick was sometimes initially used for features such as doors, windows and chimneys.

A single possible pantile fragment was present (might be a warped fragment of flat roof tile).

Assessment

The brick fragments come from 18 separate contexts and form no significant assemblages, apart from those from context 1001, which include the three mullion bricks and one rectangular example. These bricks presumably are derived from a high status structure, the likely status of the structure being higher if they are of medieval date than later.

The flat roof tiles could be of medieval or early post-medieval date and the calcareous bricks are probably of 18th or 19th-century date.

Retention

Since the bricks fabrics have not been recorded in detail, they should be retained.

Further Work

Two of the mullions should be illustrated. Thin section and chemical analysis of the four bricks from context 1001 would also determine whether they were made locally, come from the Beverley tiliary or were imported. The illustration would be carried out by Network Archaeology and the thin section and chemical analysis by AVAC. The thin sections would be produced at the University of Manchester and chemical analysis would be carried out at Royal Holloway College, London, using Inductively-Coupled Plasma Spectroscopy.

Appendix 1

Cntxt	Plot	Dwg	Cname	Subfabric	Description	Form	Part	Nosh	NoV	Wt
1001	1	1	M/PMTIL			MULLION	BS	1	1	764
1001	1	2	M/PMTIL		SALT SURFACING	MULLION	BS	1	1	877
1001	1		M/PMTIL		SALT SURFACING	BRICK	BS	1	1	523
1001	1		M/PMTIL		SALT SURFACING	MULLION	BS	1	1	536
1017	4		MTIL		FRAG	FLAT?	BS	1	1	5
1034	6		M/PMTIL	CALCAREOUS	FRAG	BRICK	BS	1	1	45
1038	8		MTIL	WHITE STREAKS		FLAT	BS	1	1	44
1039	7		MTIL	WHITE STREAKS		FLAT	BS	1	1	76
1040	8		PMTIL		FRAG	BRICK	BS	1	1	73
1047	12		M/PMTIL			BRICK	BS	2	1	1651
1048	5		MTIL			FLAT	BS	1	1	28
1068	10		M/PMTIL	CALCAREOUS	FRAG	BRICK	BS	1	1	68
1074	11		M/PMTIL	CALCAREOUS	SALT SURFACING	BRICK	BS	1	1	474
1090	21		PMTIL		FRAG	BRICK	BS	1	1	9
1095	21		MTIL			FLAT	BS	1	1	45
1102	21		PMTIL			PANT?	BS	1	1	24
1105	21		PMTIL			BRICK	BS	1	1	326
1108	21		PMTIL		FRAG	BRICK	BS	1	1	18
3503	3		PMTIL		FRAGS	BRICK	BS	2	1	10
8006	8		M/PMTIL		WORM IN BASE	BRICK	BS	1	1	347
17009	17		PMTIL		FRAG	BRICK	BS	1	1	9

THE ANIMAL REMAINS

By Jennifer Kitch

Introduction

A total of 122 (221 g) fragments of animal bone were recovered by Network Archaeology during watching brief works at the Sproatley to Aldbrough gas pipeline.

Methodology

Identification of the bone was undertaken with access to a reference collection and published guides. All the animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also fusion data, butchery marks (Binford 1981), gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified. Undiagnostic bones were recorded as micro (mouse size), small (rabbit size), medium (sheep size) or large (cattle size). The separation of sheep and goat bones was done using the criteria of Boessneck (1969) and Prummel and Frisch (1986). Where distinctions could not be made, the bone was recorded as sheep/goat (s/g).

The condition of the bone was graded using the criteria stipulated by Lyman (1996). Grade 0 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated for each taxon. Where fresh breaks were noted, fragments were refitted and counted as one.

Tooth eruption and wear stages were measured using a combination of Halstead (1985), Grant (1982) and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is, fully fused bones were taken according to the methods of von den Driesch (1976), with asterisked (*) measurements indicating bones that were reconstructed or had slight abrasion of the surface.

Results

Provenance

A total of 15 (112g) fragments were recovered from ditch 4504 and pit 4532 of the Iron Age settlement area (plot 4). The remaining assemblage 107 (109g) was recovered from the inter-cutting pits 17003, 17002, 17008, 17011 and natural feature 17019 in plot 17.

Condition

The remains were highly fragmentary and were of a moderate to poor general condition, averaging at grade 4 on the Lyman criteria (1996). No evidence of gnawing, butchery or pathology was noted on any of the remains.

Species Representation

Cattle, sheep/goat and pig have been identified within the assemblage. The majority of the assemblage was in too poor a condition and too fragmentary to be identified beyond size category. No evidence of wild species was identified within the assemblage.

Table 1, Number of Fragments Identified to Taxa

Taxon	Number of Identified Fragments
Cattle	2
Sheep/Goat	1
Pig	1
Large Mammal	8
Medium Mammal	1
Unidentified	96

Discussion

The assemblage is severely limited in size and preservation, providing little information save the presence of the species on site.

Recommendations

An archive of the animal bone assemblage has been prepared as part of this report. The assemblage is small in size and of limited archaeological value and therefore requires no further work.

Jennifer Kitch

Archaeological Project Services

October 2006

References

- Baker, J, and Brothwell, D, 1980 *Animal Diseases in Archaeology*, Academic Press
- Binford, L., 1981, *Ancient Men and Modern Myths*, New York: Academic Press.
- Boessneck, J, 1969 Osteological Differences in Sheep (*Ovis aries* Linné) and Goat (*Capra hircus* Linné), in D Brothwell and E Higgs (eds) *Science in Archaeology*, Thames and Hudson, 331-358
- von den Driesch, A, 1976 *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum
- Grant, A, 1982 'The Use of Tooth Wear as a Guide to the Age of Domestic Ungulates', in B Wilson *et al. Ageing and Sexing Animal Bones from Archaeological Sites*, BAR British Series 109, 91-108, Oxford
- Halstead, P, 1985 A Study of Mandibular Teeth from Romano-British Contexts at Maxey, in F Pryor, *Archaeology and Environment in the Lower Welland Valley*, East Anglian Archaeology Report 27:219-224
- Levine, M A, 1982 The Use of Crown Height Measurements and Eruption-Wear Sequences to Age Horse Teeth. In Wilson, B et al. *Ageing and Sexing Animal Bones from Archaeological Sites*. BAR British Series 109. 223 - 250
- Lyman, R L, 1996 *Vertebrate Taphonomy*, Cambridge Manuals in Archaeology, Cambridge University Press, Cambridge
- Prummel, W and Frisch, H-J, 1986 A Guide for the distinction of species, sex and body size in bones of sheep and goat, *Journal of Archaeological Science* XIII., 567-77
- Serjeantson, D, 1996 The Animal Bones, in *Refuse and Disposal at Area 16, East Runnymede: Runnymede Bridge Research Excavations*, Vol. 2, (eds) E S Needham and T Spence, British Museum Press, London
- Silver, I, A, 1969, The Ageing of Domestic Animals, in D. Brothwell and E.S. Higgs, *Science in Archaeology*, Thames and Hudson.

The Whalebone

Assessment Report

Ian Riddler and Nicola Trzaska-Nartowski

August 2007

The whalebone consists of a segment probably from a lower mandible, which is D-shaped in section and fractured at either end. Most of the outer surface remains and a foramen is visible, set in a groove on the flat side of the bone. There are no traces of any tooth sockets and it is not possible at this stage to establish for certain whether the fragment stems from an *odontocetes*, or toothed whale, or from a *mysticetes* (baleen whale).

The mandible has not yet been identified to species, in part because this is a difficult thing to do. It is clearly a small fragment of a large mammal, in all probability an adult, the bone having a maximum length of 590 mm, width of 495 mm and depth of 255 mm. The size of the fragment suggests that it stems from a large whale, quite possibly a bowhead or a northern right whale. To a certain extent, the species determines the date of the piece and is therefore crucial to its understanding. Large northern whales of this type were not actively hunted before the 16th century and strand very rarely in English waters, suggesting that this is a fragment of post-medieval date.

Traces of working are visible on both sides of the bone. On one side a saw cut, c. 220 mm in length, runs parallel with the edge of the bone, cut approximately 15 mm into it, using a blade c. 0.7 mm in width. The cut splays out to a width of 2 mm at its upper end. The opposite side has been heavily worked and two strips of bone, 350 mm and 360 mm in length, have been removed with the aid of a large knife or (more likely) a small axe. They are 63 – 65 mm wide and one extends to a depth of 47 mm. The strips would both have included sizeable segments of the outer surface of the bone, which is more compact than the inner, trabecular core. The location of the strips is quite deliberate and well considered.

The flatter side of the bone also includes an inscription at one end, covering a space of 170 x 100 mm. The letters R and T can be read, the bone having fractured to the left of the R. the inscription could well be incomplete. The style of the lettering suggests a post-medieval date, possibly 18th to 19th century. If this can be confirmed, it suggests that the whalebone can be related to the Hull whaling fishery, which was particularly active at that time.

Condition

The fragment survives in reasonable condition although it is friable and has to be handled with care. Several small sections of the outer surface are now separate from the remainder, including part of the inscribed surface. The fragment has been partially cleaned to aid in its identification.

Potential for Analysis

It should be noted at the outset that this is a large fragment of whalebone (if only a small part of a whale), 590 mm in length and weighing around 30kg. The inscription and the provisional identification of the species suggest that it is of post-medieval date, although this should ideally be confirmed by C14 dating, which is recommended below. It is highly unlikely that it stems from a stranded whale. The Humber estuary is an important area for strandings but these are generally of much smaller whales and they are not usually rendered and worked. The substantial size of the fragment might well allow it to be identified to species by comparison with the collections of the Natural History Museum at Wandsworth in London and this should certainly be attempted, in consultation with Richard Sabin, head of the Mammal Section.

Regional Significance

The inscription suggests that the fragment is related in some way to the Hull whaling industry. This was active from the 17th to the 19th century in the Arctic, initially in pursuit of the bowhead or Greenland whale at Spitsbergen (Vaughan 1994, 77-87; Ellis 1991, 203-23). The industry was at its height during the period from 1815 – 1830 and between 1810 and 1818 Hull whaling ships made 481 voyages to the Arctic (Vaughan 1994, 94), with whalebone selling at £200 a ton at that time (Adamson 1975, 13). Earlier voyages were centred on flensing carcasses to obtain oil and blubber, whilst the later expeditions also retrieved whalebone and extended the range of slaughtered species. Captain William Scoresby noted in the early 19th century that patents had been taken out for the use of whalebone in the manufacture of ‘hats, caps, and bonnets for men and women; harps for harping or cleansing corn or grain; and also the bottoms of sieves and riddles; and girths for horses; and also cloth for webbing, fit for making into hats, caps etc; and for the backs and seats of chairs; sofas, gigs, and other similar carriages and things; and for the bottom of beds; and also whalebone reeds for weavers’ (quoted in Vaughan 1994, 85). This list represents only a fraction of the uses to which whalebone was put in the early 19th century (Adamson 1975, 8; Rowley 1982, 33).

The whalebone segment is likely to stem indirectly from that industry and possibly from its later, 19th century phase. The industry has been extensively researched from a historical point of view and is well displayed in Hull museum, but there is little archaeological evidence for it. This fragment is significant, therefore, as rare archaeological testimony of the industry. It is a little difficult to understand quite how a fragment of a large whale ended up in a shallow ditch on a site located to the east of Hull. Possibly its find spot relates to the dumping of waste material in a convenient ditch near to a site where whalebone was being worked. A similar situation occurred at Launceston Castle, where 19th century worked bone waste was dumped in the castle ditch, seemingly as the result of surreptitious rubbish disposal from nearby (Riddler 2007, 375-80). A second possibility, however, is that the fragment formed part of a whalebone arch. These were fashionable at the time and are known from the Hull area, generally being located on the estates of affluent landowners (Redman 2004). Documentary research of the local area, using trade directories and similar sources, may help in establishing a local context for the find.

National Significance

The archaeology of post-medieval English whaling is remarkably scarce and few sites have been excavated, with the notable exception of the rendering plant at Rainbow Quay, Rotherhithe (Douglas 1999), where several large fragments of whalebone were recovered. The location of the whale processing yards at Cleveland Street in Hull is known (Adamson 1975, 9) but has not been excavated. Ellis (1991, 211) notes that whale mandibles were suspended from the rigging of ships in the Arctic in order to drain the oil from them, and they were then transported back to England, forming good ballast as well as a raw material for working or for display. The signature on the mandible could be a symbol of its destination (intended for the RT workshop), an indication of ownership or a craftsman’s mark.

Some of the best parts of the whalebone segment have been removed with the aid of an axe, by a craftsman who was well aware of the characteristics of the raw material and deliberately chose to remove areas of compact bone, probably for subsequent working. It is not clear at this stage whether that working was carried out in England or in the Arctic. The fragment represents an early stage in the working process and this is a stage that has seldom been seen in the archaeological record for any period. Outside of Rainbow Quay, fragments of whalebone from English contexts of any period can usually be weighed in grammes rather than kilogrammes and this is one of the largest pieces of whalebone to have been excavated in the country, exceeded in size only by the Rotherhithe material. Whilst it might sound dismissive to describe the piece as a fragment of 19th century industrial archaeology, the work at Rainbow Quay has shown just how fascinating the whaling industry was at that time,

and how significant it was to the English economy. The English whaling industry disappeared very quickly with the advent of petroleum products and nothing survives to be seen of it today, outside of museum collections. In effect, therefore, this fragment is important testimony to an industry that has a tremendous written record, but very little archaeological testimony.

Recommendations for Further Work

- The whale should be firmly identified to species at the collections of the Natural History Museum, Wandsworth, London;
- The fragment and its traces of working should be compared with the corpus of post-medieval whalebone arches;
- Production of a publication report;
- C14 dating of a fragment from the whale; This would be useful to confirm the suggested dating of the piece. It may not be necessary if there is a general agreement as to the date of piece, following the identification of the piece at Wandsworth.

Note: if the fragment turns out not to be from an arch, but represents working debris, then it would be useful to try to undertake some documentary work to track down a workshop nearby. If it does stem from an arch then it might be possible to associate with a particular estate in the area. At any event, a small amount of documentary research is recommended.

Bibliography

- Adamson, P., 1975 *The Great Whale to Snare: The Whaling Trade of Hull*, Hull.
- Douglas, A., 1999 'Excavations at Rainbow Quay, an 18th – Century Whale Rendering Plant, Rotherhithe, London', *Post-Medieval Archaeology* **33**, 179-93.
- Ellis, R., 1991 *Men and Whales*, New York.
- Redman, N., 2004 *Whales' Bones of the British Isles*, London.
- Riddler, I. D., 2007 'Stone, Bone, Antler and Ivory Finds', in D. Saunders, *Excavations at Launceston Castle, Cornwall*, Society for Medieval Archaeology Monograph 24, London, 357-80
- Rowley, J. C., 1982 *The Hull Whale Fishery*, Lockington.
- Vaughan, R., 1994 *The Arctic. A History*, Stroud

THE SLAG

Catalogue.

Context	Plot	Type	Count	Weight	Comments
1050	6	SLAG	1	7g	Very glassy.
1052	6	SLAG	1	18g	Iron-smithing slag; extremely abraded.
1084	15	SLAG	1	16g	Iron-smithing slag; coal fuel.
1092	21	SLAG	1	6g	Slagged coal.

Discussion.

This very small assemblage of slag may be mainly of Post Medieval date, the only exception perhaps being the very abraded piece of iron-smithing slag from context 1052. The coal and glassy piece of slag (contexts 1050 and 1092) could have been generated by coal-fueled agricultural machinery in the Late 19th or early 20th century.

Jane Cowgill

October 2006.

IRON OBJECTS

Alan Vince and Kate Steane

A small collection of iron objects was recovered from the archaeological watching brief carried out on the Sproatley to Aldborough Pipeline by Network Archaeology Ltd. The finds are all either of recent date or are undatable.

Description

Iron

Four objects were recovered. Two of these are handmade, wrought iron nails of Roman to early 20th century date. One is a bolt, of late 19th century or later date and one is a bun-shaped disk of cast iron, perhaps from a piece of agricultural machinery.

Assessment

All of the finds are either undatable or of recent date.

Retention

None of the finds require retention unless from stratified archaeological deposits of pre-modern date.

Context	class	Object	Nosh	NoV	Weight	Part	Action	Description	diameter	L	B	TH
1056	Iron	Bolt	1	1	107	Bs	X-ray plate 1	Modern	0	95		
1076	Iron	Thick disc	1	1	259	Bs	X-ray plate 1	Modern - piece of agric machinery 70 dia, 10 thick	70			10-13
3003	Iron	Nail	1	1	17	Bs	X-ray plate 1	Headless	0	62		
4536	Iron	Nail	1	1	14	Bs	X-ray plate 1		0	60		

CERAMIC OBJECT

Wendy Booth

A single ceramic object, weighing 9 grams, was recovered from plot 8 during the watching brief of the Sproatley to Aldbrough gas pipeline. The find spot (1061) was individually located using a GPS handset.

The fragment was weighed and examined by eye and the results are detailed in the table below. The object was a 'snob' gaming piece, which was cube-shaped and glazed white, speckled with blue and brown. This was of post-medieval, or possibly Victorian, date and would have been used in a game similar to the modern game of 'Jacks'. This item had probably been introduced to the soil through manuring, and due to the undiagnostic nature of the assemblage, it was not possible to gain any further inferences.

CLAY PIPE

Wendy Booth

Two fragments of clay pipe, weighing 5 grams, were recovered during the watching brief of the Sproatley to Aldbrough gas pipeline. Each find spot was individually located using GPS handsets.

These fragments were counted, weighed and examined by eye and the results are detailed in the table below. All the fragments were undecorated and all were pieces of stem. Pieces of clay pipe such as these are commonly found in the ploughsoil and are often deposited as a result of manuring the fields with 'night soil' from local towns and villages. Due to the undiagnostic nature of the assemblage, it was not possible to gain any further information.

Plot	Find No.	Material Type	Provisional Period	Count	Wt/g	Comments
6	1053	Clay Pipe	Post-Medieval	1	2	Undecorated stem fragment.
21	1101	Clay Pipe	Post-Medieval	1	3	Undecorated stem fragment.

GLASS

Wendy Booth

Thirteen fragments of glass, weighing 376 grams, were recovered during the watching brief of the Sproatley to Aldborough gas pipeline. Each find spot was individually located using GPS handsets.

These fragments were counted, weighed and examined by eye and the results are detailed in the table below. The majority of the fragments were from post-medieval bottles or similar vessels, and all the bottle fragments were pale green except one fragment of 'black-glass', from find spot 1051. Other items comprised two fragments of window glass from, find spots 1070 and 1072, a 'black-glass' stopper from find spot 3008, and a piece of pale green glass which had been partially melted, from find spot 1065. The only other item was an undecorated moulded 'black-glass' button, badly chipped and scratched, and probably early modern in date. This assemblage was typical of what you might expect and had probably been introduced to the soil through manuring. The sample was of insufficient size to allow any further inferences.

Plot	Context/Find No.	Material Type	Provisional Period	Count	Wt/g	Comments
4	1013	Glass	Undetermined	1	8	Bottle glass.
4	1014	Glass	Undetermined	1	7	Bottle glass.
4	1015	Glass	Undetermined	1	16	Bottle glass.
4	1018	Glass	Undetermined	1	20	Bottle glass.
4	1020	Glass	Undetermined	1	9	Bottle glass.
6	1051	Glass	Undetermined	1	12	Bottle glass.
8	3008	Glass	Undetermined	1	82	Jar stopper.
8	8006	Glass	Undetermined	2	209	Bottle glass.
10	1065	Glass	Undetermined	1	3	Melted fragment.
10	1070	Glass	Undetermined	1	2	Window glass.
10	1072	Glass	Undetermined	1	3	Window glass.
10	1077	Glass	Modern	1	5	Button.

HEAT AFFECTED FLINT

Wendy Booth

A single fragment of heat affected flint, weighing 12 grams, was recovered in plot 21 during the watching brief of the Sproatley to Aldborough gas pipeline. The find spot (1100) was individually located using a GPS handset.

The fragment was weighed and examined by eye and the results are detailed in the table below. The piece measured a maximum of 30 mm long, 25 mm wide and 19 mm deep. The fragment was deep pink and grey and moderately fractured, indicating it had been exposed to moderate heat in an oxidising atmosphere. Due to the undiagnostic nature of the assemblage it was not possible to gain any further information.

HEAT AFFECTED STONE

Wendy Booth

Four hundred and sixty seven fragments of heat affected stone, weighing 24844 grams, were recovered during the watching brief of the Sproatley to Aldborough gas pipeline. The unstratified find spots were individually located using a GPS handset.

The fragments were counted, weighed and examined by eye and the results are detailed in the table below. The fragments ranged in colour from pale pink to red and mid to dark grey, and were moderately fragmented, indicating they had been exposed to moderate heat in an oxidising atmosphere. The largest fragment measured 69mm long, by 63mm wide, by 45mm thick. The majority of the fragments came from plot 17, and were deposited in a series of intercutting pits thought to be waste dumps from a nearby settlement. The few sherds of pot suggest an Iron Age date for these features. The fragment from plot 1 was found amongst a spread of CBM in the top- and subsoil, the fragments from plot 3 were from the terminal fill of a short NS gully, the fragment from plot 4, context number 4562, was from the natural silting deposit of a ring gully, and those from 4532 were from the sole fill of a probable pit. These fragments are also probably the result of domestic burning rather than any other process. Due to the undiagnostic nature of the assemblage it was not possible to gain any further information.

Plot	Find No.	Material Type	Provisional Period	Count	Wt/g
1	1001	Heat affected stone	Undetermined	1	14
3	3501	Heat affected stone	Undetermined	6	199
4	4532	Heat affected stone	Undetermined	1	16
4	4562	Heat affected stone	Undetermined	2	309
17	17004	Heat affected stone	Undetermined	13	1044
17	17005	Heat affected stone	Undetermined	1	15
17	17006	Heat affected stone	Undetermined	24	2036
17	17007	Heat affected stone	Undetermined	7	870
17	17009	Heat affected stone	Undetermined	6	146
17	17010	Heat affected stone	Undetermined	4	87
17	17012	Heat affected stone	Undetermined	3	252
17	17016	Heat affected stone	Undetermined	30	1356
17	17018	Heat affected stone	Undetermined	266	14997
17	17020	Heat affected stone	Undetermined	51	1714
17	17021	Heat affected stone	Undetermined	48	1696
17	17039	Heat affected stone	Undetermined	4	93

AN ASSESSMENT OF THE CHARRED PLANT MACROFOSSILS AND OTHER REMAINS

Patricia Shaw, North Pennines Archaeology Ltd

1. INTRODUCTION AND METHOD

Excavations during the watching brief along the route of a gas pipeline between Sproatley and Aldbrough in Yorkshire, site code SPA66, were undertaken by Network Archaeology Ltd. The site at plot 17 was recorded during stripping of the topsoil and features appeared as irregular areas of darker deposits. Plot 17 was in the field immediately south of the western side of Bail Wood and was an arable field under crop at the time of the watching brief. Pottery finds recovered are consistent with a late Iron Age date.

A total of seven environmental samples were removed from various features encountered during the excavation of the pipeline in Plot 17. This assessment is the result of the analysis of this material. All sample numbers are italicised whilst context numbers appear bold.

Samples for the retrieval of plant macrofossil assemblages as well as other artefacts and ecofacts were removed from the features along the pipeline. During the excavation of this section seven contexts were considered worth sampling. The samples all came from pits and deposits in the only pasture field in the area, situated close to a wooded area. Sample 25000, 17037 was a spread in a shallow feature. Samples 25001, 17009, 25002, 17004, 25003, 17010, 25004, 17007, 25005, 17006 and 25006, 17005 were the fills of two inter-cutting pits.

Plant macrofossil assessment was undertaken on the seven bulk environmental samples from the pipeline section. All seven of the whole earth samples were selected for processing in order to assess their environmental and artefactual potential. This will help provide further information as to the depositional processes involved in their formation. The methodology employed required that the whole earth samples be broken down and split into their various different components. A sub-sample of 10 litres from each of the above was manually floated and sieved through a 'Siraf' style flotation tank.

The residue was retained, described and scanned using a magnet for ferrous fragments. The flot was dried slowly and scanned at x40 magnification for charred and uncharred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at North Pennines Archaeology. Plant taxonomic nomenclature follows Stace (1997).

The retent, like the residue from wet sieving, will contain any larger items of bone, heavy (eg waterlogged) ecofacts or artefacts. The flot or floating fraction will generally contain organic material such as plant matter, fine bones, cloth, leather and insect remains. A rapid scan at this stage was done to allow further recommendations to be made as to the potential for further study by entomologists or palaeobotanists, with a view to retrieving vital economic information from the samples.

Favourable preservation conditions can lead to the retrieval of organic remains that may produce a valuable suite of information in respect of the depositional environment of the material, which may include anthropogenic activity, seasonality and climate and elements of the economy associated with the features from which the samples are removed.

2 RESULTS

The samples produced small flots in each case and few plant remains were preserved in any, and these mainly of charred wood with a single charred wheat grain of *Triticum aestivum* (bread wheat) from sample 25006, 17005. The wheat grain was quite well preserved but there is probably not enough material to be analyzed by carbon dating.

A few other uncharred seeds were recovered from samples 25002, 25003 and 25004. These are pale persicaria, chickweed, hedge mustard and *Chenopodium*, *Carex* and *Scirpus* species. All are probably modern, as they exhibit no signs of charring or mineralisation.

Sample 25001, 17009 produced two fragments of late prehistoric pottery, possibly Iron Age, and sample 25002, 17004 produced a fragment of Bronze Age pottery. The contents of the residue and flot are listed in Table 1. No diagnostic plant remains were recovered from these contexts to indicate the origin of the pottery or uses of the features from which they came.

The flots and residues also contained small amounts of charcoal; both burnt and unburnt chert or flint, burnt bone and most (also modern) root material. All the samples contained magnetic material to some extent.

Table 1: Plant macrofossils from SPA66

Sample	25000	25001	25002	25003	25004	25005	25006
Context	17037	17009	17004	17010	17007	17006	17005
Volume processed (ml)	10000	10000	10000	10000	10000	10000	10000
Flot volume (ml)	1000	650	700	400	600	550	400
Volume assessed (ml)	10	10	20	3	10	3	5
Residue contents (relative abundance)							
Magnetic material	1	1	1	1	1	1	1
Flint/chert fragments	1	1	1	1	1	1	1
Burnt flint/chert	1	0	1	0	0	0	0
Calcined bone	0	1	1	1	0	0	0
Prehistoric pottery fragments	0	1	1	0	0	0	0
Charcoal	0	1	1	1	1	0	1
Charred heather	1	0	0	0	0	0	0
Burnt organic	0	1	1	1	1	1	1
Flot matrix (relative abundance)							
Modern roots	2	2	2	1	2	1	0
Charcoal	1	1	1	2	2	1	2
Moss	0	0	0	0	0	2	0
Sclerotia of soil fungus	0	0	1	0	0	0	0
Charred grain/seeds (total counts)							
(c) <i>Triticum aestivum</i> (bread wheat)	0	0	0	0	0	0	1
(w) <i>Carex</i> sp <i>biconvex</i> nutlet (Sedges)	0	0	0	0	1	0	0
Uncharred grain/seeds (relative abundance)							
(a) <i>Chenopodium album</i> (Fat-hen)	0	0	1	1	0	0	0
(r) <i>Stellaria media</i> (Common chickweed)	0	0	1	0	0	0	0
(w) <i>Montia fontana</i> (Blinks)	0	0	0	0	0	0	0
(x) <i>Polygonum</i> sp. (Pale persicaria?)	0	0	0	0	0	0	0
(x) <i>Sisymbrium officinale</i> (Hedge mustard)	0	0	1	0	0	0	0

Key: c: cultivated plant; h: heathland; r: ruderal; t: trees/shrubs; x: wide niche

Relative abundance is based on a scale from 1 (lowest) to 3 (highest) where 0 = absent, 1 = present, 2 = frequent and 3 = abundant

3. DISCUSSION

The one charred cereal grain recovered from sample 25006, 17005 does not form a large enough fragment for carbon dating. The grain was almost intact and has tentatively been identified as *Triticum aestivum* (bread wheat), although the absence of chaff prevents a definitive identification. Bread wheat is generally more common in the Medieval period in Northern England (Huntley & Stallibrass 1995) but is seen from the Bronze Age period, although it is less common than other types of wheat. The occurrence of Bronze Age pottery in context 17004 indicates a prehistoric date for the grain and other charred remains.

The low number of charred plant macrofossil remains in the samples reflects poor preservation or lack of deposited material. The latter would be probable from the Prehistoric period. Nevertheless, the low numbers prevent further conclusions from being drawn about the age of the deposits or use of the features.

Uncharred seeds of fat-hen were recovered from samples 25002, 17004 and 25003, 17010. Sample 25002 also contained a seed of common chickweed and hedge mustard, both normally associated with waste ground although hedge mustard has a wider niche.

The poor concentration of plant remains and other environmental evidence means that the samples provide little chronological or economic information about the site. The few charred remains suggest that grain formed part of the diet. It cannot be said what the origins of the charcoal were, whether it was burnt in situ or a secondary deposition.

In view of the nature of the site, the uncharred seeds of raspberry, fat hen and hedge mustard are likely to be modern contaminants, possibly introduced during the sampling process.

It is recommended that no further work be carried out on this material due to the limited information that can be gleaned from it.

4. BIBLIOGRAPHY

Huntley, J P, & Stallibrass, S, 1995. *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions*, Research Report 4 Archit and Archaeol Soc of Durham and Northumberland, Durham.

Stace, C, 1997. *New Flora of the British Isles*. 2nd Edition, Cambridge: Cambridge University Press.

Plot	Find	Easting	Northing	Material Type	Prov. Period	Count	Wt/g
1	1001	520141	432798	CBM	Undetermined	4	2697
1	1001	520141	432798	Heat affected stone	Undetermined	1	14
1	1003	519971	432743	Worked flint	Prehistoric	1	25
1	1004	520088	432783	Worked flint	Prehistoric	1	4
1	1007	519852	432737	Worked flint	Prehistoric	1	6
1	1008	520032	432798	Worked flint	Prehistoric	1	7
2	1010	520264	432872	Worked flint	Prehistoric	1	8
3	1011	520350	432912	Worked flint	Prehistoric	1	11
3	1012	520414	432945	Pottery	Roman	1	9
4	1005	521091	433773	Worked flint	Prehistoric	1	29
4	1013	521096	433861	Glass	Undetermined	1	8
4	1014	521090	433848	Glass	Undetermined	1	7
4	1015	521056	433803	Glass	Undetermined	1	16
4	1016	521004	433694	Pottery	Roman	1	4
4	1017	520968	433647	CBM	Undetermined	1	6
4	1018	520997	433690	Glass	Undetermined	1	20
4	1019	520972	433635	Pottery	Post-Medieval	1	16
4	1020	521111	433862	Glass	Undetermined	1	9
4	3004	-	-	Pottery	Iron Age	1	11
4	3005	-	-	Pottery	Iron Age	2	25
4	3006	-	-	Worked flint	Prehistoric	1	23
4	3007	-	-	Pottery	Post-Medieval	1	9
5	1021	521156	433914	Pottery	Post-Medieval	1	13
5	1022	521376	434233	Pottery	Post-Medieval	1	11
5	1023	521400	434266	Pottery	Iron Age	1	6
5	1024	521405	434264	Pottery	Post-Medieval	2	18
5	1025	521406	434266	Worked flint	Prehistoric	1	19
5	1026	521404	434266	Pottery	Post-Medieval	1	7
5	1027	521421	434266	Pottery	Iron Age	1	4
5	1028	522109	435090	Pottery	Medieval	1	7
5	1031	521507	434421	Pottery	Post-Medieval	1	11
5	1048	521383	434246	CBM	Undetermined	1	29
5	3003	-	-	Iron object	Undetermined	1	18
6	1006	521617	434539	Worked flint	Prehistoric	2	291
6	1032	521497	434425	Pottery	Post-Medieval	1	35
6	1033	521648	434627	Pottery	Medieval	1	3
6	1034	521675	434672	CBM	Undetermined	1	45
6	1035	521673	434664	Pottery	Post-Medieval	1	6
6	1049	521477	434376	Pottery	Medieval	1	10
6	1050	521517	434431	Production waste	Undetermined	1	8
6	1051	521520	434477	Glass	Undetermined	1	12
6	1052	521661	434635	Production waste	Undetermined	1	20
6	1053	521640	434614	Clay Pipe	Post-Medieval	1	2
6	1054	521637	434614	Pottery	Post-Medieval	1	55
7	1039	521781	434817	CBM	Undetermined	1	78
7	1055	521747	434797	Pottery	Iron Age	1	12
7	1056	521728	434790	Iron object	Undetermined	1	108
7	1057	521728	434768	Pottery	Post-Medieval	1	12
7	1058	521807	434855	Pottery	Post-Medieval	1	29
8	1029	522323	435270	Pottery	Medieval	1	8
8	1038	521998	435011	CBM	Undetermined	1	46
8	1040	522169	435135	CBM	Undetermined	1	74
8	1041	522405	435312	Pottery	Modern	1	7

Plot	Find	Eastings	Northing	Material Type	Prov. Period	Count	Wt/g
8	1042	522404	435309	Pottery	Post-Medieval	1	7
8	1059	522107	435072	Pottery	Post-Medieval	1	22
8	1060	522086	435072	Worked flint	Prehistoric	1	6
8	1061	522165	435122	Ceramic object	Post-Medieval	1	9
8	1062	522399	435270	Pottery	Medieval	2	18
8	1063	522382	435289	Pottery	Post-Medieval	1	19
8	1064	522328	435246	Pottery	Post-Medieval	1	9
8	3008	-	-	Glass	Undetermined	1	82
9	1030	522429	435426	Pottery	Post-Medieval	2	9
9	1043	522492	435414	Pottery	Post-Medieval	1	19
9	1044	522493	435414	Pottery	Post-Medieval	1	12
9	1080	522469	435439	Pottery	Post-Medieval	1	19
10	1036	522868	435556	Pottery	Iron Age	18	125
10	1037	522868	435556	Worked flint	Prehistoric	1	46
10	1045	522927	435558	Pottery	Post-Medieval	1	9
10	1046	522925	435558	Pottery	Medieval	2	16
10	1065	522812	435512	Glass	Undetermined	1	3
10	1066	522802	435520	Pottery	Medieval	1	6
10	1067	522748	435515	Pottery	Medieval	1	47
10	1068	522750	435516	CBM	Undetermined	1	68
10	1069	522827	435535	Pottery	Post-Medieval	1	4
10	1070	522997	435580	Glass	Undetermined	1	2
10	1071	523011	435583	Pottery	Post-Medieval	1	22
10	1072	523117	435611	Glass	Undetermined	1	3
10	1073	523138	435617	Pottery	Modern	1	13
10	1076	523169	435620	Iron object	Undetermined	1	260
10	1077	522944	435566	Glass	Modern	1	5
11	1074	523222	435626	CBM	Undetermined	1	474
11	1075	523334	435659	Worked flint	Prehistoric	1	6
11	1078	523482	435700	Pottery	Medieval	1	5
12	1047	523921	435833	CBM	Undetermined	2	1652
12	1079	523671	435760	Pottery	Post-Medieval	1	6
13	1081	524092	435897	Pottery	Iron Age	1	8
13	1083	524338	435978	Pottery	Iron Age	1	3
14	1082	524562	436067	Pottery	Post-Medieval	1	9
15	1084	524845	436183	Production waste	Undetermined	1	17
17	1085	525159	436378	Pottery	Iron Age	1	5
17	1086	525161	436380	Pottery	Medieval	1	43
17	1094	525197	436381	Pottery	Medieval	1	14
17	1114	525187	436387	Worked flint	Prehistoric	1	3
17	1115	525189	436386	Worked flint	Prehistoric	1	3
19	1087	525494	436618	Pottery	Modern	1	9
21	1105	525767	436906	CBM	Undetermined	1	327
21	1088	525771	436917	Worked flint	Prehistoric	1	6
21	1089	525770	436918	Pottery	Iron Age	1	19
21	1090	525777	436924	CBM	Undetermined	1	11
21	1091	525809	436958	Organic non-carbonised	Undetermined	1	4
21	1092	525810	436959	Production waste	Undetermined	1	7
21	1093	525521	436799	Pottery	Post-Medieval	1	7
21	1095	525780	436927	CBM	Undetermined	1	45
21	1096	525584	436807	Worked flint	Prehistoric	1	12
21	1097	525752	436915	Pottery	Post-Medieval	1	36
21	1098	525782	436921	Worked flint	Prehistoric	1	4

Plot	Find	Easting	Northing	Material Type	Prov. Period	Count	Wt/g
21	1099	525744	436892	Pottery	Post-Medieval	1	14
21	1100	525744	436910	Heat affected flint	Prehistoric	1	12
21	1100	525744	436910	Worked flint	Prehistoric	2	6
21	1101	525603	436825	Clay Pipe	Post-Medieval	1	3
21	1102	525659	436864	CBM	Undetermined	1	26
21	1103	525665	436871	Worked flint	Prehistoric	1	2
21	1104	525565	436772	Worked flint	Prehistoric	1	8
21	1106	525771	436907	Pottery	Post-Medieval	1	21
21	1107	525770	436901	Pottery	Post-Medieval	1	5
21	1108	525789	436935	CBM	Undetermined	1	20
21	1109	525589	436810	Worked flint	Prehistoric	6	16
21	1110	525571	436802	Worked flint	Prehistoric	1	3
21	1111	525796	436926	Worked flint	Prehistoric	1	8
21	1112	525620	436830	Worked flint	Prehistoric	1	17
21	1113	525564	436803	Worked flint	Prehistoric	1	9