

Lincolnshire County Council Source Full Report

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Title

Archaeological Evaluation, Excavation and Watching Brief on the Hatton to Silk Willoughby Gas Pipeline 2001

Originator

Network Archaeology Ltd

Date

Apr 2003

Collection Details**Organisation**

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Associated Monuments

- | | |
|-------|--|
| 46735 | Monument: Late Iron Age and early Romano-British settlement, Langton by Wragby |
| 46736 | Monument: Late Iron Age to early Roman features, Langton Hill Farm, Langton by Wragby |
| 46740 | Find Spot: Mesolithic to Neolithic flint implements, Langton by Wragby |
| 46741 | Find Spot: Late Neolithic to late Bronze Age flint implements, Langton by Wragby |
| 46742 | Find Spot: Early Bronze Age flint implements, Langton by Wragby |
| 46743 | Find Spot: Neolithic polished flint axe, Langton by Wragby |
| 46744 | Find Spot: Mesolithic or Neolithic flint blade, Langton by Wragby |
| 55383 | Monument: Undated iron-working site, Bardney Common |
| 55384 | Monument: Brackleigh Farm, Bardney |
| 55385 | Find Spot: A Bronze Age flint flake, Bardney |
| 55386 | Find Spot: Neolithic polished flint axe, Bardney |
| 55387 | Find Spot: Neolithic polished flint axe, Bardney |
| 55388 | Find Spot: Two sherds of middle to late Anglo-Saxon pottery, Bardney |
| 62064 | Monument: Romano-British aisled building and associated features, Kirkby la Thorpe |
| 62205 | Monument: Late Romano-British enclosures and possible farmstead or villa, Kirkby la Thorpe |
| 62827 | Monument: Middle to late Iron Age enclosures, Ruskington |
| 63687 | Monument: Middle to late Iron Age and early Roman occupation, Kirkby la Thorpe |
| 64420 | Monument: Early Neolithic flint scatter, Dunston |
| 64421 | Monument: Late Bronze Age cremation cemetery, Dorrington |
| 64422 | Monument: Late Bronze Age cremation on land in Dorrington Fen, Dorrington |

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64435	Monument: Romano-British rectilinear field system, gullies and pits, Ruskington
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64501	Find Spot: Bronze Age flints, Kirkby la Thorpe
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66483	Find Spot: Three Mesolithic bladelet cores, Dorrington

Associated Events

ELI7517	Archaeological evaluation along the Hatton to Silk Willoughby Gas Pipeline (Event - Intervention)
ELI7519	Archaeological watching brief, Hatton to Silk Willoughby Gas Pipeline (Event - Intervention)
ELI7520	Archaeological excavations on the Hatton to Silk Willoughby Gas Pipeline (Event - Intervention)

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HATTON TO SILK WILLOUGHBY GAS PIPELINE

TF 175 763 to TF 083 437

ARCHAEOLOGICAL EVALUATION, EXCAVATION & WATCHING BRIEF 2001

Volume 1: Report

NETWORK ARCHAEOLOGY LTD

for

LAING ENGINEERING LTD

on behalf of

TRANSCO

Accession Number 2000.102

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April 2003

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1 SUMMARY

1.1 General

This report presents the findings of the archaeological evaluations, excavations and permanent-presence watching brief which took place during the construction of the Transco Hatton to Silk Willoughby gas pipeline during the months of February to September 2001. The 40km-long pipeline, within the county of Lincolnshire, runs from Hatton, 4km east of Wragby, to Silk Willoughby, 3km south-east of Sleaford.

The archaeological desk-based assessment and field reconnaissance, fieldwalking and geophysical surveys, carried out from 1999 to 2000, highlighted several areas of archaeological potential along the route. Mitigation measures implemented at this early stage, included re-routes of the pipeline away from a number of sensitive areas.

Network Archaeology Ltd carried out evaluation trial trenches and area excavations for Mouchel Consulting Ltd, on behalf of Transco. During pipeline construction, an archaeological watching brief was carried out for Laing Engineering Ltd who also commissioned the post-excavation work and the production of this final report.

Construction of the pipeline involved topsoil stripping and trench excavations within a 42m-wide working width. New evidence was found for prehistoric, Romano-British, Anglo-Saxon, medieval and post-medieval activity in the area.

1.2 Results

Twenty-two sites were recorded along the pipeline (Table 1). The earliest of these was a scatter of worked flint at Dunston Fen that included characteristic Early Neolithic forms. Two Bronze Age cremation cemeteries together with an isolated single cremation were recorded in the Dorrington and Ruskington areas. Unstratified pottery of possible Bronze Age date was also found at a small, poorly defined site at Digby Fen.

Six sites were dated to the late Iron Age or early Roman periods. These included settlement sites with remains of roundhouses at Langton Hill and Park Farm, Dorrington, and enclosure sites at Ruskington, either side of the railway to the south of Kirby la Thorpe and a smaller area at Langton Hill Farm south of Wragby. The Ruskington site had evidence of industrial activity in the form of dumps of iron-working slag. The remains of two bloomery furnaces at Bardney Common were undated but could be from this period.

Three sites which could be confidently dated to the Roman period were found, including the postholes of an aisled building with associated features to the south of the A153 Boston Road and an extensive enclosure site near Kirby la Thorpe. There was another series of enclosure ditches at North Hills Farm near Dorrington. Table 1 also includes two other sites from this period; the crossing of the Car Dyke, covered in a separate report, and an artefact scatter found in fieldwalking near the A17 road crossing.

A rare Anglo-Saxon settlement site at Kirby la Thorpe contained a *Grubenhause* and posthole groups. The Medieval period was represented by two sites with masonry building foundations. One near Ruskington was probably an aisled barn, probably associated with Haverholme Priory, while the other, at Metherringham Barf, may be a watermill or similar building. A post-medieval well and other associated masonry remains were found at the site of a former farm at Bardney Dairies.

Site Number/ Name	Construction Section/Plot	NGR (TF)	Description	Period
Site 2 (Areas 73 & 74) Langton Hill	1/5-1/6	516110 375340	Settlement	Late Iron Age/Early Roman
Area 77 Langton Hill Farm	1/9	514960 374840	Enclosure system	Late Iron Age/Early Roman
Site 4 (Area 79) Bardney Dairies	3/4	513570 372570	Building remains	Post-Medieval
Area 82 Bardney Common	5/6	512620 369030	Bloomery furnaces	Undetermined
Area 92 Dunston Fen	6/22	510000 364430	Flint scatter	Early Neolithic
Site 1 Car Dyke	7/2-8/1	508900 363250	Carr Dyke	Uncertain, possibly Roman
Area 93 Metheringham Barf	9/4	509130 362160	Structural foundations, possibly of a watermill	Medieval
Site 5 Digby Fen	14/4	509740 354620	Linear feature and pits	Undated
Area 85 Dorrington Fen 1	14/6	509800 354360	Cremation cemetery	Bronze Age
Area 94 Dorrington Fen 2	14/9	509850 353630	Single cremation	Bronze Age
Area 80 Park Farm	14/9-15/1	509870 353400	Settlement	Iron Age/Romano-British
Site 6 (Areas 75 & 76) North Hills	15/4-15/5	509580 352670	Enclosure system	Roman
Area 81 Wharncliffe Farm	16/1	510330 351330	Cremation cemetery	Bronze Age
Site 7 (Areas 72 & 86) Ruskington 1	16/3-16/4	509860 350180	Enclosure system	Iron Age/Romano-British
Site 8 (Areas 87 & 88) Ruskington 2	16/4-16/5	509740 349970	Structural foundations, possibly of an aisled barn	Medieval
Site 9 Ruskington 3	16/6	509660 349850	Suspected archaeological remains: nothing found	? Medieval
Site 10 (Area 83) Kirkby la Thorpe 1	20/2	509570 346620	Settlement	Anglo-Saxon
Site 11 (Area 84) Kirkby la Thorpe 2	20/2-20/3	509400 346460	Enclosure system	Romano-British
Site 12 A17/Boston Road	20/5-21/1	509260 345840	Artefact scatter noted in field survey	Romano-British
Area 90 Boston Road	22/1	509180 345690	Aisled Building/ Enclosure system	Romano-British
Site 13 (Area 89) Boston Railway	22/3	509120 345280	Enclosure system	Late Iron Age/Early Roman
Site 14 (Area 91) Bone's Farm	22/4	509030 345020	Settlement / enclosure system	Iron Age

Table 1: Summary of Sites

2 ACKNOWLEDGEMENTS AND CONTRIBUTORS

2.1 Acknowledgements

The watching brief was commissioned by Laing Engineering Ltd, and thanks are due to the Project Manager Martin Sperrink and to Garry Wilson for facilitating the work on site. Other members of the team who gave assistance include Steve Boothroyd, Tony Bracken, Craig Brown, Peter Conway, Gary Cummings, Steve Harrison, Fred Jenkinson, Tony Stevens, Chris Verity and Tom Worley. Thanks also to Billy Conway, Noel Brandley and all of the workforce for their co-operation. For Transco, Alan Pye the Project Manager, John Stephenson and Malcolm Nesfield deserve special mention along with Peter Boxall, Andrew Ferguson and Stuart Randall. For her help throughout the pre-construction stages, including the evaluation trenching and area excavations, we also wish to record our thanks to Lesley Lawrence of Mouchel Consulting Ltd. For Lincolnshire County Council, Jim Bonnor, of the Built Environment team, provided guidance throughout, and Mark Bennett and the staff of the Sites & Monuments Record were invariably willing to help with all enquiries.

2.2 Specialist Contributors

Chantal Conneller	Flint
Barbara Precious	Roman and Prehistoric Pottery
David Knight	Prehistoric Pottery
Alan Vince	Anglo-Saxon Pottery
Jane Young	Medieval & later Pottery, Ceramic Building Material
James Rackham	Environmental Analysis
Jane Cowgill	Slag and Baked Clay
Jenny Mann	Bulk Metal Finds and Registered Finds
Lorraine Higbee	Animal Bone
Kate Brayne	Human Bone
Susanne Ryder	Finds Conservation

2.3 Network Archaeology Ltd Personnel

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3 INTRODUCTION

A 40 km-long, 1220mm diameter natural gas pipeline connecting the Above Ground Installations (AGIs) at Hatton and Silk Willoughby was constructed during the summer of 2001 by Laing Engineering Ltd on behalf of Transco (Fig 1).

This report details the archaeological investigations carried out by Network Archaeology Ltd (NAL) during construction and forms Stage 7 of the archaeological approach adopted by Transco (Appendix 11). The investigations comprised evaluation trenches (Stage 4), subsequent area excavations where the results of the evaluation proved positive (Stage 5) and a permanent-presence archaeological watching brief of topsoil stripping and trenching operations (Stage 6). Due to wet weather conditions in the early part of the year and restrictions on access imposed during the foot-and-mouth outbreak in the spring, Stages 4 and 5 were subject to severe delays and overlapped with construction work. The results of these three stages of work have therefore been presented together in this report.

3.1 Construction and Archaeology

Linear developments such as pipelines can have a severe impact on archaeological remains but also provide a valuable opportunity to examine a transect across a landscape and the evidence of past human activity preserved within it. The adoption of a staged approach and close cooperation between archaeologist and engineer allows appropriate mitigation measures to be implemented to minimise the disturbance to archaeological deposits, and to maximise the information recovered from any unavoidable disturbance.

3.2 Project Background

3.2.1 Archaeological Desk-Based Assessment (Stage 2)

In December 1999 an archaeological desk-based assessment (ADBA) was compiled by Network Archaeology Ltd (NAL Report No. 147). This quantified the known and potential archaeological resource within a 1km-wide corridor centred on the pipeline route, and made recommendations for further investigation. After two route modifications an addendum to the original report was produced in March 2000 with a further addendum in May 2000 to cover a third re-route to the west of Southrey. These assessments formed the basis of the Archaeology and Heritage Section of the Environmental Statement submitted to the Department of Trade and Industry under the Public Gas Transporter Pipe-line Works (Assessment of Environmental Effects) Regulations 1999.

The ADBA showed a fairly low density of known archaeological remains within the Witham Valley and to the north but far greater numbers of known archaeological remains to the south. It also highlighted a considerable potential for the existence of unknown and important remains along the route, especially within the southernmost third, where the land has been intensively occupied since prehistoric times.

3.2.2 Fieldwalking, Field Reconnaissance and Geophysical Surveys (Stage 3)

In March 2000, NAL was commissioned by Mouchel Consulting Ltd, on behalf of Transco, to conduct a programme of Field Survey comprising archaeological fieldwalking, field reconnaissance and geophysical survey, along two sections of the proposed pipeline route near Ruskington and Kirkby la Thorpe. The Bartlett-Clarke Consultancy was commissioned by NAL to carry out the geophysical survey. Results of the Field Surveys are presented in NAL Report No. 150, May 2000 (Volumes 1 and 2).

In October 2000, NAL was commissioned by Mouchel Consulting on behalf of Transco, to conduct a programme of Field Survey along the remainder of the proposed pipeline route. The results were presented in NAL Report No.155, January 2001 (Volumes 1 and 2). From the results presented in

these two reports a Project Specification for Archaeological Field Evaluation (Stage 4) was produced for Mouchel Consulting.

The results of the field surveys, in line with those of the ADBA, suggested that the potential for encountering extensive and significant archaeological sites along the proposed pipeline was moderately high, especially towards the southern end of the route.

3.2.3 Evaluation, Excavation and Construction Watching Brief (Stages 4 to 6)

Field evaluations had been intended to start in 2000 but due to unusually wet weather they were delayed through the winter until February 2001. Shortly after the work was initiated, restrictions on access to agricultural land because of the outbreak of foot-and-mouth disease were imposed, further delaying progress. Subsequently elements of the evaluations, excavations and watching brief were managed side by side, between March and September 2001.

As part of the Stage 4 evaluations, a borehole survey across the probable line of Car Dyke at Dunston Fen (TF 0890 6325) was commissioned from Archaeological Project Services (APS). The results of this survey have been presented in a separate report (Cope-Faulkner, 2001).

4 DESCRIPTION OF THE PIPELINE CORRIDOR

4.1 Location and Topography

The pipeline connects the AGIs at Hatton (TF 175 763) and Silk Willoughby (TF 083 437), and is the third pipeline to have been constructed between these AGIs. The line is 40.5km long and, with a working width of at least 42m, an area in excess of 170 hectares was affected in the course of its construction.

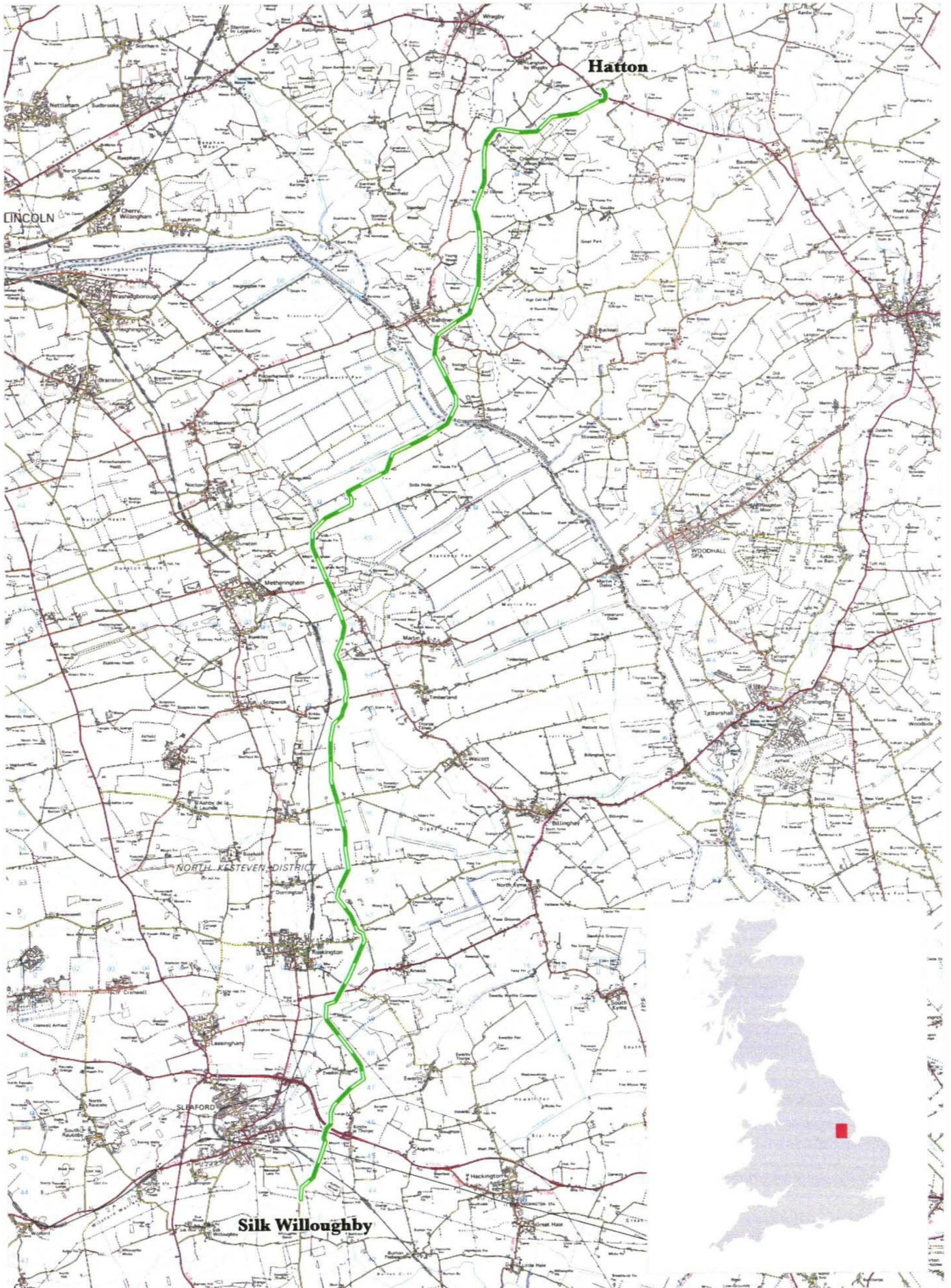
The pipeline crosses three distinct topographic regions. The northern end of the route is in the Lincoln Clay Vale, the area between the Lincoln Ridge and the Wolds. The land here is generally around 30-40m above Ordnance Datum (AOD). To the south, the Fenlands of the Witham Valley are very flat and low-lying, typically 2-3m AOD. The southern half of the route is on the eastern slopes of the Lincoln Heath, with ground elevations generally ranging from 10-15m AOD. The northern edge of the Witham Valley floodplain is relatively indistinct, but the southern edge is marked by a more pronounced change of level and it is in part defined by a series of woodlands which abut the Car Dyke (Mouchel, 1999).

4.2 Geology, Soils and Land Use

The solid geology underlying the route consists of Upper Jurassic clays and Corallian mudstones of the Oxford Clay, Kellaways and Blisworth Clay formations (Fig 3). In the northern and southern parts of the route, these clays are mostly overlain by a thick mantle of Quaternary drift deposits, generally glacial till or Boulder Clay with pockets of glacial and fluvial sands and gravels. The valleys of a number of streams have narrow bands of alluvium.

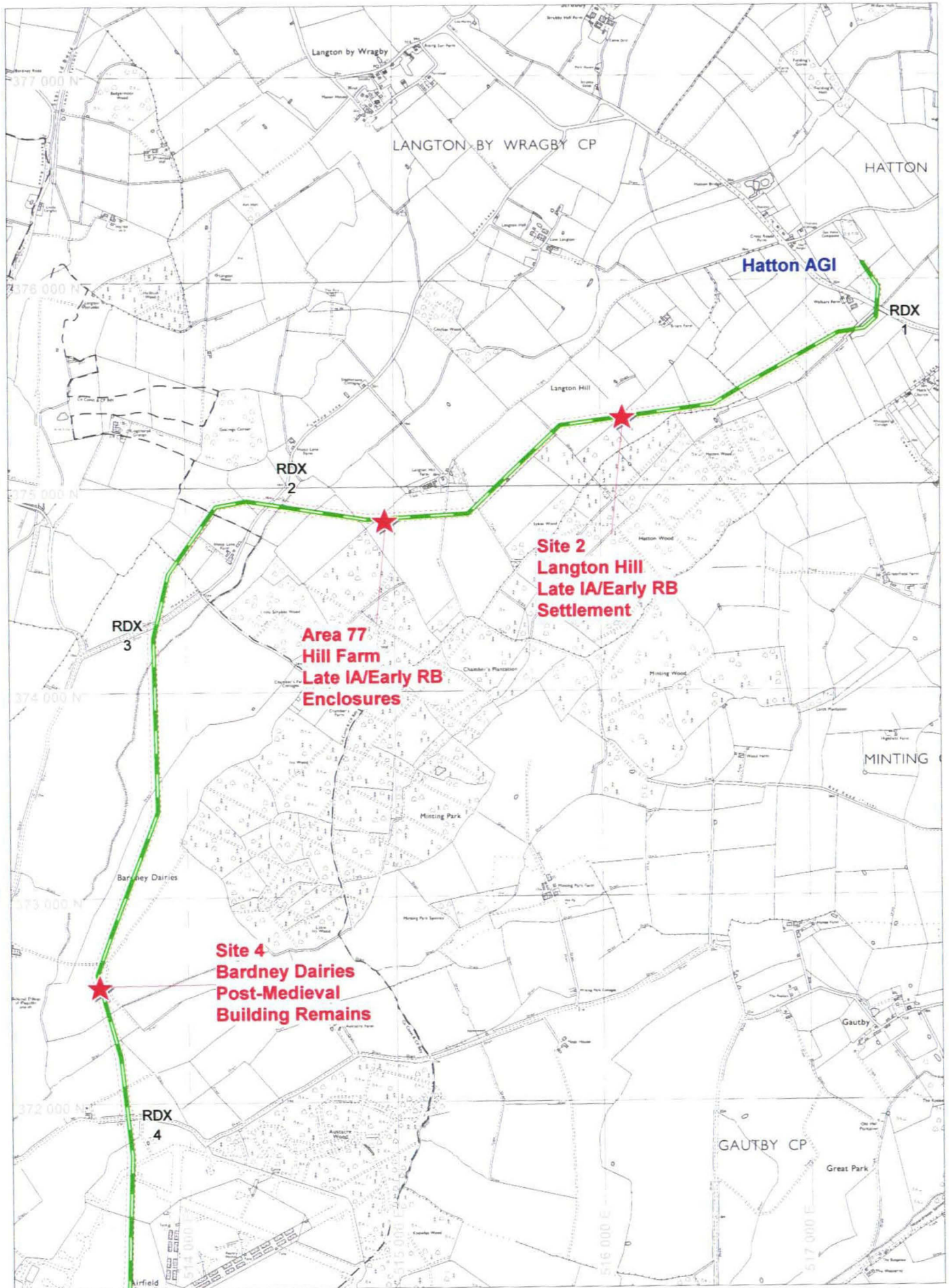
The Witham Fens have developed over recent sediments over glacial deposits created by the gradual infilling of a lowland basin of Oxford Clay and Kellaways Beds. Rises in sea-level from prehistoric times led to the obstruction of the natural discharge of the river causing its waters to back up and overflow. This initiated the many series of complex flooding episodes that eventually filled in the Fen Basin, and also led to the formation of peat. Many of the early peat deposits were subsequently overlain by marine clays, silts and sands. The sequence of flooding and regression of the Fen areas with salt or freshwater, and the build-up of the Fens in general, remain a very complicated and localised process (Hayes and Lane, 1992, 1).

The low lying nature of the land in this part of Lincolnshire, and the underlying clay geologies, have generally resulted in fairly heavy soils, naturally prone to water-logging and agriculturally less manageable than the lands of the Wolds lying to the north-east. However, a long history of drainage has helped to develop the area for arable farming making it today one of the more important arable regions in England. The Witham Fenland in particular, extensively drained in the past to prevent flooding, is one of the most fertile agricultural areas in the country.



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Figure 1: Location of the pipeline



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Figure 2a: Location of Sites, Scale 1:25 000, Map 1 of 5

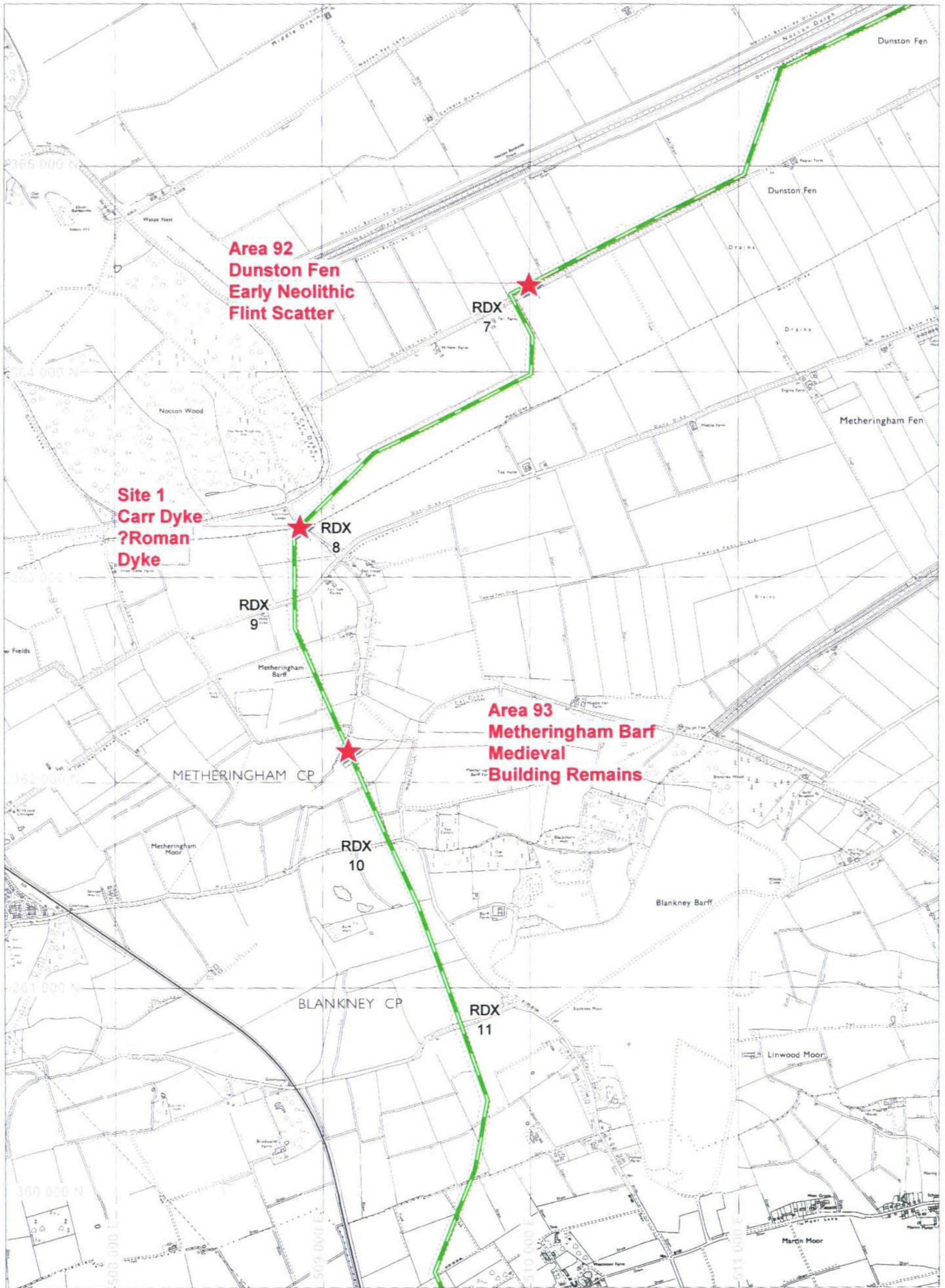


Figure 2c: Location of Sites, Scale 1:25 000, Map 3 of 5

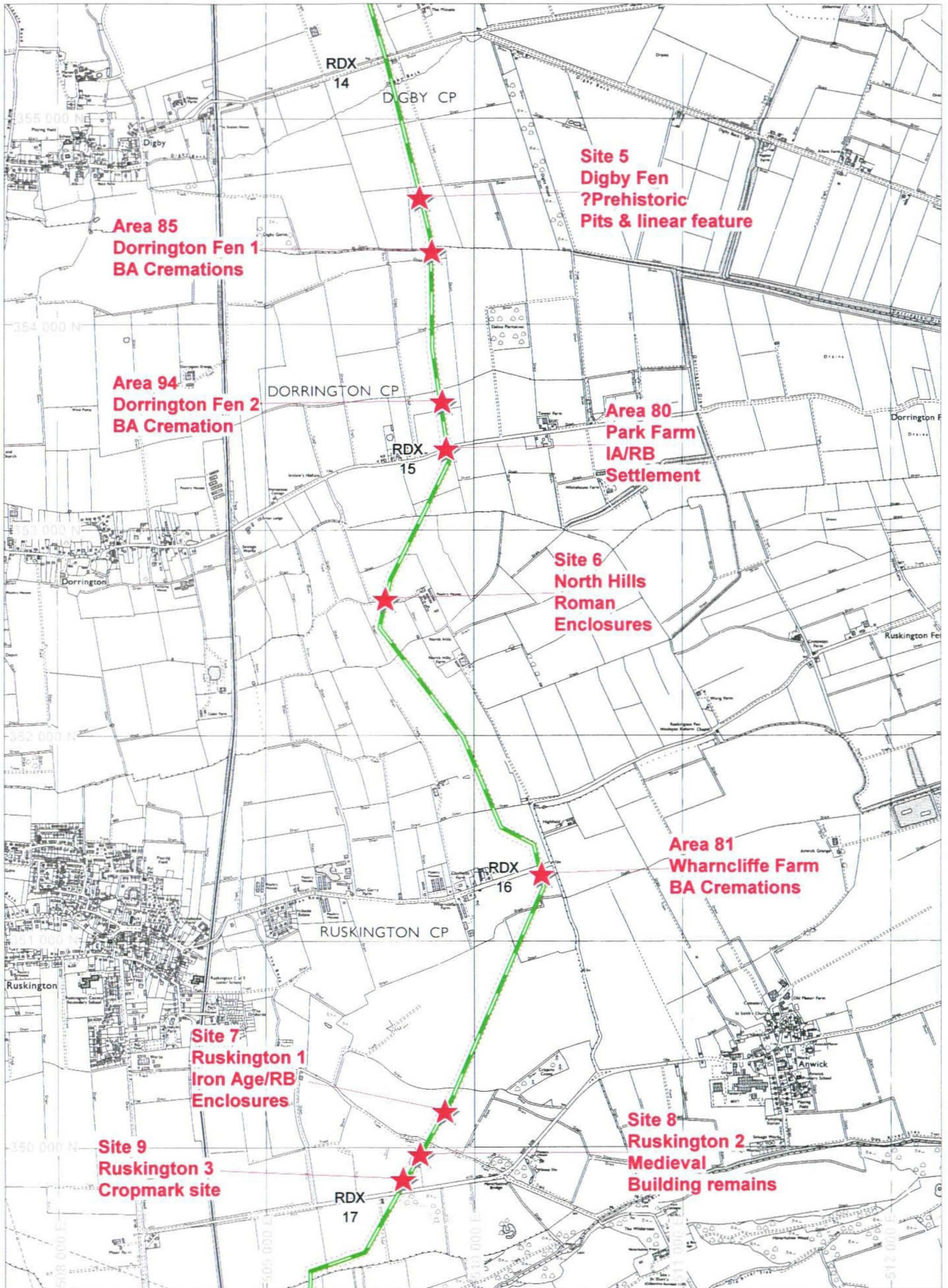


Figure 2d: Location of Sites, Scale 1:25 000, Map 4 of 5

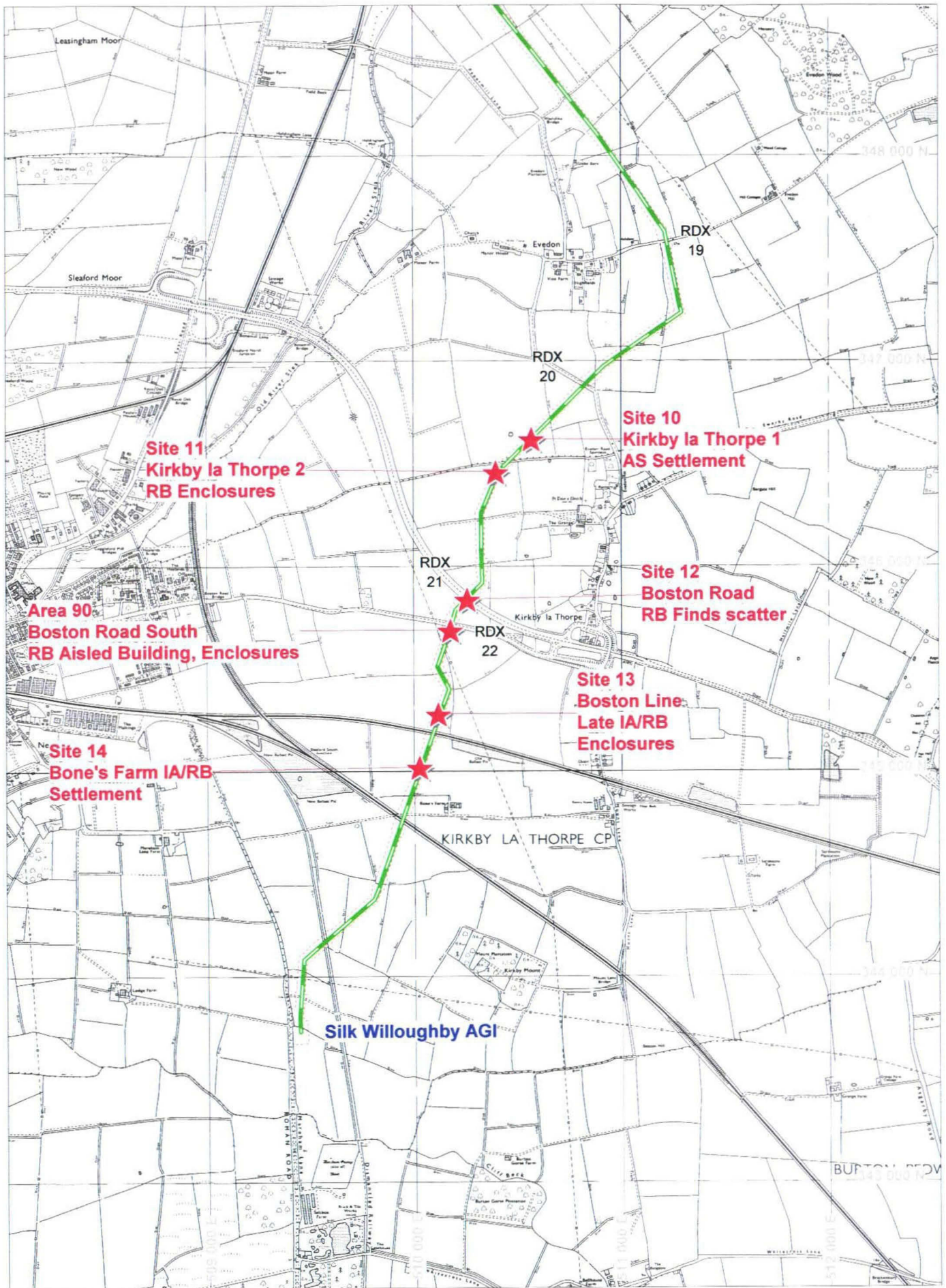
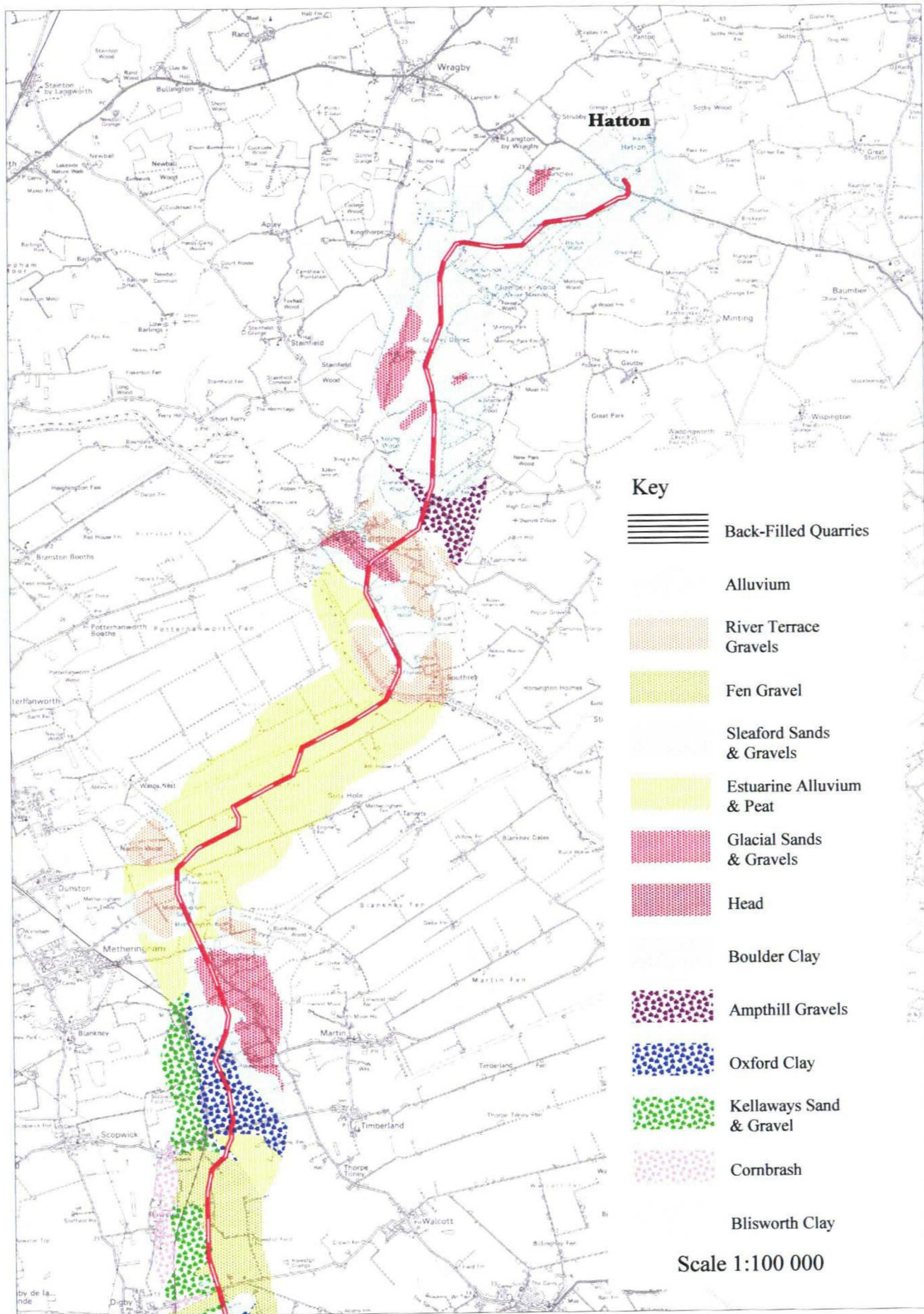
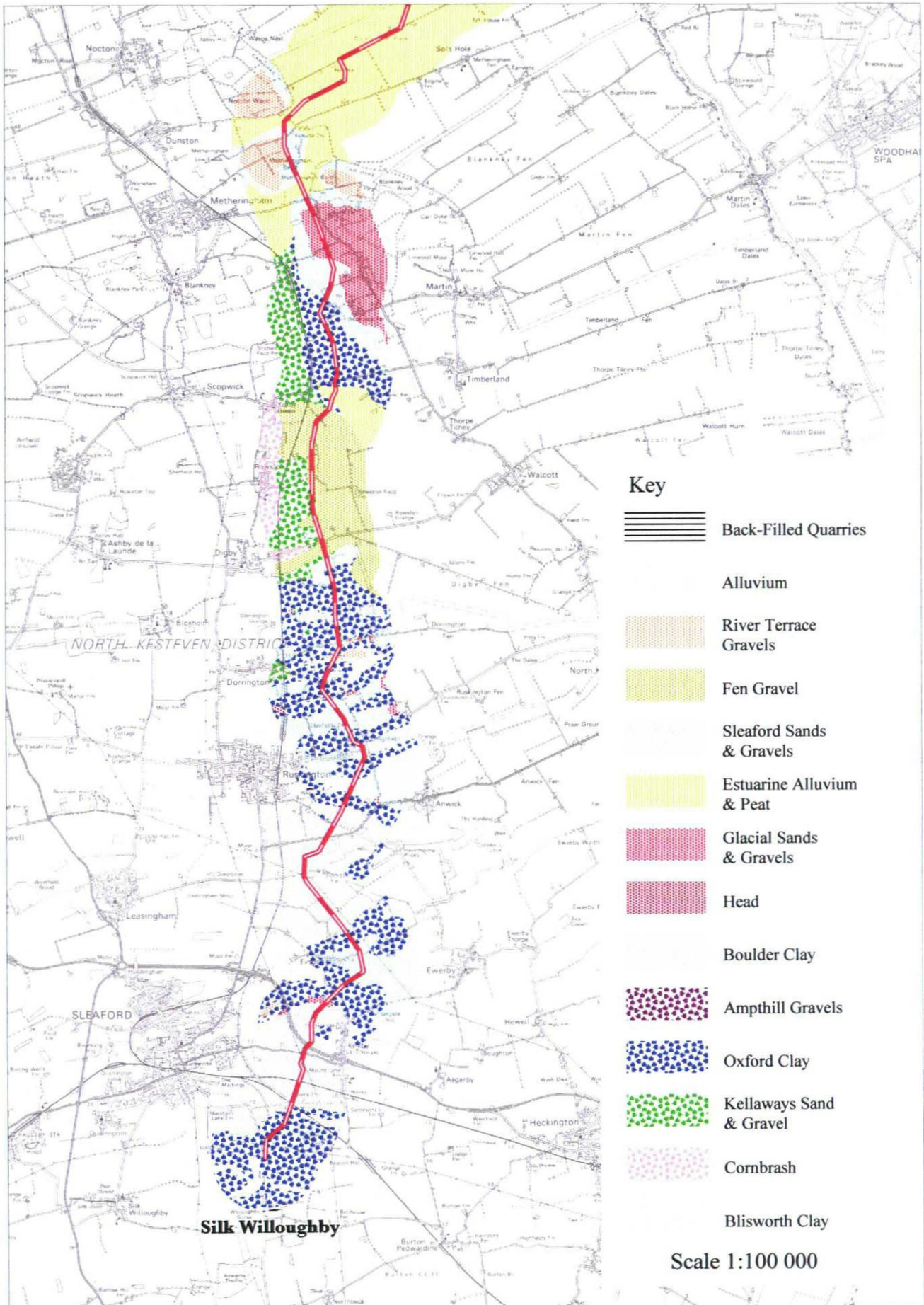


Figure 2e: Location of Sites, Scale 1:25 000, Map 5 of 5



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Figure 3a: Surface Geology of the northern half of the Pipeline Route



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Figure 3b: Surface Geology of the southern half of the Pipeline Route

5 METHODOLOGY

5.1 Archaeological Objectives

The objectives of the evaluation, excavation, and watching brief were to:

- locate, recover, identify and conserve (as appropriate), any archaeological artefacts exposed during pipeline construction;
- locate, sample, interpret and record any archaeological deposits exposed during pipeline construction;
- gather sufficient information to establish the presence or absence, extent, condition, character, quality and date of any archaeological remains along the pipeline route;
- recommend mitigation measures for the preservation *in situ*, where feasible and desirable, of any archaeological deposits;
- produce a report that addresses the above, in a format suitable for publication;
- produce and submit a suitable archive to the appropriate museum.

5.2 Archaeological Standards

All archaeological work was undertaken in accordance with Transco's general-purpose briefs for watching brief and archive and publication (1997) and detailed Method Statements based on these briefs produced by NAL. It was carried out in accordance with relevant national standards, including Standard and Guidance for Archaeological Watching Briefs (Institute of Field Archaeologists (IFA), 1999), and Appendix 3 of English Heritage's Management of Archaeological Projects (Second Edition, 1991).

5.3 Pipeline Construction

The pipeline route, running roughly north to south, was divided by twenty-two road crossings into construction sections numbered sequentially (0-22) from Hatton to Silk Willoughby. Each field crossed by the pipeline was located by using the construction section number together with a unique plot number within that section (e.g. 0/1 was the first field in Section 0, the last field in Section 22 being 22/9).

The pipeline was constructed within a 42m-wide, fenced working width. A strip, approximately 10m-wide, was reserved along the western side of the working width for the storage of stripped topsoil. Adjacent to this was a vehicle running track, and then the pipe-trench. The area on the eastern side of the working width was used for the storage of soil excavated from the pipe-trench (Fig 4).

Because of engineering constraints, the working width was modified in places, extra width being needed adjacent to road crossings and less where overhead power lines prevented the stripping or stacking of topsoil.

The first stage of construction was the establishment of the Right of Way. This entailed removing sections of hedges; cleaning, fluming or temporary bridging of ditches and streams, and stripping the topsoil from selected areas required for temporary access, particularly adjacent to road crossings. Engineering test pits to determine ground conditions and to locate buried cables and pipes were also dug at this stage.

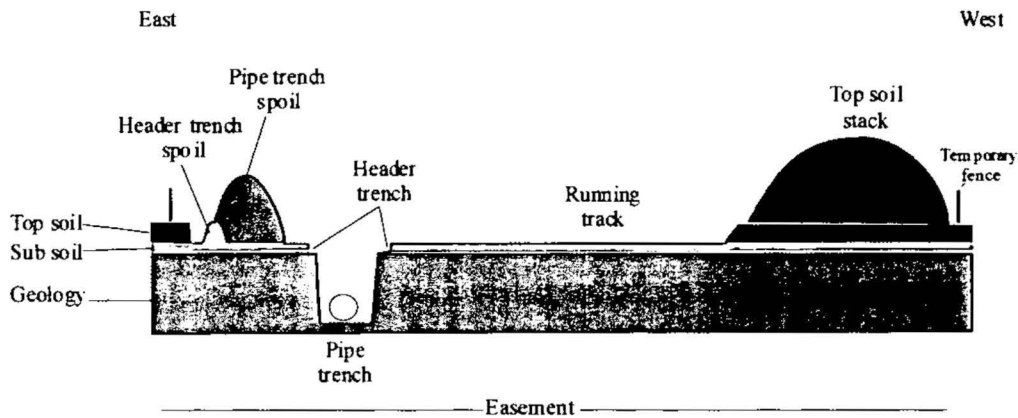


Figure 4: Cross-section of the working width

5.3.1 Pre- and post-construction drainage

Drains were inserted along the length of the pipeline. Ground disturbance was normally limited to a machine-dug trench 15-20cm wide along one or both sides of the easement and of a sufficient depth to intercept all existing land drains. Where connections between pipes needed to be made or underground obstacles avoided, more extensive excavation was needed. The narrow trenches were back-filled with coarse gravel after installation of the plastic drainage pipe.

5.3.2 Topsoil stripping

Topsoil was removed to subsoil level across approximately one third of the easement using a 360°, back-acting, tracked earth-moving excavator fitted with a toothless ditching bucket or blade. Removal of topsoil from the rest of the working width was achieved by bulldozers, pushing the topsoil into stacks up to 3m high to form a more or less continuous bund. The strip of ground beneath this bund, accounting for 8-10m of the working width depending on the depth of the topsoil, remained relatively undisturbed by the construction process. Other small stretches of the easement also escaped topsoil stripping, especially in the region of buried cables or pipes which needed to be protected from disturbance.

Once the topsoil had been stacked, the exposed subsoil surface was levelled and graded to create the running track alongside the topsoil stack and a level working area to facilitate subsequent construction operations. The next stages of work, stringing out, bending and welding the pipe sections into long continuous lengths, in readiness for placing into the pipe-trench, have little archaeological impact apart from disturbance by movement of heavy plant.

5.3.3 Pipe-trench excavation

Back-acting, 360°, tracked excavators were used to excavate the pipe-trench. A 4m-wide, 30cm-deep 'header trench' was first dug along the centre-line so that the upper layer of subsoil was kept separate from the lower, unweathered material. The machines were fitted with smooth-faced ditching buckets for this. The pipe-trench was then excavated using toothed buckets, normally to a width of 1.5-2.0m and a depth of 2.4m, going deeper beneath field-boundary ditches and other areas likely to be affected by future disturbance. Where unstable ground conditions, such as running sands or peat, were encountered, the sides of the trench were battered back to a safe angle.

5.3.4 Auger Boring

Two access tracks, the rivers Witham and Slea, two railways and a sewer pipe, and the twenty-two road crossings, were auger-bored. This involved the excavation of a 'drilling pit' on one side and a 'reception pit' on the other side of the obstacle. The drilling pits were larger than the reception pits, but both were generally about five metres wide, ten to twenty metres long and up to five metres deep.

5.4 Archaeological Monitoring

Minimal disruption to the construction schedule was achieved by integrating the archaeological work within the main phases of pipeline construction. Pre- and post-construction drainage received intermittent, opportunistic observation. The narrowness of the drainage trenches provided a very limited window of observation which did not warrant continuous monitoring.

There was permanent-presence archaeological monitoring of topsoil stripping. Freshly stripped areas and spoil heaps were closely examined for archaeological deposits and artefacts. Where it was not possible or desirable to preserve archaeological remains *in situ*, they were excavated and recorded. This involved an initial impact assessment, in order to determine the necessity for excavation and where it should be targeted. One or more of the following strategies was then instigated:

- Hand-cleaning, where the significant area was of very limited extent;
- Machine-cleaning of defined areas, where there were more extensive remains;
- Hand-excavation by the archaeologists carrying out the Watching Brief;
- For more extensive sites, mobilisation of a team of archaeologists to hand-excavate and record;
- Mitigation by restricting the width of the stripped area or by protecting the archaeological remains by laying wooden bog-mats.

The chosen course of action depended on a combination of factors, including the density and physical nature of the archaeological deposits, the location of the deposits within the easement, and the potential importance and value of the remains. Any strategy had to take into account the construction timetable, the potential compaction damage along the running track and easement, the positioning of any post-construction drainage, and the need for any eventual subsoil ripping to relieve compaction prior to topsoil reinstatement.

Permanent-presence monitoring was maintained on the pipe-trench excavation. All archaeological deposits and artefacts were recorded.

5.5 Visibility of Archaeological Deposits

Visibility during pipeline construction depends on a variety of factors, including machine type, depth of topsoil removal, weather and geology. All these factors were noted throughout the investigations.

5.5.1 Topsoil Stripping

The greatest opportunity to see features was during removal of the initial stages of topsoil stripping carried out using smooth-faced ditching buckets. Around a third to a half of the width of the easement was cleaned in this way. The remainder of the working surface was stripped by bulldozers and was smeared, compacted and churned up. The initial strip was therefore monitored very closely. The depth of stripping was not under the direct control of the archaeologist and remnant topsoil and occasional patches of hillwash obscured the natural substrate along parts of the route. If significant archaeological remains were discovered, negotiations were made to clean the whole site by machine under archaeological supervision.

5.5.2 Trenching

The excavation of the header trench was normally carried out using smooth-faced buckets, and provided a second opportunity to see features in plan, especially valuable where remnant topsoil, cultural subsoil layers or hillwash were present after topsoil stripping.

Ground conditions greatly affected visibility of features in the sides of the pipe-trench. In firm ground, features appeared quite clearly in section, but in clay soils, smearing of the sides was a severe problem, especially in wet conditions. On soft ground, slumping and the need to batter back the sides of the trench limited the ability to recognise and record features. At this stage of

construction it was usually practical to record a feature only in section, and then only at the angle at which it was cut by the pipe-trench. Where a feature was visible in both sides of the trench, the form in plan could be interpolated, and its appearance in section rectified to reveal its true profile.

5.6 Field Records

5.6.1 Project code and museum accession number

The NAL Project Code for the Hatton to Silk Willoughby Pipeline is HAT00. The accession number is 2000.102, agreed in advance with the Lincoln City and County Museum.

5.6.2 Site Numbering System

A sequential Site, Trench and Area numbering system was used. Evaluation trenches were numbered from 1 to 71. These trenches were concentrated around 14 sites, numbered Site 1 to Site 14, identified from the Field Reconnaissance and Geophysical Survey phase (NAL Report 155). Where the results of the evaluation trenches warranted further excavation, or where unexpected archaeology was discovered as a result of the watching brief, Area Numbers 72 to 94 (Appendix 11) were assigned, continuing the sequence of the trench numbers.

5.6.3 Plot Numbering

Re-routes implemented between the Field Survey and construction phases meant that the plot numbers used to locate potential sites in the Archaeological Fieldwalking, Field Reconnaissance and Geophysical Survey report (NAL Report 155) and in the Project Specification for Archaeological Field Evaluation, do not coincide with the plot numbers assigned during construction (Appendix 11). Unless otherwise stated, all plot numbers referred to in this report will be those allocated during construction.

5.6.4 Context Numbering System

Each construction section was given a block of 1000 unique context numbers for recording purposes, the initial digits coinciding with the construction section number (for example: Section 0 = 001-999, Section 1 = 1000-1999, Section 2 = 2000-2999). Where there were several excavation areas within the section, different sub-blocks were allocated for each.

5.6.5 Additional Number Allocations

The block of numbers 26000-26999 was used for soil samples and 25000-25999 for registered finds. The block 23000-23999 was used on Site 14, and the numbers 0-100 were used for isolated features found during the watching brief (Appendix 11).

5.6.6 Determining the location of Sites

Evaluation sites were set out using a total station theodolite from control points established at road crossings by the pipeline engineers. The same method was used to locate the grid used for planning Sites 2 and 7. Other sites were planned using a local grid based on the pipe centreline and located by reference to temporary bench marks, which were later surveyed using differential Global Positioning by Satellite equipment. Archaeological remains found during trenching were located in relation to the nearest pipe welds; the NGR and AOD levels for these were obtained from the 'As Built' plans supplied by Laing Engineering Ltd.

5.6.7 Written Records and Drawings

The standard NAL system of *pro forma* record sheets was used for on-site recording. Drawings included:

- site plans, using the engineering strip maps based on Ordnance Survey 1:2500 scale background mapping showing the location of any excavation areas;
- hand-drawn excavation area plans (at 1:20, 1:50 or 1:100 scale, as appropriate), showing all archaeological and natural deposits;
- detailed plans at 1:20 scale of significant features, and

- section drawings at 1:10 scale or 1:20 scale (as appropriate) of all excavated features, and unexcavated features seen in trench sides.

5.6.8 Photographic record

Monochrome and colour 35mm photographs were taken of all excavated features, as well as overall shots of each site, work in progress and pre-excavation shots as appropriate. The context number, photographic scales, and north arrow were included in all photographs where appropriate.

6 ARCHAEOLOGICAL BACKGROUND

6.1 Prehistoric

6.1.1 Desk-Based Assessment

Few reliably dated prehistoric sites were recorded within the study corridors of the original route, or the three re-routes covered by the addendums to the original report. However, some or all of the large number of cropmarks visible in air photographs of the area to the south of the Witham Valley are likely to result from the presence of prehistoric or Romano-British features. When combined with the evidence of numerous isolated prehistoric finds, this suggests a relatively high level of human exploitation of the area during these periods.

Palaeolithic (from approximately 250,000 years ago)

Evidence of the Palaeolithic period, a time of glaciation interspersed with long periods of slightly warmer climate, is extremely rare in Lincolnshire. Only a single find spot was recorded near the study corridor; a hand axe found near the village of Kirkby Green (TF 05NE B, TF 0896 5801, NAL Report 147).

Mesolithic (from around 8500 BC)

Evidence of early Mesolithic activity in Lincolnshire is likewise scarce. In the warmer and wetter climates of this period, small communities of hunter-gatherers migrated between different areas and used tools fashioned from stone, wood or bone. Characteristic of the period are small flint blades, or microliths, which were set in wooden shafts and most sites are known only from scatters of these tools. The single area of activity recorded in the ADBA was a late Mesolithic or early Neolithic flint scatter to the east of Kirkby la Thorpe (DBA:FZ, TF 1062 4572, NAL Report 147).

Neolithic (from around 4500 BC)

During the Neolithic period there was a shift from hunting and gathering to a settled, agrarian economy. This change is manifested in the archaeological record by the appearance of new artefact types: pottery, querns, sickles and polished stone axes. Settlement evidence is again rare, but the distribution of stone axe heads suggests that forest clearance was taking place and great tracts of land were already opened up and settled by 2500 BC (May, 1976). A number of axe heads have been recorded at Hatton, Nocton Wood, Blankney, Digby Fen, and Evedon. This period saw the tradition of multiple burials in massive earthworks called long barrows; the nearest to the route is on the edge of Walcott Common.

Bronze Age (from around 2500 BC)

The introduction of metalworking technology from continental Europe was accompanied by new types of flint tool and new styles of pottery design. Cereal crops and stock-rearing remained the economic mainstays and trade links forged in the Neolithic period continued to develop. Changes in society were reflected in the emergence of new burial practices, particularly the construction of round barrows. A group of cropmarks on the edge of Metheringham Fen (TF 0849 6234) has been interpreted as a round barrow site.

In eastern Lincolnshire, sea-level transgressions periodically covered large areas of land with salt marshes and open water. Lowland sites became slowly overwhelmed by marine deposits which settled and gradually formed into peat. Draining of the Fens and the subsequent drying out of the peat deposits has revealed many barrow sites, but there is limited evidence for settlements in the fen area. This may be due to a number of factors: the unstable nature of the floodplains and marshes may have prevented settlement; settlement evidence may have been destroyed by flooding or meandering rivers, or sediments may have covered the sites and hidden them from view (Brown, 1997, 37-8). However, a flint and pottery scatter suggestive of occupation was discovered on the 1998 Hatton to Silk Willoughby Gas Pipeline on the edge of Dorrington Fen (NAL Report No. 134, 1999), highlighting the potential for new sites in the fenland area.

Although a small number of find-spots were recorded in the ADBA, all to the south of Kirkby Green, the only accurately dated occupation site of the period known within the area studied is a multi-period site found during work on the 1998 Hatton to Silk Willoughby Gas Pipeline to the east of Kirkby la Thorpe (DBA:FZ ,TF 1062 4572, NAL Report 147).

Iron Age (from around 600 BC)

Iron-working was introduced to Britain from the Continent; wheel-thrown pottery and inscribed coins also made their appearance during this period. Population growth led to competition for land and the development of a more organised and territorial society.

Rising sea levels around 500 BC would have left parts of Lincolnshire as open sea with low islands, salt marshes and creeks. Sea levels then gradually fell, allowing greater access to the land on the coastal areas. It is thought that the Roman Car Dyke may follow the coastline as it was during the later Iron Age (Simmons, 1993). The Witham Valley probably continued to be too marshy for extensive development.

The northern half of the pipeline route runs between the major Iron Age settlements at Lincoln and Horncastle, and the route terminates to the south of Old Sleaford. Old Sleaford was a particularly important centre during the mid- to late Iron Age. It was located next to the River Sleas which may have been navigable at this time allowing trade links with Mediterranean Europe. The large amount of imported pottery found at Old Sleaford is evidence for this trade. The discovery of 4,354 fragments of coin-pellet moulds and 247 crucible fragments (Elsdon, 1997), the largest collection of such Iron Age material found in Europe, confirms that this was a large and prosperous settlement and probably the commercial centre of a wide area.

Nearer to the pipeline, the ADBA found few confirmed Iron Age sites. A cropmark of a possible prehistoric settlement was noted to the west of Southrey (MON 1043962, TF 1255 6704, NAL Addendum, May 2000), while a number of cropmark complexes and trackways to the south-east of Ruskington, which had been tentatively placed in this period (MON 349273 & MON 1054810, NAL Report 147), have had their date confirmed by the work reported here. Cropmarks to the south-west of Kirkby la Thorpe have also been confirmed as Iron Age or Roman in date (DBA:OV & MON 1049484, AL Report 147). Excavations undertaken during the construction of the 1998 Hatton to Silk Willoughby Gas Pipeline established the existence of at least two Iron Age settlements and a possible barrow site to the east and south of Kirkby la Thorpe (NAL Report No. 134, 1999).

6.1.2 Field Surveys

Prehistoric flints were found along most parts of the route, with dateable tools including a Late Mesolithic blade core (Plot 10/1), a thumbnail scraper of Beaker or Early Bronze Age date (Plot 10/1), three Neolithic stone axes (Plots 1/9, 3/3 and 3/4), two denticulates of probable Bronze Age date (Plot 14/4 & 14/7), and an oblique arrowhead of a type generally considered to be Late Neolithic or Early Bronze Age in date (Plot 1/5) (NAL Report 155).

Three small concentrations of Iron Age pottery and worked flint were noted:

- Plots 1/5 & 1/6: Iron Age to early Romano-British pottery and Neolithic/Bronze Age flint (TF 1615 7533, NAL Report 155)
- Plot 14/4: three sherds of Iron Age pottery and a slight scatter of worked flint including two Neolithic/Bronze Age tools (TF0974 3560, NAL Report 155)
- Plot 20/2: a multi-period artefact scatter including Late Neolithic/Bronze Age flints (TF 0955 4660, NAL Report 150)

A number of the cropmark sites highlighted in the ADBA as possibly prehistoric or Roman in date were unsuitable for fieldwalking due to crop cover (Plots 16/4, 16/6, 20/3 and 22/4).

Geophysics provided additional support for the presence of archaeological remains in Plots 1/6 and 20/2 and also produced evidence of activity at three of the cropmark sites which were unsuitable for fieldwalking:

- Plot 16/4 (MON34973, cropmark settlement complex) showed distinct linear features, possible pits and high susceptibility values (TF 0977 5011, NAL Report 155);
- Plot 20/3 (DBA:OW, undated rectilinear enclosures) showed increased susceptibility readings, linear anomalies and possible pits (TF 0937 4642, NAL Report 155);
- Plot 22/4 (DBA:OV, cropmarks of possible enclosures/tracks) produced particularly high susceptibility readings and increased magnetometer activity (TF0903 4505, NAL Report 150).

6.2 Romano-British (from mid-first century AD)

6.2.1 Desk-Based Assessment

The fall in sea level that had begun in the Iron Age continued into the Roman period. New tracts of land in Lincolnshire were colonised although there is a marked absence of Roman sites on the Witham Fen. Away from the fens, the lowering of the sea level meant that more land was available and there is much greater evidence for Romano-British settlement on the marine silt fenlands further east, including some stone-built villas and less substantial, but more frequent, rural settlements. The typical Iron Age roundhouse continued to be the dominant building form across much of early Roman rural Britain but there is a paucity of excavated examples in Lincolnshire.

The Roman occupation of Lincolnshire is reflected not only in settlement sites but also in the network of Roman roads, built originally for the army but also exploited as trade and communication routes. The most important was Ermine Street, connecting London with the North. The Fosse Way meets Ermine Street just to the south of Lincoln, while a further major route, King Street runs south from Lincoln, passing through Bourne. The pipeline ends immediately to the east of Mareham Lane, which is a stretch of King Street running from Bourne to Sleaford. Several of these Roman roads appear to have prehistoric antecedents; Ermine Street, for example, closely follows an ancient route now known as the Jurassic Way (May, 1976, 9).

The watercourse known as Car Dyke was possibly built in the early second century AD connecting the River Nene near Peterborough with the Witham east of Lincoln, a total length of some 87km. Controversy as to its main function revolves around the question of whether the whole length would have been navigable as a canal (Whitwell, 1992) or whether it was merely a means of draining the fenlands (Simmons, 1975). Its construction would have required large teams, probably staying in temporary labour camps as was the case with the construction of Hadrian's Wall (May, 1976, 9). Away from the pipeline route, where it is still clear as a watercourse or earthwork, the Car Dyke is a scheduled monument, but the pipeline crossed through an unscheduled section to the south of Nocton Wood.

Apart from single coin finds south of Bardney and in a garden at Southrey, the ADDBA recorded no evidence of Romano-British activity to the north of Car Dyke. Coin moulds have been found near to the Dyke, at the southern end of Nocton Wood (TF 0881 6336), and a number of pottery and coin scatters are recorded in the area of Evedon and Kirkby la Thorpe. Extensive cropmarks to the south-west of Kirkby la Thorpe are believed to be either prehistoric or Roman in date (MON 1049485 & MON1049484).

6.2.2 Field Surveys

Fieldwalking produced occasional finds of Romano-British pottery throughout the route. Three significant concentrations were identified:

- Plots 1/5 to 1/6: Iron Age to early Roman pottery (TF 1615 7533, NAL Report 155),

- Plots 15/5 to 15/6: second to fourth century AD pottery, tile and brick. (TF0957 5265, NAL Report 155),
- Plots 20/5 & 21/1: Roman pottery and a small amount of Roman ceramic building material (TF0932 4583, NAL Report 155).

The geophysical survey provided additional evidence for the presence of archaeological remains in Plots 1/6 and 20/5 & 21/1. It also produced evidence of activity at a number of cropmark sites which were unsuitable for fieldwalking (Para. 6.1.2).

6.3 Anglo-Saxon (from early fifth century AD)

6.3.1 Desk-Based Assessment

'Anglo-Saxon' is a convenient label for the period, but Lincolnshire was probably settled largely by the Angles from southern Denmark after the breakdown of Roman rule in the fifth century. Archaeological remains from the period are comparatively rare. Only three known Saxon sites were recorded in the ADBA: a partially excavated 7th Century inhumation cemetery to the east of Kirkby la Thorpe (DBA:FZ, TF 1062 4572), a scatter of Anglo-Saxon artefacts suggestive of another cemetery to the west of Kirkby la Thorpe (NK34.30, TF 0910 4610), and a standing stone, known locally as Beacon Hill Stone, half way between Evedon and Kirkby la Thorpe (LSMR 60747, TF 1010 4700). Beacon Hill is the highest point of Evedon parish and may have been the wapentake meeting place for the district in AD900-1065. Kirkby la Thorpe may have evolved in part from the lost settlement of Burg, recorded in the Domesday survey in 1086, although this is a matter of contention (D.R. Roffe, 1992).

6.3.2 Field Surveys

Fieldwalking in Plot 20/2 produced five sherds of Anglo-Saxon pottery (TF 0955 4660, NAL Report 150). The geophysical survey showed a distinct increase in susceptibility readings in this plot, and some linear and other anomalies which could represent ditches or ridge and furrow, perhaps with some pits.

6.4 Medieval (from the mid eleventh century AD)

6.4.1 Desk-Based Assessment

A period of economic expansion during the twelfth and thirteenth centuries was reversed in the fourteenth century due to a combination of factors. Land shortage and climatic deterioration contributed to a weakening of rural industry. Foreign wars added to the pressures and the arrival of the Black Death by 1349 significantly reduced the population. Further recurrences of plague continued sporadically throughout the fifteenth century, becoming less virulent but restricting population growth. With a smaller population, farmers no longer needed to cultivate marginal lands. Villages shrank and some became completely deserted. Conversion to sheep farming led to the extensive enclosure of previously open fields.

Over 235 deserted medieval villages (DMVs) are known from Lincolnshire, and there are probably many more (Start, 1995, 52). The majority were abandoned between the fourteenth and eighteenth centuries. Near the pipeline, the ADBA recorded the DMVs of Osgodby and Butyate, and shrunken medieval villages (SMVs) of Evedon and Kirkby la Thorpe.

The pattern of medieval land-use is often discernible in the patterns of ridge-and-furrow ploughing still upstanding or visible on old air photographs. The ADBA noted concentrations in the northern and southern parts of the study corridor, with very little in the Witham Valley. Ridge-and-furrow is typical of the open field cultivation of the medieval period, but land was still ploughed this way to aid drainage into the early eighteenth century. The ridge-and-furrow recorded during the ADBA could, therefore, belong either to the medieval or the earlier post-medieval periods.

The medieval period saw the establishment of many religious houses in the county. A considerable number were close to the pipeline route, including Bardney (Benedictine order), Seney Place near Southrey (monastic retreat), Tupholme (Premonstratensian order), Nocton (Augustinian order), Walcott (leper hospital), Catley and Haverholme (both Gilbertine order).

6.4.2 Field Surveys

Occasional finds of medieval pottery occurred throughout the route. Their distribution can probably be accounted for as the result of past patterns of manuring. Fieldwalking produced a significant concentration of thirteenth to sixteenth century roof tiles in Plot 16/5 (TF 0974 4997, NAL Report 150).

Field Reconnaissance identified two previously unrecorded earthwork ridge-and-furrow sites in Fields 15/1 and 15/2. These were in addition to the five earthwork ridge-and-furrow sites noted in the ADBA (Fields 1/2, 11/11, 11/12, 11/13 and 11/14).

The geophysical and field reconnaissance surveys provided additional evidence for a former earthwork recorded as a pillow mound or boundary bank (MON 1066593, TF 0915 6218) in Plot 9/4. A small number of medieval and late medieval pottery sherds were collected, and magnetic anomalies accompanied by enhanced susceptibility readings were highlighted. (NAL Report 155).

6.5 Post-Medieval (from late fifteenth century)

6.5.1 Desk-Based Assessment

There was a general trend away from the strip cultivation of open fields and increasingly large 'closes' were hedged-off. The process of consolidation of land holdings into separate farms and the subsequent establishment of the modern pattern of field boundaries was completed in most parishes by the passage of enclosure acts through parliament, generally in the second half of the eighteenth century. By the time that tithe maps were drawn up in the 1830s and 40s, most of the existing field boundaries were in place, together with many that have since been lost as a result of modern agricultural practices.

A large variety of buildings survive from this period, in villages and as isolated halls and farmhouses, but a number of buildings shown on early maps are no longer present. A post mill is shown on maps of 1757 to 1886 to the south of Bardney (LSMR 51185, TF1235 6887) but the 1906 OS 25" map shows an empty mound. Cropmarks to the east of Kirkby Green may also represent a mill (MON 898752, TF 0933 5785).

Major drainage schemes were carried out in the Witham Fens in the eighteenth century: between 1777 and 1797 around 25,000 acres of this fenland was drained and enclosed (Robinson, 1995, 72). Much of the regular pattern of field boundaries that can be seen in the fenland area today originated at this time.

6.5.2 Field Surveys

The geophysical survey recorded one significant area, a magnetically disturbed area with distinct individual features and corresponding to a susceptibility anomaly, possibly associated with a scatter of post-medieval brick and tile in Plot 3.4 (TF 1357 7257, NAL Report 155). This site lies between Osgodby DMV and a former farm noted on the 1907 Ordnance Survey map.

6.6 Modern (from mid nineteenth century)

6.6.1 Desk-Based Assessment

The ADBA highlighted a number of former railway lines crossed by the route, in addition to the two surviving railways near its southern end. The course of a branch line to Stamford can be traced as a farm track running parallel to Mareham Lane and marking the boundary between Plots 22/9 and 22/10 (TF 0856 4417) and there was a line along the north bank of the River Witham with a branch

to Wragby and Louth at Bardney. An extensive network of railway tracks in the flat fields of the fens allowed agricultural produce to be loaded directly into wagons (NAL Report 155).

Second World War sites include former airfields at Bardney (LSMR 53847, TF 1393 7113) and Martin, and an anti-aircraft searchlight installation (MON 1057938, TF 1373 7535).

As with the post-medieval period a number of small buildings shown on early modern records are no longer present. At least one was directly affected by the proposed route in Plot 2.5 (TF 1385 7437, NAL Report 155). Air photographs from 1948 show a group of farm buildings adjacent to Hoop Lane.

6.6.2 Field Survey

Fieldwalking highlighted a significant scatter of modern material in Plot 2.5 (TF 1385 7437, NAL Report 155). A scatter of mostly eighteenth to nineteenth century pottery and tile to the east of the line confirmed that a farmstead had occupied this plot and been demolished since the taking of an air photograph in 1948.

7 RESULTS

7.1 General

A total of 22 sites were recorded during the construction of the pipeline (Fig 2a-e). These range in type from single cremation burials to extensive multi-period settlement sites. They also include significant artefact scatters with few or no accompanying features. Sites are grouped by archaeological periods in this report. For each period, a summary is followed by a report for each site. Multi-period sites are discussed in their entirety within the section of the period most prominently represented. Undated features are summarised at the end of the results. Because of the difficulties in distinguishing between gradually merging traditions, the Iron Age and Roman periods have been divided into three sections: Iron Age, Late Iron Age/Early Roman and Roman.

8 PREHISTORIC

8.1 Summary

No evidence of Palaeolithic activity was detected along the pipeline route. A small number of unstratified flint finds were dated to the Mesolithic period or to a Mesolithic/Neolithic category. There were rather more Neolithic/Bronze Age finds. One particularly rich assemblage, a scatter of 108 worked flints, probably all of early Neolithic date, has been considered as a separate site: Site 92, Plot 6/22.

Several of the excavated sites produced small assemblages of residual flints. Among thirty-four worked pieces from Site 2, five were of possibly Mesolithic date including two micro-denticulated blades (Figs 5a & b). Area 77 produced a borer, two possible scrapers and a core of early Bronze Age date. An unpolished Neolithic axe (Fig 6a) was found during the field survey in the middle of the same field: Plot 1/9. Area 85 produced three Mesolithic bladelet cores. The assemblage of ninety-three pieces from Area 80, mostly debitage but including a borer and two scrapers, was mostly of late Bronze Age to early Iron Age technology. Probably of a similar date, sixteen flints, including two cores and a scraper, were found on Site 10. A middle-to-late Bronze Age scraper was recovered from Site 6 (Fig 5i).

Finds from the watching brief on the topsoil stripping included a piece of a Neolithic blade from Plot 7/1 (Fig 5h), and a blade and two scrapers from Plot 10/1 (Fig 7d). Generally, there were few finds from the watching brief compared to the pre-construction fieldwalking assemblage, suggesting that retrieval conditions on the watching brief were less than ideal. The fieldwalking assemblage included two further Neolithic axes, one partly polished (Fig 6b) and the other roughed out (Fig 6c). Other notable finds from the field survey included a Neolithic or Bronze Age arrowhead from Plot 1/5 (Fig 7a), scrapers from Plot 1/4 (Fig 7b), Plot 1/5 (Fig 7c) and Plot 12/1 (Fig 7e); an awl from Plot 16/7 (Fig 7f); and a late Mesolithic core from Plot 12/1 (Fig 7g).

Apart from these flint finds, the only pre-Iron Age remains identified were Bronze Age cremation sites. Three of these were found during the watching brief and excavated: Area 85, Plot 14/6; Area 94, Plot 14/8; and Area 81, Plot 16/1. All were badly damaged.

Also included in this section, Area 91, Site 14, Plot 22/4 had part of an Iron Age field enclosure system with evidence of occupation. This was the only one of the Iron Age sites excavated on the pipeline which did not also have evidence for continued use in the Roman period.

8.2 Site Reports: Prehistoric Sites

8.2.1 Area 92, Early Neolithic Flint Scatter, Plot 6/22, Dunston Fen (TF 1000 6443)

Summary: An assemblage of Early Neolithic flint was recovered from the surface of a buried peat layer.

Introduction

The site is within a field adjacent to Dunston Fen Lane, approximately 1.2km to the north-east of Nocton Wood. The land is very low lying at around 1m AOD, with a very slight rise from the western to the eastern side of the field. It lies over marine and estuarine alluvium. The ADBA noted that two undated dugout boats had been found approximately 500m to the north. (TF16SW, NAL 1999). A former watercourse was identified from air photographs approximately 100m to the north (DBA:AG, NAL 1999). Because this area was on alluvium, geophysical survey was not carried out.

Results

During excavation of the header trench, a peat layer was revealed approximately 40cm below the stripped surface, and the flints were retrieved from this layer. In the pipe-trench, the peat layer could be seen to be quite extensive and to be parallel to the ground surface. Unfortunately the unstable nature of the trench sides prevented close inspection after full trenching.

One hundred and eight worked flints were recovered along with three fire-cracked pieces. With one or two possible exceptions, the worked flint all appeared to be Early Neolithic in date (Appendix 1). The technology employed was based on the production of blades and fine flakes. The knappers of this material were skilled, prolonging and maintaining the working life of a core through such techniques as platform rejuvenation and core face thinning. Cores were prepared in order to facilitate blade detachment and prevent mistakes.

A variety of tools were recovered from the site. These include end-scrapers, micro-denticulates and retouched flakes and blades. There is some evidence that leaf-shaped arrowheads were manufactured on the site: a broken leaf arrow (Fig 5c) appears rather lopsided and may have been unfinished, and a flake shows traces of having been removed from a thin, invasively flaked piece, probably an arrowhead, but possibly also a laurel leaf. Burins also appear to have been manufactured on site. A burin was recovered along with a primary burin manufacturing spall, deriving from a separate tool. A possible thinning flake provides evidence for axe manufacture or maintenance. This flake is of opaque grey/blue flint deriving from the Wolds, in contrast to rest of the assemblage, which was manufactured on translucent brown and black flints.

Also of interest is a long blade which has both been used as an end-scraper and serrated (Fig 5d). Traces on the dorsal surface of this piece indicate that it was manufactured from a polished axe which was reused as a core. The edge of the long axis of the axe has been used as a guide to remove long, regular blades, of which this example was the second in the series of removals.

Discussion

The broad range of tool types and the unspecialised nature of the assemblage indicate that there was a settlement in the close vicinity and that flint was being used in the course of the normal domestic activity. The spalls and debitage imply that at least some of the tools were being manufactured on site. Arrowheads, and possibly the bladed tools, would have been used over a wide area, while others were probably for tasks of a more domestic and local nature.

Category	No.	%
Tools:	14	13.0
Arrow/ arrow spall	2	1.9
Burin	1	0.9
Denticulate	1	0.9

Category	No.	%
Knife	1	0.9
Micro-denticulate	2	1.9
Scraper	3	2.8
Scraper/serrated	1	0.9
Retouched Blade	2	1.9
Retouched Flake	1	0.9
Tool Spalls:	2	1.9
Axe Flake	1	0.9
Burin Spall	1	0.9
Debitage:	92	85.1
Blade	14	13.0
Flake/fragment	69	63.9
Core Preparation	4	3.7
Core	3	2.8
Core Fragment	1	0.9
Shatter fragment	1	0.9
Total	108	100

Table 2: The Flint Assemblage from Plot 6/22

8.2.2 Area 85, Bronze Age Cremations, Plot 14/6, Dorrington Fen 1 (TF 0980 5436)

Summary: A group of four Bronze Age cremations were found during topsoil stripping. Together with a group of small pits or postholes, these were clustered around a linear feature.

Artefact type	Count/Sherds	Weight/g
BA Pottery	144	2920
Flint	1	6
Human bone		242

Table 3: Area 85, Finds Summary

Introduction

This site was just under 1km south of Station Road, Digby and 1.7km east-south-east of St Thomas a Becket's Church (Fig 8). The features were contained within a small area of the pipeline easement, 40m by 25m. The land is low-lying at around 11m AOD and flat. The natural subsoil is clay with the underlying Oxford Clay overlain in places by glacial till.

In conditions of poor surface visibility, the fieldwalking survey recovered only one medieval pottery sherd from this field (NAL, Rep 155, Appendix 2 and Appendix 3, p 13). The geophysical survey detected no magnetic anomalies (Bartlett-Clark Consultancy, 2000).

Results

Gully

Topsoil stripping revealed a north-to-south oriented gully running for 40m from the northern boundary of Plot 14/6 (Fig 9). This feature, numbered 14711, 14730 and 14732 in different excavated sections, averaged 1m wide and 16cm deep. A considerable quantity of Bronze Age pottery, probably all from the same vessel, was recovered from one of its three excavated sections. Although close to the other features on the site, it was not related stratigraphically to any of them.

Postholes

There was a row of three shallow postholes on a north-east to south-west orientation directly to the north-east of Section 14732. Two of these [14720], [14722] were almost identical in size: around 10cm deep by 35cm in diameter. The third [14724] was slightly smaller and elliptical in shape. Three other postholes or small pits nearby did not form any discernible pattern. Two of these [14706] and [14712] had fills containing ash and charcoal. The larger one [14706], 70cm in diameter, also contained unburnt wood and had part of its base lined with clay. The smaller one [14712] had small unidentifiable pieces of bone in its upper fill. Just to the east of Section 14732 the third posthole [14718] had a diameter of 35cm. There were no dateable artefacts from any of these six features.

Cremations

The remains of four cremation vessels, all dated to the Bronze Age, were found on the site (Appendix 2). Two of these could be seen to be within definite, if very shallow, cut features. The best preserved of the urns (14702) was within a feature [14709] 75cm to the west of Section 14711 (Fig 10a). The urn contents (14703) had only a small amount of poorly preserved cremated bone and no age or sex could be attributed to the individual (Appendix 9).

Urn 14704 in Feature 14713 was heavily truncated so that that only its base survived (Fig 10b). The feature was 1.95m to the west of gully section [14730]. Very little of the fill (14705) remained and analysis of the cremated bone was not possible.

The other two urns were visible in the stripped surface but they had been heavily truncated and the cuts of the pits in which they were presumably buried could no longer be made out. The contents (14727) of one of them (14726) yielded a small sample of human bone, but again this was poorly

preserved and no age or sex could be attributed to the individual. None of the contents of the fourth urn (14728) remained to be sampled.

Pyre site

Feature 14707, 2.5m to the south-east of Cremation 14713, was originally interpreted as another cremation site. It was roughly circular and approximately 53cm wide and 11cm deep. The fill (14708) contained very high concentrations of charcoal and burnt clay, and cremated bone was recovered from the sample, although none of it could be positively identified (Appendix 9). However, there were no traces of any cremation urn, and it is more likely that this was a pyre from which the bone had been retrieved for burial.

Discussion

If it is assumed that the gully was broadly contemporary with the cremations, it may have formed a boundary demarcating the cremation area. The urns and the pyre site lay to the west of it, with all but one of the posthole-like features to the east. However, the pottery found in gully may have been intrusive, in the fill of a later feature, which, like the cuts for two of the cremation urns, could no longer be seen. Equally, it could have been residual, re-deposited from an earlier disturbed cremation when the gully was first dug.

The posthole-like features are difficult to interpret. Apart from the three which appear to be in a line, they form no recognisable pattern. One of these features [14706] had slightly greater dimensions, and may have had a different function. Its fill of ash and charcoal, coupled with the lack of any evidence of *in situ* burning, suggests that it may have been used for disposal of waste from the pyre site [14707]. Only one of these features [14712] was west of the gully. If this was a posthole, it is doubtful whether it would have stood in isolation, though associated post-holes may have been lost to ploughing and ground erosion. It is feasible that it may have been a small pit serving the same function as Pit [14706].

A number of significantly larger cremation sites from East Nottinghamshire and Lincolnshire display similar characteristics to this site. The sites at Coneygre Farm, Thurgaton (SK 706478) and Pasture Lodge Farm, Long Bennington (SK 829472) were both devoid of any associated features, such as barrows, banks or structures, although at Coneygre Farm these might have been lost during quarrying (PPS, 1987). These two sites contained fifty-one and twenty-five cremations respectively. A site of seemingly similar size was discovered near Blankney only 6km to the north of Area 85. Four Bronze Age biconical urns are recorded as having been found during the construction of the Lincoln to Spalding railway in 1882, but there is no further information about them.

It is likely that this Late Bronze Age cremation cemetery and pyre site was fairly close to a settlement which it served. The most likely location for this is probably to the east, beyond the pipeline corridor as the areas immediately to the north, south and west contained no archaeological remains. However, any evidence for settlement could have been lost to deep ploughing and ground erosion. The cremations provide clear evidence that this has occurred, as only the lower parts of the vessels remained.

The only pottery found on the site was the four cremation vessels and the remains of the similar vessel found within the gully. This was all in a good state of preservation, and it is reasonable to suppose that any other pottery originally on the site would have survived. The lack of other pottery implies that there was little or no domestic activity in the immediate area.

Evidence for activity over a rather wider area comes from previously recorded surface finds: two early Bronze Age flat bronze axes, one plain and the other with pecked decoration (TF 097 555); a large barbed and tanged flint arrowhead from the early Bronze Age (from Digby Fen, no exact location), and a flint scraper and a possible flint knife both dated to the Bronze Age from 650m to the south-east (TF 102 539). A scatter of flint and Bronze Age pottery was found 1.4km to the southeast during work on the earlier pipeline (TF 1105 5412, NAL, Rep 134, p 17-20, Site 10).

8.2.3 Area 94, Bronze Age Cremation, Plot 14/8, Dorrington Fen II (TF 09140 54855)

Summary: The remnants of a single Bronze Age cremation vessel were found during the watching brief. No other features were uncovered in the surrounding area.

Introduction

The site is approximately 2.25km to the east of St James' and St John's Church, Dorrington, and 200m to the north of Main Street, Dorrington (Fig 11). It is on level ground at approximately 10m AOD, on Oxford Clay, overlain in places by glacial till.

Despite good ground visibility, the fieldwalking survey retrieved no finds from Plot 14/8 (NAL, Rep 155, Appendix 2 and Appendix 3, pg 14). A linear magnetic anomaly was detected approximately 9m to the south of the boundary with Plot 14/7 and parallel to it (Bartlett-Clark Consultancy, 2000).

Results

The remains of a single cremation vessel (14800) were revealed by the topsoil stripping at NGR 509848.30 353631.60, marked by a star on the site location map (Fig 11). The cut for the feature containing this vessel was not initially visible, and the deposits surrounding the urn were excavated as a box section. During excavation, a possible edge was seen on the east side but could not be traced elsewhere. Careful cleaning of a 10m square around the cremation did not reveal any associated features.

The fill of the vessel contained 473g of human bone, including femur fragments, a fibula shaft, a metatarsal head, rib fragments and a vertebra fragment. From the skull, fragments of occipital, zygomatic and temporal bones, and an incisor root were recovered. From this material it is possible to estimate the age at death as being over 40 years, but there is insufficient evidence to determine the sex of the individual (Appendix 9).

The cremation urn consisted of 50 sherds weighing a total of 2633g. The vessel was not decorated but displayed signs of thumbing towards the base. Only the lower wall and base of the vessel remained, the rest having been lost to plough damage. The base was 18cm in diameter.

Discussion

This appeared to be an isolated burial though as it was severely plough-damaged there is a clear possibility that there were other burials nearby which have since been lost. Accompanying burials could also be present beyond the limits of the pipeline easement, although this would imply that they were rather widely spaced. It is nearly 700m away from Area 85, too distant to be considered an outlier of the cremation group found there.

8.2.4 Area 81, Cremation Cemetery, Plot 16/1, Wharncliffe Farm (TF 1034 5132)

Summary: The remnants of six Bronze Age cremation vessels were found during the watching brief, along with three linear features and a scatter of pottery.

Artefact type	Count/Sherds	Weight/g
BA Pottery	212	8688
Knapped flint	2	148
Human bone		1834
Iron age pot		3
Medieval pot		70
Modern pot		5
Animal bone		35
CBM		46

Table 4: Area 81, Finds Summary

Introduction

The site was 25m south of Fen Road, Ruskington (Fig 12). The excavated area, 16m by 25m, was on level ground, at approximately 11.5m AOD. The field overlies silty clays of the Kellaways and Oxford Clay formations.

Despite very good retrieval conditions, no artefacts were recovered during fieldwalking (NAL, Rep 155, Appendix 20). Five small magnetic anomalies were detected by the geophysical survey but were not thought to be significant (Bartlett-Clark Consultancy, 2000).

Results

Topsoil stripping revealed the remains of five cremation vessels. There was also a spread of burnt bone, which may have been the remnants of a sixth cremation, and two small pottery scatters. Three furrows from an area of ridge-and-furrow ploughing were also noted, but not excavated (Fig 13).

Cremations

Only one of the cremation urns (16804) was seen to be located within a cut feature [16803], and the edges of this were difficult to detect. The urn survived to a height of 8cm and had a base diameter of 15cm (Plate 1). The fill of the urn (16805) contained 188g of burnt human bone, probably from a juvenile, but there was insufficient material to determine the sex of the individual (Appendix 9). A single fragment of animal bone may have been part of a funeral feast or an offering.

The base of a second urn (16811) survived to a height of 4cm and had a base diameter of 16cm. Its fill (16812) contained only 2g of burnt bone, and the age and sex of the individual could not be established (Appendix 9).

Rather more survived of a third urn (16815), to a height of 14cm. Its base was 16cm in diameter. Its fill (16817) contained 451g of burnt bone. There were indications that this individual was a juvenile, but a firm estimate of age could not be made, and the sex could not be determined (Appendix 9).

The ground immediately surrounding Urn 16815 contained more cremated bone. This deposit (16816) was sampled and 357g of burnt bone was retrieved from the sample. It was probably from an adult aged below 40 years but no sex could be assigned (Appendix 9). A belemnite fossil recovered from this sample may have been placed with the burial deliberately but as these fossils are very common in the gravel areas of Lincolnshire its presence could be purely accidental.

Urn 16818 differed from the others in having lines of apparently, random stabbed decoration in a 'maggot' style, impressions probably made with small bones frequently found on pottery of Early Bronze Age date (Fig 14.2). Its fill contained 635g of bone, the remains of a mature adult between

40 and 60 years of age at the time of death (Appendix 9). The sex of the individual could not be determined.

The cremated remains of a child, less than eight years old, were contained in a fifth urn (16820) found towards the south side of the site (Plate 2). The fill (16821) contained 201g of burnt bone but there were no diagnostic pieces from which the age or sex of the individual could be determined (Appendix 9).

Pottery scatters

Two separate pottery scatters were recorded. Eight sherds of Bronze Age pottery (16825) were found within an area 30cm across, 1m to the north of Cremation 16804. Three sherds of Bronze Age pottery (16827), together with single sherds of medieval and modern pottery, were grouped 1.5m to the north-west of Urn 16815. Other scattered sherds included a rim fragment of a simple, slightly everted type similar to those noted on beakers and food vessels of Early Bronze Age date (Fig 14.1).

Discussion

The site is clearly part of a Bronze Age cremation cemetery, heavily disturbed as a result of modern ploughing and surface erosion. The pottery scatter and other stray pottery of the same period recovered from the site may have come from the five damaged vessels found *in situ* or be from other disturbed cremations.

Unlike the other burials, Cremation 16816 was not in an urn. Either its original container has been lost, or it was deposited straight into the ground. The first alternative is less likely as the remnants of a fully truncated cremation would be expected to yield pottery as well as bone fragments.

All of the cremation vessels were made from the same fabric and are of similar size. This suggests 'that they were made either for a single event or over a short period of time using an identical clay source' (Appendix 2). The fabric is not very diagnostic, and dating to the early Bronze Age is based on the type of urn, and the decoration seen on one of them (16818).

Each of the urns appeared to contain only the bones of a single individual. This implies that each individual was cremated on a separate pyre site, or that a single pyre site was thoroughly cleaned after each cremation. No pyre material, such as charcoal or burnt clay, was detected with the cremations, showing that the burnt bones had been carefully sorted from the remains of the fire (Appendix 9). The pyre sites were presumably close by but there was no evidence for them within the area of the pipeline easement. However, the truncation of the site by ploughing makes it unlikely that surface features would have survived.

No boundary ditch or other form of demarcation of the cemetery area was found. A relatively shallow ditch could have been lost to ploughing, and it is also possible that features were missed because of the difficulty of distinguishing clean silty fills from the underlying clay substrate. However there are other examples known of Bronze Age cremation cemeteries in the East Midlands that lacked any associated barrows, gullies, banks or structures (see Area 85, plot 14/6) and so it is possible that no such features existed at this site.

8.2.5 Site 14, Area 91, Iron Age Round Houses, Plot 22/4, Bone's Farm (TF 0905 4513)

Summary: A group of four incomplete Iron Age round-house gullies were revealed during topsoil stripping. There was a series of linear enclosure ditches or gullies to the north of these, and a number of pits and postholes distributed throughout the site. Remnants of ridge-and-furrow ploughing were also recorded.

Artefact type	Count/Sherds	Weight/g
Animal bone		8096
IA pot	131	1444
RB pot	2	16
Medieval pot	1	4
Other finds	Shell, Slag, Burnt clay, Burnt stone, Metalwork	

Table 5: Area 91, Finds Summary

Introduction

The site was approximately 2.3km east from the centre of Sleaford, immediately south of the Sleaford to Boston railway line (Fig 15; Plate 3). The visible features extended for over 125m along the pipeline easement. The ground was flat at around 9.5m AOD, and overlay Sleaford sands and gravels.

The ADBA identified crop marks of enclosures or tracks (NAL Rep 147, Addendum p. xiii). These were possibly a continuation of an extensive cropmark complex to the north-west (MON 1049485). During a watching brief on land adjacent to Mareham Lane (TF 0842 4468), a ditch of Roman origin was discovered (Archaeological Project Services, 1997, Rep. 3/97; SML96). There was poor ground visibility at the time of the field survey so the site was not fieldwalked (NAL Rep. 150, p. 23, Site 10). The geophysical survey recognised areas of high susceptibility and a significant increase in magnetometer activity but individual features could not be identified as the field was ridged for potatoes when the survey was carried out (NAL Rep. 150, p. 23, Site 10).

The site was identified as Site 14 in the ADBA and five evaluation trenches were opened prior to construction. These gave generally negative results, and further investigation was left until the topsoil was stripped.

Results

Ring Gullies

Four incomplete shallow ring gullies were identified: Gully 1 [23008], Gully 2 [23068], [23072], [23109] and [23111], Gully 3 [23095] and Gully 4 [23144]. Though incomplete, these all seem to have been of similar size, with internal diameters of 10m or slightly more (Figs 16a & b). They were shallow features, with an average depth of 20cm. Gully 3 and Gully 4 extended under the eastern bank of the site. The remains of Gully 4 appeared to overlap Gullies 2 and 3 although the relationships were not totally clear. Gully 1 had no dating evidence, but Gullies 2, 3 and 4 all contained Iron Age pottery (Fig 18, 17, 12, 11 respectively).

Gullies

Gullies 23013, 23019, 23033/23037 and 23053 ran on parallel south-east to north-west orientations delimiting an area extending almost 20m to the south and 50m to the north of the ring gullies. Ditches 23031 and 23066/23122/23140/23107, both rather small, ran at right-angles. Two of these features [23033] and [23066] contained Iron Age pottery (Fig 18, 18, 13). A short length of a small linear feature [23107] intersecting the north-eastern end of Gully 2 and running into the eastern edge of excavation contained thirty-two sherds of Iron Age pottery (Fig 18, 14, 16, 19).

Pits

Many of the smaller features did not yield any finds, but there was evidence of several phases of

activity. Pit 23078, 2.5m in diameter and 1.25m deep, had a curiously undercut profile (Fig 17, Plate 4). Pottery recovered from its fill has been dated to the mid- to late Iron Age (Fig 18, 15). Near the north-western corner of the site, Pit 23041, up to 5m wide, appeared to cut through the end of Ditch 23019 and contained a single sherd of Iron Age pottery. A small quantity of iron-working slag, including plano-convex hearth bottom fragments, was also recovered from this feature (Appendix 7). The northern side of this pit was bordered by a small gully [23045], possibly associated with Ditch 23019 though their relationship was very unclear.

A small, shallow, circular pit [23082] within the circumference of Gully 2 feature displayed evidence of *in situ* burning but no artefacts were recovered from its fill. The most northerly feature on the site, an elongated pit [23146], did not appear to be associated with any other features. Its upper fill contained an iron nail. The other pits were varied in dimensions from 66cm to 1.8m long and were generally shallow and irregular. Three of them [23055], [23058] and [23088] contained animal bone in their fill, but had no dating evidence.

Postholes

A number of post-holes were located within the northern and central areas of the site. Six of these [23023], [23113], [23027], [23050], [23058] and [23052] could have been associated with the ring gullies. The others [23021], [23030], [23047], [23060], [23064], [23075], [23085], [23098], [23102], [23125], [23129], [23132] and [23134] were randomly dispersed with no discernable pattern. Only one [23098] contained pottery, dated to the Iron Age.

Later features

A short linear feature [23015] extended from the western bank for a distance of approximately 4m. The terminus of this feature was obscured by root action. A single sherd of pottery recovered from its upper fill has been dated to the late first to second century AD. Ten shallow furrows crossing the site on an east to west alignment produced thirteenth to fourteenth century pottery. Several field-drains post-dating the furrows [23003], [23005], [23076]/[23086] were also recorded. Unstratified finds (23117), (23153) included middle Iron Age pottery.

Discussion

Almost all the pottery assemblage from the site dates to the mid- to late Iron Age period, based on the presence of the scored decoration typical of this period, and the simplicity of the rims suggests a tendency towards the mid-Iron Age period (Appendix 2). The assemblage was all of a similar date, offering little help in determining stratigraphic relationships. The ring gullies overlapped, Gully 4 probably being later than Gullies 2 and 3, though this relationship could not be clearly established. Overall, there seems to have been a single broad phase of middle Iron Age occupation, with a low level of subsequent agricultural activity.

The ring gullies had been heavily truncated but appear to be the remains of Iron Age round-houses. Apart from the burning in Pit 23082 there was little evidence of domestic activity within the areas that would have formed the interior spaces of the round houses. All of the ring gullies were located between Ditches 23013 and 23150/23151 suggesting that these formed the boundary of the area of the settlement. This area is similar to that at Draughton, Northants where three round-houses of almost identical size occupied a ditched enclosure of about 0.4 hectares (Cunliffe, 1975).

The enclosure containing the ring gullies was part of a larger system extending for approximately 75m along the pipeline easement. The northern boundary to this field system appeared to be formed by Ditch 23019. The division of land into small rectangular plots is characteristic of Iron Age agriculture.

Ditch 23107 may have been contemporary with Gully 2, possibly serving as a drainage ditch running from the ring gully. The relationship between the two was not clear as their fills were very similar and root activity had disturbed the area where they intersected.

The function of the various pits is not clear. Only three [23055], [23078] and [23088] contained significant amounts of finds, suggesting that they may have been used for refuse disposal, at least as a secondary function. The fills of Pit 23041 provided evidence that iron-smithing was taking place nearby, and fragments of fired clay in the fill of Gully 3 may have been from an associated hearth structure.

The lower edges of Pit 23078 showed signs of water erosion and it may originally have been dug as a watering hole for livestock. This may also have been the function of Pits 23041 and 23146 but the size of Pit 23041 would be more typical of a quarry pit.

The animal bone was mostly from cattle (38% of the full bone assemblage) and sheep or goat (23%). The only other species present in significant amounts, above 5%, were horse (8%) and dog (10%).

The picture which emerges is of a small farmstead; a cluster of round-houses surrounded by small stock enclosures. The settlement was probably quite short-lived, but was in existence long enough for the round-houses to have needed re-building.

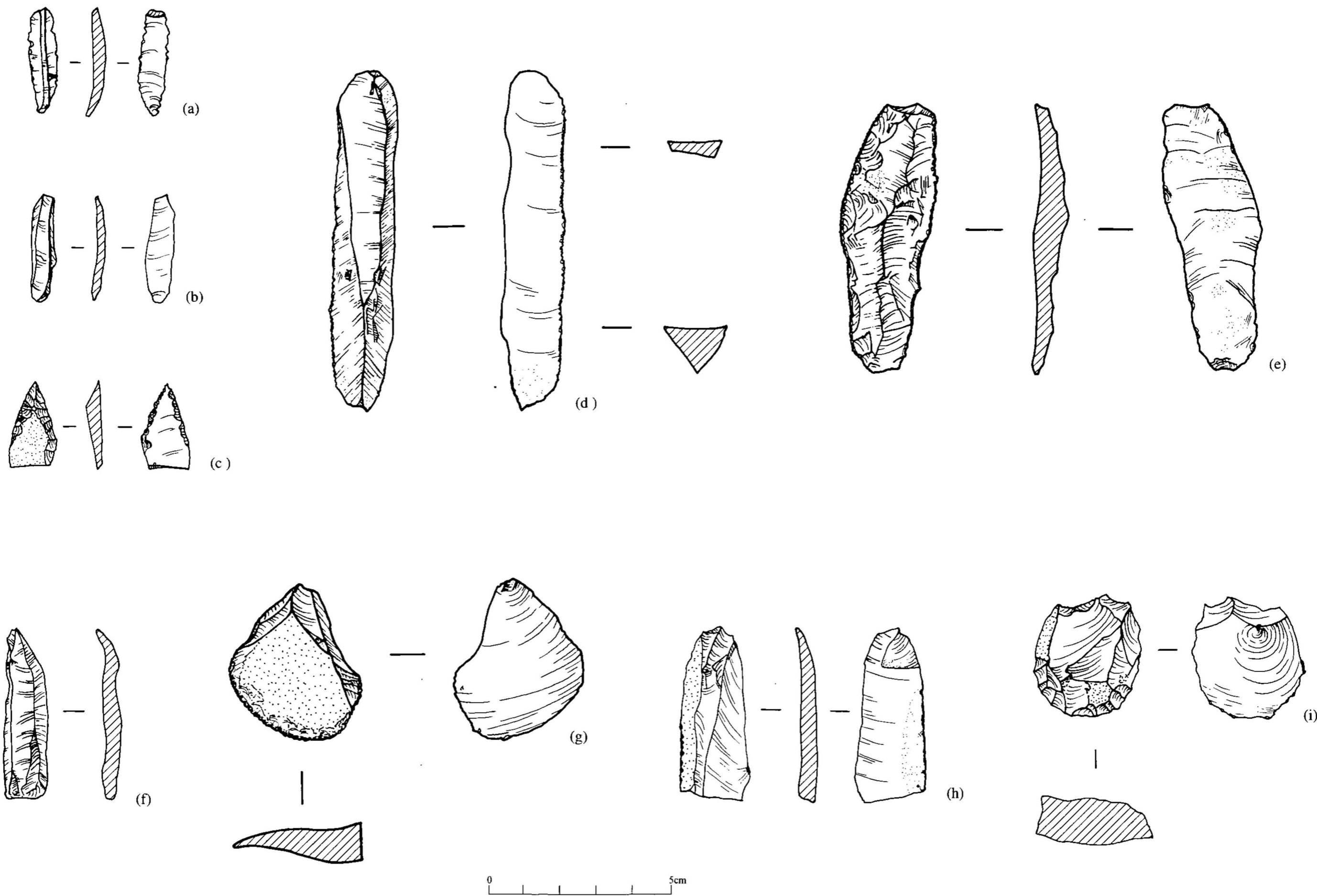


Figure 5: Flint finds from excavation and watching brief (scale: 1:1)

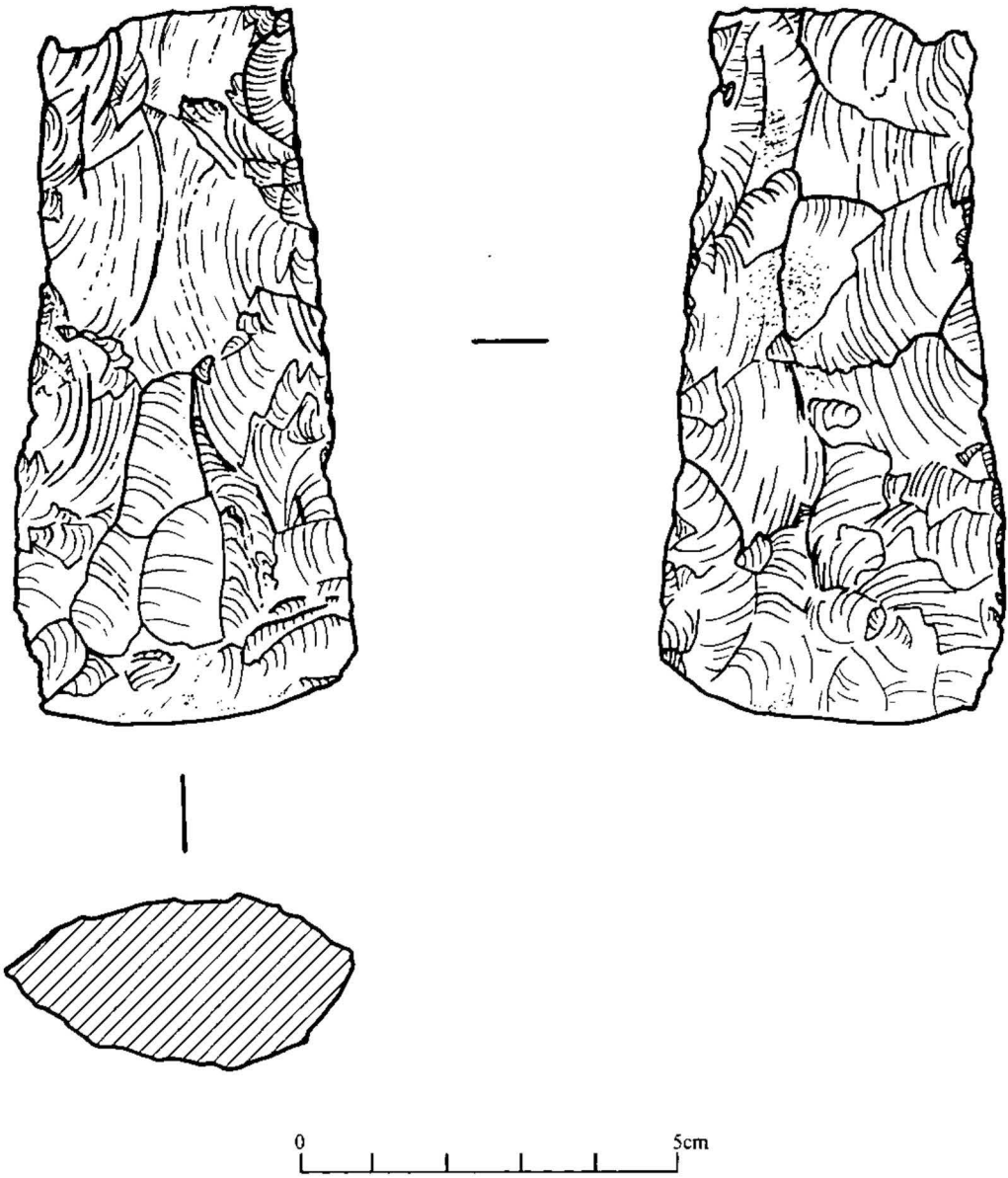


Figure 6a: Flint finds from fieldwalking (scale: 1:1)



Figure 6b: flint finds from fieldwalking (scale: 1:1)

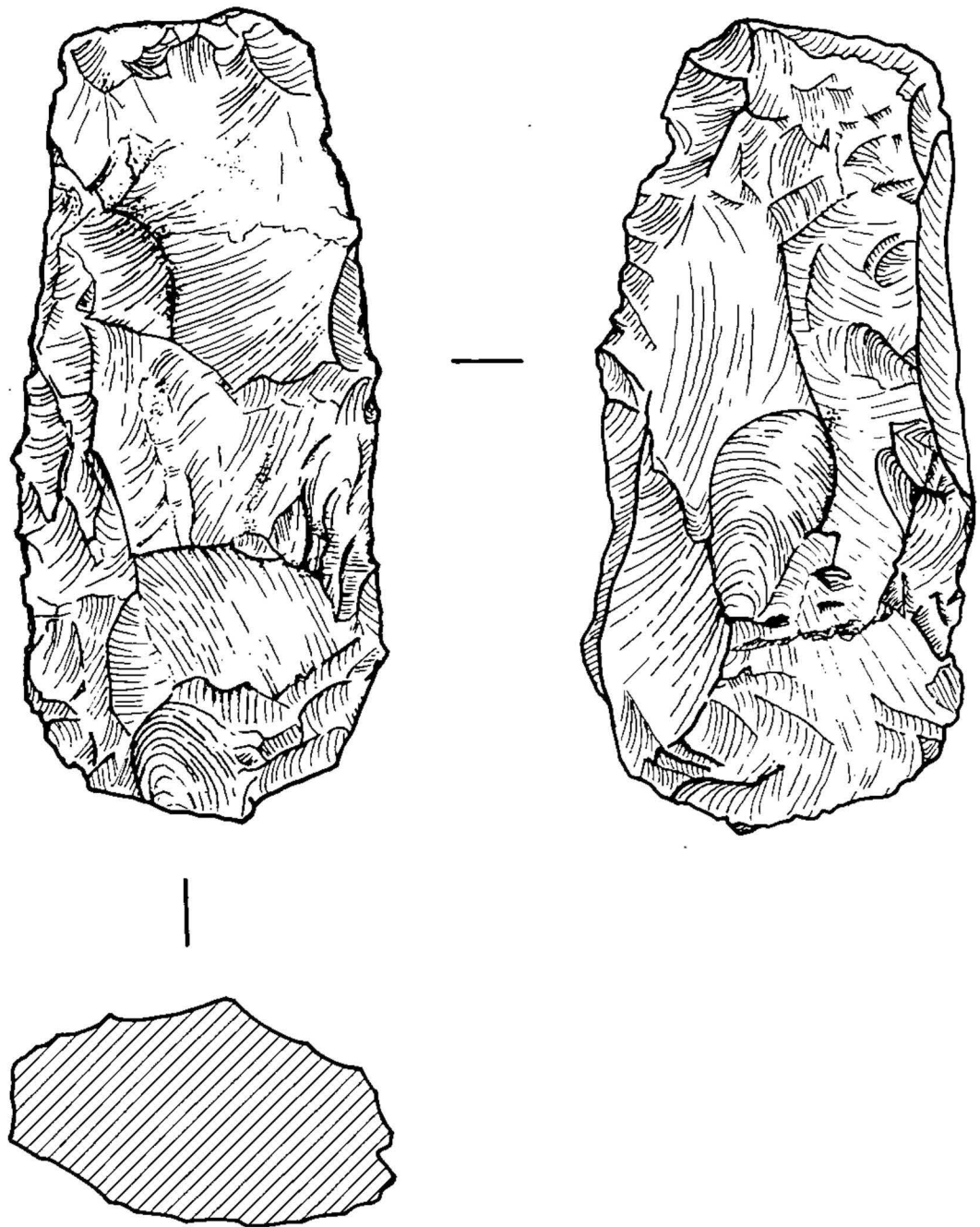


Figure 6c: Flint finds from fieldwalking (scale: 1:1)

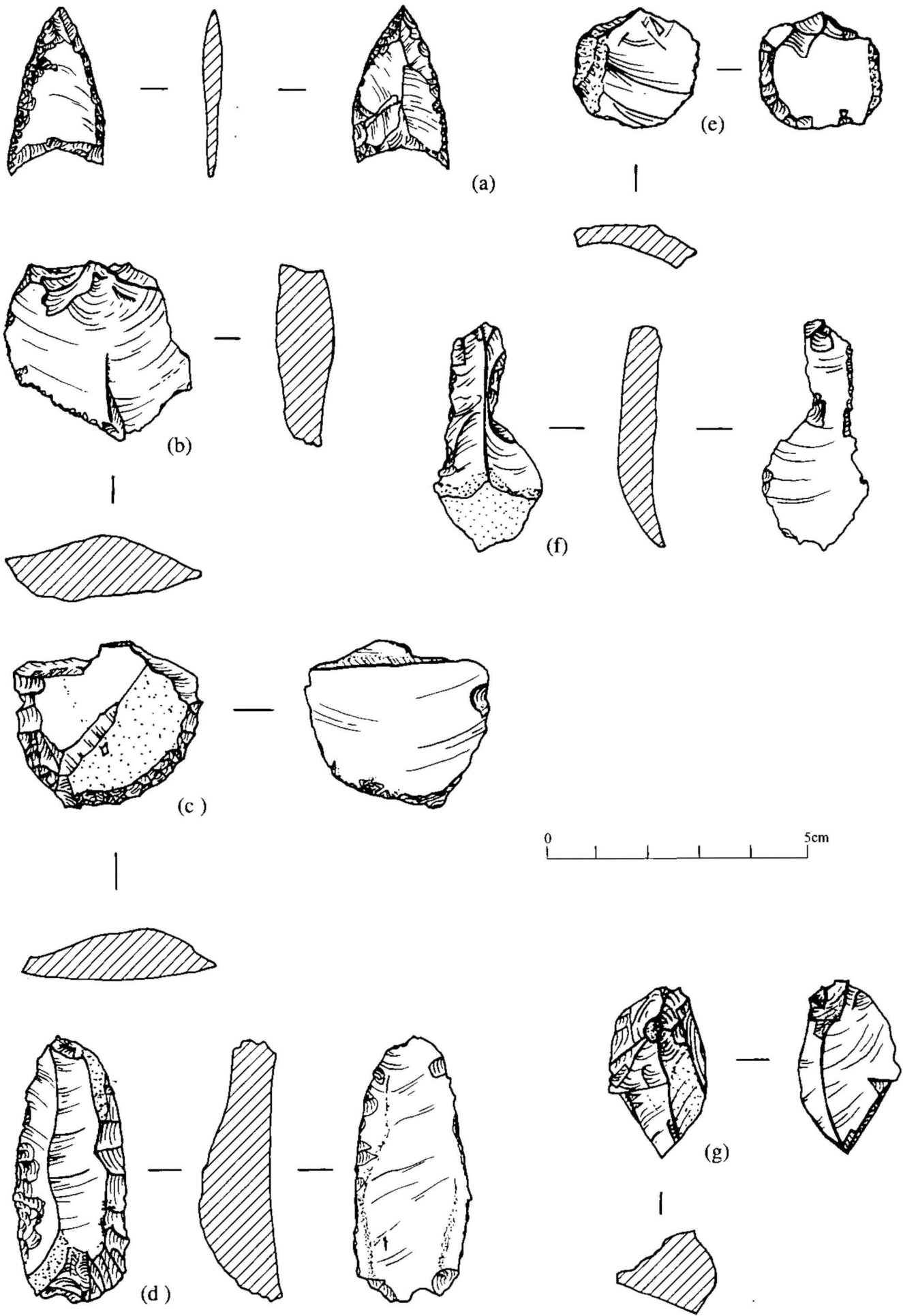
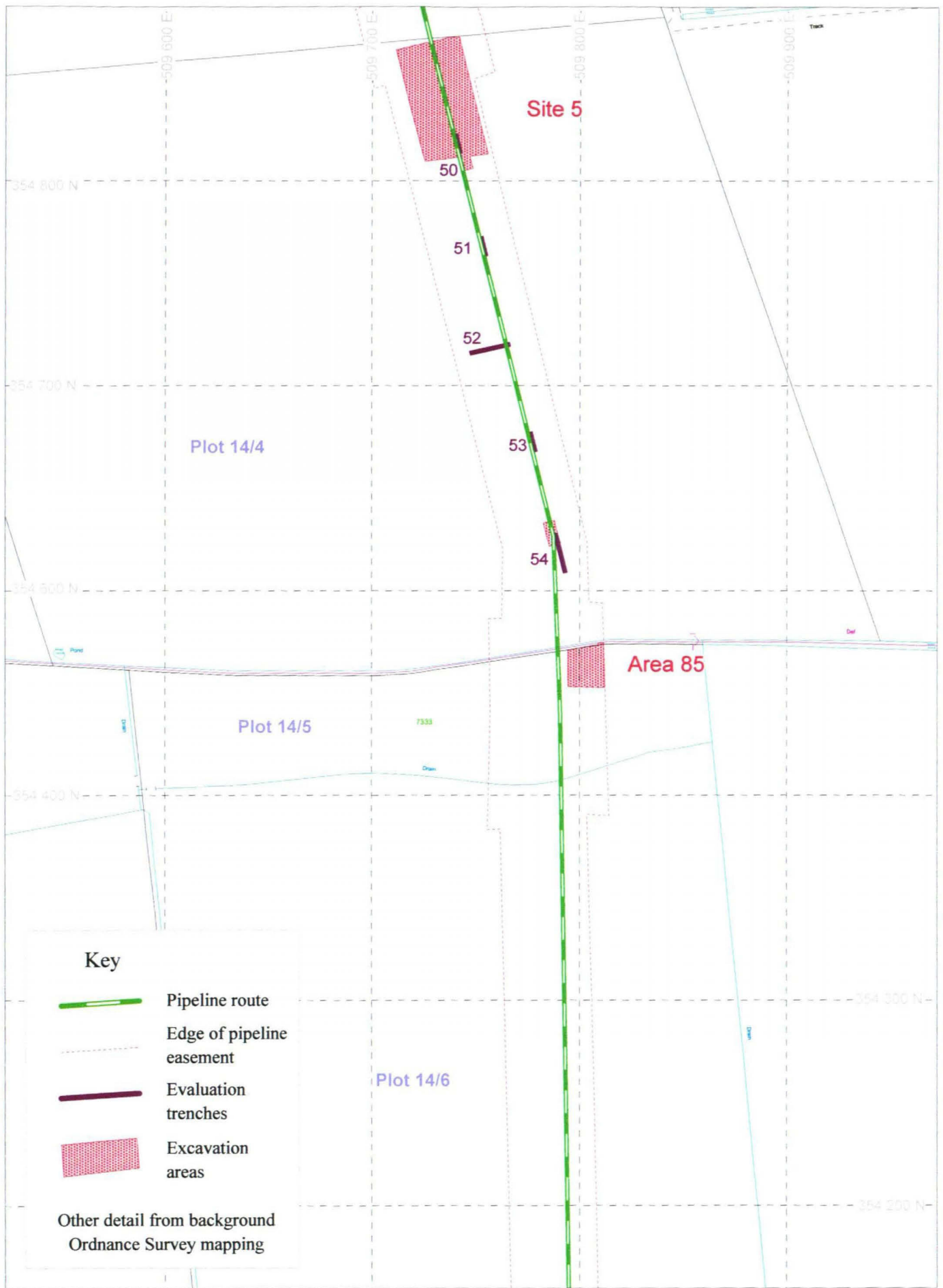


Figure 7: Flint finds from fieldwalking (scale: 1:1)

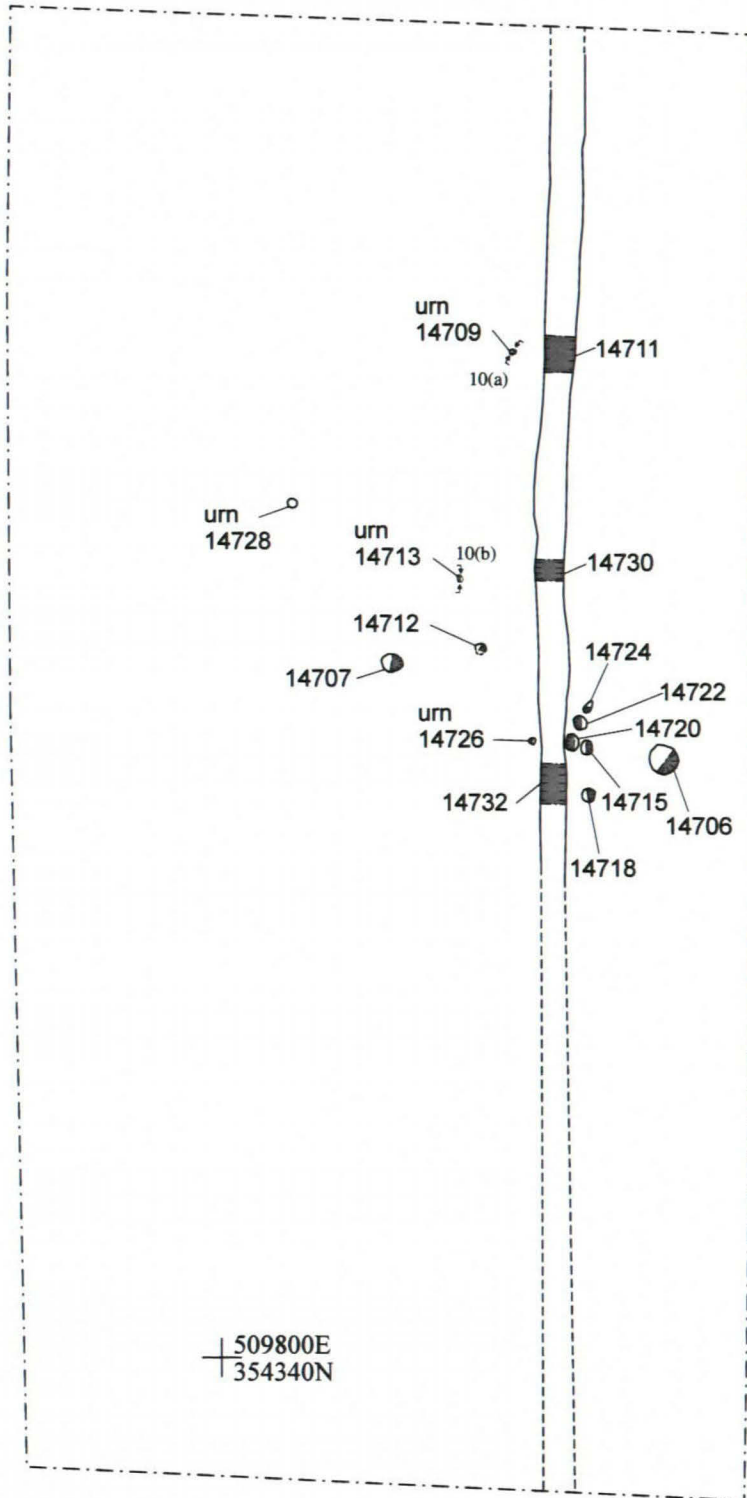


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Figure 8: Location of Area 85, Cremation Cemetery, Dorrington Fen 1 (Scale 1:2500)

509800E
354380N

509820E
354380N



509800E
354340N

509820E
354340N

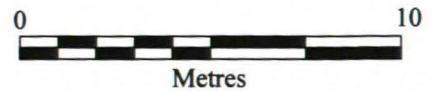
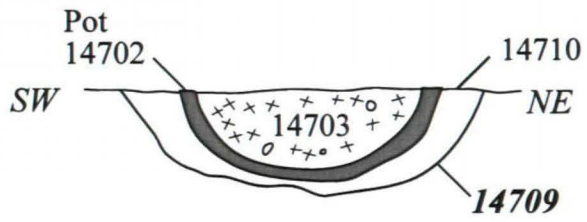


Figure 9: Plan of Area 85 (scale: 1:200)

(a) Cremation **14709**



Key

+x charcoal

(b) Cremation **14713**

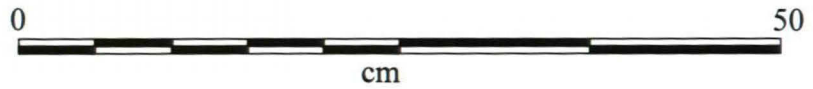
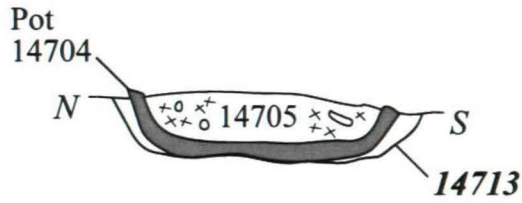
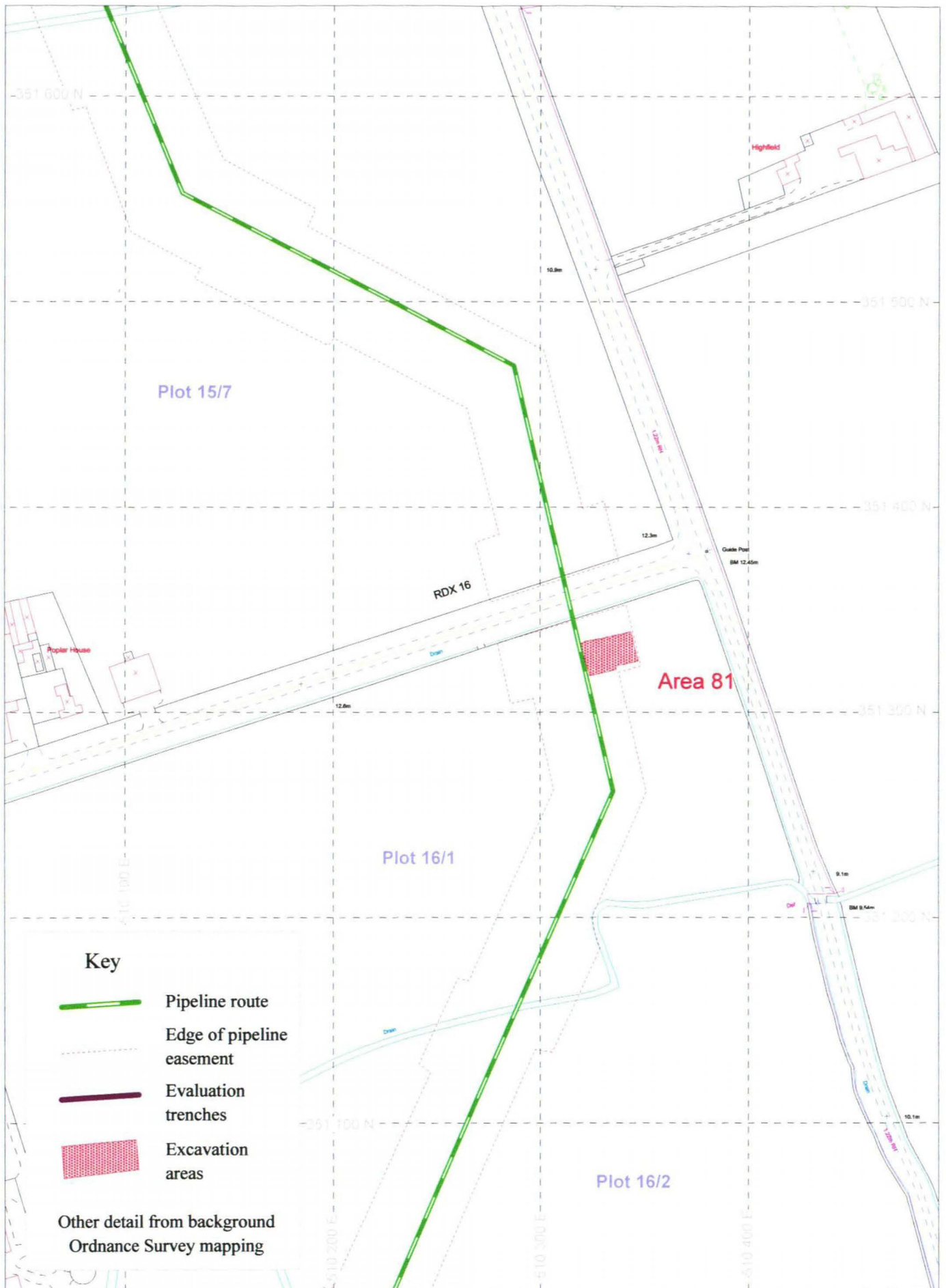


Figure 10: Area 85, Sections (scale: 1:5)



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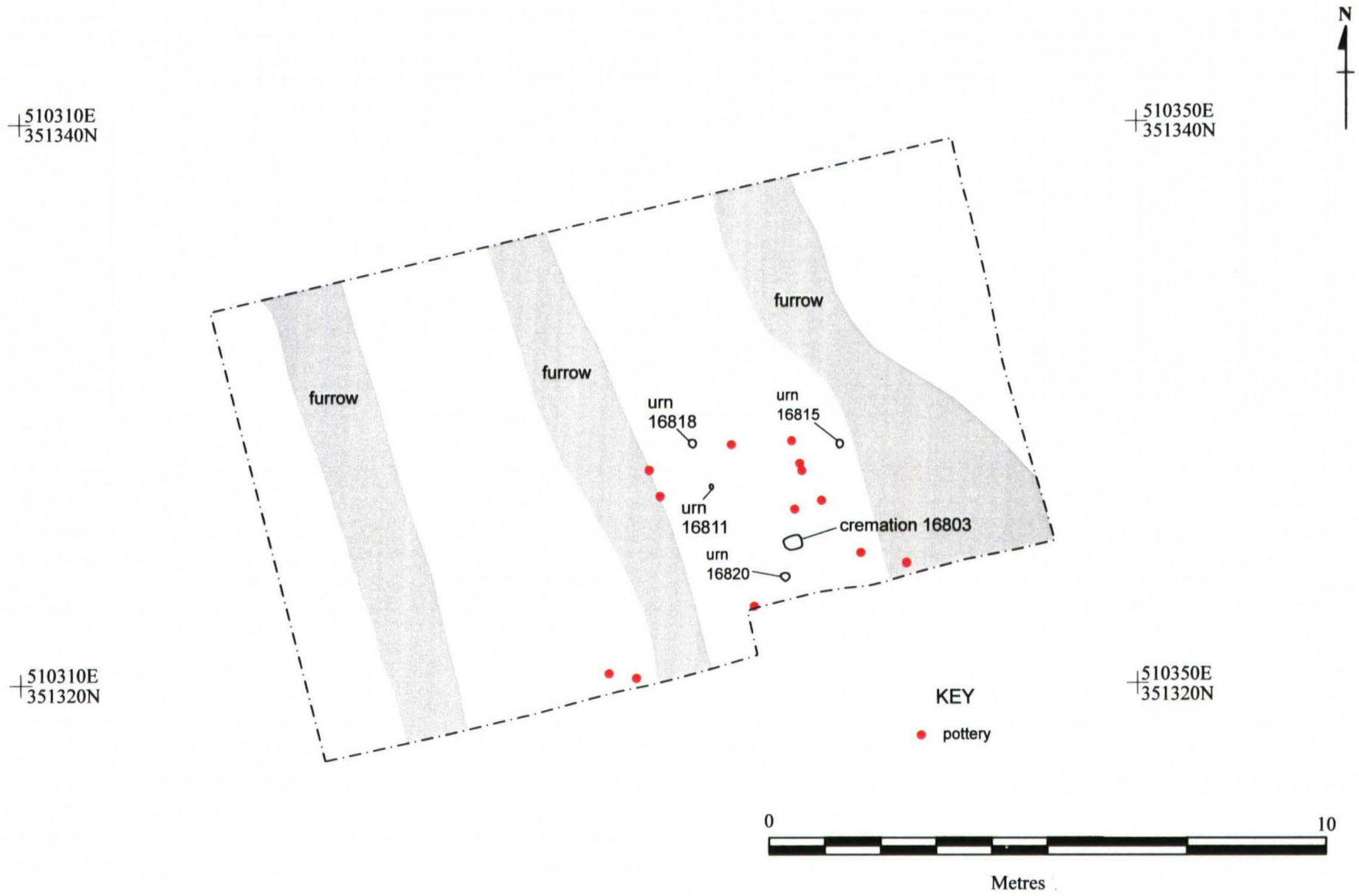
Figure 11: Location of Area 94, Cremation, Dorrington Fen 2 (Scale 1:2500)



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Figure 12: Location of Area 81, Cremation Cemetery, Wharnclyffe Farm (Scale 1:2500)

Figure 13: Plan of Area 81 (scale: 1:200)



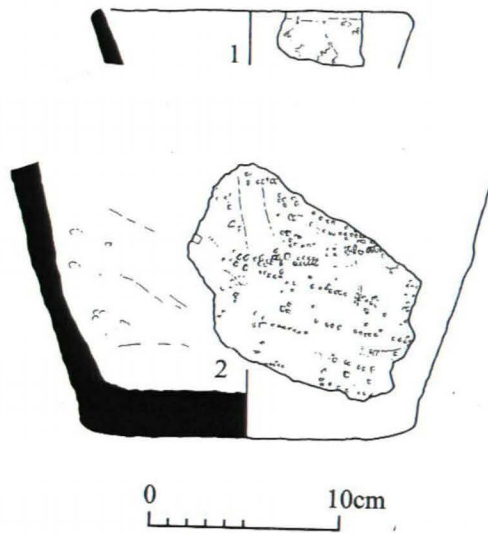
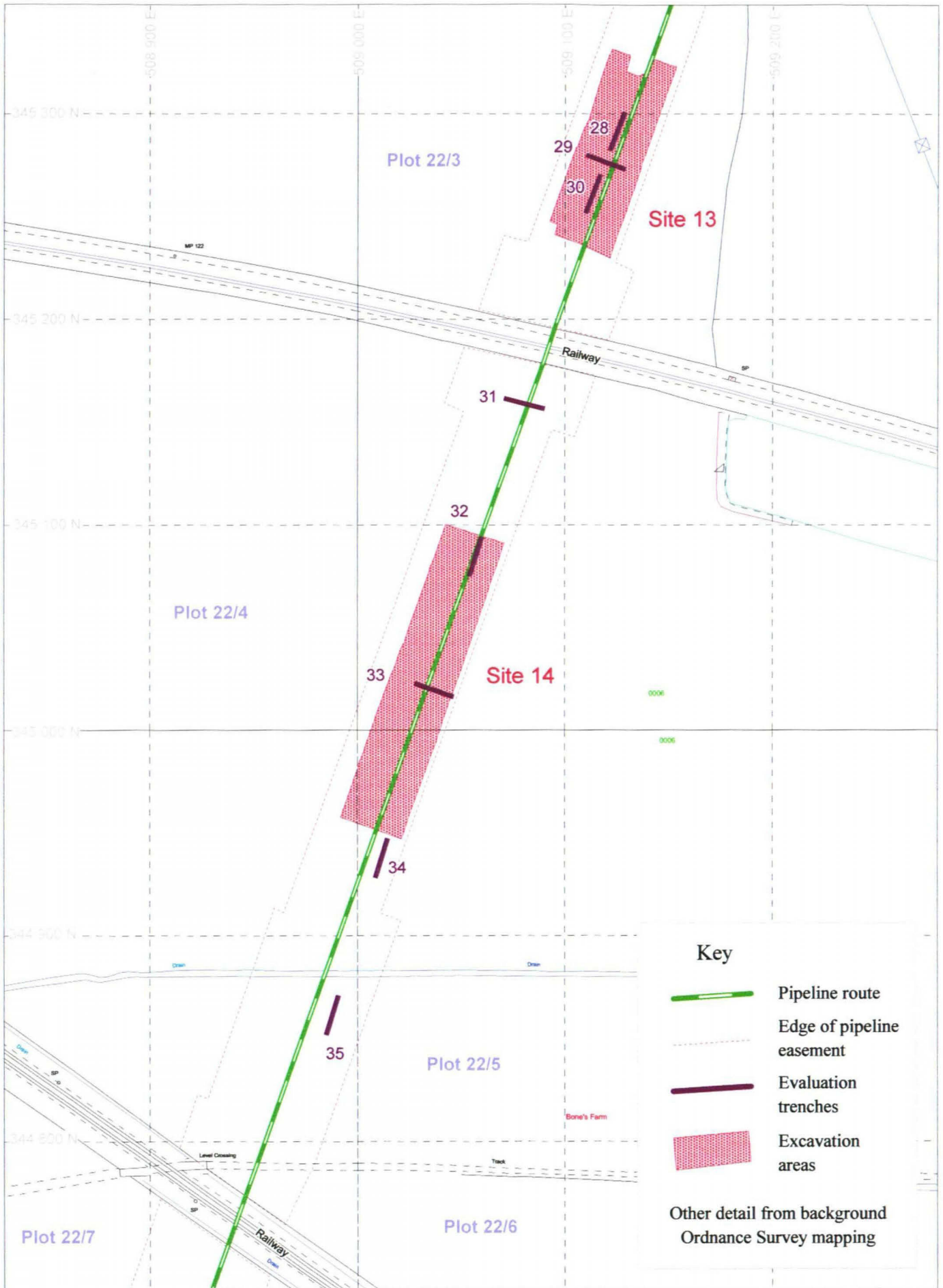


Figure 14: Area 81, Pottery (scale: 1:4)



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Figure 15: Location of Site 14, Settlement/Enclosure System, Bone's Farm (Scale 1:2500)

Figure 16a: Site 14, Plan of North part of Site (scale: 1:250)



(a) Well 23078

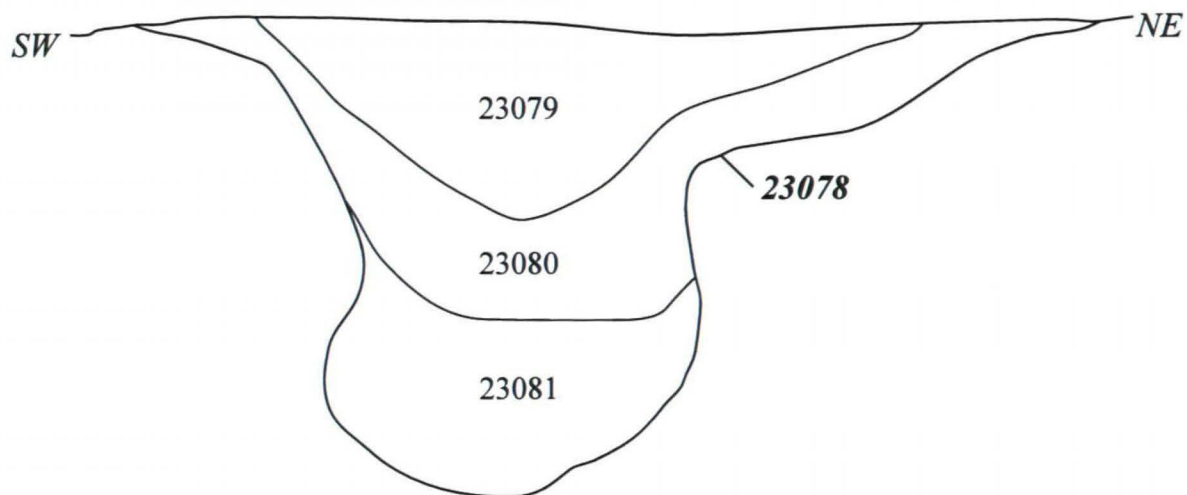


Figure 17: Site14, Sections (scale:1:20)

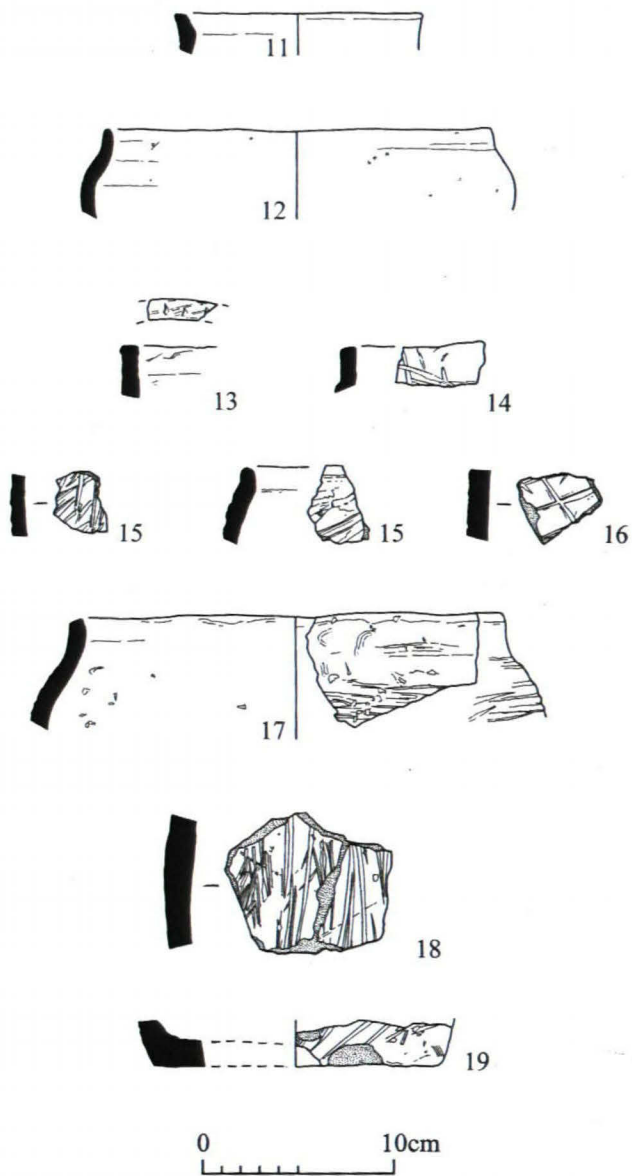


Figure 18: Site 14, Pottery (scale: 1:4)



Plate 1: Area 81, Cremation Urn 16804
(re-numbered after photograph taken)



Plate 2: Area 81, Cremation Urn 16820
(re-numbered after photograph taken)



Plate 3: Site 14, General view, looking north



Plate 4: Site 14, Pit 23078, east-facing section

9 LATE IRON AGE / EARLY ROMAN

9.1 Summary

Five sites spanned the transition from the late Iron Age to early Roman period. Two of these (Site 2, Areas 73 & 74, Plots 1/5 & 1/6, and Area 80, Plots 14/9 & 15/1) had clear signs of settlement, while a third (Site 7, Areas 72 & 86, Plots 16/3 & 16/4) had evidence of industrial activity. The other two sites (Area 77, Plot 1/9, and Site 13, Area 89, Plot 22/3) were enclosure systems.

9.2 Site Reports

9.2.1 Site 2, Areas 73 & 74, Late Iron-Age and Romano-British Settlement, Plots 1/5 & 1/6, Langton Hill (TF 1615 7533)

Summary: *A rectilinear pattern of late Iron Age or early Roman ditches and a large circular ring gully were exposed during the evaluation trenching and subsequent area excavation. The ring gully had the remains of a heavily truncated concentric outer gully. The remains of linear slots associated with lines of postholes may have been the remains of further buildings or animal pens.*

Introduction

The site lay either side of the existing field boundary separating Plots 1/5 and 1/6, both large arable fields. The pipeline was oriented broadly east to west at this point (Fig 19). The topography of the area favours settlement, affording good views to the north and east, across the valley of the River Bain to the Lincolnshire Wolds. The site is at a height of approximately 28m AOD and the land slopes away gradually in an easterly direction towards the village of Hatton, and westwards towards the brow of Langton Hill, where there is a more pronounced westerly break of slope. It lies on glacial till overlying Upper Jurassic clays.

The site was identified by the relatively dense concentration of Iron Age to early Romano-British pottery and diagnostic Neolithic/Bronze Age flint collected during fieldwalking (NAL, 2000). The magnetometer survey produced only minimal findings in Plot 1/5 but an area of concentrated disturbances at the east end of Plot 1/6 (Bartlett, 2000).

Six evaluation trenches (Trenches 36-41) were opened in the two fields. The two easternmost trenches in Plot 1/5 and the western trench in Plot 1/6 contained little of archaeological significance, but it was clear that the other three trenches were in areas rich in finds. The decision was then taken to carry out area excavation on the full working width of the pipeline. An area extending up to 40m from the field boundary in Plot 1/5 was first stripped of topsoil and was designated as Area 73. A thin subsoil layer was also removed to fully expose the features. A rather larger area in Plot 1/6 was subsequently stripped and was distinguished as Area 74.

Results

Artefact type	Count/Sherds	Weight/g
LIA pot	20	191
LIA/Early RB pot	747	7218
Early RB pot	404	4360
Animal Bone		12500
Other finds	Roman CBM, Med/Mod CBM, slag, LIA/EROM silver coin 25006, metalwork, worked bone, burnt clay, flint	

Table 6: Site 2, Finds Summary

Where possible, features were attributed to three broad phases of occupation on the basis of stratigraphic relationships recorded during excavation and the dated pottery assemblage (Fig 20). A substantial amount of pottery dating to around the Roman Conquest was recovered. Distinguishing

between explicitly Iron Age and Iron Age to early Roman pottery was difficult, as native tradition styles remained in use in rural settlements in Lincolnshire until the early to mid-second century AD (Appendix 2).

PHASE 1a

Late Iron Age Gullies: Area 73, Plot 1/5, Fig 21a

Three gullies in this area have been ascribed to this phase. Gully 1027/1103/1029/1045 had a 10m-long straight part running in a south-easterly direction from near the northern limit of the area before turning to the west in a semicircular curve for a further 5m. It varied in width between 30cm and 75cm and was up to 20cm deep (Fig 24a). Its single fill produced one sherd of late Iron Age/early Roman pottery and three fragments of burnt clay.

Gully 1107/1109 to the west was curvilinear, forming a 7m-long southern segment of a circle approximately 9m in diameter. Its 20cm-deep silty fill was devoid of artefacts. To its south, Gully 1088/1079/1041 was slightly wider but shallower and was similarly curvilinear in plan. There was a single sherd of pottery in its silty fill (Fig 28, 63). All of these features had been cut by later ditches.

Late Iron Age features, Area 74, Plot 1/6, Fig 21b

Ditch 1185/1328 ran in an easterly direction for 10m from the western limit of excavation. It was around 50cm wide and 30cm deep (Fig 24e) with two distinct fills producing three sherds of late Iron Age pottery and single fragments of slag and burnt flint. In the south-eastern portion of area, a short north to south aligned gully [1206], 10cm wide and 9cm deep with straight, parallel edges and with steep sides produced a single sherd of abraded late Iron Age pottery from its naturally deposited clay-silt fill.

A shallow subsoil layer (1165) in the north-west of the area was truncated by later features. This spread layer was approximately 4m long, 3m wide and up to 10cm deep and produced two sherds of late Iron Age pottery and a very small amount of animal bone.

PHASE 1b

Ditch 1: Area 73, Plot 1/5

A north-to-south aligned ditch crossed the centre of the area, extending beyond the northern and southern limits of excavation. Seven sections were excavated through it [1005], [1040], [1071], [1081], [1097], [1116] and [1368], and it was referred to collectively as *Ditch 1*. Its recorded width varied between 1.17m and 1.80m, and it was 55cm to 77cm deep (Figs 23a & 27b) with steep sides and a shallow-concave base. A re-cut was visible in the excavated sections. The combined fills produced thirty-four sherds of late Iron Age or early Roman pottery (Fig 28, 73, 85, 95; Fig 30, 118, 119, 121), seven fragments of ceramic building material and a considerable quantity of animal bone.

Burial 1067

Excavation of Section 1071 uncovered an inhumation. The articulated skeleton (1067) was laid in the crouched position with legs bent up towards its chest. The skull faced south along the alignment of the ditch (Plate 7). The bone was generally in a poor state of preservation, but up to 75% of the skeleton remained. Examination of the bone showed that the individual was an adult male aged between forty and sixty years at the time of death (Appendix 9).

No grave cut was visible, and there were no grave goods or other associated artefacts. The body had been placed in the base of the ditch after some primary silting had occurred. The skeleton had not been disturbed, and is likely to have been covered over when it was placed in the ditch, although no trace of this covering deposit was seen. A sterile fill of clay silt containing chalk flecks was apparent along the length of the ditch, its top being at a level where it just covered the skeleton. This deposit had the appearance of re-deposited natural material, and it is possible that part of the ditch was backfilled over the skeleton. The deposit may equally have represented a period of silting when little activity was occurring in the vicinity. Re-cut 1101/1012/1111 truncated this sterile layer, re-

establishing the ditch. No other human remains were found in any of the other sections excavated across ditch, although a second burial was found in the terminus [1065] of Ditch 2 to the east.

Ditch 2

Four sections [1007], [1031], [1102] and [1065] were excavated in a north-to-south aligned ditch running from the northern limit of excavation and terminating 18m into the area of excavation. This ditch, collectively designated *Ditch 2*, was between 58cm and 75cm wide, and up to 60cm deep with steep sides and a shallow-concave base (Figs 23b, 24a & b). The ditch produced forty-six sherds of late Iron Age or early Roman pottery (Fig 28, 71; Fig 29, 104). Two spindle whorls, fashioned from the bases of pottery vessels, were found in Fill 1034 in Section 1031 (Registered Finds: 25011 (Fig 31, 128) & 25012 (Fig 31, 129)). The pottery assemblage was similar to that from Ditch Group 1, suggesting that the two ditches were broadly contemporary. The ditch fills also contained animal bone and fragments of burnt clay.

Burial 1062

Excavation of the southern terminus [1065] of Ditch 2 uncovered a crouched inhumation. The articulated human skeleton (1062) had been laid over the partially silted base of the terminus (Plate 9). There was no distinction between the secondary fill (1066) of the ditch and the deposit that covered the skeleton. The skull of the skeleton faced north along the alignment of the ditch. The bones were in a poor state of preservation, and only 25% of the skeleton remained. A large east-to-west aligned land drain had removed the feet and legs below the knees. Analysis of the bones showed that the individual was an adult, probably male (Appendix 9). The inverted pedestal base of a shell tempered wheel-thrown jar (Registered Find 25013, Fig 30, 116) was close to its skull in the base of the grave and may have been deliberately placed.

Curvilinear Gullies: Area 73, Plot 1/5

A curvilinear gully [1060]/[1063] 2m to the west of Ditch 1, was approximately 7m long, up to 30cm wide and 15cm deep. It appeared to terminate abruptly at both ends, although it is possible that shallower continuations had been lost to ploughing. It could possibly have been part of a ring gully, approximately 8m in diameter, though it looked more like a rounded corner of a rectangular enclosure. Six sherds of late Iron-Age or early Roman pottery were collected from its silty clay fill. A small unexcavated gully immediately to the south may have been the remains of a second outer ring gully.

Gully 1047/1014/1084 was very irregular, with a broadly east-to-west orientation. Although up to 72cm wide, it was shallow, no more than 14cm deep. Towards its eastern end it was cut by Gully 1060/1063. A substantial assemblage of 161 sherds of pottery dated to the late Iron Age or early Roman period was found within its single fill (Fig 28, 84; Fig 29, 89, 91; Fig 30, 98) in addition to tiny amounts of animal bone and burnt clay.

Gully 1400/1410 running parallel to the field boundary that separated Plots 1/5 and 1/6 was immediately to the east of the modern boundary ditch (Fig 24c). Its silty clay fill produced three sherds of late Iron Age or early Roman pottery.

Pit 1003

A circular pit [1003] near the northern limit of excavation was 19cm deep and had a single fill with small fragments of burnt bone. The sides and base of the pit showed no sign of having been heated, so this bone was not burnt *in situ*. In addition to the 50g of burnt animal bone, the pit produced seven sherds of late Iron Age or early Roman pottery (Fig 30, 109), three fragments of burnt stone and one fragment of slag. An oval-shaped pit [1057] 5m to the south of Pit 1043 contained three sherds of pottery and a small quantity of animal bone.

Ditch 3, Area 74, Plot 1/6

Running along the southern side of the excavation area in Plot 1/6, Ditch 3 had a similar profile to Ditch 1 in Plot 1/5, the excavated sections [1054], [1191] showing it to be 1.05m wide and 54cm

deep with moderate to steep sides and a concave base (Fig 24d). It produced thirty-three sherds of pottery (Fig 28, 82; Fig 30, 112) and a small quantity of burnt animal bone.

Ditch 4, Plot 1/6

Five sections [1253],[1222],[1218],[1303],[1197] were excavated through Ditch 4, which extended across the north-western side of the excavation area, terminating just before the western limit of excavation. Its profile (Fig 27a) was similar to that of Ditch 3 and these two ditches may have formed an enclosure with a 15m-wide south-west facing entrance. Its combined fills produced thirty-seven sherds of pottery (Fig 29, 87, 92, 96), five flint flakes and a quantity of animal bone.

Ditches 5 and 6, Plot 1/6

Parallel to Ditch 4 and 2m to the north, Ditch 5 was less substantial ditch, only 43cm wide and 18m deep in its excavated sections [1299], [1183] (Fig 27a). From the northern limit of excavation, it extended for 27m before terminating. Its fill contained only a single sherd of pottery and its attribution to this phase is uncertain. It may have enclosed the Phase 2 features to the south. On a similar alignment, immediately to the north, Ditch 6 yielded twenty-six sherds of pottery (Fig 30, 110) two flint flakes, fragments of burnt clay and a quantity of animal bone from its two excavated sections [1326], [1193] (Fig 27a).

Gullies, Plot 1/6

Gully 1330 may have been an earlier phase of Ditch 4, with a slightly different alignment at its western end. A circular posthole [1443], with a diameter of 40cm and up to 30cm deep was incorporated into its south-eastern terminus. There was no distinction between the fill of the posthole and the gully, suggesting that they were contemporary.

Ditch 1122/1172, in the southern corner of the excavation area, was 60cm wide and 55cm deep. It was cut by the modern field boundary between Plots 1/5 and 1/6 and did not continue to the east of this boundary. Its homogeneous clay-silt fill contained five sherds of pottery (Fig 30, 123) fragments of burnt clay and slag, and animal bone. At its western end, it could be seen to have been re-cut [1127]. The fills of this re-cut showed three distinct episodes of edge erosion. A substantial assemblage, 106 sherds, of pottery was recovered (Fig 28, 65, 77, 78, 81; Fig 29, 94; Fig 30, 108) along with four worked flints, three fragments each of burnt clay and burnt flint and a small amount of animal bone.

A straight, narrow gully [1170] in the southern corner of the excavation area was cut to the north by Ditch 1127. Its southern end drained at right angles into Ditch 1054/1191 and no distinction could be made between its fill and the upper fill of this ditch. This suggested that they were broadly contemporary but there were no finds to support its attribution to this phase.

A north-west to south-east aligned gully [1053]/[1232]/[1278] was 45cm wide and 37cm deep. Its upper fill was indistinguishable from the fill of the later ring gully (1120). Two fragments of a parting vessel used in the separation of gold and silver were found in the fill of Terminus 1278 (Registered Find 25108, Fig 31, 127). Evidence from this period for precious metal working is unusual, especially on rural sites. Other finds included five sherds of pottery (Fig 29, 100) and a late Iron Age coin (Registered Find 25006). The gully did not obviously extend beyond the field boundary separating Plots 1/5 and 1/6, though Gully 1090 may have been a slightly misaligned continuation of it. A pit or large posthole [1163] beyond its western end had no dating evidence, but was stratigraphically earlier than the ring gully (Fig 25b). A short length of a very shallow gully [1309] was also cut by the ring gully of Structure 1 (see below, Fig 25c) and may have been an element of the same field system as Ditches 5 or 6 to the north.

PHASE 2

Re-cut of Ditch 1: Area 73, Plot 1/5

A re-cut [1101]/[1012]/[1111] was visible throughout the length of Ditch 1 (Plate 8). The fills of the re-cut contained a substantial amount of charcoal and the pottery assemblage contained a high

proportion of early Roman material (Fig 28, 75). Ditches 5 and 6 in Area 74 may have been the return of this re-cut ditch, forming the boundary of an enclosure around the early Romano-British settlement. Fills of the re-cut produced 122 sherds of pottery, three fragments of burnt clay, two fragments of burnt flint and a quantity of animal bone. Fill 1098 contained a copper alloy jewellery fragment (Registered Find 25004, Fig 32b).

Gullies: Plot 1/5

The southern terminus of a north-to-south aligned gully [1087] contained eleven sherds of pottery. A single sherd of *Terra Rubra* (Fig 28, 59), a very rare import of the Claudian period, was included in the assemblage. This sherd and another collected from the Fill 1161 of Ring Gully 1120 are the first examples of *Terra Rubra* to be found in central Lincolnshire (Appendix 2).

Gully 1366/1073 near the south-eastern limit of excavation, cut the fills of Ditch 1 to the east (Fig 26a). Its fill produced ten sherds of pottery. The accumulation of standing water on this part of the site during excavation limited the investigation of this feature, and its relationship with the curvilinear gully to the east [1016]/[1392]/[1398] was uncertain. This gully formed the northern arc of a ring around 9m in diameter, varying in width from 60cm to 1m and in depth from 20cm to 30cm. Its fill contained twenty-four sherds of pottery (Fig 28, 67, 79; Fig 29, 105) a fragment of burnt clay and a small quantity of animal bone. Its form suggested that it was the remains of a ring gully surrounding a roundhouse, but there were no features within the space enclosed by it and any other confirmatory evidence for this interpretation was lacking.

Pits: Plot 1/5

An oval-shaped pit [1092] on the western side of the area had a largely sterile lower fill (Fig 27c), perhaps the result of deliberate backfilling, while the upper fill contained thirty-seven sherds of early Roman pottery (Fig 28, 62, 69; Fig 30, 114, 120).

Three substantial pit-like features in the south-east corner of the excavation area formed a north-to-south alignment. Their steep sides and the narrowness of their cuts suggested that they were large post-pits, although no trace of the posts or the spaces which they may have occupied survived. Posthole 1374 was the least convincing; it was cut by a modern land drain and had a rather asymmetric profile. The middle of the three postholes [1372] was circular with a diameter of 67cm and was 36cm deep and had steep sides and a concave base. Its single fill contained five sherds of pottery (Fig 28, 70, 80). The third posthole [1344] was larger and deeper. Its upper fill contained an intrusive axe-head (Registered Find 25023) and a small amount of animal bone was recovered from the primary fill.

Three small pits were cut into the fills of Gully 1138, an irregular and ill-defined feature running north-east from Gully 1392. Pit 1139 was oval, up to 1.50m across and 45cm. Like Gully 1138, it was devoid of artefacts. Pit 1394 cut into both Gully 1138 and Gully 1392/1398, obscuring any relationship between them. It was up to 1.40m wide and 40cm deep and contained ten sherds of pottery (Fig 28, 83) and a small amount of animal bone. Pit 1128 was cut into the silted terminus of Gully 1138 and was devoid of finds. The similarity of these pits suggests that they all belong to the same phase.

Roundhouse, Structure 1: Area 74, Plot 1/6

The most striking features of this phase were two concentric ring gullies, together designated as *Structure 1* (Plates 5 & 6). Fifteen sections [1132], [1137], [1140], [1160], [1215], [1230], [1280], [1301], [1307], [1323], [1338], [1364], [1382], [1390] and [1428] were excavated in the inner gully (Group 1120). The gully had a regular profile with steep sides and a shallow concave base. It had an internal diameter of 14.5m, and was typically 65cm wide and 35cm deep (Figs 25a, b & c). The major part of the fill was homogeneous and silty, but there was a distinct upper fill. Ninety-six sherds of pottery were recovered from the combined fills of the gully, including a rare sherd of *Terra Rubra* from this upper fill (1161) in Section 1160. The pottery clearly indicates an early Roman date (Fig 28, 61; Fig 29, 86, 89, 90, 99, 102, 106; Fig 30, 124; Fig 31, 125). Other finds

includes nine flint flakes, animal bone and small quantities of burnt stone, burnt clay, ceramic building material and slag.

Five sections [1135], [1142], [1430], [1334] and [1386] were excavated in the outer ring gully (Group 1121). This gully was heavily truncated, the remaining part being 50cm beyond the south-western arc of the inner ring gully. The outer gully was far less substantial being typically 25cm wide and 6cm deep with moderately sloping sides and a shallow concave base (Fig 25a). The single fill contained three sherds of pottery (Fig 28, 64; Fig 30, 107, 111; Fig 31, 126) and very small quantities of animal bone and burnt clay.

Internal features of Structure 1

There was a break in the inner ring gully on the north-east side, there being no trace of an outer gully on this side. A group of postholes and possible beam slots lay inside the ring at this point that may represent the remains of the support for an entrance structure. Two double postholes, aligned north-east to south-west, were recorded at a distance of 30cm from the terminals of the gully, 2.20m apart. The northern pair [1262], [1282] were up to 90cm wide, and were 15cm and 25cm deep respectively (Fig 25h) while the southern pair [1203], [1434] were both around 60cm wide and 20cm deep. A land drain had removed any relationship between these two postholes. Posthole 1434 contained three sherds of pottery (Fig 30, 117). Neither of these pairs of postholes had any distinction between the fills of their two components.

Between the two posthole pairs and running parallel with the gap in the ring gully were two beam slots. The outer slot [1275]/[1436] was 2.10m long, 45cm wide, and 13cm deep, and the inner slot [1213] was 1.32m long, 35cm wide, and 7cm deep (Fig 25g). Both had moderate to steep sides, and shallow concave bases. A third slot [1159], 80cm long, 26cm wide and 30cm deep was 1.30m inside Slot 1213. It shared similar characteristics to the other two slots making it likely that it was part of the same functional unit.

Opposing this group of features, there was another group on the south-west side of the roundhouse. There was no break in the inner ring gully here, although there appeared to be a gap in the outer ring just to the north of this feature group. Two convincing postholes [1148] and [1150] (Figs 25d & e) were 2.20m apart and 1.00m inside the inner gully. These seemed to be matched by two further postholes [1340] and [1384] respectively, on the line of the inside edge of the inner ring gully. Two more postholes [1332] and [1387] on the outside edge of the outer ring gully could have made up two rows of three, although these outer features were smaller and were less convincing as postholes. Posthole 1336 between the two gullies may have been a fourth member of the northern row and there was a third posthole [1432] intersecting the outer edge of the outer ring gully. The excavators recorded these postholes as generally cutting the ring gullies but these relationships were very uncertain as their fills were indistinguishable.

Apart from these two groups, the other features within the ring gully formed little pattern. Three shallow cuts [1168], [1445] and [1380] may represent the truncated bases of postholes (Fig 25i). Two small circular features [1155], [1157] and a larger and deeper oval pit [1438] may have been associated with the south-west posthole group. None of these features produced any dating evidence, but the similarity of their fills to those of the ring gullies, and their location within the structure suggests that they were contemporary. Close to the centre of the roundhouse, Pit 1174 was oval, 3.90m long 2m wide and up to 37cm deep with gradually sloping sides and an undulating base (Fig 25f; Plate 10). Its sterile clay-silt fill was devoid of artefacts but its central position suggests that it is part of the same structural group.

Structure 2

A group of postholes and beam-slots to the south-west of the roundhouse may also be structural and they have been grouped together as *Structure 2*. A north-west to south-east aligned slot [1311] 4.60m long, 45cm wide and 15cm deep with straight, parallel edges had a fill which produced two sherds of pottery (Fig 30, 122). Environmental Sample 26104 taken from its fill contained a small

amount of animal bone, but little else of interest. Two lines of postholes were recorded 1.30m to the north and 50cm to the south of this slot. The northern row: [1234], [1236], [1238], [1240], were between 25cm and 40cm across with a depth of 14cm to 26cm, and were spaced between 63cm and 1.25m apart. Their fills were similar in colour and consistency to the fill of Slot 1311 and the other postholes in the vicinity. A fragment of painted wall plaster was recovered from Environmental Sample 26106 taken from Fill 1235 of Posthole 1234 (Appendix 6). This plaster suggests the existence of a high-status Romano-British building in the area but more building material would be expected to have been recovered if this had been close to the site.

There were thirteen postholes in the southern row: [1248], [1250], [1196], [1246], [1242], [1244], [1348], [1350], [1352], [1358], [1360], [1354], [1356], which extended 4m beyond the eastern extent, and 2m beyond the western extent of Slot 1311. They had diameters of between 16cm and 40cm, and were between 5cm and 18cm deep. Two closely set groups of postholes [1348], [1350], [1352] and [1354], [1356], [1360] were incorporated into the alignment. The closeness of the features in these clusters could be the result of posts having been reset on at least two occasions, but relationships within the clusters were unclear. Excluding the closely set clusters, the distance between the postholes in this alignment averaged rather less than 2.00m. A single sherd of pottery, probably of late Iron Age date was recovered from Fill 1351 of Posthole 1350.

A second slot [1293] continued on the same alignment as Slot 1311 to the north-west, with a gap between the two suggesting an entrance to Structure 2. This slot was 4.90m long, 10cm wide and 10cm deep (Fig 26b). It had two pairs of small postholes or stake-holes [1295], [1297] (Fig 26d), [1289], [1291] (Fig 26e) closely set on either side. Environmental Sample 26093 taken from Fill 1298 of Posthole 1297 yielded a small amount of animal bone and fragments of burnt clay. At its south-eastern end there was a cluster of three postholes [1287], [1258], [1285] which may have been an outlier of the alignment associated with Slot 1311. The largest of the components of this group contained a flint bladelet (Registered Find 25021), and Environmental Sample 26094 from its fill yielded two flint flakes, a scrap of late Iron Age pottery and a small amount of animal bone.

A circular posthole [1316] immediately to the north-west of Slot 1293 contained a single sherd of late Iron Age pottery and a flint flake. A small posthole [1314] and an irregular, heavily truncated pit [1265] lay further to the north.

Gullies in the south-west corner of Plot 1/6

Perpendicular to Slots 1311 and 1293 and arising from the gap between them, another shallow slot 1187/1189 had a distinctive V-shaped profile (Fig 26c). Its fill produced nine sherds of pottery. Parallel to Slot 1293 and 6.50m to the south-east of it, there was fourth slot or gully [1181] with a single posthole [1228] in the centre. The relationship between the slot and the posthole was not clear. A possible return of this gully [1166] beyond the southern part of Slot 1187 was on an almost perpendicular alignment and appeared to terminate 2.5m to the south-west.

To the south-east, Gully 1181 with its possible return, was mirrored by Gully 1342/1118, which turned to the south-west to cut Ditch 3 where it was recorded as Section 1153. The area beyond this to the south-west could not be fully investigated because of the wet weather conditions, but several features were excavated. Gully 1402/1421 appeared to continue the alignment of Gully 1166. Its fill contained thirty-two sherds of pottery (Fig 28, 60; Fig 29, 101). A gully of similar dimensions [1407], on an approximately parallel alignment to the south, also contained pottery (Fig 29, 88).

Undated Feature: Area 73, Plot 1/5

There were a number of undated features which could not be assigned to a phase. An irregular feature, interpreted as a gully [1096] was a short distance to the west of Gully 1086 on a similar alignment. Gully 1090 was on a similar alignment to Gully 1053/1232/1278 in Plot 1/6 and may have been a continuation of it. Pit 1043 in the northern part of the area was very irregular, and may have been a geological feature. Feature 1018 was interpreted as being an isolated sub-rectangular

posthole or pit. Pit 1021, 3m to the north of Posthole 1018, was shallow with an irregular base disturbed by roots.

Excavation in this southern part of the area was hindered by the presence of standing water, but this area contained Gully 1035, possibly the remains of a ring gully for a roundhouse extending beyond the southern limit of excavation. The excavated portion was 30cm wide, and was up to 20cm deep.

Undated Features Area 74, Plot 1/6

An east to west aligned gully [1319]/[1321] was truncated by the boundary between Plots 1/5 and 1/6, but was not visible to the east of the field boundary. The northern extent of north-west to south-east aligned Gully 1269 was truncated by Gully 1170, and it extended beyond the limit of excavation to the south. Another short length of gully [1273] near the south-eastern limit of excavation was heavily truncated, only the base of the cut surviving.

Three postholes [1271], [1208], [1210] in the southern corner of the excavation area formed a tentative north-south alignment. The fill of Posthole 1210 contained a small amount of animal bone and a fragment of burnt clay. An isolated pit [1144] 5m to the south of Structure 1 had a single distinct burnt fill (1145) that contained a high amount of charcoal. Environmental Sample 26083 produced a small amount of burnt animal bone (Appendix 6). The burnt material may have been re-deposited hearth material, related to domestic activities that were being carried out within the nearby structures.

Unstratified finds

Among the unstratified finds was a characteristic piece of *tegula* roof tile (Fig 32a) and two rim sherds (Fig 28, 66, 72), all from Plot 1/6.

Discussion

The phasing of the site was not straightforward, and the scheme given above should be treated with caution. Stratigraphic relationships tended to be unclear, and the site was excavated in generally poor weather conditions compounding the difficulties in determining the sequence of deposits. The artefactual evidence, though plentiful, did not allow for fine distinction between late Iron Age and early Roman features.

The three ring gullies in Area 73 represent the earliest phase of activity on the site. These gullies were shallow and had been extensively damaged by ploughing, but the interpretation of them as the remains of small roundhouses of a late Iron Age settlement is probably reasonable. The presence of similar features later in the stratigraphic sequence implies a continuation of settlement, although the original roundhouses went out of use and others were re-built nearby.

In the following phase, the ditches of a field system were established, cutting through the sites of the earlier structures. Subsequent activity on the site appears to have followed the alignments established at this time, although individual components of the field system, such as Ditch 4, were no longer evident when the large roundhouse, Structure 1, was constructed.

The two interments in Area 73 date from the time when the field system ditches were still open. Although the bone was in a poor state of preservation, the burials found in Ditch 1 and 2 were articulated and undisturbed. They had not been thrown into the ditch, but had been placed in the crouched position, and covered over. Iron Age inhumation burials are a rare phenomenon in the East Midlands: an inhumation found as recently as 1997 at Stenigot in the Lincolnshire Wolds, approximately 15 kilometres to the north-east of Site 2, was deemed to have been the first burial of Iron Age date found in Lincolnshire (Armour Chelou, 1998). An undated, heavily truncated inhumation was also found on Site 13, Plot 22/3 (Section 9.2.5 below). This burial was associated with late Iron Age or early Romano-British settlement. It was located a short distance from a second century AD possible enclosure ditch, and outside a late Iron Age enclosure ditch.

The two structures in Area 74 have both been assigned to Phase 2, but it is unlikely that they were contemporary. Structure 1 was a fairly typical roundhouse, larger than the earlier examples in Area 73, and with more surviving evidence of its structure. The inner ring gully was more substantial than the outer gully suggesting that it could have supported the wall of the roundhouse structure. There was no evidence of posts in this gully, the base being of constant profile and depth. A wall could have been constructed of planks which could perhaps have been erected and removed without disturbing the base and sides, but this seems unlikely. The outer ring is probably best interpreted as an eaves-drip gully, but the distance between the outer and inner gullies was less than 70cm and a roof supported on a wall built in the confines of the inner ring gully would have extended further than the outer gully.

It is more likely that both rings were drip gullies with the inner gully perhaps representing a deeper re-cut. Being concentric, it is probable that the gullies were both at least partly contemporary with the structure enclosed within them. A number of heavily truncated internal features were recorded which may have been the remains of the internal support for the roof of the structure. Postholes 1380 and 1168, for instance, could be on the line of the original wall, which would give a tentative diameter for the roundhouse of approximately 10.50m. No large internal postholes were found so the timbers that supported the roof probably rested on wooden or stone post-pads. No floor or hearth remains were found within the ring gully indicating that the original floor level had most probably been truncated by ploughing.

The grouping of slots and postholes that make up Structure 2 represent one or more rectangular structures aligned on a north-west to south-east axis. At this early date, simple rectangular buildings often consisted of a timber framework that either rested on a narrow sill wall, or was set into a wooden beam laid in a shallow trench. They were often built using wattle and daub (Hanley, 1987). The slots were straight and regular and may have supported lines of vertical fence posts to form palisades, horizontally set beams that in turn supported the walls of a structure or closely set posts in conjunction with wattle to form walls or fences. There was little distinction between the deposits that infilled the slots and postholes suggesting that they accumulated at the same time, through similar processes.

The postholes seem to have been fairly insubstantial and these structures are likely to have been short lived. There is some evidence for the structure having been maintained, with the re-setting of posts. The small quantity of artefacts retrieved gives little clue as to the function of the structures. The sterility of the fills implies a low level of activity in the vicinity; a structure used primarily as a dwelling would be expected to produce more finds. The slots may have acted in conjunction with the lines of posts to create open animal pens.

The ground surface contemporary with the structures has been subjected to later ploughing, and an unknown depth has been lost. The remains of other slots, postholes and possible internal features such as floor surfaces, hearths or internal roof supports may have been removed from the archaeological record.

A rectilinear structure dated to the late Iron Age to early Roman period was excavated on the 'Site 6' excavation on an earlier Hatton to Silk Willoughby Gas pipeline (NAL 1999, Report 134). The structure was judged to have fallen out of use prior to the middle of the second century AD. As with the remains of Structure Group 2, the function of the structure was uncertain. It is generally agreed that the adoption of rectangular building forms is characteristic of Romanisation and that during the late Iron Age to early Romano-British transition, circular and rectangular structures may well have co-existed (NAL, 1999).

Overall, these structures seem to represent the remains of a small Romano-British farmstead. The re-cut of Ditch 1 in Area 73 together with Ditches 5 and 6 in Area 74 may have enclosed the roundhouse and associated structures. Unfortunately the conjectural corners of the enclosure were beyond the limits of excavation. Some of the excavated ditches may have been the remains of

internal divisions within the enclosure, dividing the farmstead and its surrounding land into designated areas for domestic and agricultural activities.

The animal bone assemblage provides some evidence of the kinds of agricultural activity occurring on the site. It is composed largely of the three common stock species. Sheep or goat is the most prevalent species in both phases of occupation at the site, followed by cattle and then pig. There is little change in the management strategy of these three species from the late Iron Age through to the Roman period. The age structure of the populations suggests that the sheep or goats were managed for milk, wool and meat while cattle and pigs appear to have been managed for prime beef and pork.

Fifteen Roman tile fragments, including a distinctive piece of *tegula*, were recovered from the site as a whole. A substantial building in the immediate vicinity of the site would have resulted in a much more dense accumulation of debris, but together with the single piece of painted wall plaster, this find suggests that there may have been a relatively high status building nearby, close enough for this kind of waste to find its way on to the site, perhaps as a result of manuring of fields.

The site appears to straddle the period of transition from the Iron Age to a Romanised way of life, a transition that appears to have been relatively smooth, with a gradually increase in the use of Roman pottery. The earlier part of this range is represented by the smaller ring gullies and the two inhumations. The enclosure ditches suggest a small farming community, although the evidence for working of precious metals perhaps implies a broader range of activity. The construction of the larger roundhouse, a typical native dwelling, in the early Roman period, marks a gradual evolution of the site rather than any dramatic change.

9.2.2 Area 77, Langton Hill Farm, Linear Features and Postholes, Plot 1/9, (TF 1500 7480)

Summary: This was a small site south-west of Langton Hill Farm, probably of Iron Age or Roman date. It consisted of a possible enclosure ditch with a small group of other features including two pits with charcoal-rich fills, and two postholes.

Artefact type	Count/Sherds	Weight/g
Knapped flint	9	220
IA pot	18	85
RB pot	33	123
Animal bone		216
Other	Fe object, burnt clay.	

Table 7: Area 77 Finds Summary

Introduction

Area 77 was 120m south-west of Langton Hill Farm and 800m east of Hoop Lane (Fig 33). From the boundary to the adjoining field, formed by a hedge and farm track, the site stretched approximately 60m from east to west and 30m from north to south. It was at an on average height of 26m AOD. The surface geology consists of boulder clay with a low frequency of chalk slurry, with river sands and gravels towards the south of the field.

The desk-based assessment identified a circular crop-mark (TF 1517 7465) 200m to the south of the site (NAL, Report 147, Map 1). The field walking survey produced four pieces of worked flint, including a Neolithic axe (NAL, Report 155). No significant anomalies were detected by the geophysical survey (Bartlett-Clark Consultancy, 2000). The site was identified in the watching brief, during topsoil stripping.

Results

Ditch 1601/1602 ran from the north-western edge of the site adjacent to the farm track in a south-easterly direction, extending for a distance of 9.5m, its edges becoming increasingly unclear (Fig 34). In the two sections that were excavated through it, it was found to average 61cm deep and 1.73m wide (Fig 35b). Pottery sherds retrieved from this feature have been dated to the late Iron Age or early Roman period.

A second ditch [1609] was oriented at right-angles to Ditch 1601/1602 and had similar dimensions, 1.2m wide and 60cm deep (Fig 35a). Several sherds of late Iron Age or early Roman pottery were discovered from the upper fill. It is possible that these two features originally connected to form a ditch with a right-angled bend, but their point of intersection had been lost to later plough damage.

Linear Feature 1615 was on a similar orientation as Ditch 1609 and approximately 5.7m to the south-west. It was significantly smaller being only 37cm wide and 19cm deep and was only visible for a length of 3.75m. Artefacts recovered from the feature included several sherds of pottery dated to the late Iron Age or early Roman period. A smaller linear feature oriented north-to-south [1619], 8m to the west, was only 10cm deep and 20cm wide, and did not yield any finds.

Posthole 1621, adjacent to the northern baulk, was 62cm wide and 26cm deep. Its upper consisted of large lumps of carbonised wood while the lower fill also contained some carbonised remains. A second posthole [1624] 6m to the south-east was 34cm wide and 18cm deep and had a distinctive profile with vertical sides breaking sharply to a flat base. Apart from the possible remains of the post in Feature 1621, no artefacts were recovered from these two postholes.

Three small, widely spaced features all showed evidence of *in situ* burning. Pit 1613 in the north-east corner of the excavated area was 35cm wide and 10cm deep. Its fill was rich in charcoal and tiny fragments of burnt bone. Pit 1617, 10cm deep, 74cm in diameter and 3.5m to the south-east of Gully

1615, had a similar fill. A shallow depression [1623] within the angle made by Ditches 1601 and 1609 was 8cm deep and 65cm across. It contained burnt flint fragments on a clay lined base. There were no dateable artefacts from any of these three features.

Discussion

The small quantity of pottery suggests that the site was peripheral to an area of human activity during the late Iron Age or Roman periods. Ditches 1601/1602 and 1609 may have formed part of the boundary of this area. The pits provide the only evidence of the kind of activity which was taking place; the presence of abundant charcoal and *in situ* burning suggesting perhaps some type of minor industrial or domestic use. Apart from the two isolated postholes, there was no evidence of any structural remains. Any associated settlement must presumably have been located beyond the confines of the pipeline easement.

9.2.3 Area 80, Iron Age Roundhouses, Plots 14/9 & 15/1, Dorrington (TF 0983 5340)

Summary: Remains of seven roundhouses of Bronze Age or Iron Age date were discovered either side of the Dorrington to North Kyme road, along with associated pits and possible postholes. Medieval furrows were also seen to the south of the road crossing.

Artefact type	Count/Sherds	Weight/g
Knapped flint	93	
IA pot	183	792
RB pot	6	24
Animal bone		17
Other	Burnt clay, medieval pot, shell, charcoal, post-medieval pot, metal finds, copper alloy and burnt stone	

Table 8: Area 80, Finds Summary

Introduction

The site was 2.23km to the east of St James and St John's Church, Dorrington and extended 15m to the north and 24m to the south of the road from Dorrington to North Kyme. It was on a patch of glacial till, overlying Oxford Clay, and at an average height of 11.6m AOD, sloping away to the south (Fig 36).

The ADDBA identified former ridge-and-furrow in fields to the north and north-west of the site (NAL, Report 147, p 27). A flint scatter and fragments of Bronze Age pottery were recorded as being found 1.45km to the north-east of Area 80 (NAL, Report 134, Vol. 2, Appendix 1, p 1-2 and Appendix 2, p 4-5). The immediate area had also yielded a number of other prehistoric artefacts: a butt fragment of a Neolithic stone axe, a flint scraper, a probable discoidal knife, two polished stone axes and a rubbing/crushing stone.

Plot 15/1 was laid to pasture, but fieldwalking in 14/9 recovered prehistoric flint flakes, Roman pottery, post-medieval and modern pottery (NAL, Report 155, Appendix 3, p 12). The geophysical survey failed to detect any significant features although Plot 15/1 showed slightly elevated magnetic activity (Bartlett-Clark Consultancy, 2000).

Results

Topsoil stripping revealed linear and curvilinear features on both sides of the road crossing (Fig 37). There were also a number of possible pits or postholes.

Ring Gullies: Plot 14/9

The remains of seven ring gullies were recorded. These have been numbered 1-7 below. Gullies 1-4 were in Plot 14/9 and 5-7 in Plot 15/1.

Only part of Gully 1 [14505]/[14507] was visible, at the southern edge of Plot 14/9. It was 25cm-35cm wide and 6cm-11cm deep and contained a single piece of worked flint and one sherd of pottery of undetermined date.

Gully 2 [14567]/[14538]/[14559] was a slightly curved linear feature 30cm wide, 12cm deep and approximately 5m long from terminus to terminus, becoming increasingly shallow towards its south end where the edges had been ploughed away. Its fill contained pieces of knapped flint.

Gully 3, the most complete ring gully in Plot 14/9, was recorded in seven sections [14565], [14561], [14553], [14523], [14548], [14509] & [14503]. In these sections it was between 30cm and 60cm wide and up to 30cm deep (Fig 38b), the variations in dimensions probably the result of severe truncation by modern ploughing. The south side of the feature had been completely lost, but the gully appeared to have been originally penannular, with a diameter of 7m and a 3.5m wide entrance,

bounded by Terminals 14503 and 14565 on the eastern side. Finds recovered included middle to late Iron Age pottery, knapped flint and burnt clay. The north-west part of the ring had been cut by a short curvilinear feature [14550].

Gully 4, recorded in seven sections [14529], [14514], [14511], [14536], [14534], [14532] & [14526], had a more irregular shape than the other ring gullies. Its relationship with Gully 3 was rather ambiguous, but it appeared to be an earlier feature. The irregular shape suggested that it may have been two separate incomplete gullies, the intersection between having been lost when Gully 3 was constructed. The southern terminus [14529] appeared to run into a small pit-like feature [14531]. The fills of the gully contained prehistoric pottery, of which one sherd has been dated to the Bronze Age, and a large amount of burnt clay, some of which had wattle impressions.

Ring Gullies: Plot 15/1

The three gullies to the south of the road crossing were of similar dimensions and clearly belonged to the same group of features.

Only a small section of Gully 5 [14590] was visible, running beneath the northern baulk of the site. No artefacts were recovered from its fill. Gully 6, which included Interventions 14577, 14596, 14588, 14600 & 14601 was less truncated than the other gullies and was up to 40cm deep. It was steep-sided with an almost flat base (Fig 38a; Plate 11) and had an inner diameter of 6.2m. The terminals of the gully were 2.5m apart, forming an entrance. Both sides of the entrance displayed evidence of large postholes in the terminals of the gully. Gully 6 shared similarities with Gully 3, having smaller gullies [14587], [14589] and [14615] or re-cuts of the original gullies opposite the entrance. The fills of the main gully contained knapped flint and a significant amount of middle to late Iron Age pottery (Fig 39, 3-10). The southern terminus also contained pieces of metal, including iron nails and a piece of copper casting waste (Registered Finds 25035-25040).

Gully 7 [14592]/[14954], less than 1m south-east of the south terminal of Gully 6, consisted of a 4m-long arc. Although this had a similar profile to the other gullies, the two terminals were quite abrupt, suggesting that it may never have been a complete ring or penannular feature. Middle to late Iron Age pottery was retrieved from its fill.

Linear features

A small gully [14572] extended southwards from the northern baulk of Plot 14/9 for 4m. In the base of the excavated southern terminus three possible stake-holes [14574], [14575] & [14576] were revealed, evenly spaced along the centreline of the gully. They were very small, on average only 5cm deep, and contained no dateable artefacts.

Two shallow parallel features in Plot 15/1 [14585] and [14609], spaced 9.5m apart, were interpreted as furrows remaining from a medieval ridge-and-furrow system. Both yielded residual finds, prehistoric pottery from Furrow 14585 and knapped flint from Furrow 14609.

Pits and postholes

Three oval postholes [14516], [14518] and [14520] in the south-west corner of Plot 14/9 were between 20cm and 42cm long, 29cm to 34cm wide, and 16cm to 34cm deep. Five sherds of undated pottery were recovered from the fill of the most northerly of these features [14516].

There were two features within the area enclosed by Gully 3. A shallow pit [14544] 90cm long, 70cm wide and 20cm deep, and a much smaller feature adjacent to it [14542] which may have been a posthole. Neither of these features contained any dateable artefacts. The south-western side of Gully 3 cut through a pit 14cm deep [14555]/[14563] (Fig 38b) which contained knapped flint and a single piece of pottery possibly dating from the Bronze Age.

The area enclosed by Gully 4 also contained two discrete features. A small feature [14557] near its northern terminus was 27cm wide and 8cm deep, and had a fill that was relatively rich in charcoal

but had no dateable artefacts. A small posthole [14540] 4m to the south may have been associated with Gully 4 but was also very close to the northern terminus of Gully 3. It was a relatively well defined feature 20cm deep, but again contained no dateable material.

Pit 14569, immediately to the east of the surviving portion of Gully 2, was large and amorphous, 1.98m long, 1.21m wide and 23cm deep. The only artefact recovered from its fill was a piece of knapped flint. Two possible postholes [14581] and [14583] were located towards the northern baulk of Plot 15/1, to the west of Gully 5. Both were 30cm in diameter and 15cm deep, and neither contained any dateable artefacts. Two features were recorded in the area enclosed by Gully 6. The larger one [14611] was 31cm deep and had a diameter of 72cm; the smaller one [14613] was 23cm deep with a diameter of 40cm. Both had very indistinct edges and no dateable artefacts were retrieved from their fills.

Unstratified finds from the site included a fragment of a Nauheim Derivative brooch, with a broad date range from the late second to the first century BC (Registered Find 25133, Fig 40).

Discussion

The site almost certainly contains part of a settlement of mid- to late Iron Age date. The bulk of this bulk of the pottery assemblage is highly diagnostic being decorated with the scoring typical of this period. Gully 3 and Gully 6 both appear to be the remains of roundhouses. Gully 4 could also be a roundhouse site or may represent two structures of different date, occupying almost the same space and both very incompletely preserved. More than one phase is represented, as Gully 3 cuts Gully 4 showing that it is a later structure. The finds evidence also suggests a long period of occupation on the site. The flint analysis suggests that initial occupation could date to the late Neolithic period, while some of the pottery may be from the Bronze Age.

Gully 6 is the most complete example of a ring gully on the site. It has not been damaged by modern ploughing nor especially by medieval ploughing, being fortuitously located directly between two furrows. This gully illustrates one type of construction of a prehistoric roundhouse. The construction trench was created to support vertical posts that would, in turn, have supported wattle and daub sections that formed the walls. Many roundhouses featured an internal circle of postholes or central supports that would have helped to bear the conical roof. No evidence of such features was found here but it is possible that the internal supports stood freely on the ground surface. Posts positioned in this way would not be as secure as buried posts but the decay of the posts due to the damp in the ground would be reduced. The relatively small size of the structure might also have made such supports unnecessary. The entranceway was also fairly typical of a roundhouse although postholes representing the common four-post entrance were not present.

There appeared to be no evidence of field or plot boundaries, or of occupation evidence such as hearths or storage pits. It is possible that these features have been ploughed away but it is also feasible that the roundhouses were peripheral buildings standing apart from a larger settlement. Such an arrangement is known, for instance, from Itford Hill, Sussex (Cunliffe, 1974, p 153).

9.2.4 Site 7, Enclosures and Metal-working Area, Plot 16/4, Ruskington 1 (TF 0986 5018)

Summary: This site was identified from cropmarks (MON 349273) in the ADBA, the remains of ditches and gullies associated with late Iron Age and early Roman occupation being found during the evaluation stage of work. Of particular note was an area of metal-working residues with a possible associated structure.

Artefact type	Count/Sherds	Weight/g
MLIA pot	47	198
LIA/ERB pot	115	1354
RB pot	70	1052
Animal Bone		11910
Other	Roman CBM, Med/Mod CBM, slag, LIA/EROM coin,, metalwork, worked bone, Bt. Clay, flint	

Table 9: Site 7, Finds Summary

Introduction

The site was 1.5km east of Ruskington railway station and 300m north of the A153 Sleaford to Louth road (Fig 41). It was at a height of between 6m and 7m AOD, and on a gradual slope up to a low ridge to the north. The underlying geological deposits are Sleaford sands and gravels. The pipeline followed a broadly north to south alignment at this point.

The site was previously known from air photographs (DBA: MON 349273) which showed cropmarks of a settlement complex, including several small enclosures and probable pits, within a possible major defensive boundary. The quality of the air photographs is poor, and marks caused by background geology and drainage patterns confuse the patterns (Plate 12, Ref. N.M.R. 12840/67). Because of engineering constraints, avoidance was not practicable.

The presence of standing crops meant that the field was not suitable for fieldwalking at the time of the field survey. Two distinct linear features consistent with the presence of the enclosures seen on air photographs were identified by the magnetometer survey. Some small anomalies that may have represented pits were also identified. Susceptibility values were high throughout the field.

Five evaluation trenches (Trenches 1-5) were opened. Trench 1 in the southern part of Plot 16/3 was in an archaeologically sterile area. The most northerly trench in Plot 16/4 contained a small gully [16005] which yielded a glass bead (Registered Find 25135, Fig 49b). Trenches 3 and 4 confirmed the presence of the features that had been identified on air photographs and the decision was then taken to proceed to area excavations. The site was excavated in two parts: the southern part was designated Area 72 and the northern half Area 86. Together the two areas of excavation were 150m long; they varied between 22m and 32m wide.

Results

The archaeological features on Site 7 have been separated into four broad phases (Fig 42):

- PHASE 1: Mid to late Iron Age;
- PHASE 2: Late Iron Age to early Roman period;
- PHASE 3: first to second century AD;
- PHASE 4: Post-medieval to early modern periods.

The phasing of the site was based on the stratigraphic relationships of features and the dated artefacts within them. As far as possible, undated features were attributed to phases on the basis of shared characteristics with phased features.

PHASE 1: Mid- to Late Iron Age Features

Ditch 16645/16596/16673 ran westward across the centre of the site from the eastern edge of excavation (Fig 43a & b). It was between 2.40m and 2.80m wide and its depth varied from between 20cm and 80cm. A single sherd of late Iron Age pottery was recovered from the fill of its terminus (Appendix 2). On the eastern side of the site, a perpendicular branch [16587] appeared to run north for about 8m before terminating, but this part of the site was very confused.

In the northern part the site, another ditch with similar dimensions [16552]/[16635] turned to the south near the eastern edge of site in a broad arc, the point where it appeared to turn being masked by a later furrow. The profile of this ditch varied. To the west, Section 16635 had a steep southern side and stepped northern side (Fig 44f) and was 3.05m wide and 96cm deep. Section 16552, aligned north-to-south, had a more regular profile and was slightly broader and shallower. In this section, it could be seen that its western side was cut into a north-to-south aligned ditch [16554] not visible as a separate feature in plan.

To the south, three ditches appeared to define the corner of a field system. The northern edge of this was defined by Ditch 16621/16641 (Fig 44e) running eastward for 18m from the western baulk. It had moderately steep sides and a shallow-concave base. Running 3m to the south on an almost parallel alignment, Ditch 16649/16598/16606/16602 had a similar profile (Fig 44d). A single sherd of Iron Age pottery was recovered from Primary Fill 16651, and seven sherds of late Iron Age pottery were recovered from Secondary Fill 16650. A third ditch [16600]/[16544] was on a perpendicular alignment; Ditch 16602 appeared to form a T-junction with it, but the relationship with Ditch 16641 had been lost.

The pattern of rectilinear field system enclosures continues to the south of Ditch 16645/16673 with a series of roughly parallel ditches on an east-to-west alignment, some with perpendicular returns. Ditch 16695/16643 was clear in plan but was very shallow, being 12cm and 29cm deep in the two excavated sections. It was 1.50m wide at the western edge of site, but became increasingly narrow; a 75cm long break near the eastern limit of excavation probably caused by truncation down to its uneven base. Its profile was asymmetric, with a steep northern edge and more gradual southern slope. It contained no dating evidence, but was cut by Ditch 16667 assigned to Phase 2. A short section of ditch [16507]/[16688] 4.5m to the south and on the same alignment was visible near the eastern side of the site (Fig 45a), but to the west was truncated by Ditch 16685 also ascribed to Phase 2. A single sherd of pottery dated to the late Iron Age or early Roman period was retrieved from its fill.

A further 26m to the south, a regular straight ditch [16252]/[16251] (Fig 44a) contained three sherds of late first to second century pottery, and eight sherds of late Iron Age to early Roman pottery (Fig 47, 134).

Towards the south end of the site, two small roughly parallel ditches ran from the eastern edge of excavation for 24m before being truncated by later features. The more southerly [16071]/[16073] (Fig 45f) increased markedly in size from west to east from 70cm to 2m wide, and 23cm to 82cm deep. Three sherds of pottery dated to the late Iron Age to early Roman periods were recovered from its secondary fill (16074). Immediately to the north, Ditch 16113/16084/16072 had more consistent dimensions, at least in the eastern half of the site, being 72cm wide and 24cm deep. Three sherds of late Iron Age pottery were recovered from its single fill.

A single pit [16506] was also assigned to this phase. Cut by Phase 2 Ditch 16519, this pit had a diameter of 1.24m and was 51cm deep with steep sides and a concave base. Three sherds of late Iron Age pottery were collected from its fill.

PHASE 2: Ditches

Two parallel substantial east-to-west aligned ditches crossed the site near its southern end. The larger one [16057]/[16291] was 3.00m to 4.22m wide and 1.00m to 1.20m deep with straight,

parallel edges, moderately steep sides and a shallow-concave base (Fig 46e; Plate 15). Nine sherds of late Iron-Age to early Roman pottery were recovered from the primary fill (Fig 47, 130, 137) and twenty-one sherds from the same period from the secondary fill (Fig 47, 132). Just to the north and separated by less than 2m, the second ditch [16058]/[16286] was 1.70m to 1.90m wide and 32cm to 68cm deep (Fig 46e). A single sherd of late Iron Age or early Roman pottery was recovered from its primary fill.

To the north of these two ditches, a series of smaller ditches re-established the Phase 1 field system enclosures. Sections 16204, 16186, 16181, 16084, 16188, 16118 & 16131 were excavated in an enclosure ditch (Fig 45b; Plate 14) running westward from the eastern edge of the site before turning to the north, giving a 25m long east to west section and a 14.50m long north to south part. Eleven sherds of late Iron Age or Roman pottery were recovered from its fills (Fig 48, 150-151) though much of this could be intrusive from the intersection with the finds-rich Phase 3 Ditch 16083/16254/16256. Near the eastern edge of site, a short length of ditch [16129] arising from a T-junction was probably a contemporary feature.

Ditch 16572/16535/16519 (Fig 44b) ran east to west across the site, its fill yielding a single sherd of late Iron Age pottery (Fig 48, 144). The western end of this ditch was close to the northern end of Ditch of 16204 and it is likely that it was a continuation of the same feature, but the area where the two ditches intersected was lost. There was a small gap between its eastern terminal of Ditch 16519 the southern terminal of Ditch 16656/16509 which ran northward before turning to the west as Ditch 16665/16685 (Fig 44c) to form the northern side of the enclosure.

A small ditch or gully, surviving as two separate lengths [16574]/[16534] & [16522] was ill-defined, but was probably a later re-cut of Ditch [16572]/[16535]/[16519]. It had first to second century AD pottery in one of its upper fills, but its alignment suggests that it belongs to this phase. It apparently cut a small sub-circular pit [16533] 90cm wide and 40cm deep with moderately steep sides and a concave base. Thirteen sherds of pottery dated to the first century AD (Fig 47, 133) were recovered from the fills of this pit.

Around 3m to the north, a small ditch [16667] appeared to be a re-cut of the Phase 1 Ditch 16695 on a slightly different alignment. This ditch became increasingly shallow to the east. Another east-to-west aligned ditch, 4m to the north, [16671]/[16629] had a similar profile and dimensions and extended from the western edge of excavation for 22m, cutting Ditch 16596/16645/16673. Further north, a short length of a north-to-south aligned gully [16525], 32cm wide and 10cm deep, in the eastern part of the excavation area was cut by Gully 16529/16546, ascribed to Phase 3.

Iron-Working Area

An irregular spread of burnt material 6m long, 5m wide and up to 15cm deep in the south-western part of the site was interpreted as a midden deposit (16221) (Fig 45e; Plate 16). When first exposed, the presence of diagnostic crucible fragments in this spread suggested that it may have been the remains of *in situ* iron working and a sampling strategy was instigated with the aim of recovering metal-working debris. A 7m by 6m grid was marked out and each metre square was excavated in 5cm spits, with a sample taken from each spit. Quantities of hammerscale were recovered from some of the samples, notably from the central squares (Appendix 7). In addition to the metal-working debris, a mixed assemblage of pottery dated to the late Iron Age or early Roman periods was recovered (Fig 48, 152) including five sherds more closely dateable to the period around the time of the Roman Conquest. Grass snake, slow worm and lizard bones were identified in the Environmental Sample. These species may have lived in the midden subsequent to its deposition (Appendix 6).

A horseshoe-shaped curvilinear gully [16222] (Figs 45d & e; Plate 17) with an internal diameter of 2.34m, and a length of 2.91m was 13cm to 30cm wide, and was up to 12cm deep. Its fill (16223) was indistinguishable from Midden Deposit 16221 and contained a single sherd of Roman pottery. The terminals of the gully may have constituted a south-west facing entrance into the structure. It

was conjectured that this gully could have been the base of a wattle wall of a roofed hut or a fence acting as a small wind-break around the metal-working area. A shallow depression [16220] (Fig 45e) in the south part of the gully was overlain by the midden deposit.

A short north-to-south aligned gully [16249] terminated approximately 50cm to the north-east of Gully 16222 and was truncated by the post-medieval field boundary Ditch 16037/16235. Three sherds of late Iron Age pottery were recovered from its fill (Fig 47, 136).

Sub-rectangular Pit 16244/16052, 2.23m long and 1.50m wide with rounded corners, was 50cm deep with steep sides and a shallow-concave base (Fig 45d). Its lower fill was homogeneous pale grey sandy silt but the upper fill (16246) was indistinguishable from Midden Deposit 16221. It contained metal-working debris, both hand collected and identified from Environmental Sample 26058 (Appendix 6). This included a carved chalk coin mould (Fig 49a).

Deposit 16247, 2m north of Midden Deposit 16221, consisted of reddish-brown heat-affected subsoil, 60cm long, 50cm wide and 8cm deep. Its proximity to the midden deposit suggests that it may have been related to metal-working, perhaps the truncated remains of a furnace or an ore-roasting pit.

PHASE 3: Ditches

Features of this phase were concentrated on the southern half of the site. Several ditches appeared to define field boundaries on different alignments to those of Phases 1 and 2, but they do not all fit a consistent pattern and it may be better to regard these as belonging to several sub-phases.

Running north from the eastern baulk, Ditch 16075 contained pottery dating from the late Iron-Age to early Roman periods. Its north end was lost beneath a later feature, but its line appeared to continue as Ditch 16083/16254/16256, which curved to the east to form a right-angle bend before running into a confused area, possibly merging with Feature 16262. The excavated section through Feature 16262 seemed to show a ditch-like, but in the area to the north it was unclear and it seemed to terminate beneath a layer of subsoil. This subsoil layer (16270) contained considerable quantities of pottery (Fig 48, 145-148), and pottery collected from the upper fills of the feature is likely to have been intrusive. Late Iron Age or early Roman pottery from the secondary fill probably provides a more reliable date for the feature.

Two linear features on a common alignment [16041]/[16147]/[16115] and [16260]/16100] ran diagonally south-west to north-east across the entire width of the site. Although well-defined on the surface, with a width of 1.10m to 1.30m, these ditches were shallow, being no more than 25cm to 28cm deep (Fig 46b). Together they produced seven sherds of Roman pottery.

Roughly parallel to these ditches and 18m to the north-west, Ditch 16184 extended for 7.60m from the western baulk, terminating in the silted fill of the Ditch 16181. Ditch 16184 was 1.00m wide and 40cm deep (Fig 46g). It contained Roman pottery dated to the second century AD (Fig 48, 142-143, 153).

A small curvilinear gully [16546]/[16529] in the northern half of the excavation area curved through 90° and extended beyond the eastern edge of excavation. It was 26cm to 35cm wide with gently sloping sides (Fig 46d) and was cut into Ditch 16527. It contained a single sherd of late second to early third century Roman pottery. This may have been intrusive, but in the absence of other dating evidence has been used to assign the feature to this phase. It was as an isolated feature; the closest features with solely Roman pottery were the field system ditches 40m to the south.

Other Phase 3 Features

Posthole 16711 was 50cm east of the southern terminus of Ditch 16656 and was circular, 40cm in diameter and 20cm deep. Excavated rapidly, it yielded a mixed assemblage of pottery, dating from the late Iron Age to the fourth century AD.

Pit 16208 was excavated in what would have been the north-east corner of a field defined by the Phase 3 ditches. The northern half of the feature had been removed by a post-medieval ditch, but the pit was probably originally oval and around 2m wide. It was excavated to a depth of 1.20m but not bottomed. The sides were moderately steep at the top, becoming vertical at the depth of the boulder clay underlying the surface gravels to form a shaft 60cm wide (Fig 46c). The feature was interpreted as a well, though in the absence of deeper excavation, other functions cannot be ruled out. Thirteen sherds of early to mid- second century were recovered from its upper fill (Fig 48, 140, 149) but these may have been intrusive finds not contemporary with the initial cut.

Two large pits were cut in to the fills of the Phase 1 Ditch 16071. The larger of these [16091] was 3.70m wide and 1.30m deep (Fig 45c). A narrow, linear sump [16144] had been dug through the partially silted fill of the pit into the underlying clay (Plate 13). The lower fills of the pit were waterlogged and contained organic material along with one sherd of pottery (Fig 48, 141).

Pit 16274 at the terminus of Ditch 16071 was 1.90m wide, and up to 90cm deep, with a vertically sided feature [16321] in its base (Fig 46f). This feature was variously interpreted as a sump or the impression of the base of a large post, but appeared to have completely silted up prior to the infilling of the pit. A re-cut [16232] of the pit was not clear in plan, and was originally thought to have been a continuation of Ditch 16071. The lower fills of the pit were waterlogged and contained organic material. The pottery assemblage from the pit and its re-cut suggests that both were dug after the Roman conquest. None of these deep well-like features showed any evidence of shoring to retain their sides, which would have been prone to subsidence.

To the north, a shallow, rather shapeless pit [16106] contained pottery dated to the second century AD.

PHASE 4: Post-Roman Features

Ditch 16037/16235 was interpreted a former field boundary. It was 3.00m wide and 1.00m deep, crossing the southern part of the excavation area on an east-to-west alignment. It contained post-medieval tile fragments and a single sherd of residual Roman pottery. This ditch was on a similar alignment to the Phase 1 and 2 features, probably reflecting the gentle north-to-south gradient in the field rather than any continuity of the pattern of land division. A north-to-south aligned furrow [16604] in the northern part of the excavation area was 3m wide and up to 30cm deep.

Several features could not be dated. These included Pit 16263, 96cm in diameter and 34cm deep to the west of Feature 16262. There were a number of amorphous, pit-like features in the north part of the site, of which Pit 16637, between Ditches 16667 and 16671, and Pit 16652 in the north-east corner of the site, were the most clearly defined. Three small gullies [16266]/[16255], [16219] and [16200] in the area of the south-west corner of the Phase 2 enclosure were recorded as earlier features but their relationships were very uncertain and they contained little dating evidence.

Discussion

The series of east-to-west aligned ditches defined a field system, probably established in the late Iron Age period and maintained until the first century AD. Various elements had gone out of use during this time and been replaced, but there was continuity in the overall pattern. This pattern was more completely preserved in the southern part of the site, which seems to have been protected from heavy plough damage by the accumulation of a subsoil layer. By contrast, the field system ditches had been heavily truncated in the north part of the site, towards the top of the slope, where the ground was susceptible to erosion.

The northern extent of the sites was marked by Ditch 16552/16635. The primary fill (16681) of this ditch was seen to slope from north to south along the southern edge of the cut and may have been derived from the collapse of a bank along the southern edge of the ditch. Assuming that the ditch was enclosing the area to the south, this bank would have been internal. An alternative explanation

would be that this accumulation was a consequence of the steeper northern side of the ditch making it more susceptible to edge collapse. There was no evidence for the existence of a bank in the other section excavated through this ditch. If the ditch was banked it may have had a defensive function although the site is low-lying and not in an ideal defensive position.

The parallel Ditches 16057/16291 and 16058/16286 marked the southern extent of significant archaeological features. Their pottery assemblages contained both Iron Age and Roman pottery suggesting that these ditches were in use and were being maintained through the transitional period. They could originally have been contemporary with the Phase 1 features, particularly Ditch 16552/16635, but remained in use for longer. Alternatively, the small assemblage of early pottery may have been residual. The cropmarks on air photographs indicate that this double ditch was discontinuous.

The presence of a subsoil layer in the southern part of the site appears to have contributed to the preservation of features in the area of Midden Deposit 16221. It was assumed during excavation that the metal-working debris was *in situ* and possibly associated with the small ring gully because of the quantity of material found. It was only after the samples were processed that the deposit was seen to contain a large amount of refuse material mixed with the metal-working debris. An alternative interpretation of the spread as a midden or dump was postulated (Appendix 6) and the location of this deposit above Gully 16222 appears to have been coincidental.

Gully 16222 may have been a foundation trench for a wattle-walled structure, with the apparent break representing an entrance. Some fragments of fired clay were recovered from the area but these have been identified as being fragments of loom weight rather than daub used in the construction of a building. It is possible that the structure was made using materials that did not survive in the archaeological record, but this interpretation must be regarded as highly speculative.

The proximity of the heat affected area, Layer 16247, to the midden containing metal-working debris suggests an association, especially as the 8cm depth of heat-reddening implies substantial heating. Pit 16244/16052 was also initially thought to have been associated with metal-working but the predominantly sterile clay silt fill suggests that its juxtaposition to the midden deposit was purely accidental.

The Phase 3 ditches were differently aligned to the earlier field system. The artefactual evidence suggests that occupation of the site was more or less continuous, so this re-alignment may indicate that there was an organised re-allocation of land, probably in the early part of the second century AD. Some of the small Iron Age enclosure ditches may have gone out of use by this time, but the larger ditches are likely to have been still open, abandoned only when the area was incorporated into a more widely managed landscape that utilised larger arable fields during the Roman period.

The re-alignment of the field system coincided with the digging of several large pits, notably Pits 16208, 16091 and 16274. None of these features appeared to have been shored or lined and would have been susceptible to collapse in the waterlogged ground, so were probably short-lived features. They may have been quarry pits, dug through the surface gravel to exploit the underlying clay. However, the ground is low-lying and deep pits are likely to have intercepted the water-table even if this was lower than at present. This suggests a use either for water supply or for drainage. The curious deep, narrow slots cut into the silted bases of two of the pits were tentatively interpreted as sumps to assist drainage.

The excavations confirmed that the extensive cropmark features visible on air photographs are largely archaeological in origin, with implications for future work in the area. The field system ditches extended beyond the limits of excavation on both sides of the pipeline. The pottery assemblage shows occupation from the middle Iron Age until the fourth century AD., the majority being late Iron Age to early Roman in date.

There does not seem to have been any large changes in the nature of the site in the early part of the Roman conquest although the metal-working activity seems to date from around this time and may have been influenced by it. A change was apparent perhaps a century after the conquest, with the instalment of a field system that appears to have ignored the lay-out of the late Iron Age and early Roman enclosures.

9.2.5 Site 13, Area 89, Field System, Plot 22/3, Boston Railway (TF 0912 4528)

Summary: A substantial late Iron Age enclosure ditch was identified together with an Iron Age or early Roman extension of smaller rectilinear ditches on the same alignment. There was no evidence of structures within the part of the enclosure excavated. Human remains in a heavily truncated grave to the east of a curving ditch of Roman date may have been associated with the main enclosure.

Artefact type	Count/Sherds	Weight/g
MIA pottery	8	133
IA pottery	10	90
LIA pottery	36	283
LIA / Early Roman pottery	475	10393
Roman pottery	312	8777
Animal Bone		12644

Table 10: Site 13, Finds Summary

Introduction

The site was 2km east of Sleaford, 500m to the south-west of Kirkby la Thorpe and 50m to the north of the Sleaford-to-Boston railway line that formed the boundary between Plots 22/3 and 22/4 (Fig 50; Plate 18). The site was on generally flat land at a height of approximately 9.80m AOD. The surface geological deposits are Sleaford sands and gravels. At the time of excavation it was a large, intensively farmed, arable field.

Air photographs showed cropmarks consisting of rectilinear enclosures and a possible hut circle (MON 1049484). Prior to investigation, they were believed to be associated with Iron Age or Romano-British activity (NAL, Report 147, Addendum p xiv). A mixture of crop, stubble and harrowed ground meant that visibility was poor in this field during the field survey. However, one sherd of Roman pottery and a fragment of Roman tile were recovered in fieldwalking.

The pipeline route was altered after the geophysical survey was conducted. Within the area, high susceptibility values were encountered. A linear anomaly was identified that may have related to the nearby cropmarks or to a change in cultivation. It was likely that the high susceptibility values recorded during the original survey extended into the area affected by the change in route.

It was recommended that evaluation trenches be excavated at the earliest opportunity. Time constraints brought about by poor weather and foot-and-mouth restrictions meant that this took place very shortly before construction, and full area excavation was recommended as soon as the archaeological features were recognised. The site was therefore stripped of overlying ploughsoil under archaeological supervision. A patchy layer of subsoil was also removed; this was stacked in a bund approximately 48m long and 4m wide in the centre of the site.

Results (Figs 52a & b)

Ditch 1 and associated features

The western side of a substantial enclosure ditch, Ditch 1 (Figs 54b, 55b & 56b; Plate 22) was excavated in thirteen places: Sections 22545, 22547, 22555, 22573, 22577, 22633, 22643, 22652, 22670, 22695, 22711, 22738 and 22779. The eastern half of the enclosure was beyond the edge of excavation, but the ditch enclosed an area 41m long on and at least 18m wide. It had moderately steep sides and a shallow-concave base, and was between 2.30m and 2.70m wide and 70cm to 1.10m deep.

The northern and southern parts of the ditch curved eastwards with rounded corners. A pronounced 'kink' was evident in the south-west part of the enclosure, and a large Phase 2 pit [22601] was dug

into this part of the ditch. Two large pits [22730] and [22715] were dug into the northern side of the enclosure.

The ditch had up to four distinguishable fills, generally of homogeneous, largely sterile, greyish-brown, sandy silt. Twenty-four sherds of mid- to late Iron Age pottery were recovered (Fig 57, 23, 31, 35, 38; Fig 58, 40A, 45), together with a small amount of late Iron Age to early Roman pottery from the upper fill.

Ditch 22586/22758/22764 extended south for 5m from the north corner of the main enclosure ditch, though the area where it intersected Ditch 1 had been lost Pits 22715 and 22730. It was 2.40m wide and 60cm deep, with moderately steep sides and a shallow-concave base. To the south, it formed a T-junction with a smaller ditch running across the width of the enclosure from the eastern limit of excavation. Sections 22668, 22563, 22762, 22614 and 22767 (Fig 54a) were excavated through this ditch, but only a single sherd of late Iron Age pottery was recovered. Investigation of the intersection showed these two ditches to have been contemporary, and the fact that Ditch 22668 apparently respected Ditch 1 to the west implies that they were also contemporary with the main enclosure.

Towards its western end, Ditch 22563 appeared to be cut by a smaller gully [22565]/[22669] on a similar alignment (Fig 54a). Like the larger ditch, Gully 22565 appeared to merge with the Ditch 1, their fills being indistinguishable. Gully 22674 was a smaller feature, only 35cm wide and 25cm deep. It intersected Gully 22565 to the south, with no distinction between their fills, while to the north it was lost beneath a later furrow. To the east, Gully 22599, 58cm wide and 15cm deep, formed a T-junction with Ditch 22614. No finds were recovered from its excavated northern terminus. No finds were recovered from the single fills of Gullies 22565/22669, 22674 or 22599.

Emerging from beneath the subsoil bund in the centre of the site, Ditch 22528/22754 ran east for 5m. It was 1.30m wide and 32cm deep. Towards the eastern side, a more substantial re-cut [22752]/[22595] curving slightly northwards and continued beyond the limit of excavation, had completely truncated the original ditch. Eight sherds of middle Iron Age scored-ware were recovered from the fill (Fig 57, 37). A small gully [22756] intersected Ditch 22754 at right angles, running north for 2.5m before being lost beneath a later furrow. No finds were recovered from its fill, but the similarity to the fill of Ditch 22754 suggests that they may have been contemporary.

Gully 22629/22700/22713 ran north from the main enclosure to the limit of excavation. It was up to 90cm wide and 28cm deep with moderately steep sides and a shallow-concave base. Its relationship with Ditch 1 was not clear, but it was similarly cut by later features and may have been contemporary. A single sherd of late Iron Age pottery was recovered from its fill (Fig 57, 29).

Pit 22657, close to eastern limit of excavation and just to the north of Ditch 1, was oval, 1.25m long, 1.00m wide and 27cm deep, with irregular sides and an undulating base. It was cut by a later gully [22650]. Seven sherds of pottery dated to the late Iron Age were recovered from the single fill of this pit.

Ditch 2 and associated features

In the late Iron Age or early Roman period, a rectilinear enclosure, on a similar alignment, appears to have replaced the Ditch 1 enclosure.

Sections 22774, 22776, 22539, 22540, 22541, 22557, 22569, 22554, 22574, 22694 and 22639 were excavated through Ditch 2 (Figs 54b & 55b). This ditch ran south for 60m from the northern edge of excavation before turning sharply east, disappearing beneath the eastern baulk after a further 17.50m. At 1.10m wide and 35cm deep, it was less substantial than Ditch 1, which it cut along its southern side. A gap 12m north of the corner of the enclosure may have been an entrance. An oval pit [22571] 80cm long, 50cm wide and up to 30cm deep was incorporated into the ditch terminus to the south of this gap, with no distinction between the pit and ditch fills. The fills of Ditch 2 were

sterile sandy silt. Seven sherds of early Roman and one sherd of late Iron Age pottery were collected from them (Fig 58, 54).

Ditch 22567/22696/22702/22698 intersected Ditch 2 in the northern part of the excavation area, the relationship between them being unclear. This ditch was 1.80m wide and 30cm deep with moderately steep sides and a flat base and was truncated at its eastern end by Pit 22715. Six sherds of late Iron Age to early Roman pottery were recovered from the fill of the ditch.

Ditch 22534/22642/22660, roughly parallel to Ditch 22534 and 30m to the south, was 1.20m wide and 30cm deep. Seven sherds of late Iron Age pottery were recovered from its fill. In the eastern side of the site, it probably continued as Ditch 22778/22610, similar in appearance though on a slightly different alignment. This ditch turned northward through 90° after 3m, continuing on its new alignment for a further 10m before disappearing under a later furrow. Forty-seven sherds of late Iron Age to early Roman pottery were recovered from the fill of its south-east corner (Fig 58, 40B). Ditch 22684, on a perpendicular alignment, probably formed a T-junction with it, but the point where these two ditches would have intersected was truncated by Pit 22706. The remaining part of this Ditch 22684 ran for 3m to the eastern limit of excavation, where it was cut by Pit 22680. Thirty-eight sherds of late Iron Age or early Roman pottery were recovered from its secondary fill (Fig 57, 25, 33B; Fig 58, 43-44).

In the north-east part of the Ditch 1 enclosure, Gully 22627/22665 included a sharp corner. The gully, 45cm wide and up to 25cm deep, had steep sides and a shallow-concave base. It was cut by Pit 22730 to the west. Fourteen sherds of late Iron Age to early Roman pottery were recovered from its fills.

A short gully [22588], 60cm wide and 19cm deep, extended for 7m from the western baulk on the same alignment as the southern part of Ditch 2. It had no dating evidence.

Late Iron Age to early Roman Pits

Five pits with late Iron Age or early Roman pottery may have been contemporary with Ditch 2. Pit 22706 truncated the intersection between Ditches 22684 and 22610. It was an irregular shape, 2.80m long and 1.80m wide with gradually sloping edges and a shallow, concave base. Its fills included Deposit 22709, a layer of reddish-brown burnt sand overlying clean pale grey clay. Seventy-eight sherds of late Iron Age to early Roman pottery were recovered from the primary clay fill (Fig 57, 24, 26-28, 32).

Just to the south, Pit 22772 was oval, 1.25m long, 1.00m wide and 30cm deep. A substantial amount of late Iron Age to early Roman pottery, Pottery Group 22500, was recovered from the fill of the pit. It included 139 sherds from a single vessel, and twenty-nine sherds of a second vessel. The pale grey clay deposit (22773) covering the pottery was similar to the primary fill (22709) of Pit 22706. Circular Pit 22608, cut into the fills of Ditch 22610, had a diameter of 60cm and a depth of 23cm and also contained a similar clay-rich fill (22609).

Pit 22601 was dug into the fills Ditch 1. It was 5m wide with moderate to steep sides and a flat base (Fig 55a; Plate 19). At 1.40m deep, it was 30cm deeper than Ditch 1 and its base was 50cm below the present water table. Its fills were barely distinguishable from those of Ditch 1 but it appeared that it was dug when the ditch was partly silted. Three sherds of late Iron Age to early Roman pottery were recovered from the upper fill of the excavated north-east and south-east quadrants.

On the western limit of excavation and 20m to the south-west of the main enclosure ditch, Pit 22580 was oval, 1.80m long, 1.30m wide and 48cm deep with moderately steep sides. It had four sherds of late Iron Age to early Roman pottery and a small amount of animal bone fill.

Ditch 3 and associated features

Sections 22506, 22691 and 22744 were excavated through Ditch 3, running north from the corner of

Ditch 1 and curving gradually to the east in a broad arc before to the eastern limit of excavation. It was 2.0m to 2.5m wide and 50cm to 1.05m deep with moderately sloping sides and a V-shaped base (Fig 56c), becoming increasingly shallow to the south. Thirty-one sherds of pottery dated to the mid- to late second century were recovered from its fill (Fig 57, 39; Fig 58, 47, 58).

There were two large oval pits at the point where Ditches 1 and 3 intersected. Pit 22715 was 5.60m long, 3.22m wide and 1.20m deep (Fig 56b; Plate 20). The primary fill of the two excavated quadrants yielded seventy-six sherds of pottery dating to the late Iron Age or early Roman period (Fig 57, 30, 36; Fig 58, 49, 56). Part of a leather shoe (Registered Find 25087) was found in the secondary fill (Appendix 8). Pit 22730 was 7.60m long, 4.34m wide, and 1.30m deep with moderate to steep sides and a flat base (Fig 56b). The primary fill of its excavated quadrant contained twenty-one sherds of Roman pottery dating from the mid-second to third century AD, and the upper fill yielded a further fifty sherds dated to the mid-second to early third century, as well as a fragment of Millstone Grit quern and part of a residual iron brooch (Registered Find 25086) dated to the early to mid-first century AD (Appendix 8).

Gully 22704/22612 in the north-east part of the Ditch 1 enclosure ran for 8m long from the eastern limit of excavation. It was 50cm wide and 10cm deep with moderately steep sides and a shallow-concave base. It cut Ditch 22627 and was cut by Pit 22730, but produced no dateable artefacts. Sub-circular Pit 22680 cut Ditch 22684 at the point where it ran into the eastern limit of excavation (Fig 56a). It contained two sherds of pottery (Fig 58, 41; Fig 58, 55).

Undated Features

A disturbed, partially articulated, human skeleton was found in a heavily truncated grave [22645] in the north-east part of the site (Fig 53, Plate 21). The surviving part of the grave was sub-rectangular, 1.10m long and 50cm wide and 10cm deep with irregular, sloping sides and a shallow-concave base. Most of the skeleton, including the skull, was missing and the remaining bones were in a poor state of preservation. There were no grave goods or other associated artefacts. The skeleton, which had been covered with re-deposited subsoil backfill (22646), was probably of a mature adult over 40 years old at the time of death. The robust nature of the bones suggested this individual was male (Appendix 9).

Gully 22522 was a seemingly isolated feature 15m to the south of Ditch 1. Running for 4m, it was 50cm wide and up to 30cm deep. A single sherd of late Iron Age pottery was recovered from its fill.

There were a number of undated features in the southern part of the excavation area. Two small pits of postholes [22532], [22582] were visible between two furrows, to the south of Gully 22588. Further south, a group of five features included two small postholes [22517], [22511], a small irregular feature [22515] and two small pits [22513], [22519]. Another posthole [22520] was into the fill of Pit 22159. These features did not form any coherent pattern that would indicate that they had any structural function, and no artefacts were recovered from their homogeneous mid orange-brown sandy silt fills. Pit 22508 was a larger feature near the southern edge of site. It had evidence of burning within its fill but its irregular shape suggested that it was the remains of a burnt-out tree stump.

Medieval Furrows

Up to eight furrows, between 1.50m and 4m wide and up to 30cm deep, crossed east to west at roughly 9m intervals. They had truncated many of the shallower archaeological features. Two fragmentary knife blades (Registered Finds 25075, 25076) came from Furrow 22631; both are of medieval type and appeared to have been heavily worn (Appendix 8).

Discussion

Activity on the site spanned the mid- to late Iron Age to the third century AD. Occupation seemed to be at its height in the late Iron Age to early Roman period. The lack of late Roman artefacts suggests that the site was abandoned or sparsely occupied by this time. Broadly, Ditch 1 and its associated

features seem to relate to the earlier phases of activity, probably dating from the mid-Iron Age. Ditch 2 was later, probably around the conquest period, while Ditch 3 was late in the sequence, perhaps dating to the early second century AD (Fig 51).

It was difficult to determine relationships between linear features, as most had very similar fills, but some the ditches and gullies with the Ditch 1 enclosure may be the remains of an earlier rectilinear system. If this is so, it seems to have been superseded by the Ditch 1 enclosure after a relatively short life.

Ditch 1 was a substantial enclosure ditch. The small amount of late Iron Age to early Roman pottery from its upper fills suggests that it was still at least partially open at the time of the conquest. There was no evidence of any bank formed from the up-cast of the ditch. The base of the ditch was approximately 30cm below the present water table.

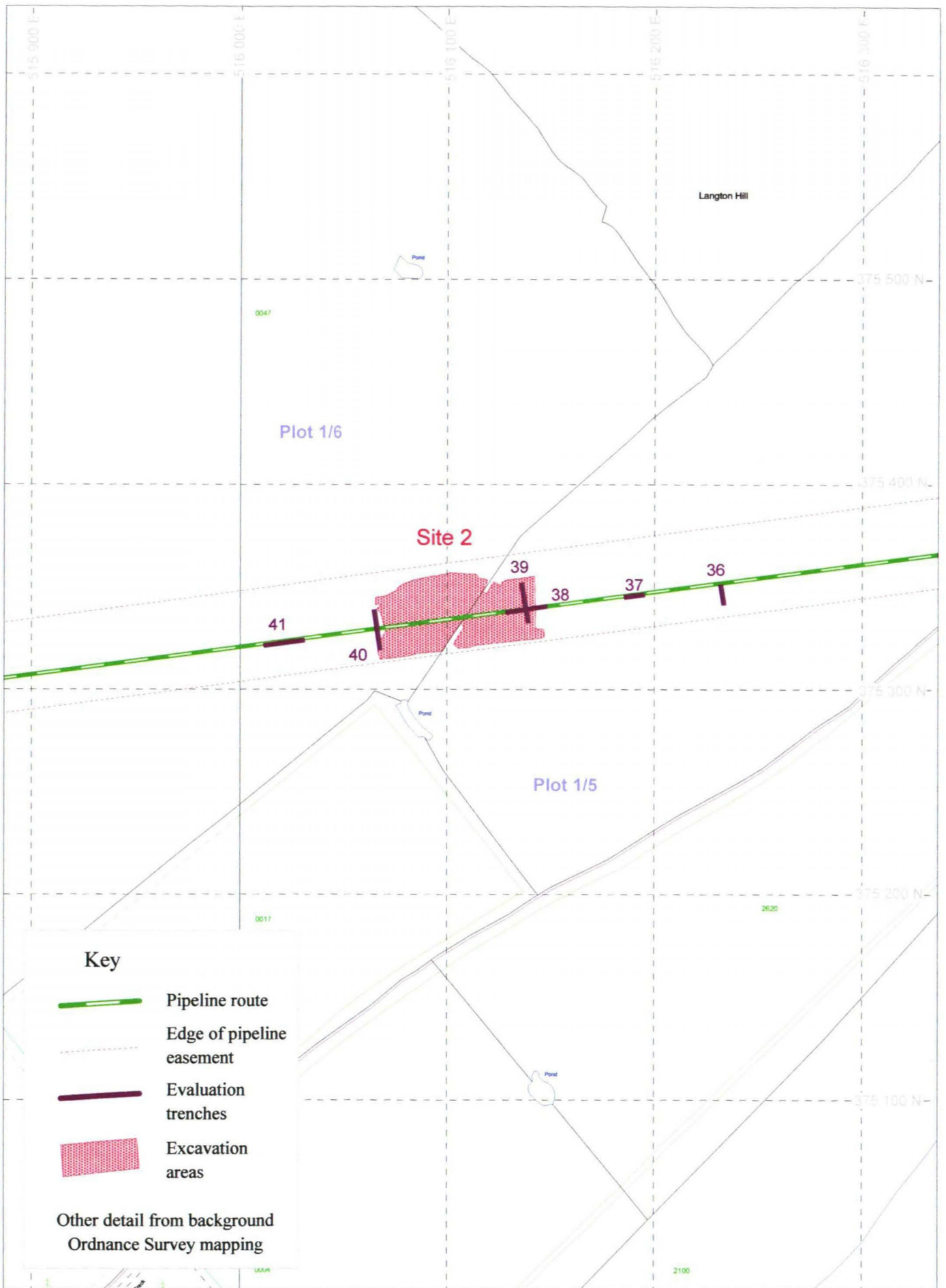
This enclosure may have encircled a farmstead although no buildings or related structures were evident within the excavated area. If the smaller internal ditches were contemporary, they would have produced small rectangular areas 8m by 6m, and perhaps 8m by 7m, in the northern part of the main enclosure. Another internal division broadly divided the main enclosure into a northern and southern half. These enclosures may have been used to manage livestock.

A substantial amount of pottery dating to around the Roman Conquest was recovered, but distinguishing between explicitly Iron Age and early Roman pottery is difficult as native styles remained in use in rural settlements in Lincolnshire until the early to mid-second century AD (Appendix 2).

Only a small number of artefacts were recovered from the sterile, single fill of Ditch 2 suggesting that it did not enclose an area of settlement; it is more likely to have been the remains of an animal enclosure or field unit. Its lay-out respected the alignment of the main enclosure Ditch 1, though it was substantially smaller. It was also more regular, with straighter ditches and better defined corners. This regularity may be a result of Roman influence, demonstrating a degree of continuity through the Iron Age to Romano-British transition.

The function of Pits 22601, 22680, 22715, and 22730 is not clear but they may have been dug to extract gravel or for hydrological management. All were deeper than the current water table. The larger pits were in the line of ditches and were dug to a deeper level, so water flows would have been channelled into them.

Grave 22645 may have been deliberately placed within the area enclosed by Ditch 3 which would imply that it was of the same phase. However, its proximity to Ditch 3 may be purely coincidental. If it was contemporary with Ditch it would have been outside the main enclosure. What remained of the skeleton (22647) was largely disarticulated. The leg bones were above the torso, suggesting that the skeleton may originally have been in the crouched position. Although it more likely that the skull and the majority of the post-cranial elements had been removed by recent ploughing, the inhumation of a partially articulated skeleton cannot be ruled out. As the grave is very shallow, there is a strong possibility that other nearby graves may have originally been present and been lost to ploughing. Bone could also have been lost due to the acidic nature of the surface sands and gravels. The animal bone assemblage was surprisingly small in comparison with the amount of pottery and other artefacts recovered.



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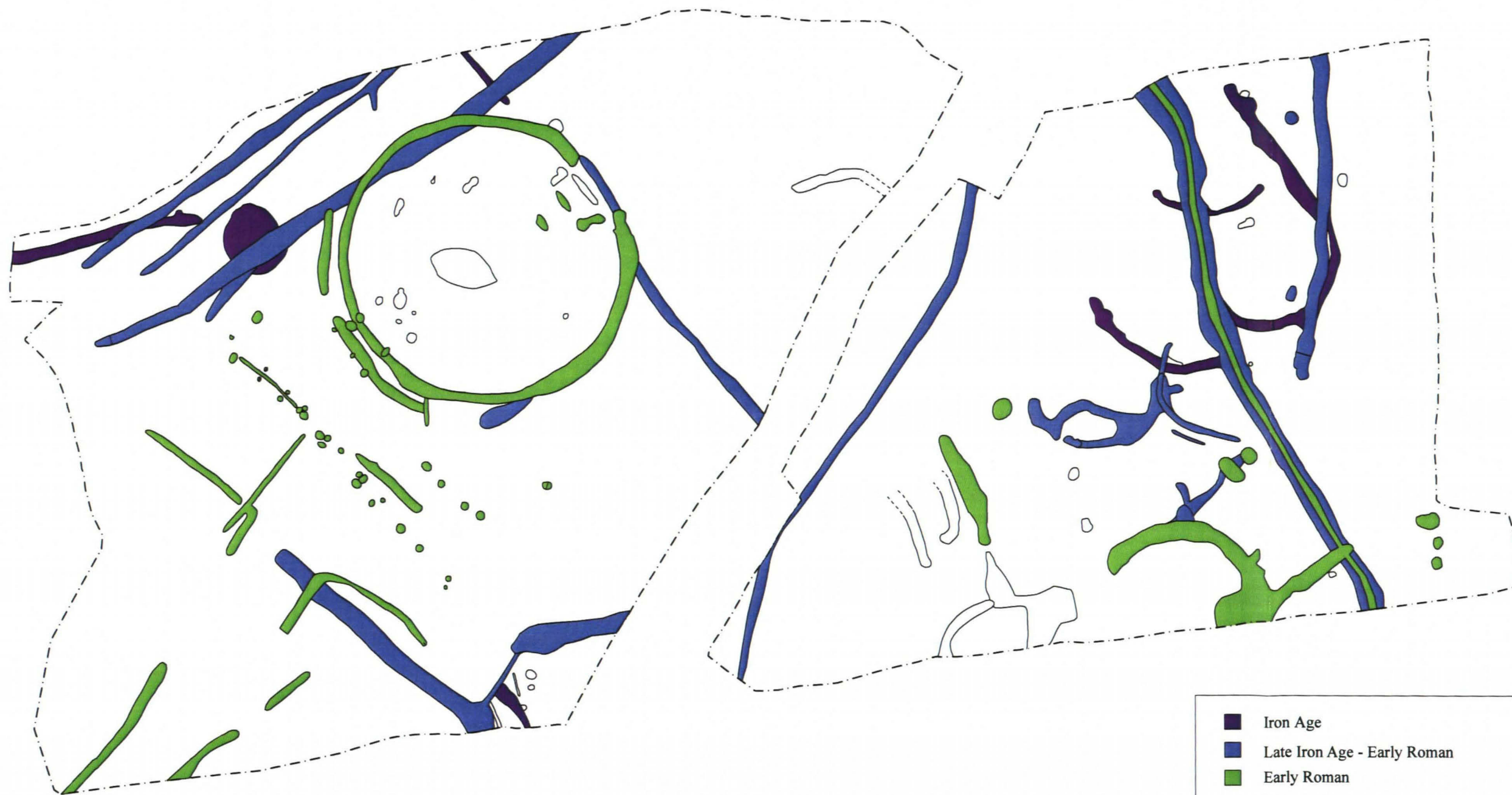
Figure 19: Location of Site 2, Langton Hill (Scale 1:2500)



516070E
375360N

516110E
375360N

516140E
375360N



516070E
375310N

516110E
375310N

516140E
375310N

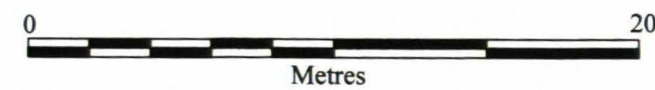
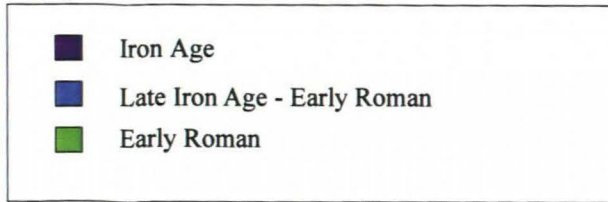
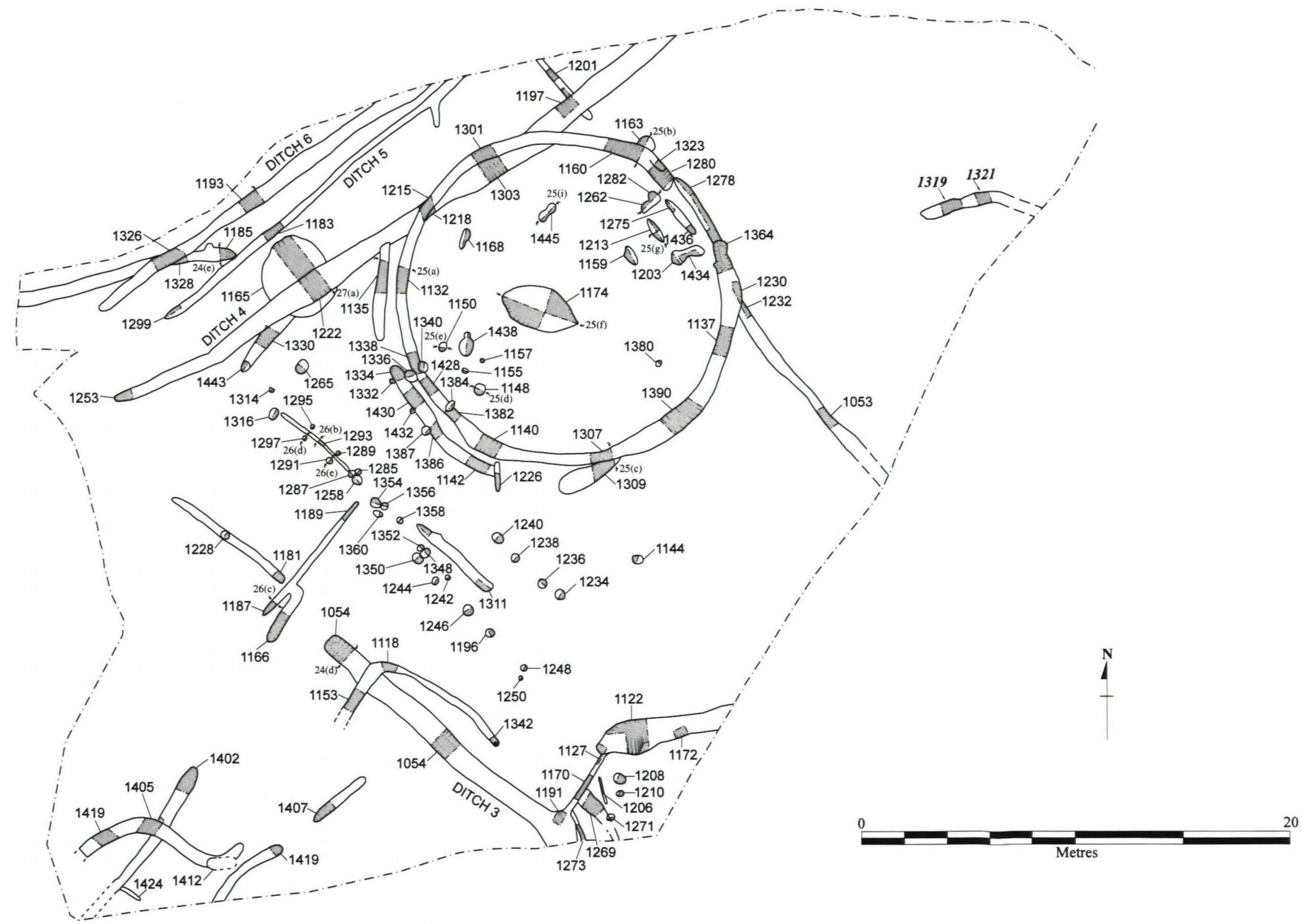


Figure 20: Phased Plan of Site 2, Areas 73 & 74 (scale: 1:250)

516070E
375360N

516110E
375360N



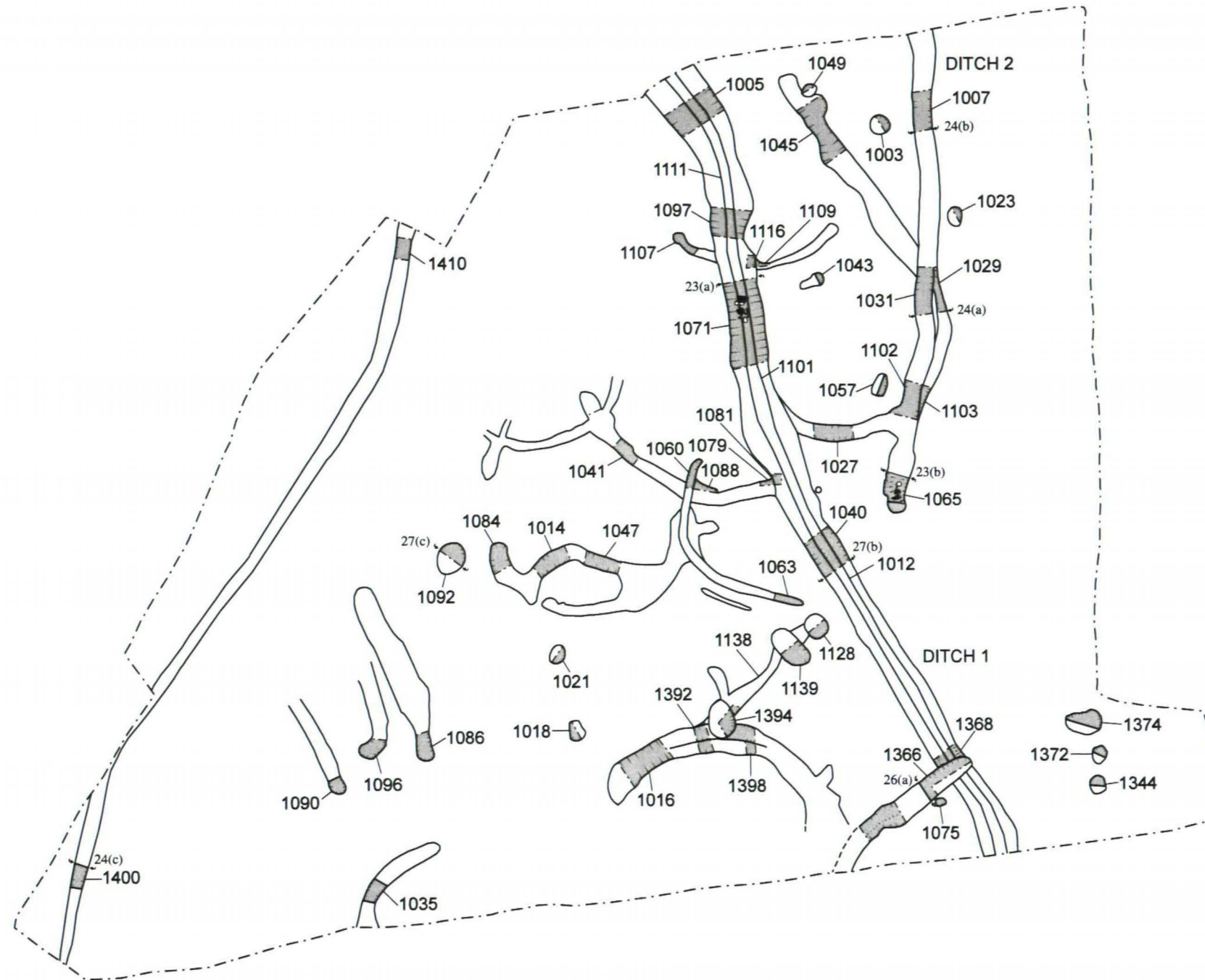
516070E
375310N

516110E
375310N

Figure 21a: Plan of Area 73 (scale: 1:200)

516110E
375360N

516140E
375360N



516110E
375310N

516140E
375310N

Figure 21b: Plan of Area 74 (scale: 1:200)

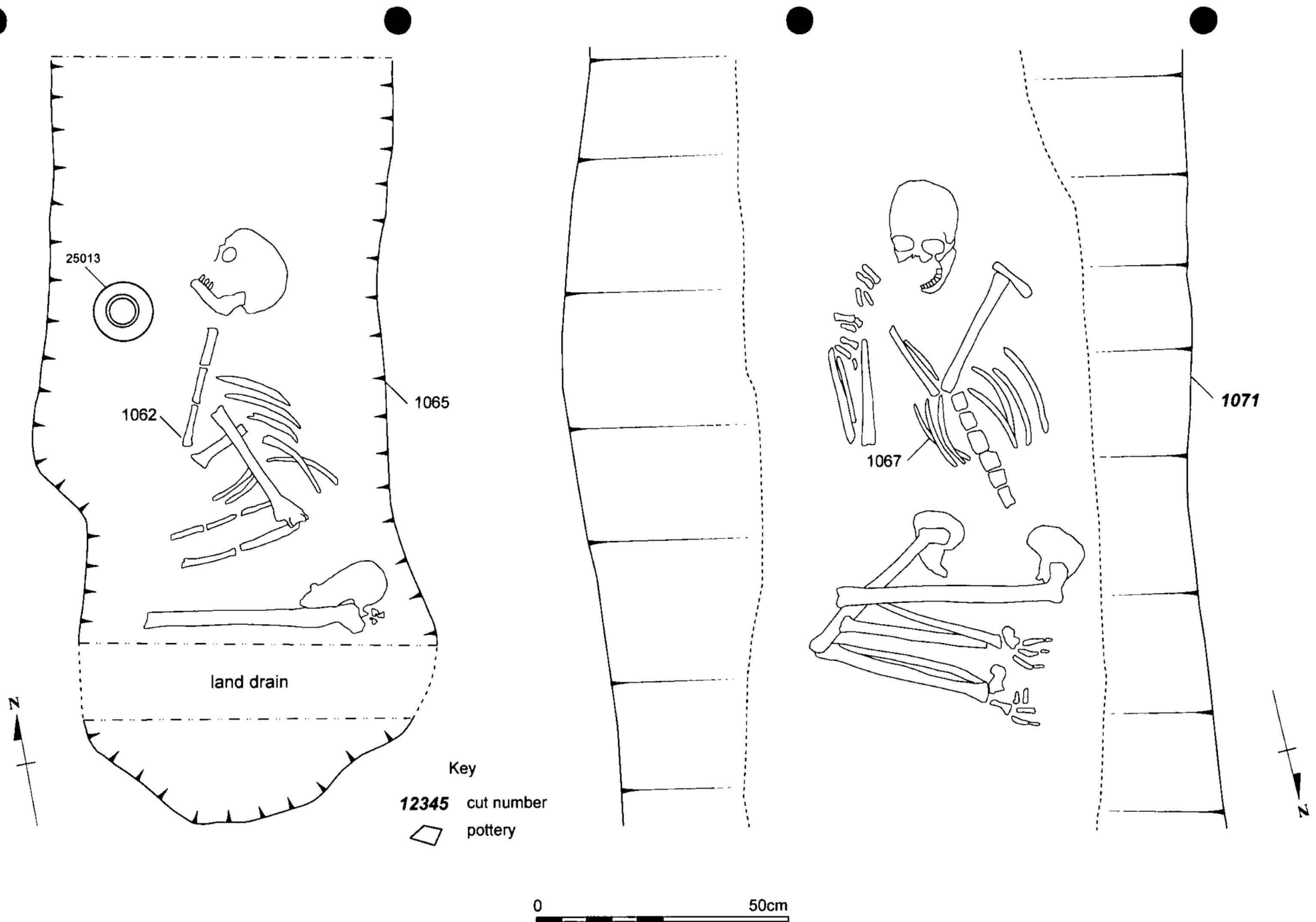
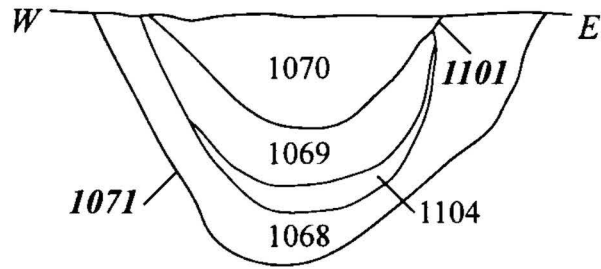


Figure 22: Burials 1062 and 1067 (scale 1:10)

(a)



(b)

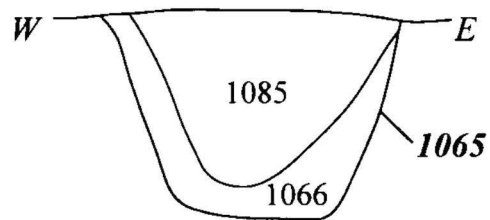


Figure 23: Site 2, Sections (scale: 1:20)

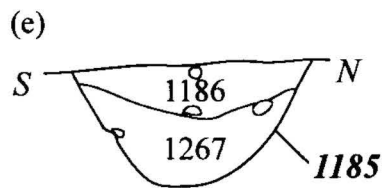
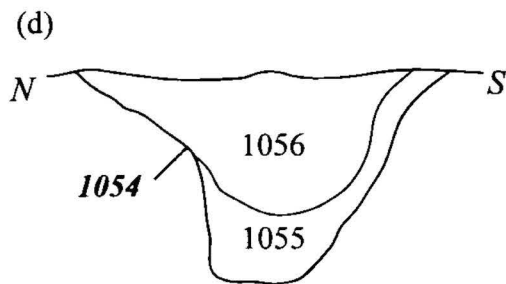
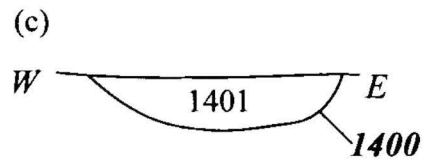
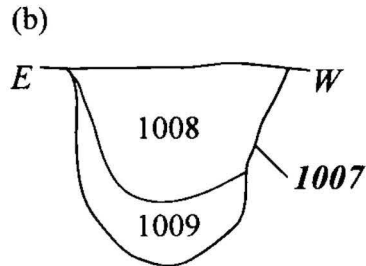
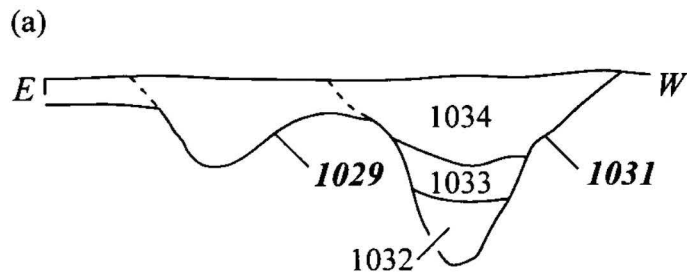
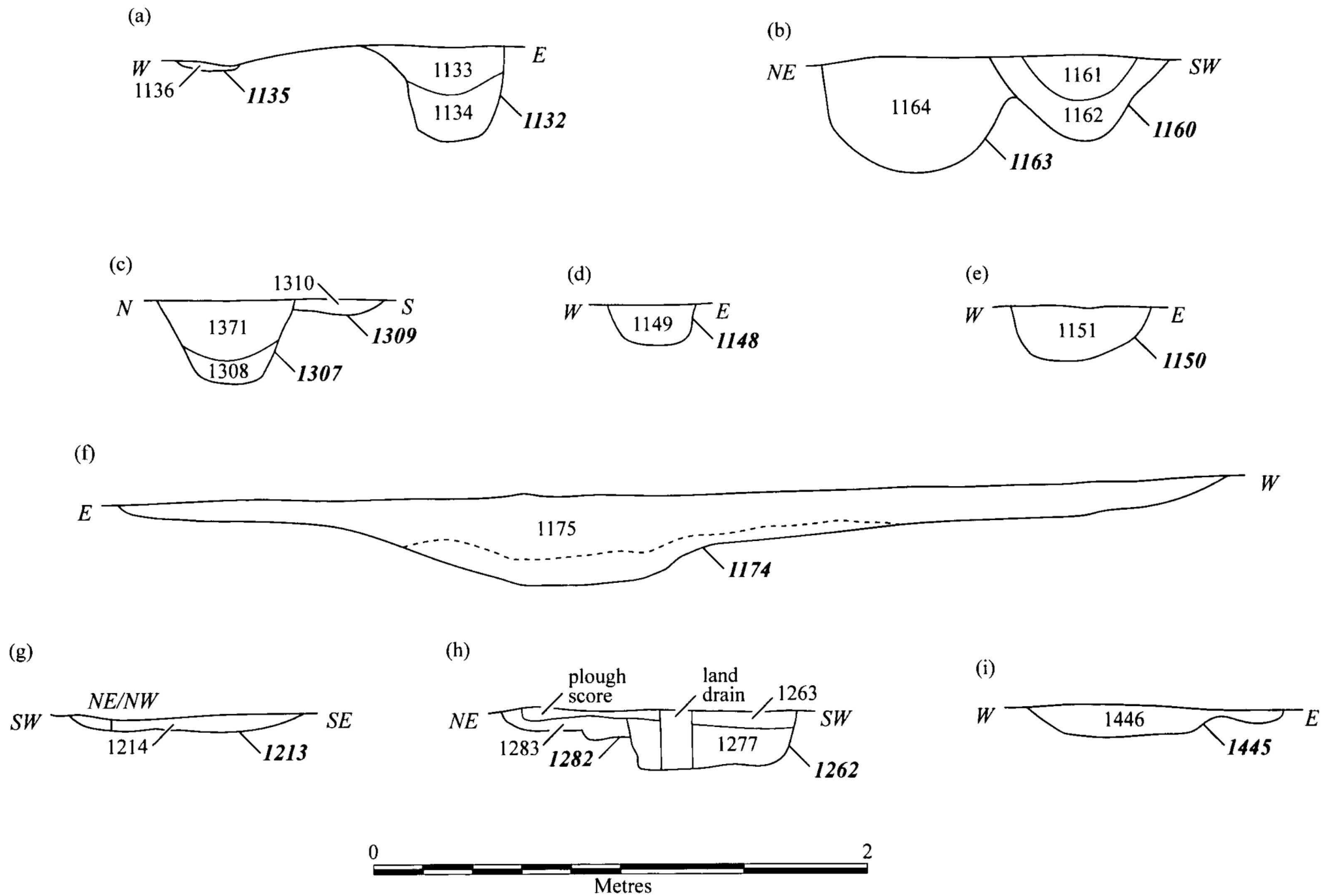


Figure 24: Site 2, Sections (scale 1:20)

Figure 25: Site 2, Sections (scale: 1:20)



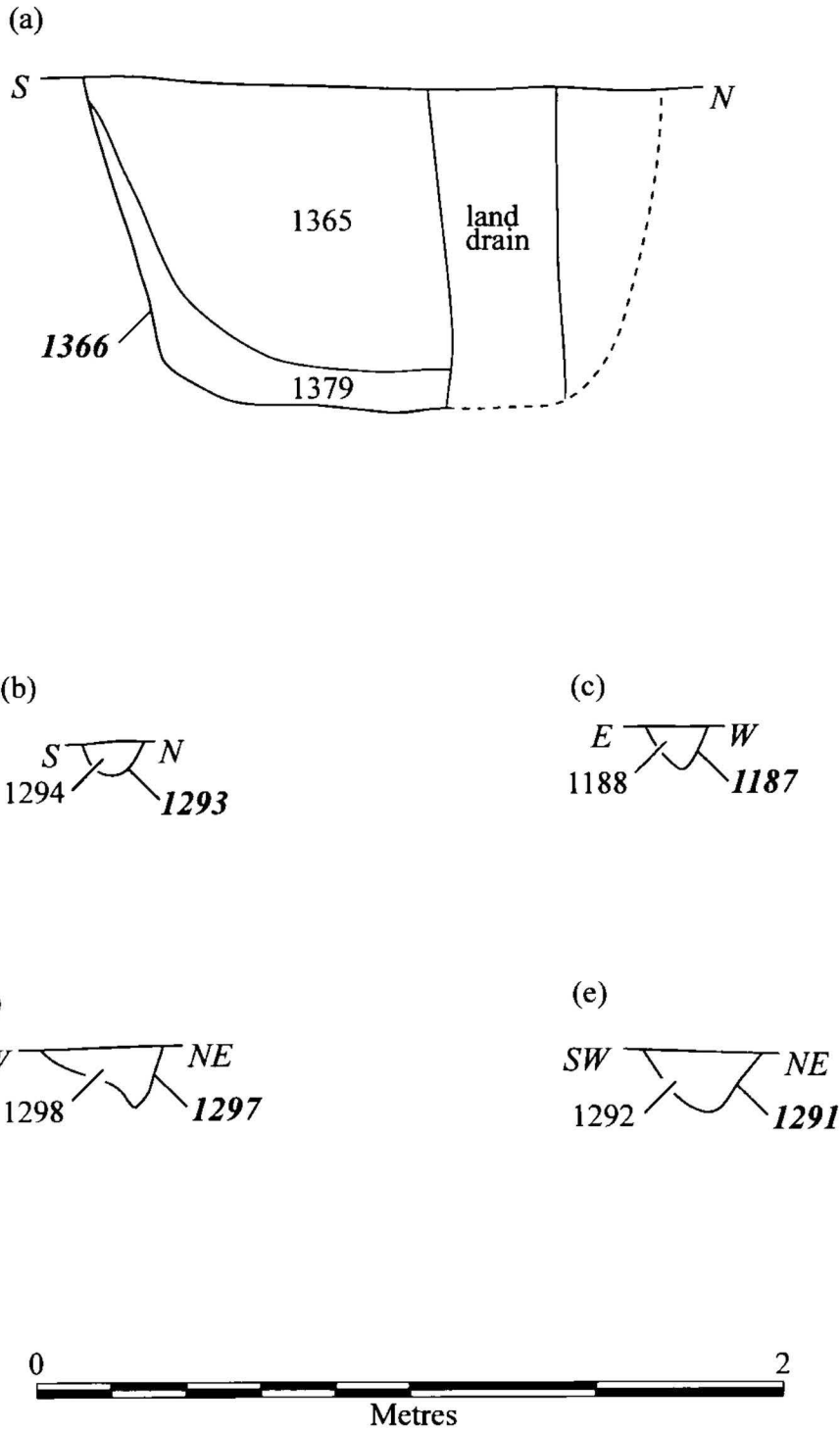


Figure 26: Site 2, Sections (scale: 1:20)

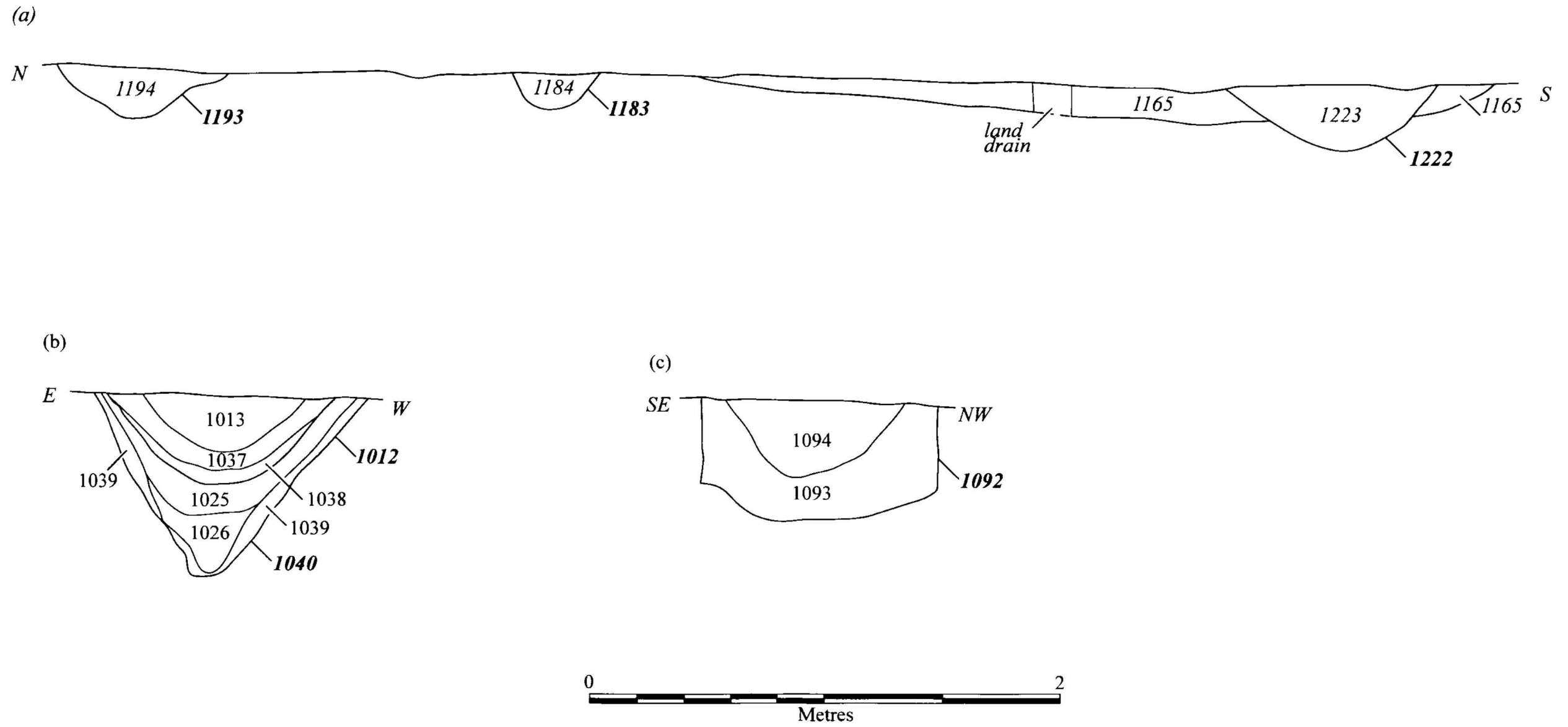


Figure 27: Site 2, Sections (scale: 1:20)

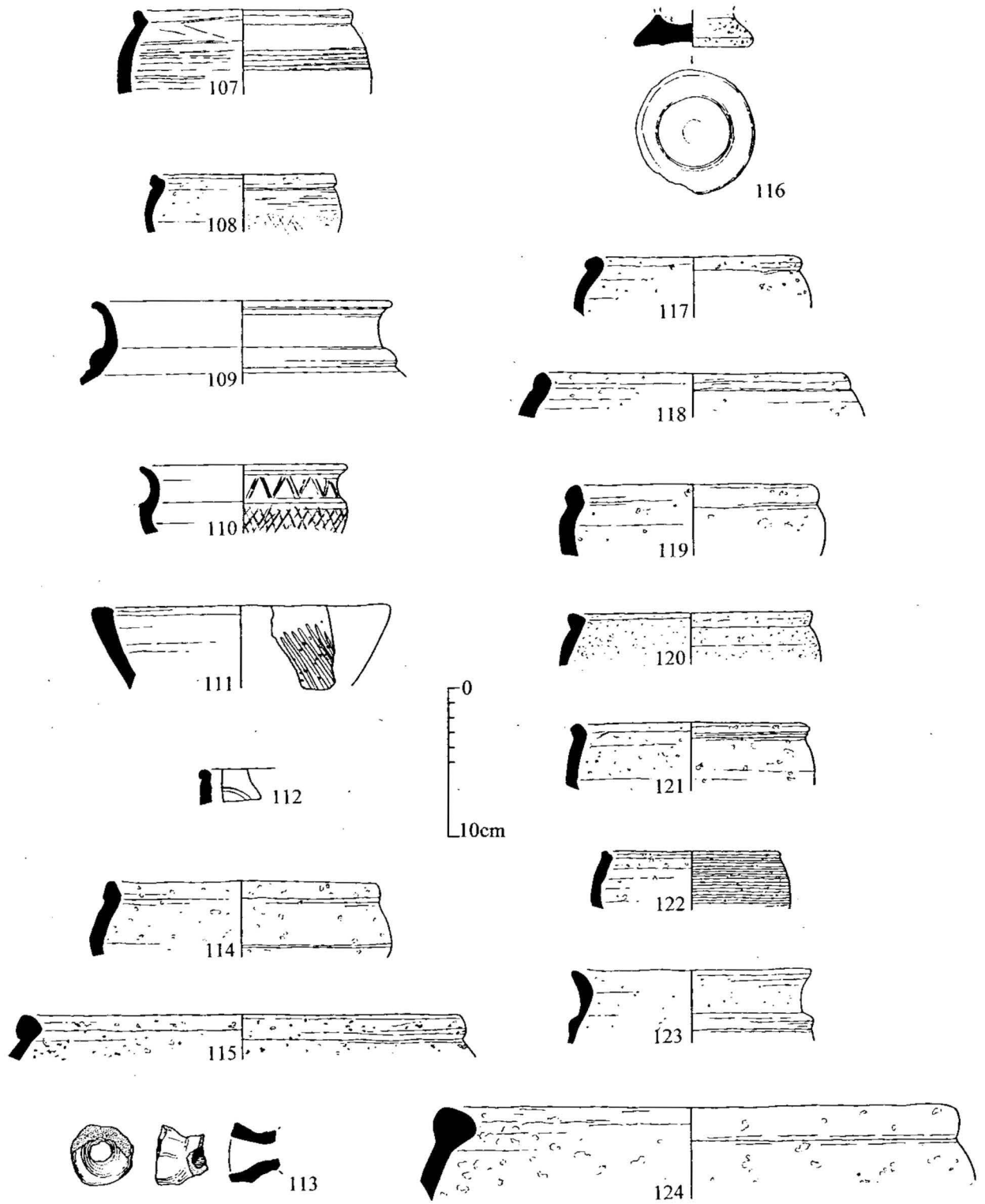


Figure 30: Site 2, Pottery (scale: 1:4)

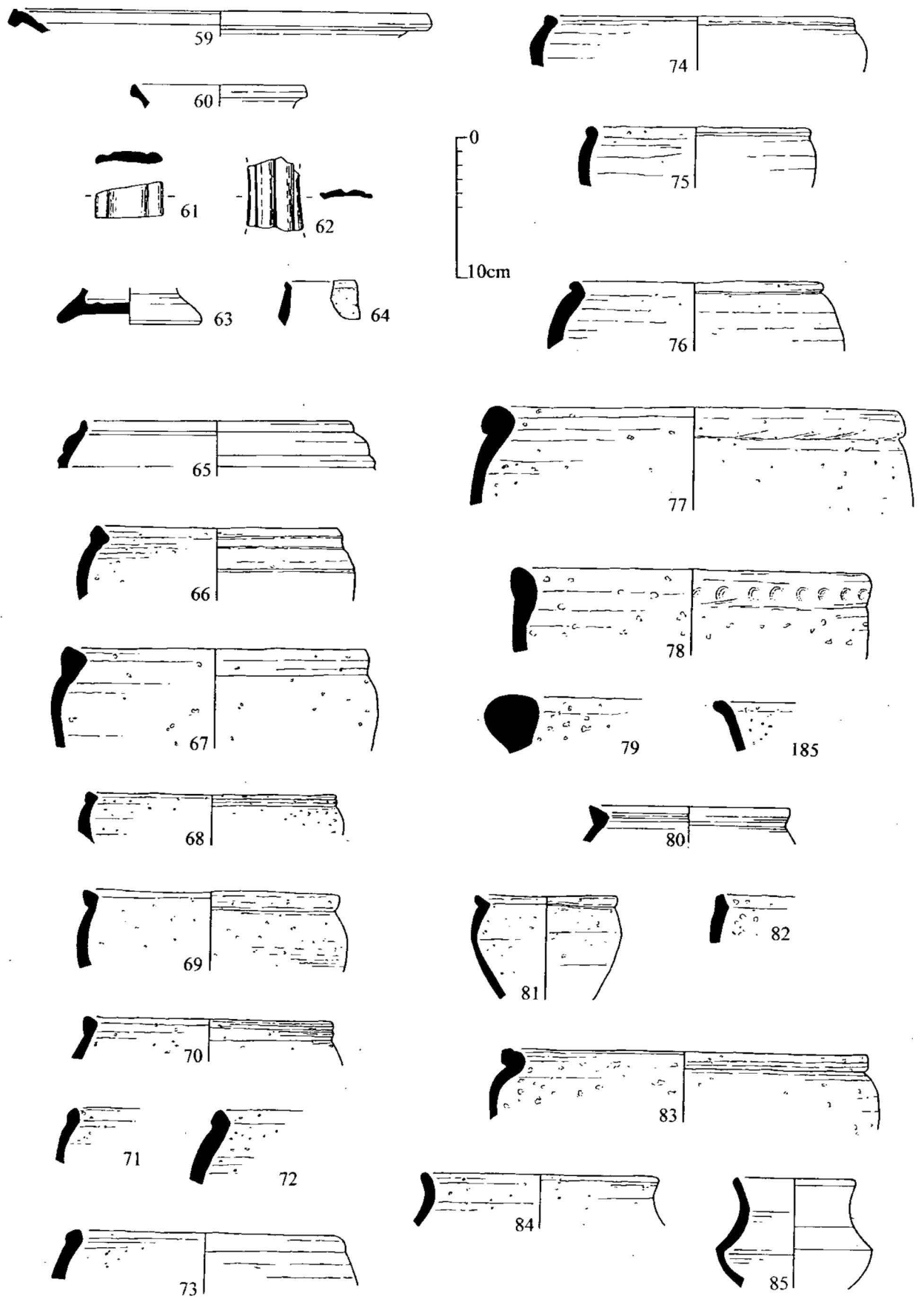


Figure 28: Site 2, Pottery (scale: 1:4)

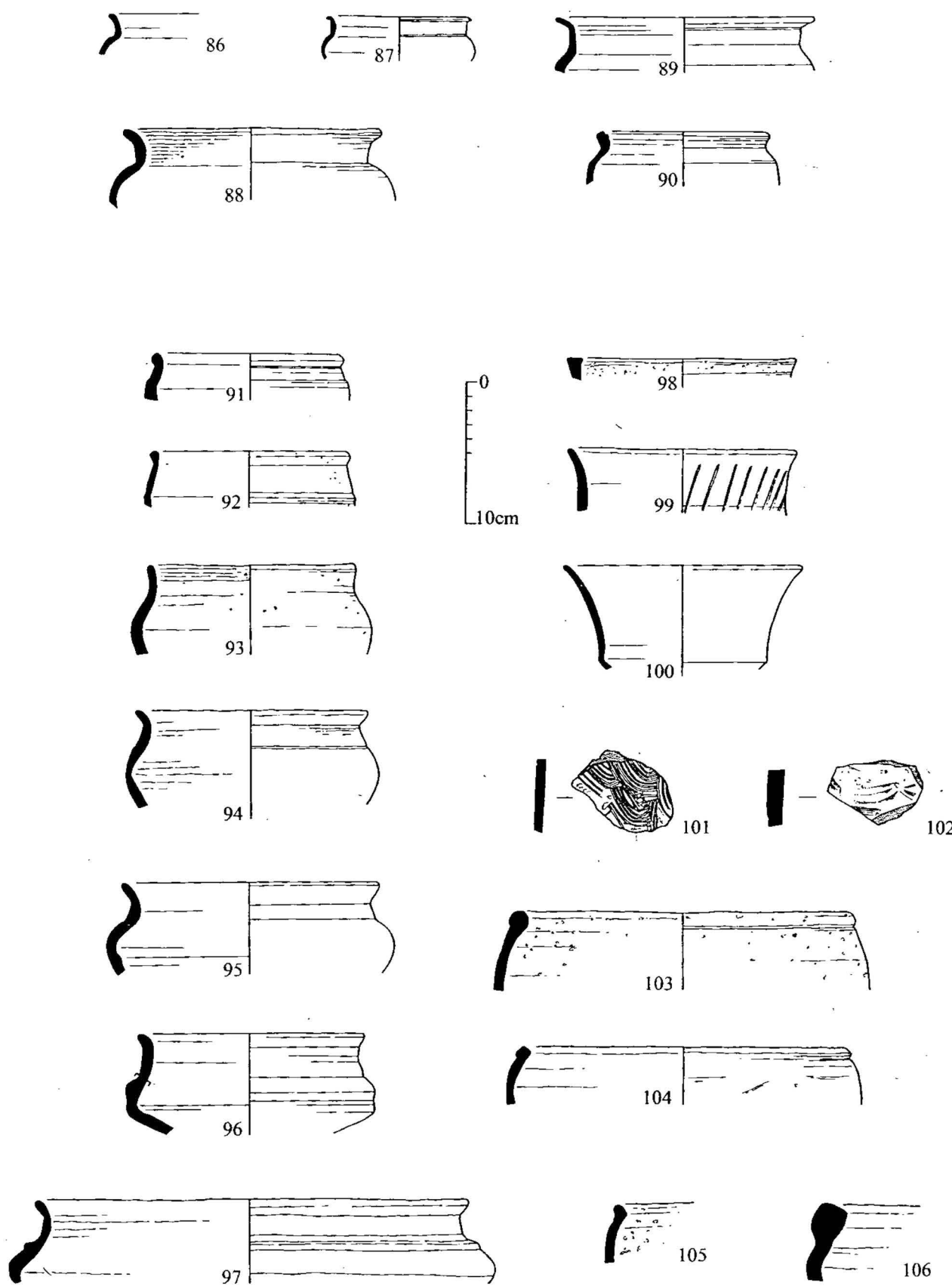


Figure 29: Site 2, Pottery (scale: 1:4)

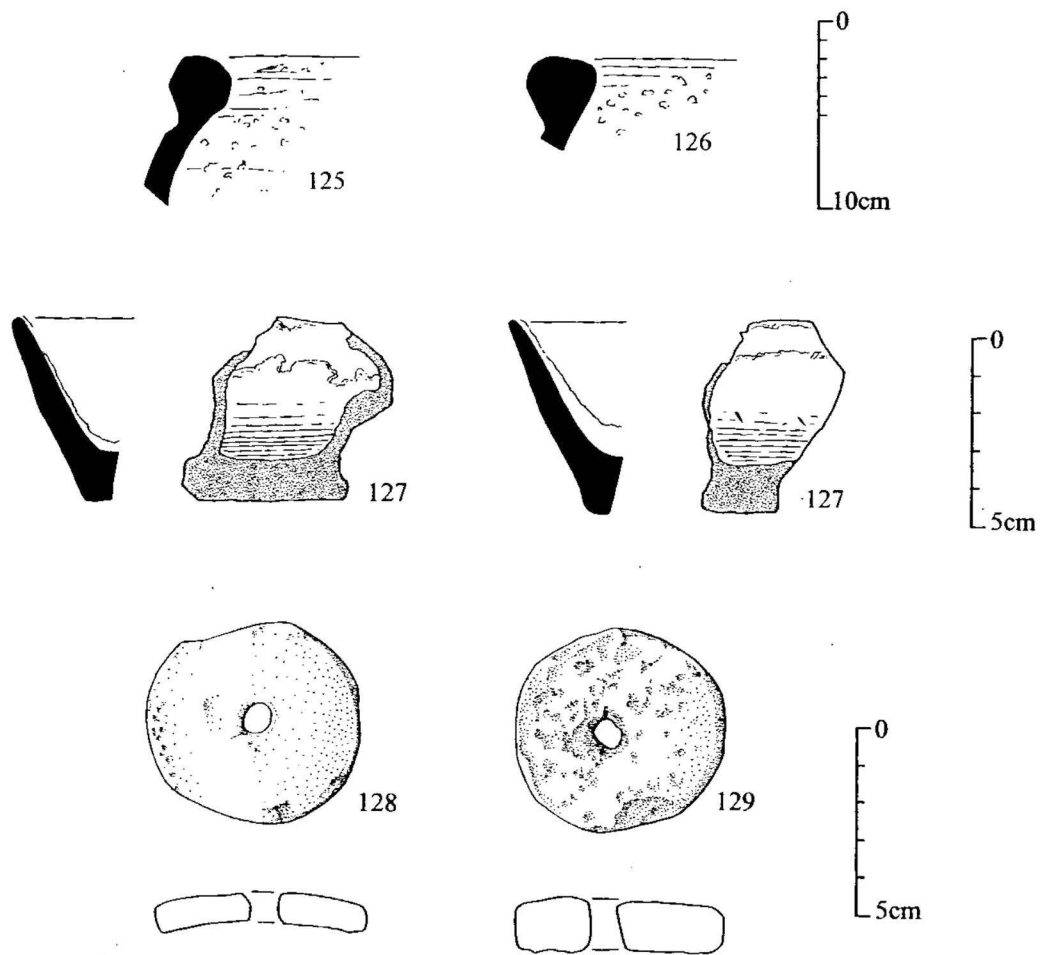


Figure 31: Site 2, Pottery (scale: 1:4)

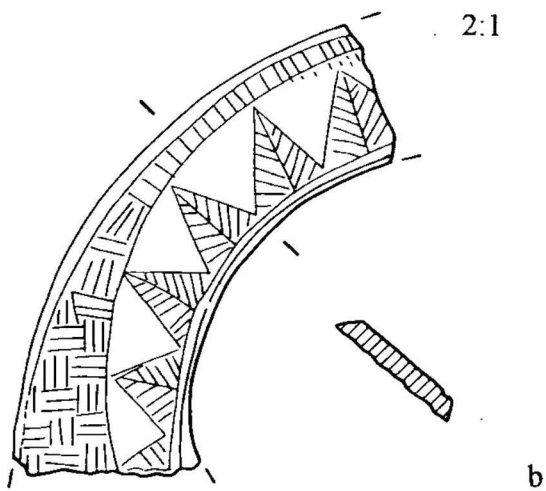
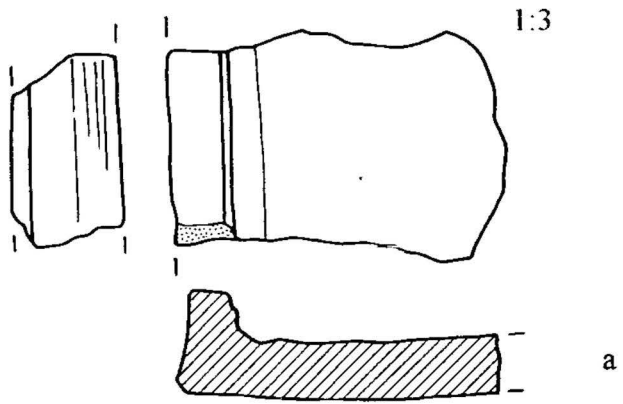
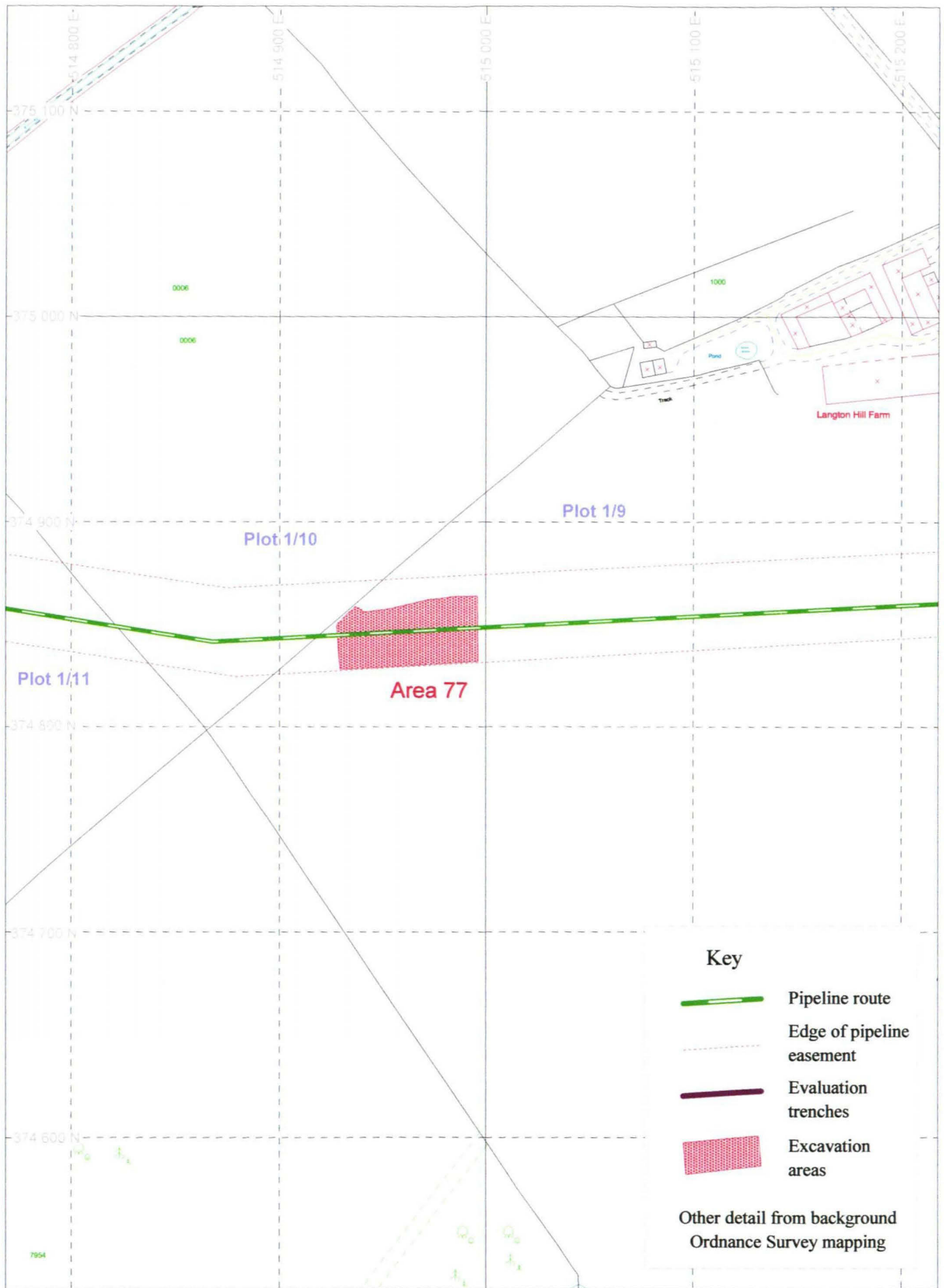


Figure 32: Site 2, Finds



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Figure 33: Location of Area 77, Enclosure System, Langton Hill Farm (Scale 1:2500)

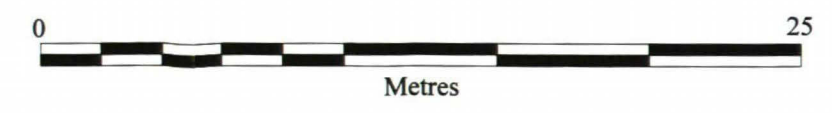
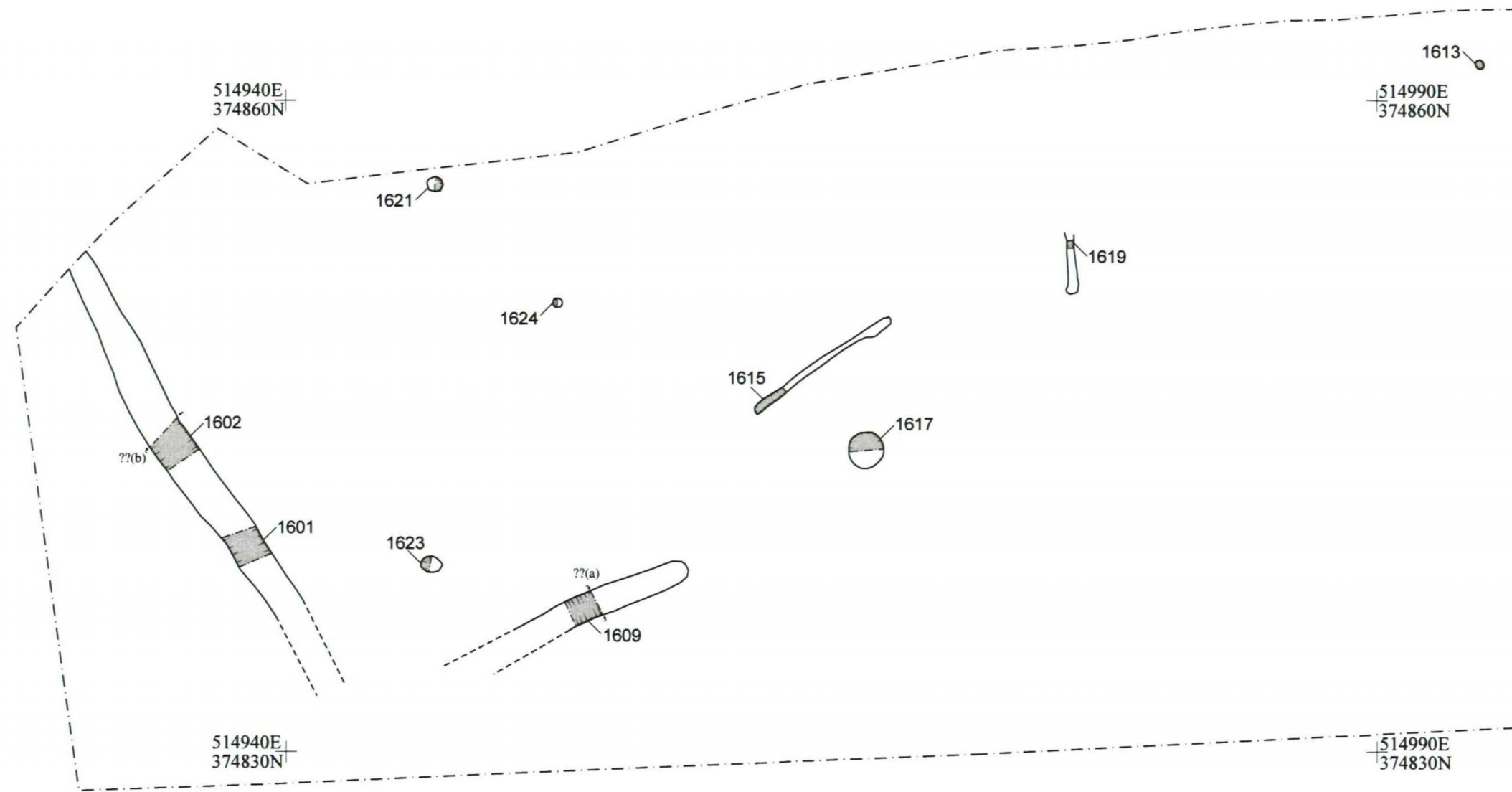


Figure 34: Plan of Area 77 (scale: 1:250)

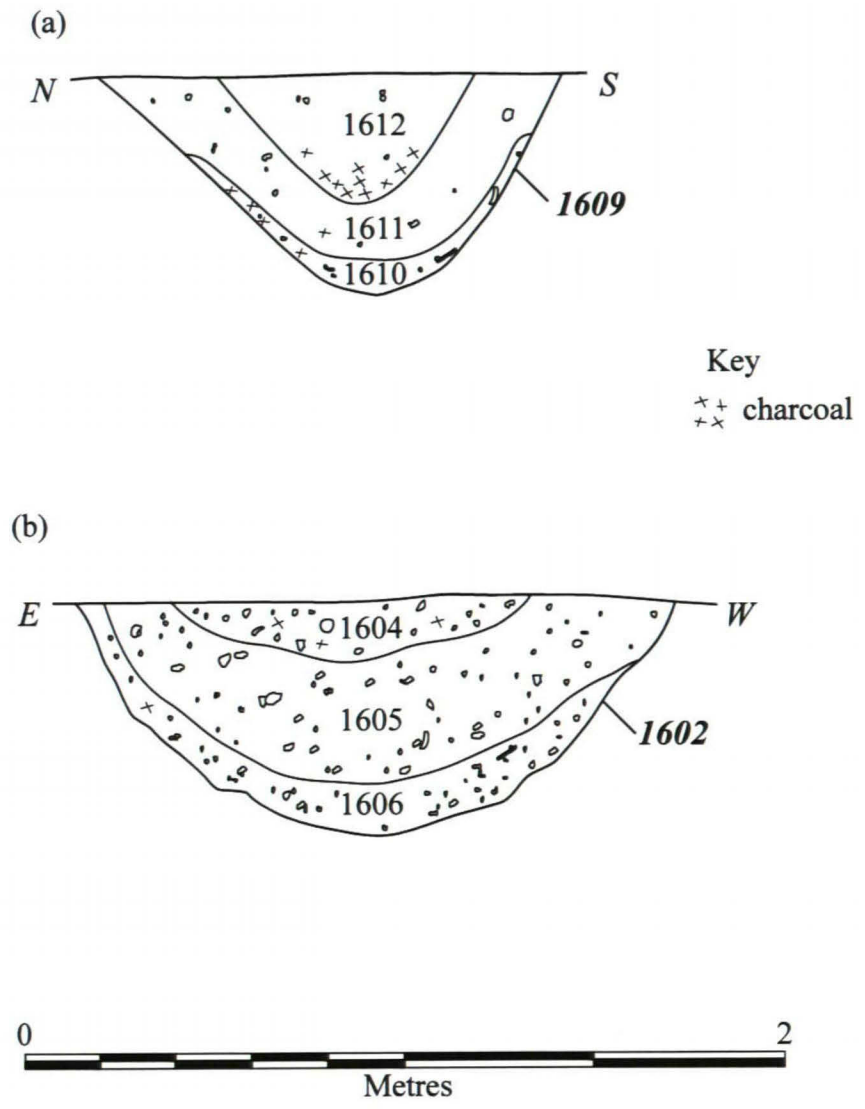
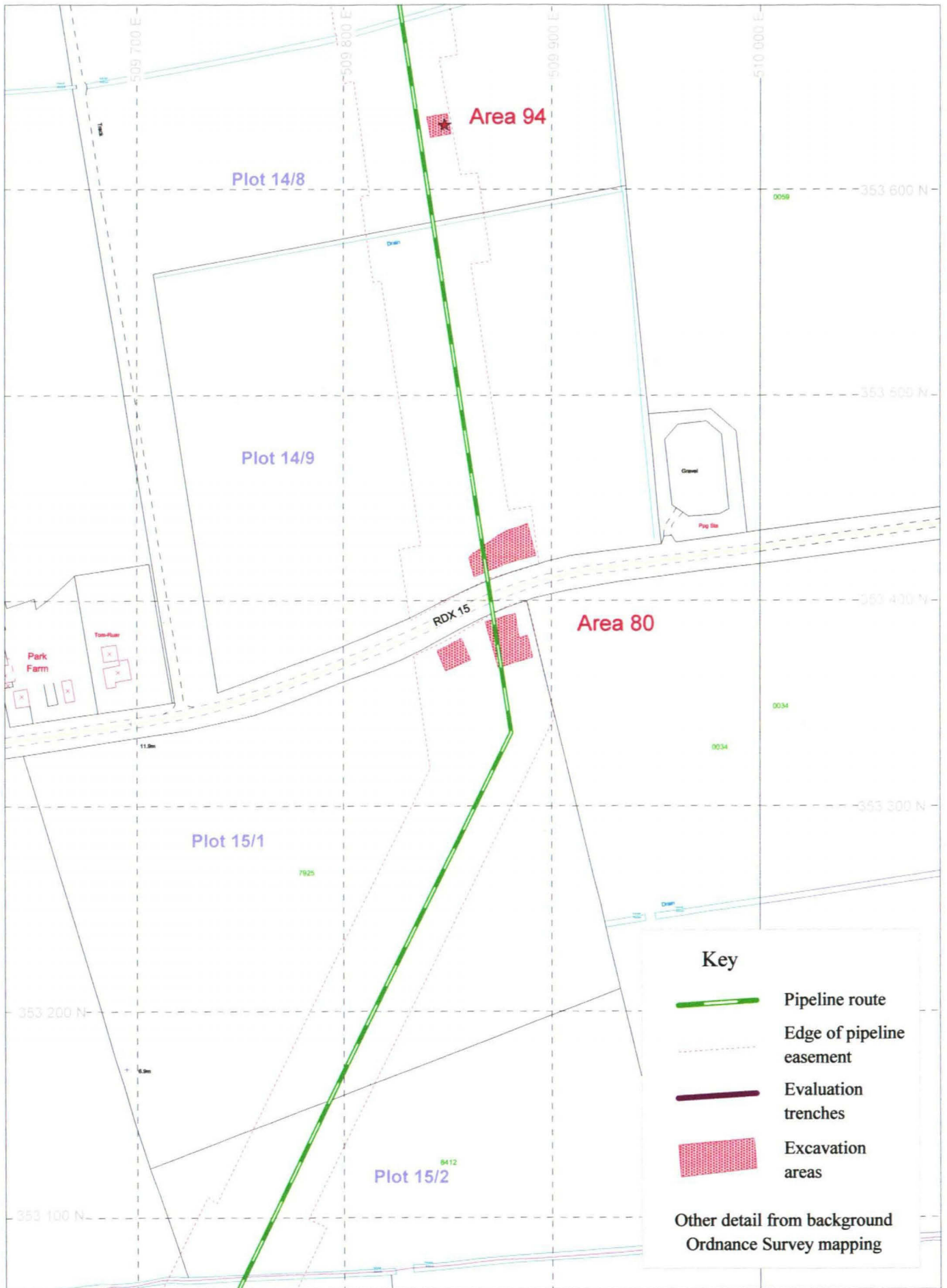


Figure 35 Area 77, Sections (scale: 1:20)

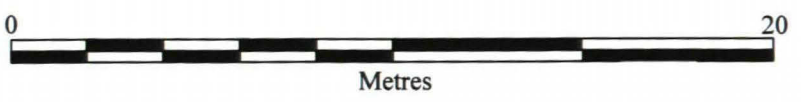
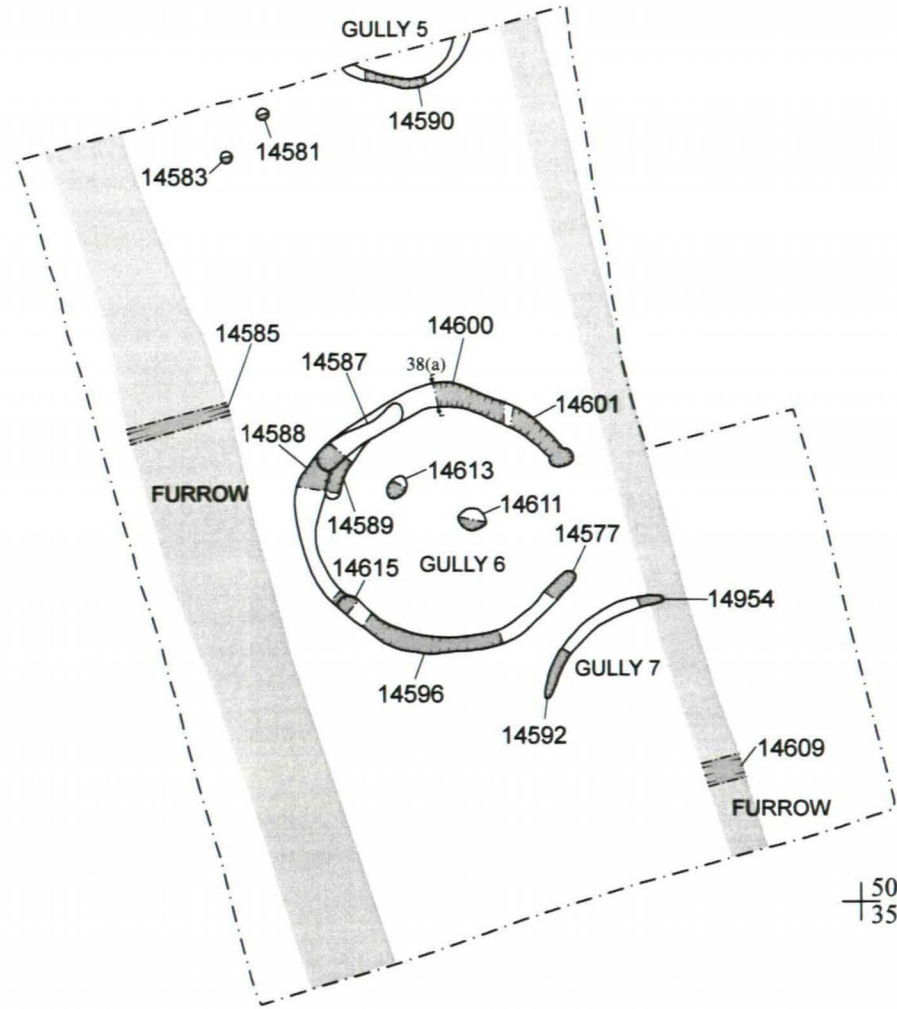
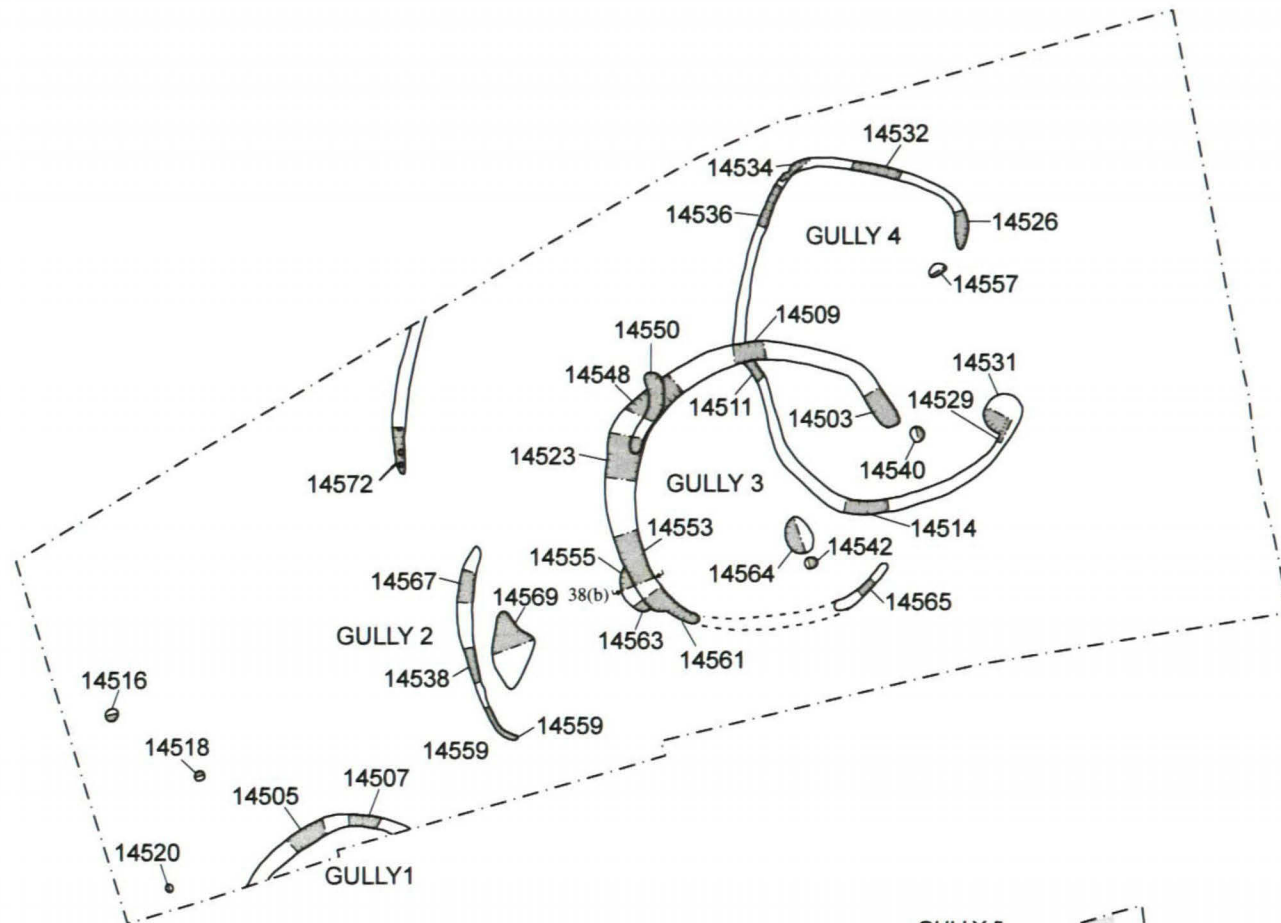


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Figure 36: Location of Area 80, Settlement, Park Farm (Scale 1:2500)

509860E
353420N

509890E
353420N

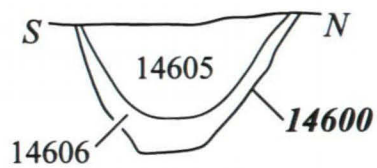


509860E
353370N

509890E
353370N

Figure 37: Plan of Area 80 (scale: 1:200)

(a)



Key

+^x_x charcoal

(b)

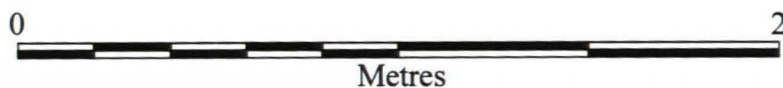
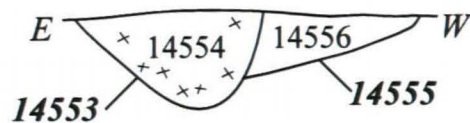


Figure 38: Area 80, Sections (scale: 1:20)

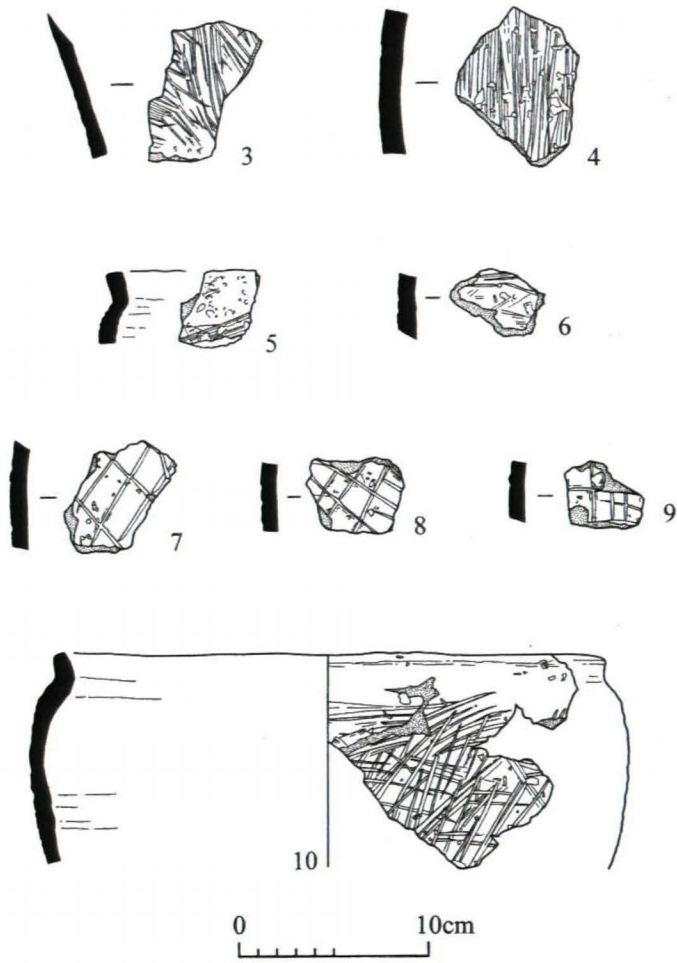


Figure 39: Area 80, Pottery (scale: 1:4)

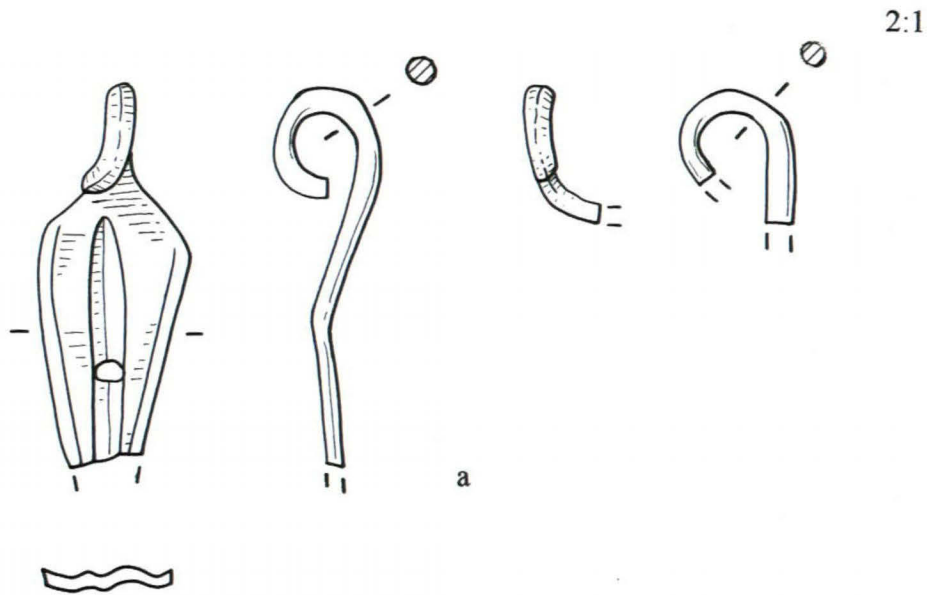
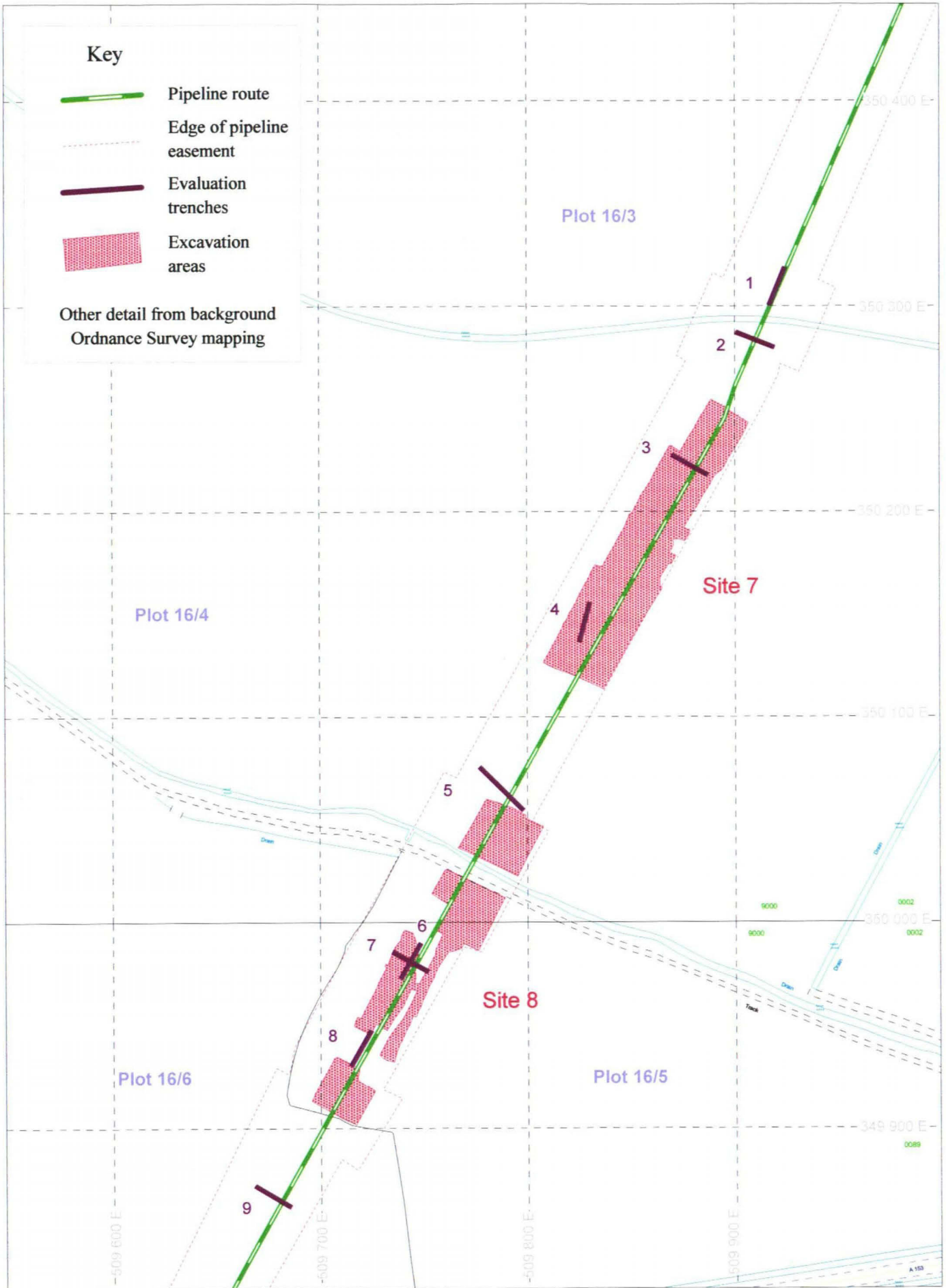


Figure 40: Area 80, Finds



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Figure 41: Location of Site 7, Enclosure System, Ruskington 1 (Scale 1:2500)

Figure 42: Phased Plan of Site 7 (scale: 1:500)



Figure 43a: Plan of Site 7, North part of Site (scale: 1:250)

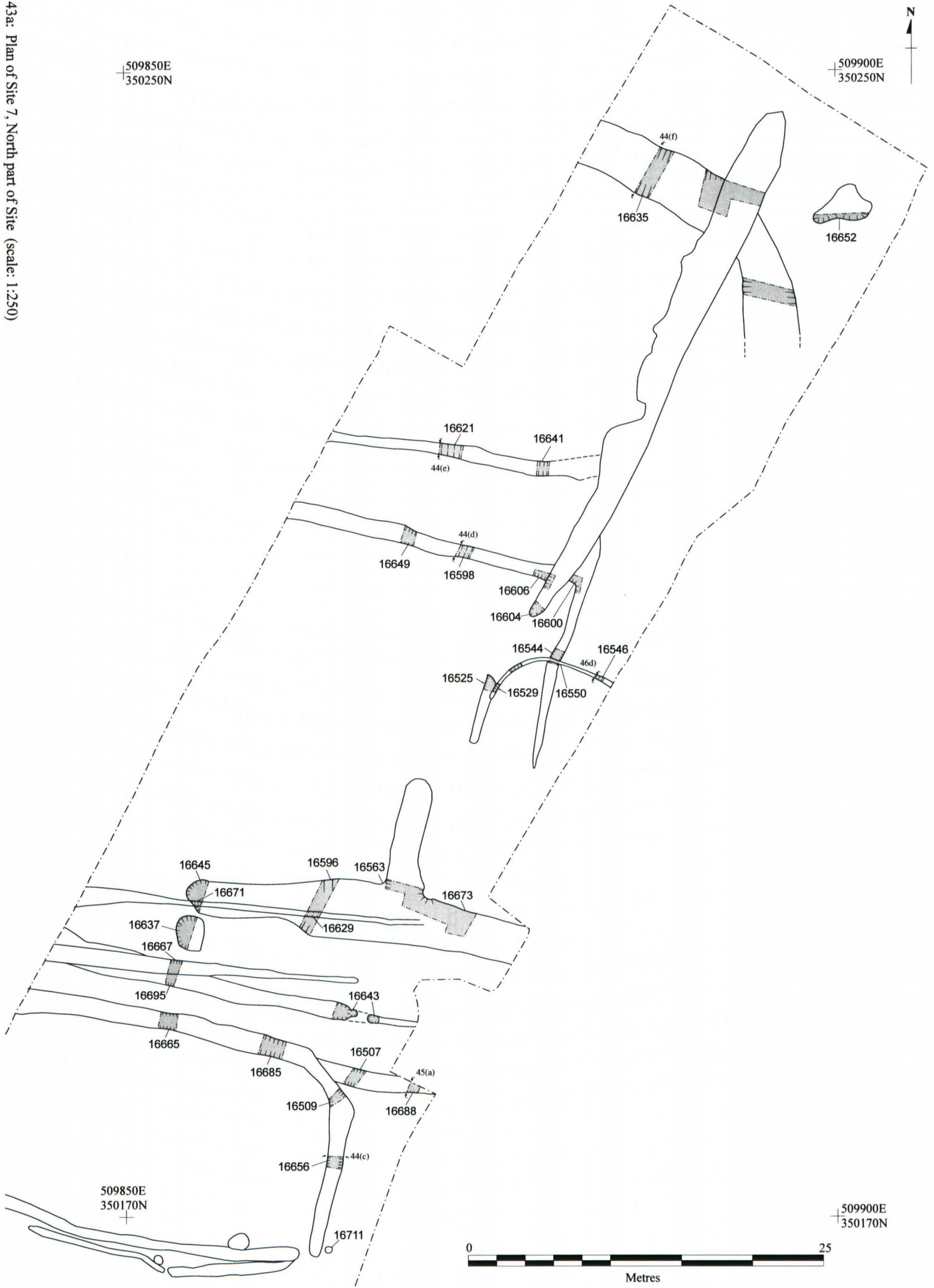
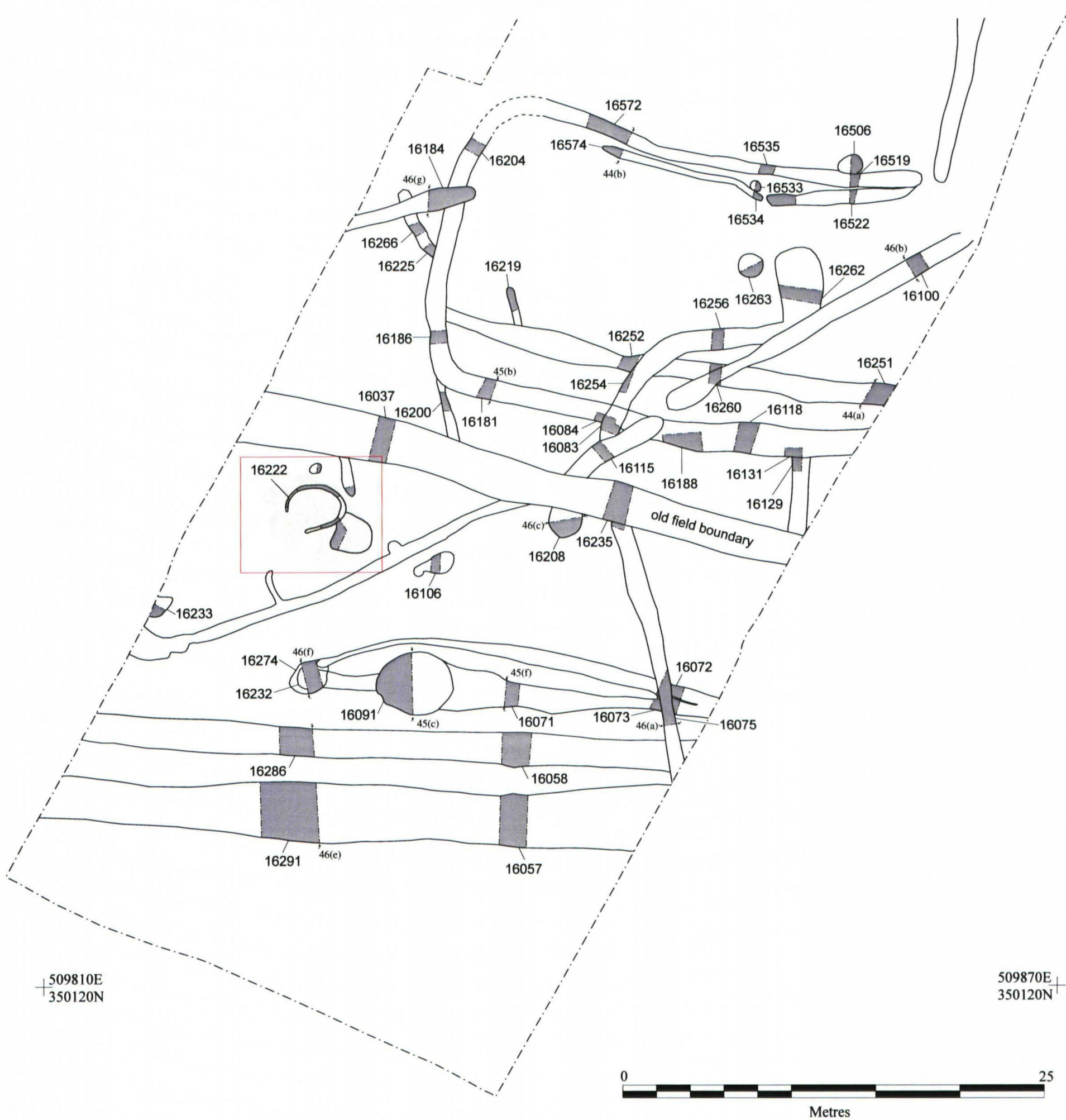
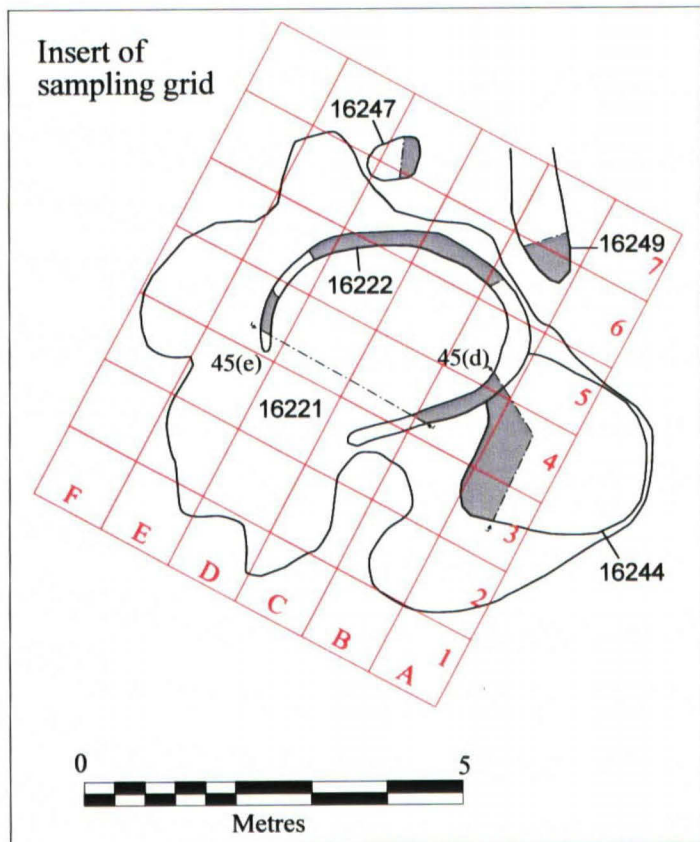


Figure 43b: Plan of Site 7, South part of Site (scale: 1:250)

509810E
350200N



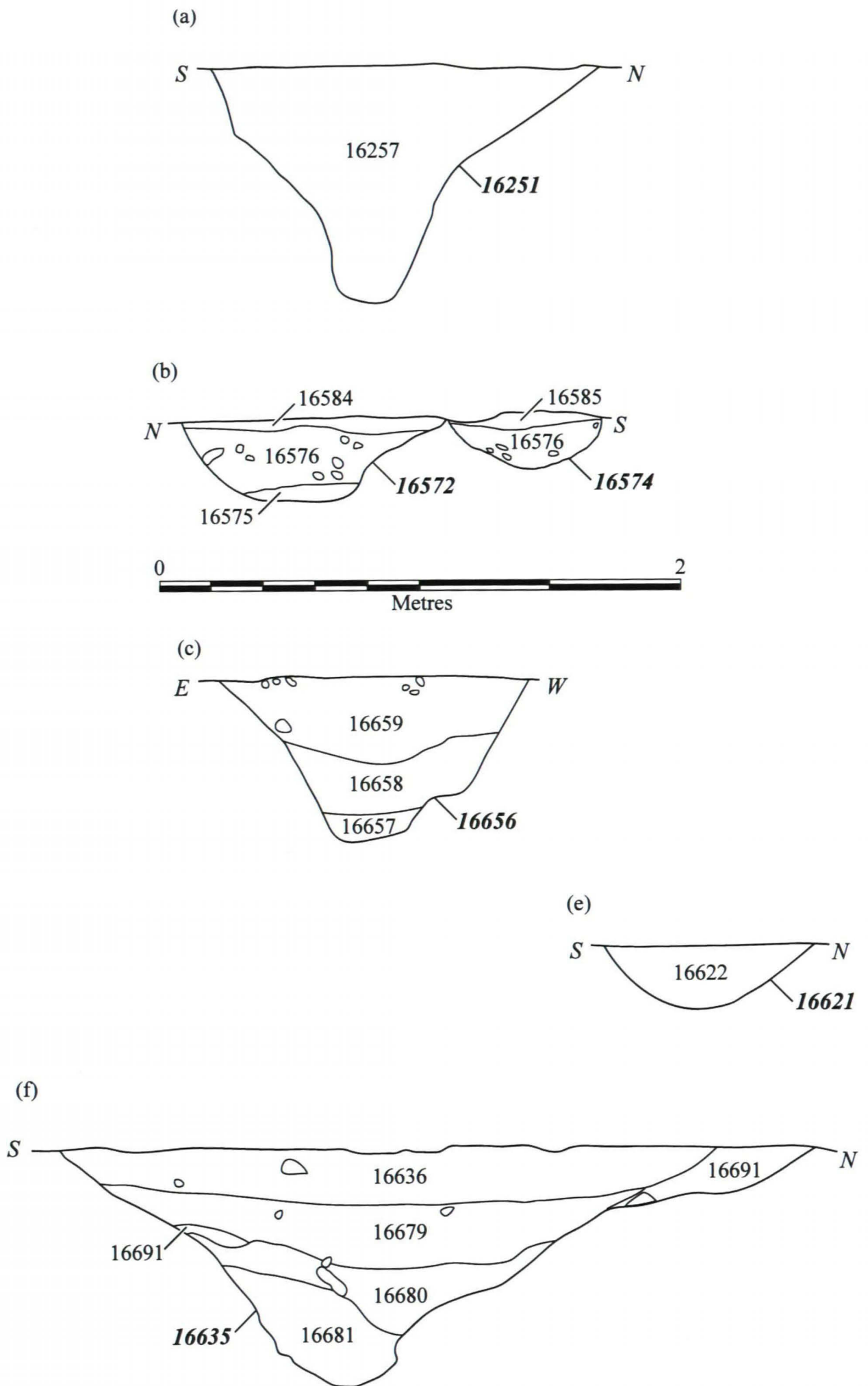
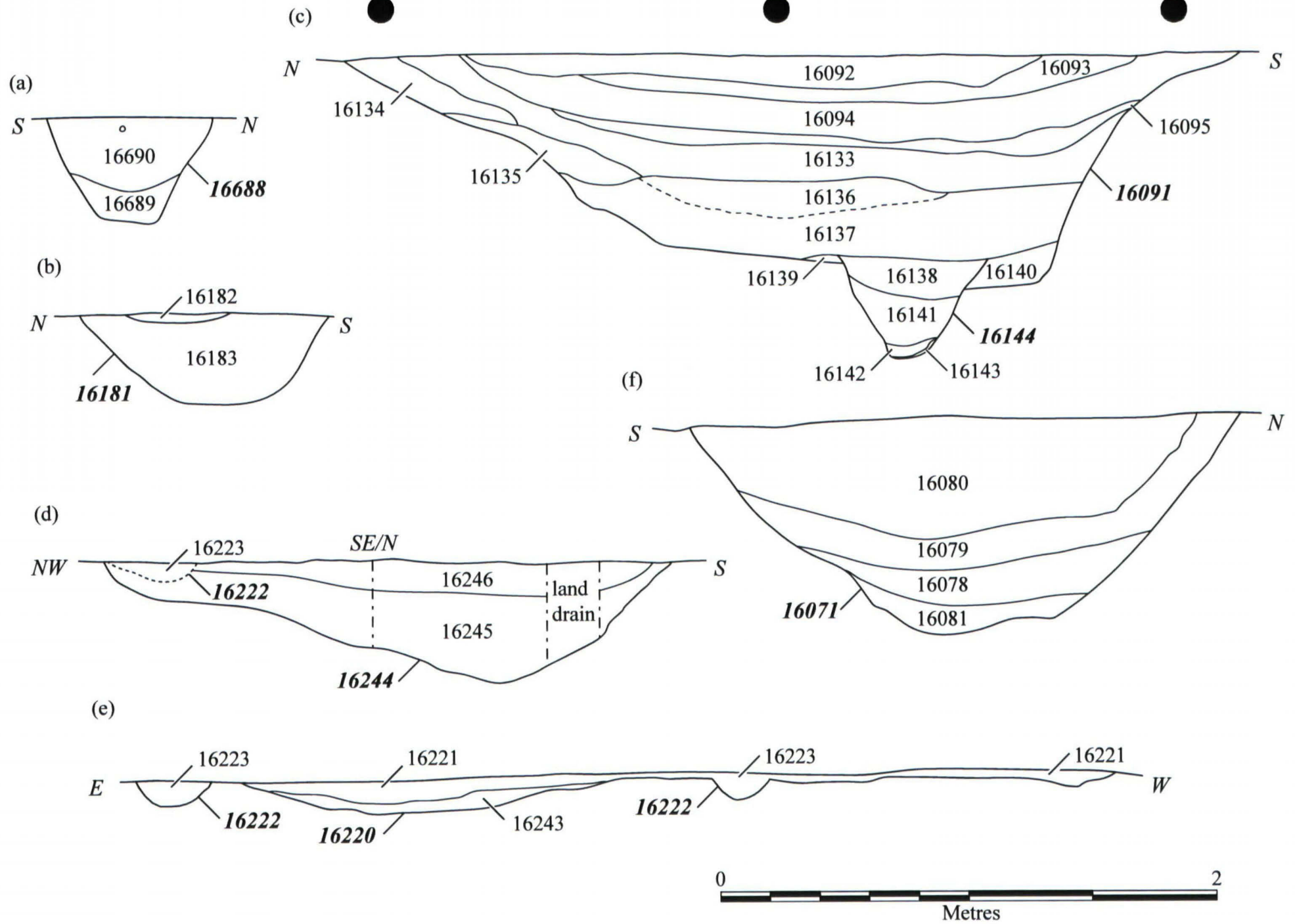


Figure 44: Site 7, Sections (scale: 1:20)

Figure 45: Site 7, Sections (scale: 1:20)



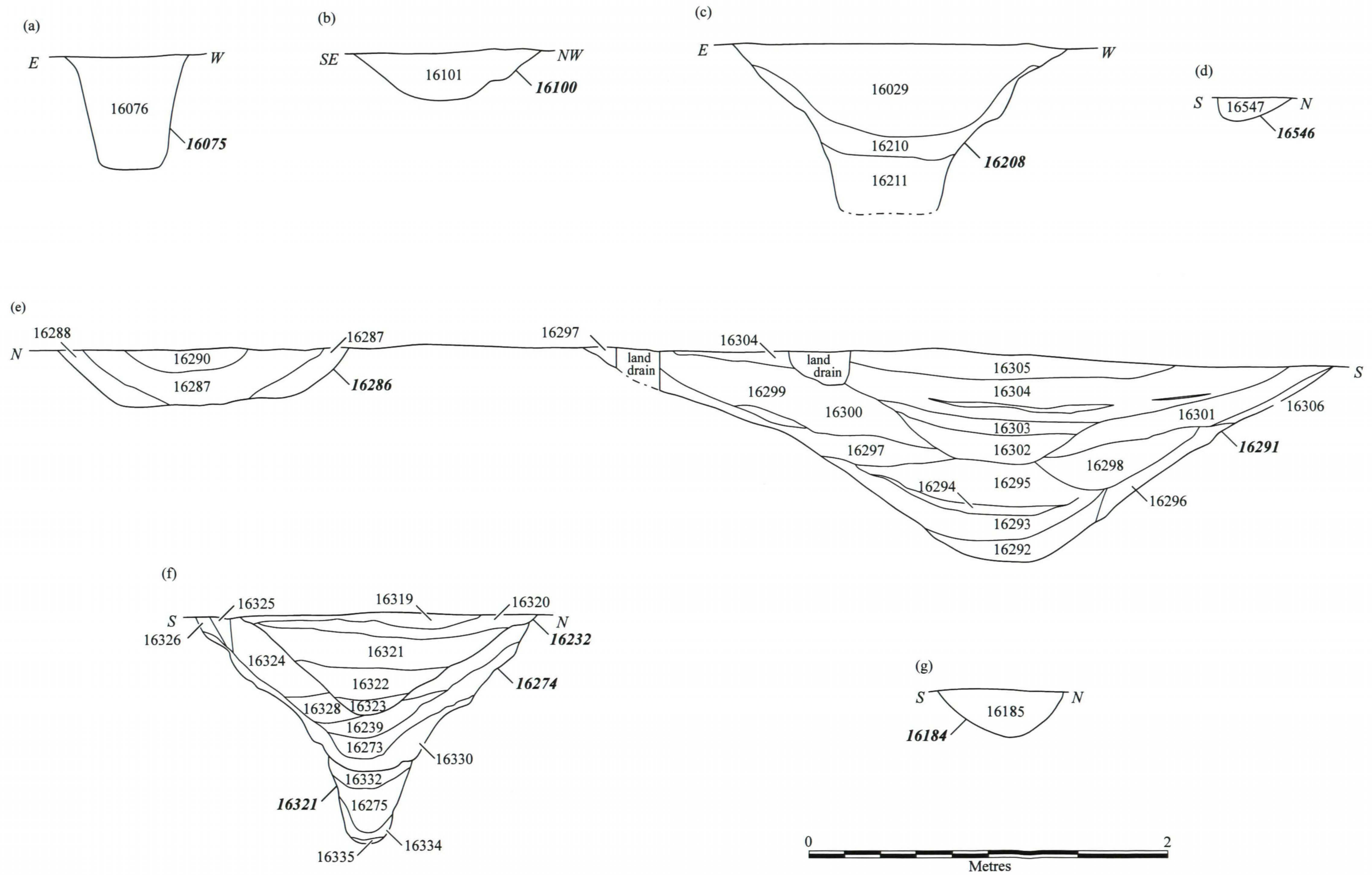


Figure 46: Site 7, Sections (scale: 1:20)

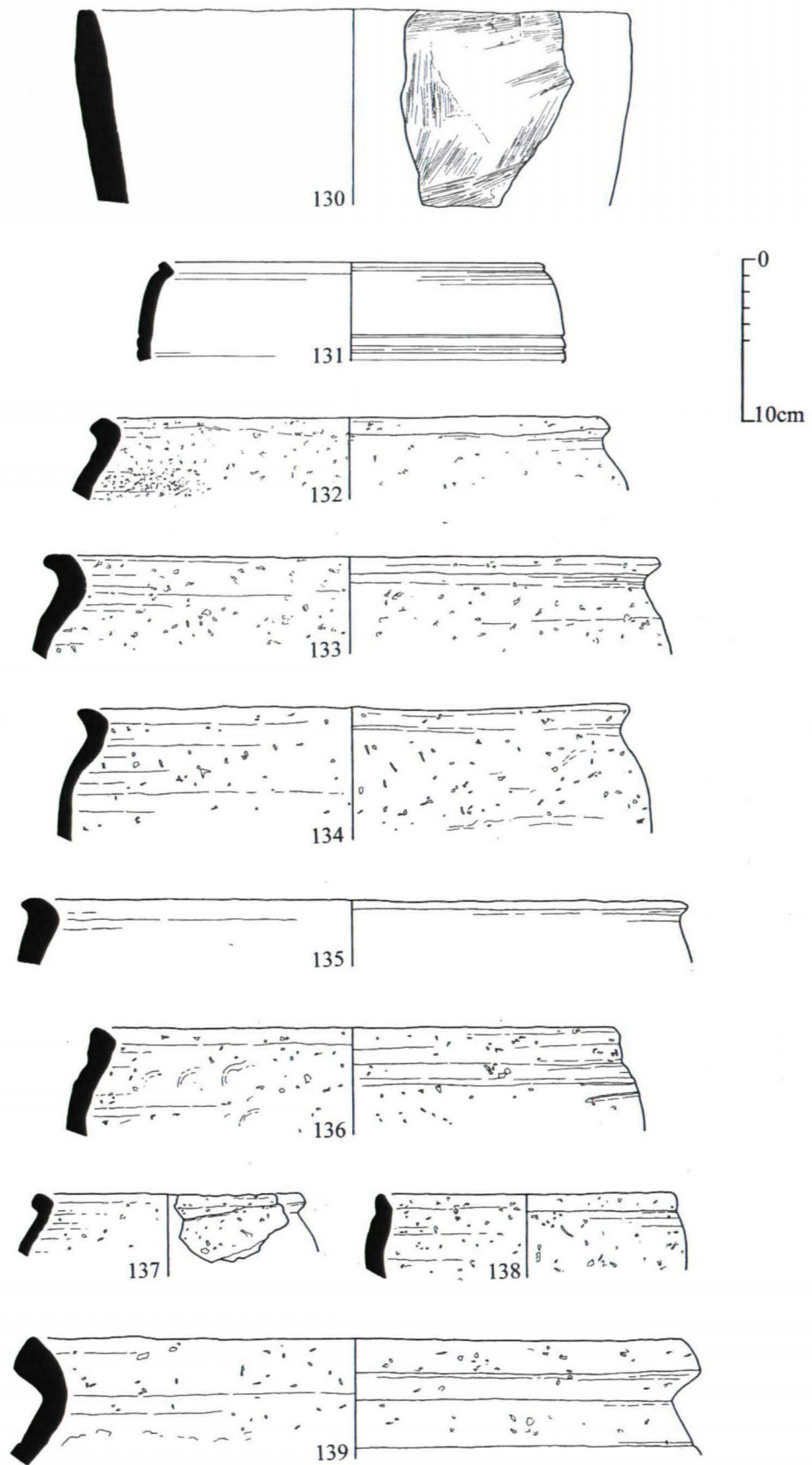


Figure 47: Site 7, Pottery (scale: 1:4)

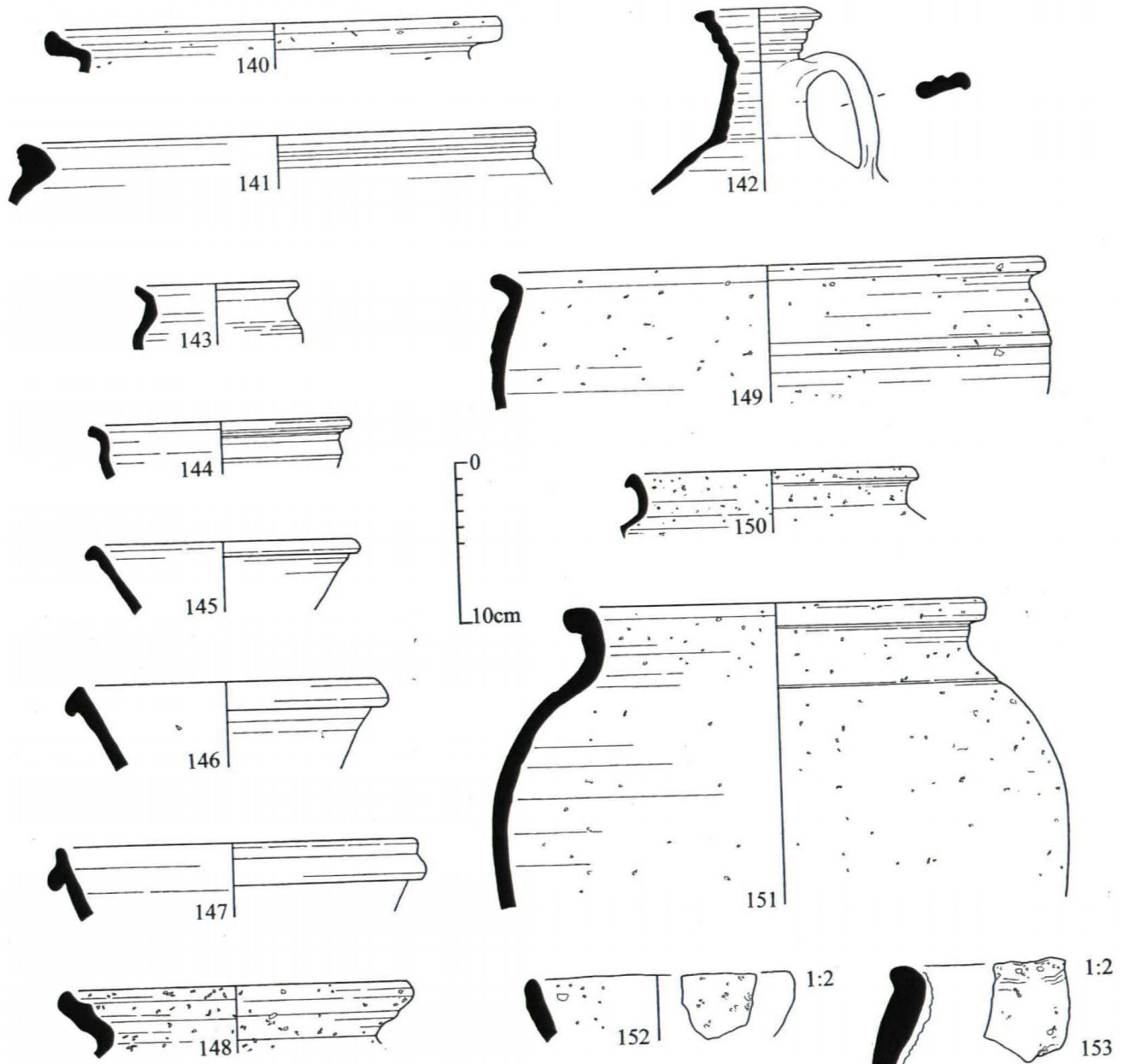
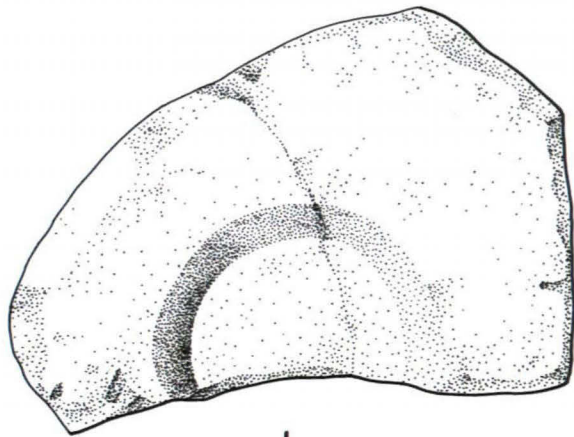
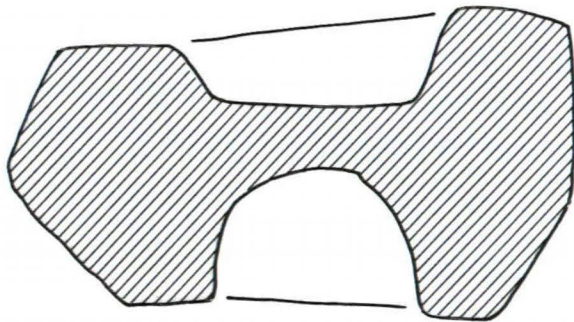


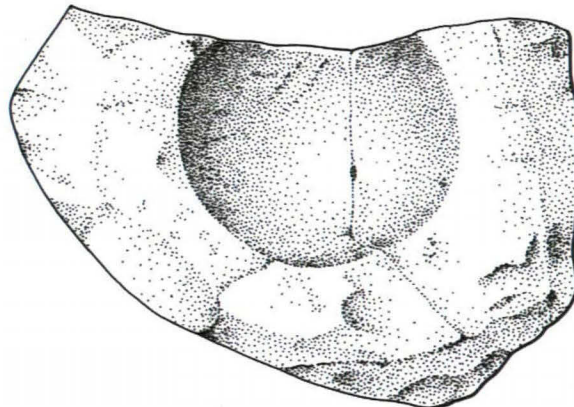
Figure 48: Site 7, Pottery (scale: 1:4)



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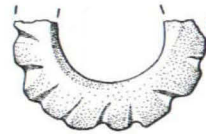


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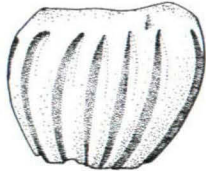


a

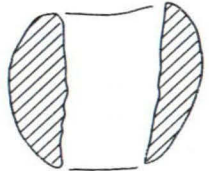
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|

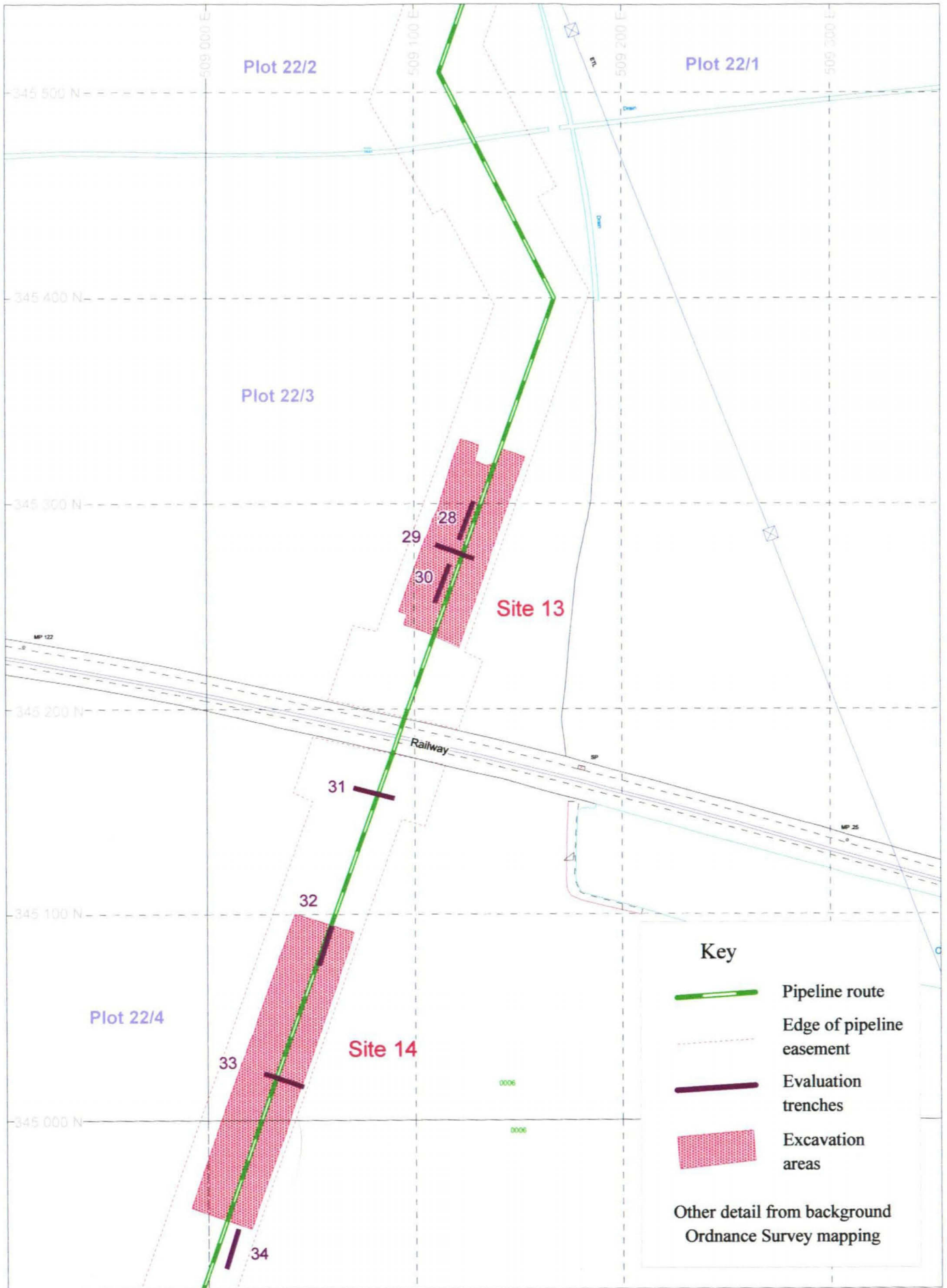


|



b

Figure 49: Site 7, Finds



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Figure 50: Location of Site 13, Enclosure System, Boston Railway (Scale 1:2500)



509120E
345340N

509150E
345340N

509090E
345290N

509150E
345280N

509090E
345230N

509130E
345230N

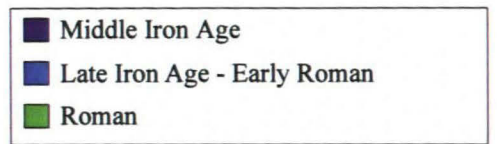


Figure 51: Phased Plan of Site 13 (scale 1:500)

509120E
345340N

509150E
345340N

Figure 52a: Site 13, North part of Site (scale: 1:250)

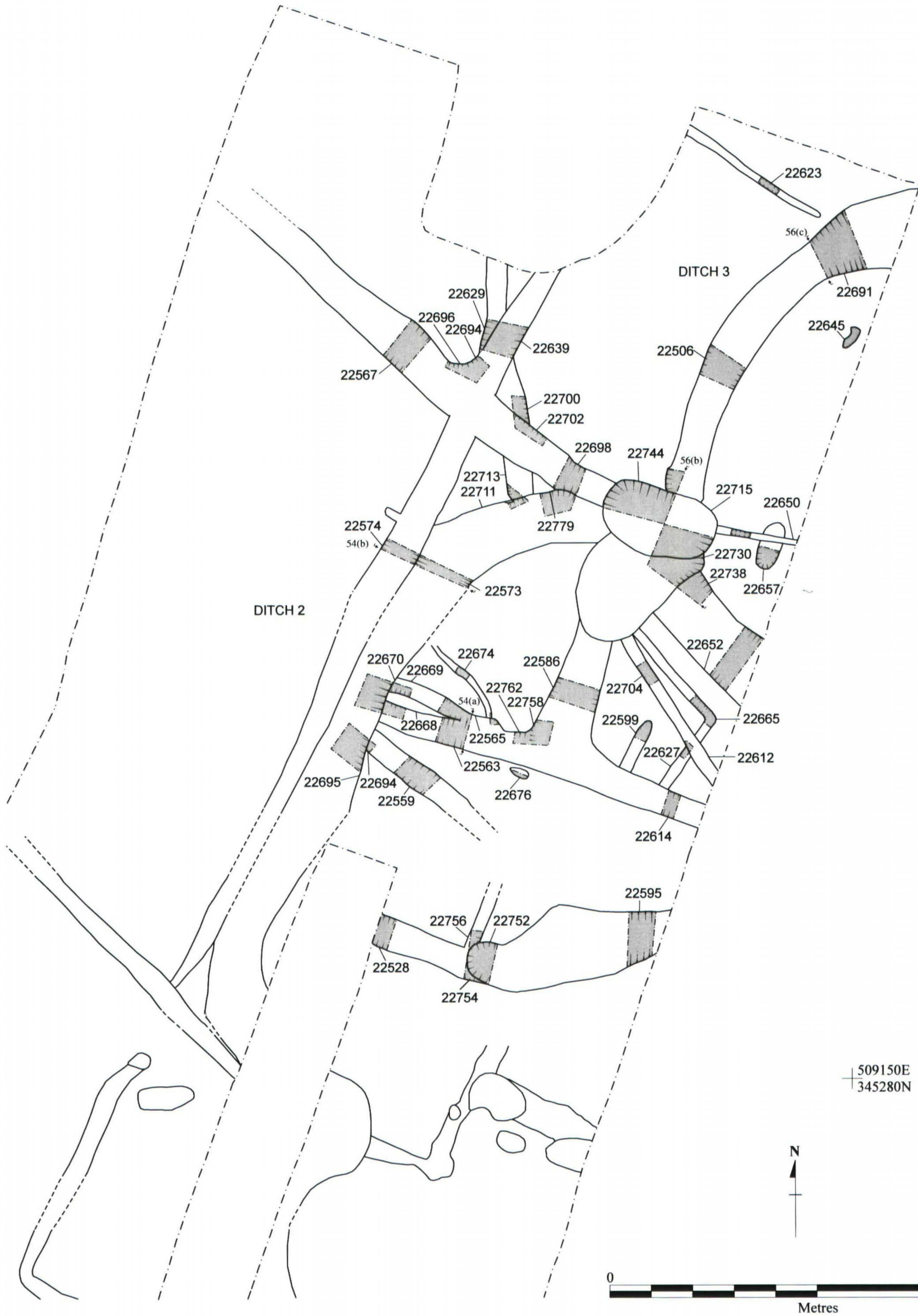


Figure 52b: Site 13, South part of Site (scale: 1:250)



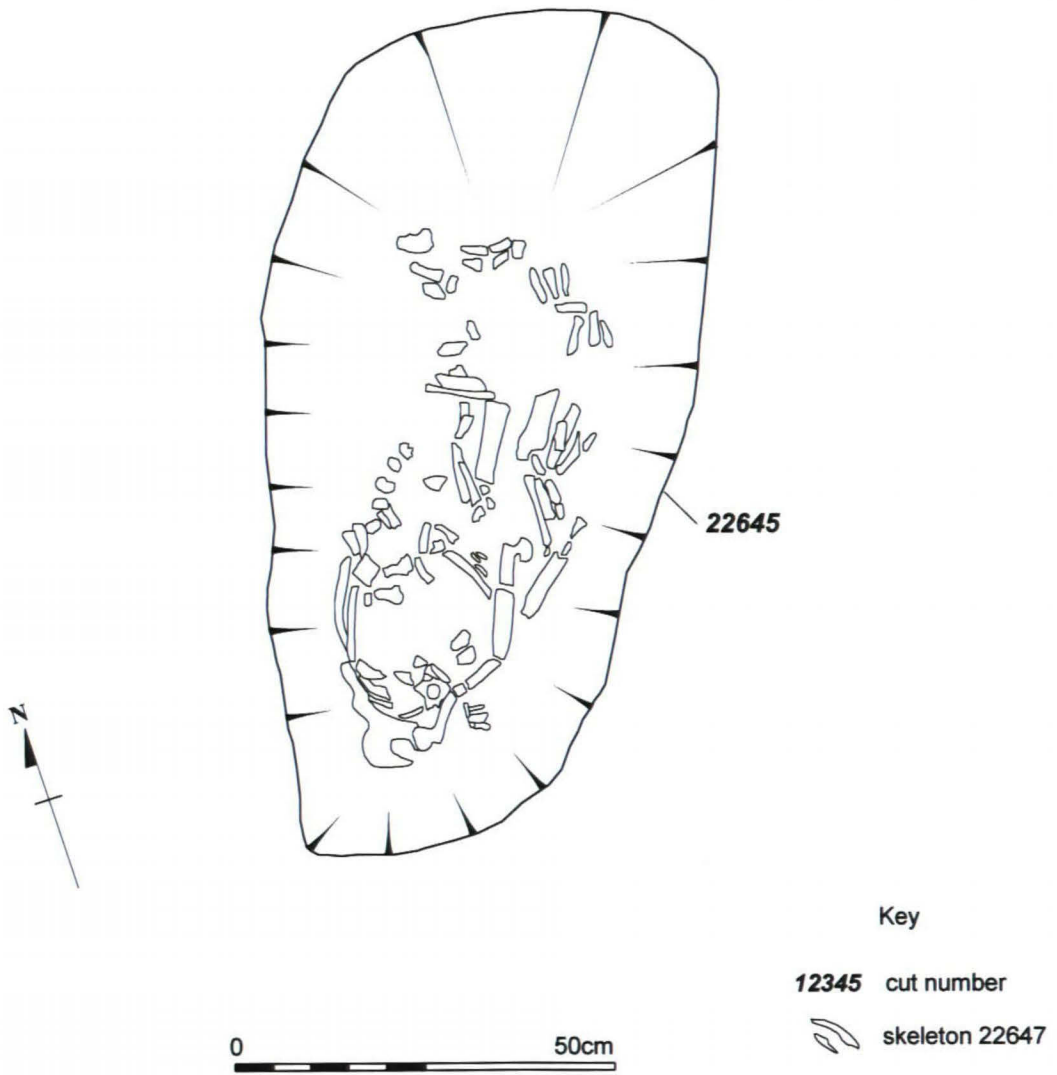


Figure 53: Site 13. Grave 22645 (scale 1:10)

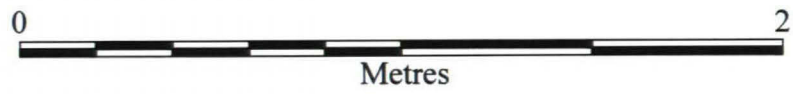
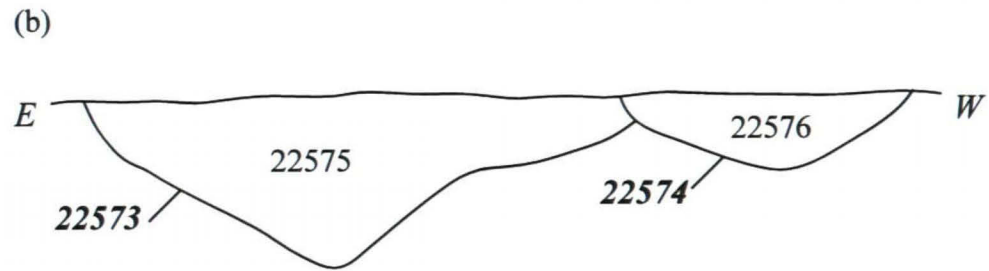
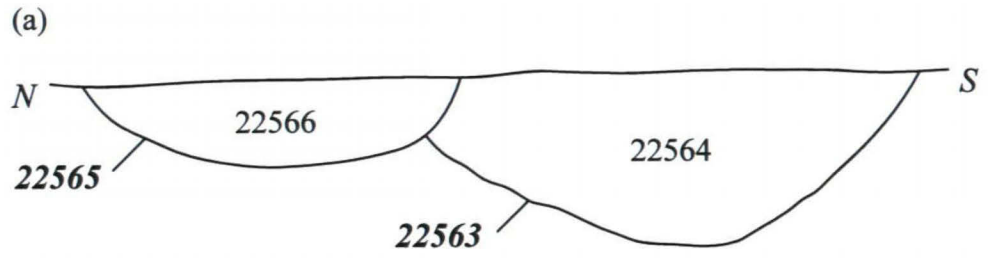


Figure 54: Site 13, Sections (scale: 1:20)

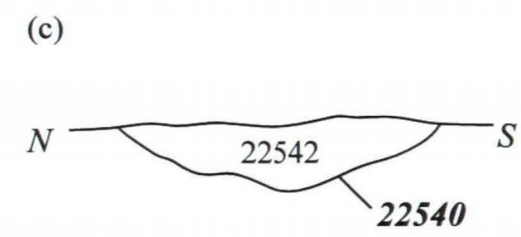
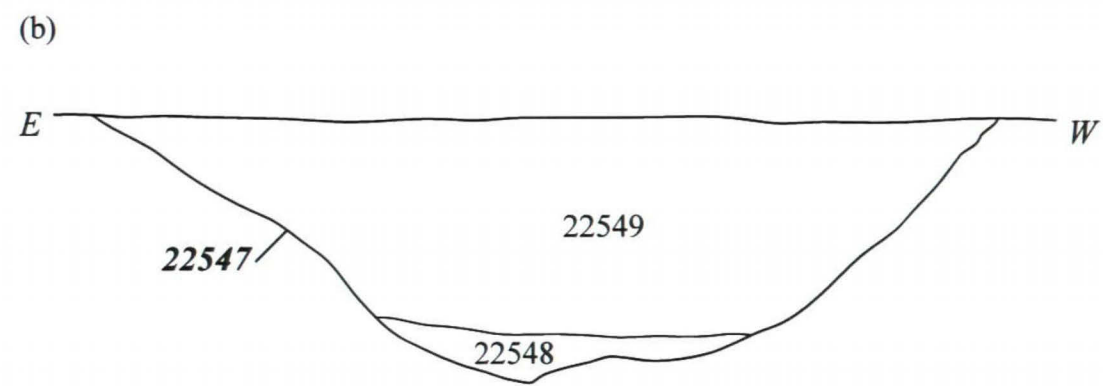
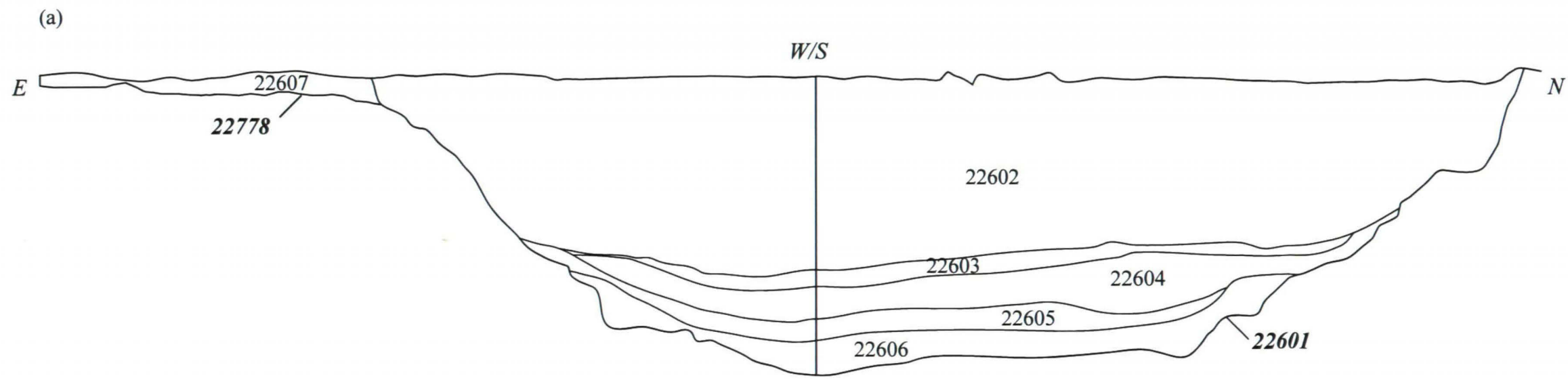
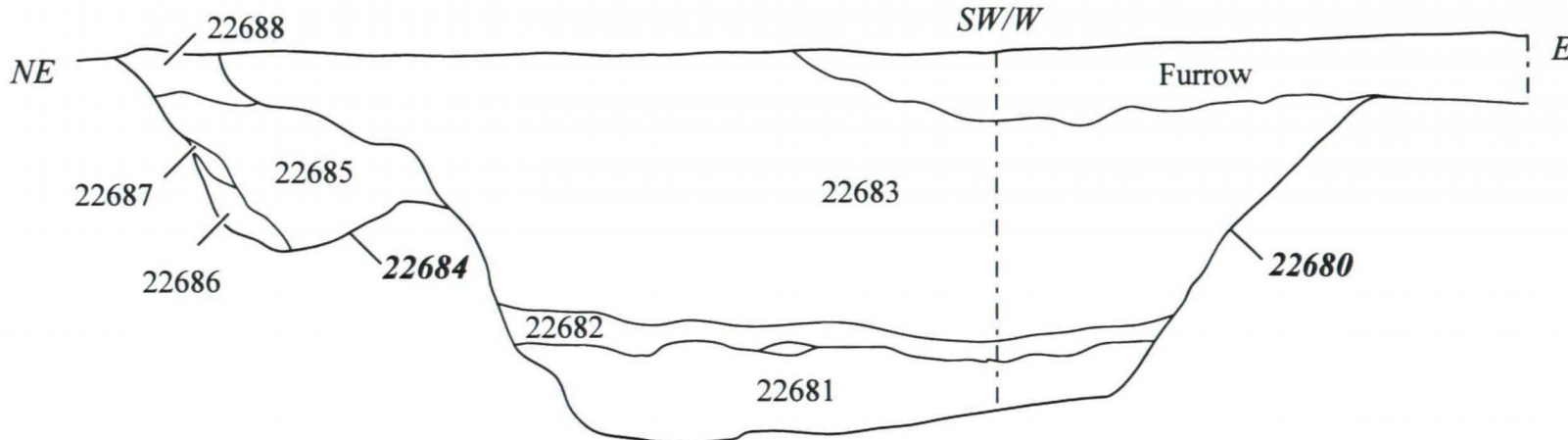
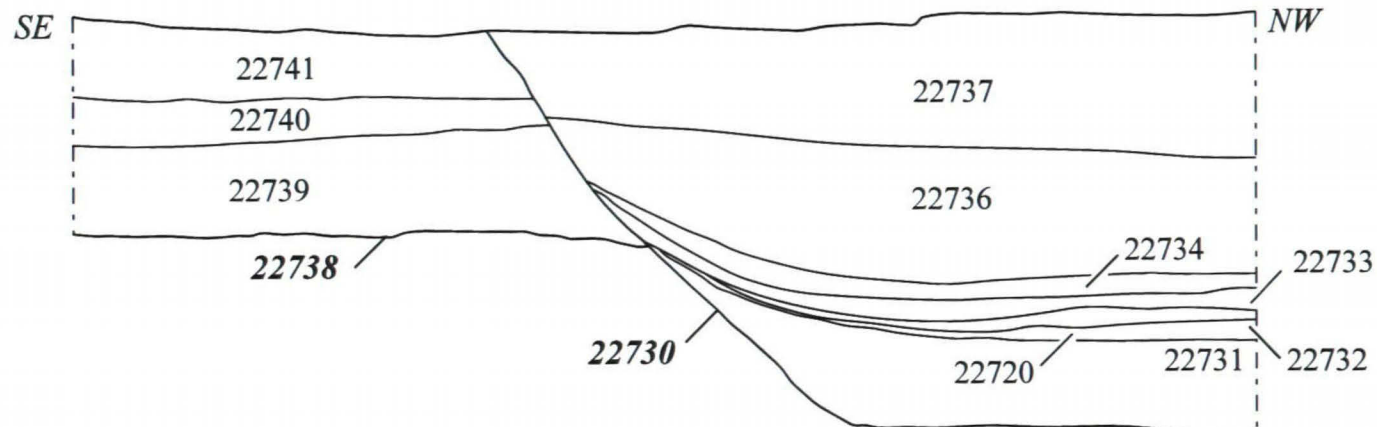


Figure 55: Site 13, Sections (scale: 1:20)

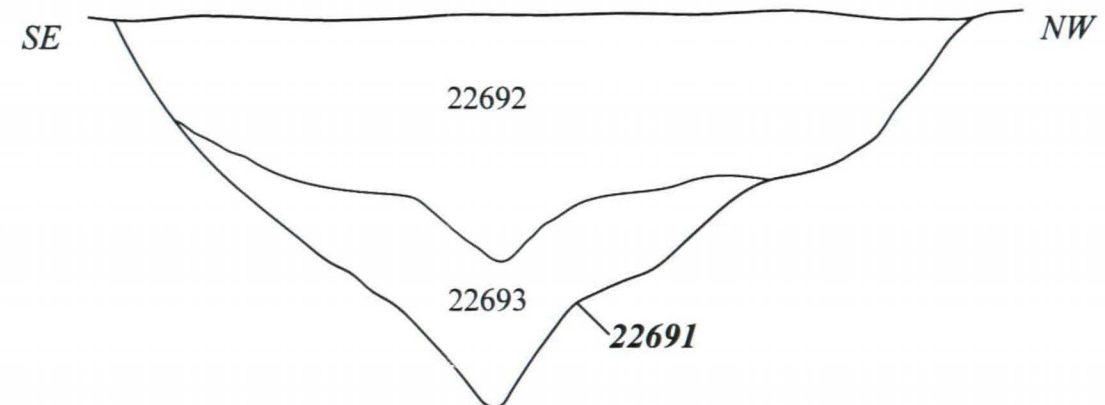
(a)



(b)



(c)



(b) continued

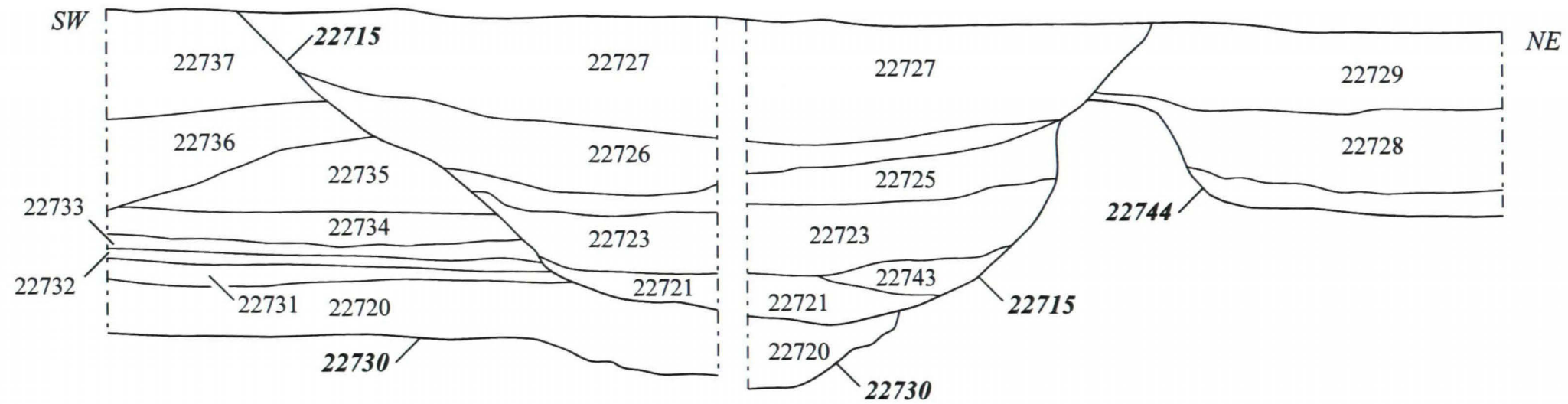


Figure 56: Site 13, Sections (scale: 1:20)

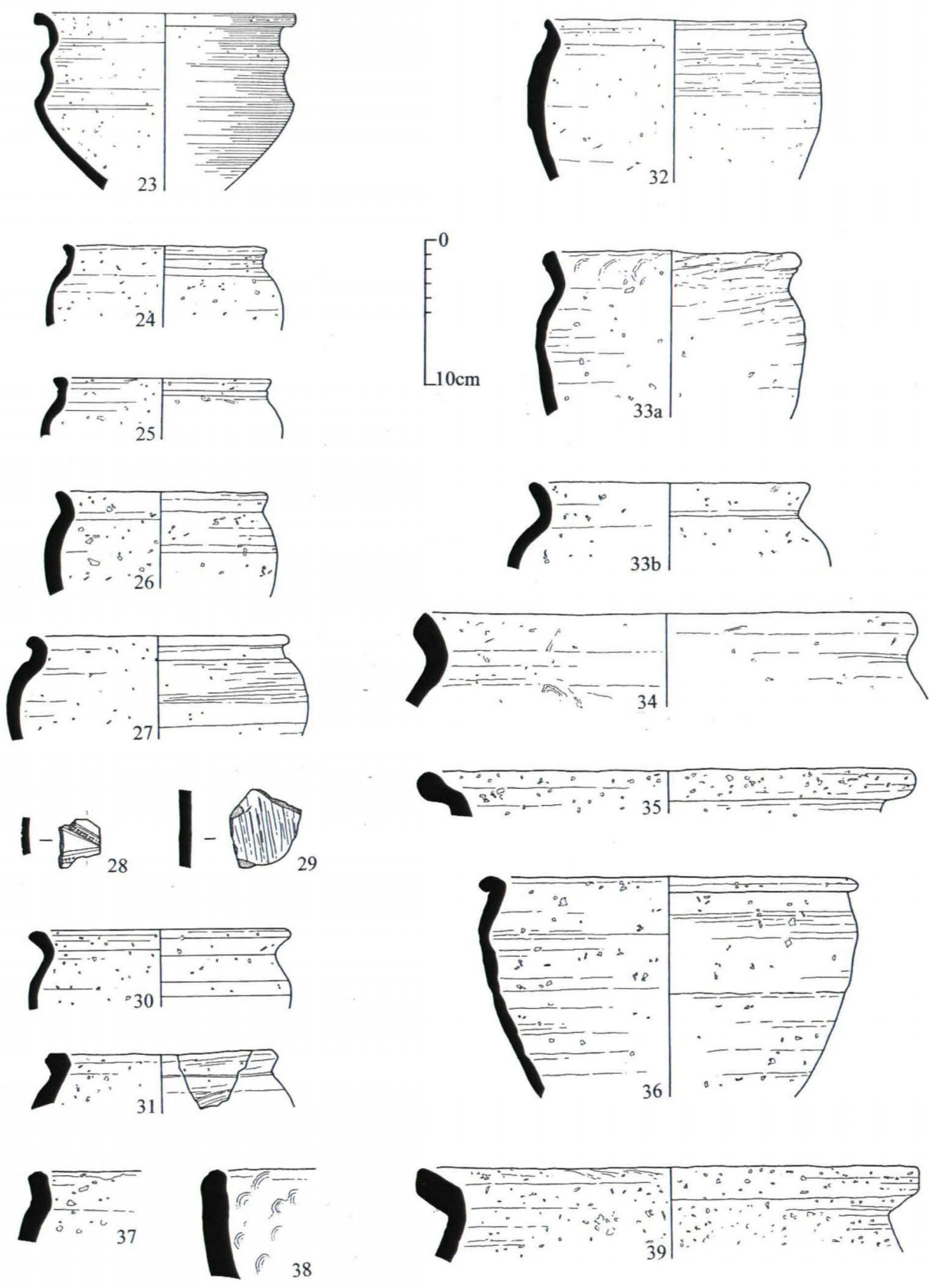


Figure 57: Site 13, Pottery (scale: 1:4)

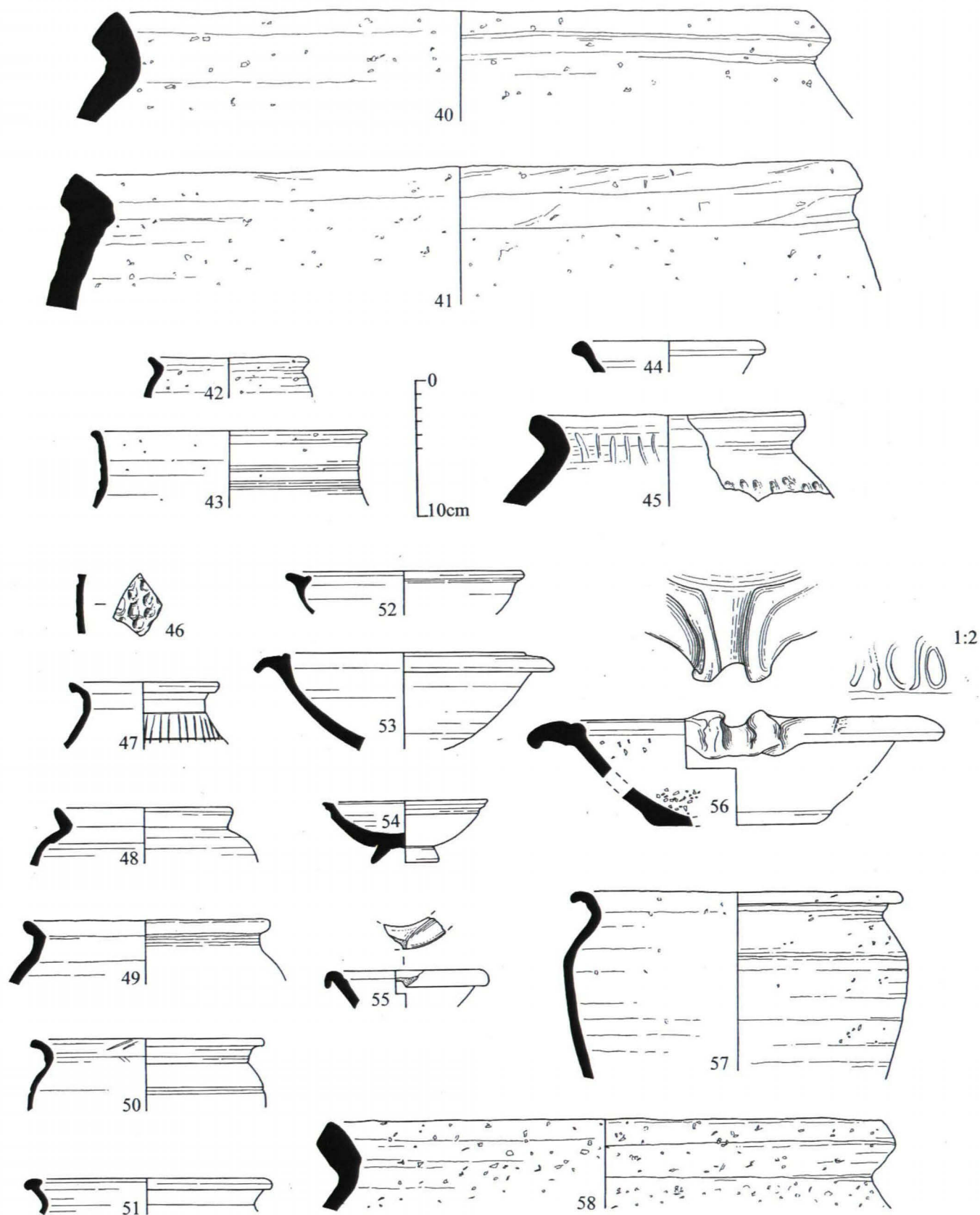


Figure 58: Site 13, Pottery (scale: 1:4)

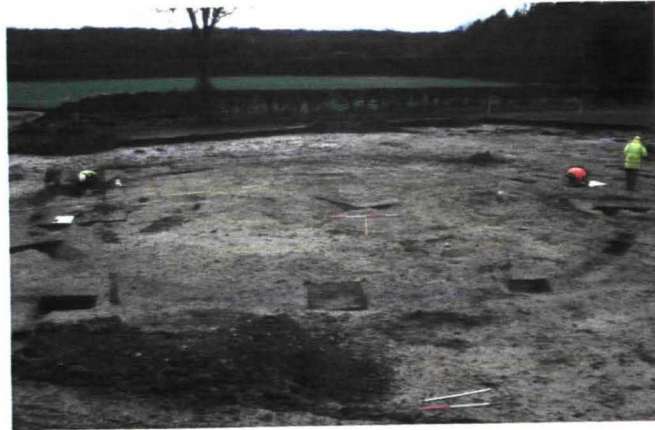


Plate 5: Site 2, Roundhouse 1, looking south-east



Plate 6: Site 2, Ring Gully 1390, part of Roundhouse 1



Plate 7: Site 2, Skeleton 1067 in Ditch 1071,
part of Ditch 1

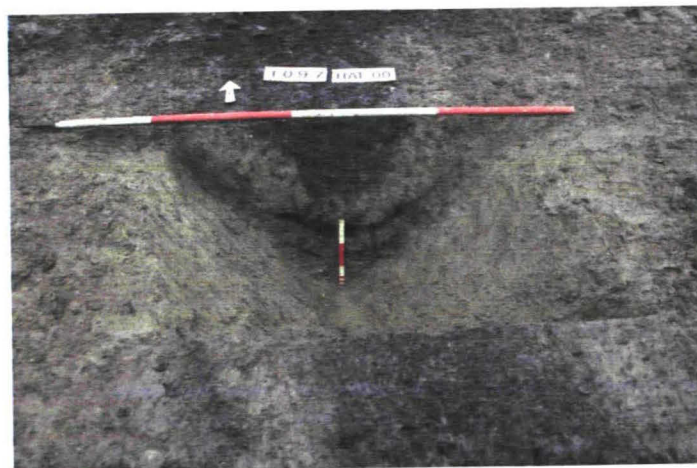


Plate 8: Site 2, Ditch 1097, showing Re-cut 1111



Plate 9: Site 2, Skeleton 1062 in Ditch
Terminus 1075, part of Ditch 2



Plate 10: Site 2, Hollow 1174 in centre of
Roundhouse 1



Plate 11: Area 80, Ring Gully 6, looking south-west

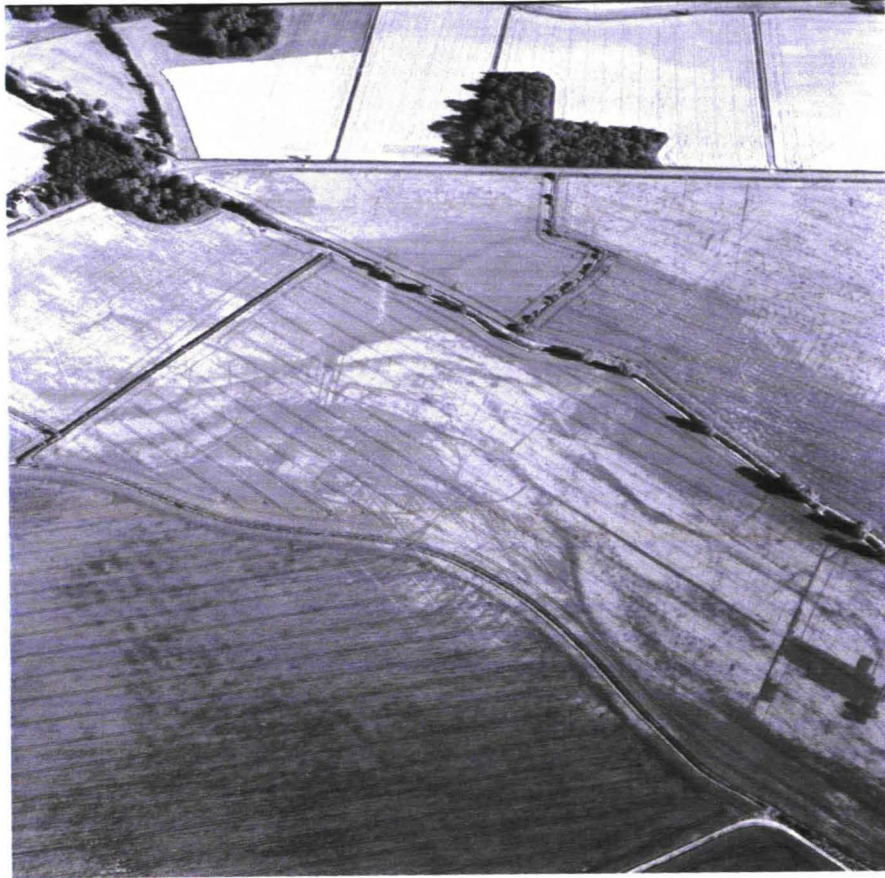


Plate 12: Site 7, Air photograph (*Ref N.M.R. 12840/67*)

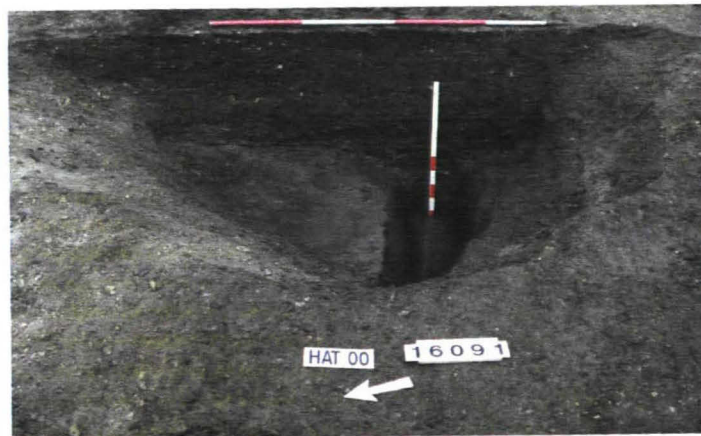


Plate 13: Site 7, Pit 16091 showing Sump 16144

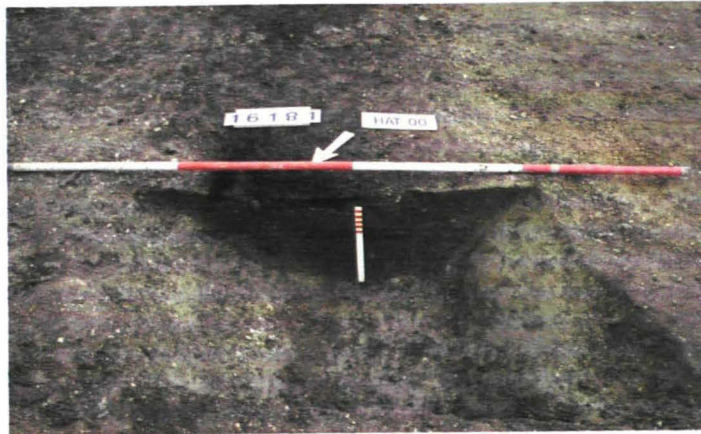


Plate 14: Site 7, Ditch 16181, north-facing section

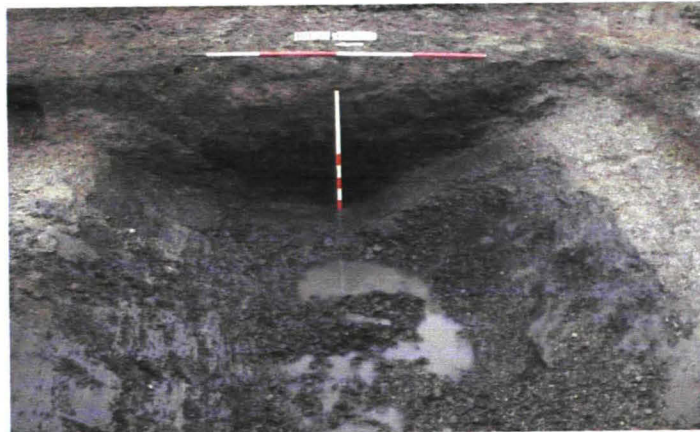


Plate 15: Site 7, Ditch 16291, west-facing section

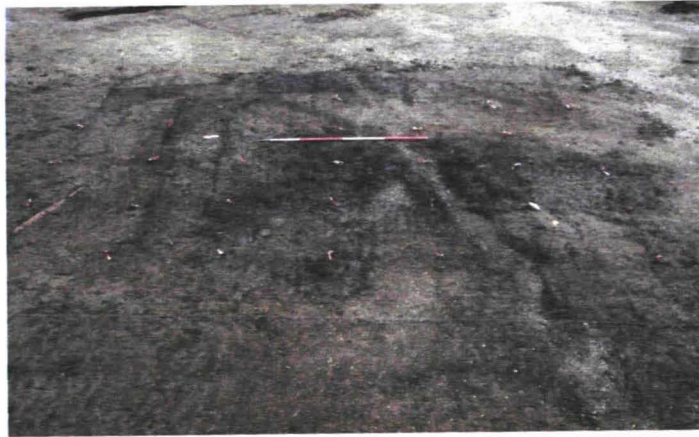


Plate 16: Site 7, Midden Deposit 16221, pre-excitation,
looking east



Plate 17: Site 7, Ring Gully 16222 and Pit 16244
below Midden Deposit 16221, looking south-east



Plate 18: General Shot of Site 13, looking south



Plate 19: Site 13, Pit 22601

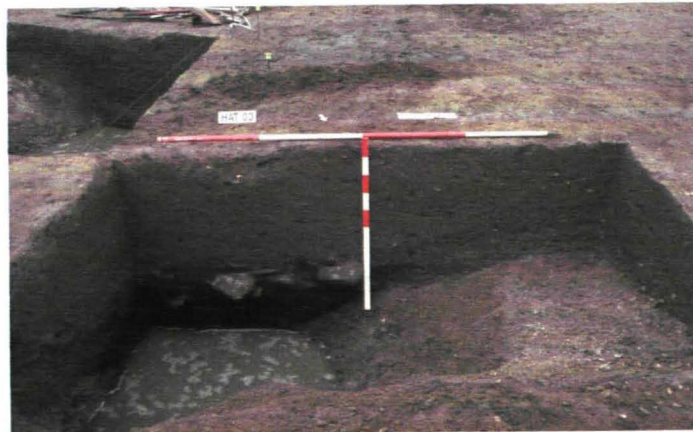


Plate 20: Site 13, Pit 22715, north-facing section



Plate 21: Site 13, Skeleton 22647



Plate 22: Site 13, Enclosure Ditch 22545, part of Ditch 1

10 ROMANO-BRITISH

10.1 Summary

Four Romano-British sites were investigated. The only structural remains were in Area 90, Plot 22/1, where the postholes of an aisled building were present within an enclosure system. There were extensive enclosure systems at Site 6, Areas 75 & 76, Plots 15/4 & 15/5 and Site 11, Area 84, Plots 20/2 & 20/3. The remaining site was an unstratified finds scatter: Site 12, Plots 20/5 & 21/1.

In addition, the area where the pipeline crossed the line of Car Dyke (Site 1, Plots 7/2 & 8/1, TF 0890 6325) was the subject of a separate investigation (APS, 2001).

10.2 Site Reports

10.2.1 Site 6, Areas 75 & 76 Field System, North Hills, Plots 15/4 and 15/5 (TF 0958 5267)

Summary: Eleven enclosure ditches of a rectilinear Romano-British field system, a number of broadly contemporary pits and the remains of several heavily truncated gullies were recorded. Potter, dating from the first to fourth centuries AD, was recovered, the bulk of it from the third to mid-fourth centuries. The lack of later pottery suggests that occupation had ceased by the mid-fourth century.

Artefact type	Count/Sherds	Weight/g
1st to 2nd century	51	337
2nd to 3rd century	50	314
3rd to 4th century	65	1165
Animal Bone		19,685
Other	Coin 25031, 25032, 25034; Glass Bead <25030>	

Table 11: Site 6, Finds Summary

Introduction

The site was approximately 2km to the east of the village of Dorrington (Fig 59) and 150m to the west of the private narrow-gauge railway at Knights Farm. The main focus of the site was immediately to the north and south of the farm-track that formed the boundary between Plots 15/4 and 15/5 (Plates 24 & 25). The site was on relatively high ground with good views to the north, west and south-east. The ground to the north of the track was noticeably higher than the ground to the south as a result of different ploughing regimes in the two fields. The ground was heavy boulder clay.

Cropmarks on air photographs showed the presence of a rectilinear field system. Fieldwalking identified a significant number of second to fourth century Roman pottery sherds, tile and brick concentrations. The geophysical survey did not identify significant anomalies, the underlying clay soils being magnetically unresponsive.

Thirteen evaluation trenches (Trenches 55-67) were opened over a 900m length of the pipeline easement spanning Plots 15/3 to 15/6. Following the positive identification of archaeological remains in the two trenches to the north of the farm track, arrangements were made to proceed to area excavation. Topsoil was stripped across the full working width for 50m north and 20m south of the farm track. Investigations were hindered by wet weather during the machine stripping and for much of the excavation.

Results

There were a small number of mostly discrete features which contained relatively early pottery, dated to the late first to early third centuries AD. An extensive field system, marked by a series of

relatively large ditches, was established in the later Roman period (Fig 60). The ditches were almost certainly not all contemporary, although the stratigraphic relationships were not clear and the pottery assemblage does not allow fine discrimination of dates; all of the ditches seem to date from the third to mid-fourth centuries AD.

Early Features

In the area to the north of the farm-track (Area 75), Pit 15220 was irregular-shaped, 2.20m long, 90cm wide and 15cm deep with gradually sloping sides and a shallow-concave base. It was truncated on its eastern side by Ditch 2. It produced two sherds of pottery dated to the second to third centuries AD. Towards the eastern part of the area, Pit 15130 was oval, 1.70m long, 60cm wide and 25cm deep with moderately steep sides and a shallow-concave base. Four sherds of pottery dated to the second century AD were collected from its fill (Fig 63, 171).

South of the farm track (Area 76), Pit 15197 was circular with a diameter of 96cm and 28cm deep, and produced twelve sherds of pottery dated to the late first to early second centuries AD. Gully 15100 ran from the southern limit of excavation for 5.2m before being lost to later disturbance. It was 74cm wide, 21cm deep and produced six sherds of pottery dated to the second to third centuries AD.

Ditches 3, 6 and 7

Three ditches did not quite align with the rectilinear pattern, and there is some evidence that these belong to an earlier phase than the rest. Sections 15199 and 15171 through Ditch 3 showed it to be 1.30m wide and 35cm deep with moderately steep sides and a shallow-concave base. Terminus 15191 in Area 76 to the south of the farm track was almost certainly part of the same feature and has been included as part of Ditch 3. The pottery from the fills of the ditch was predominantly from the third to fourth century AD (Fig 63, 165, 172), though there were some sherds dated to the first century AD in its secondary fill, especially from the most northerly section. The southern part of the ditch cut Pit 15173 (Fig 61d), leaving a surviving part approximately 2m long, 1.20m wide and up to 45cm deep and had moderately sloping sides and a concave base. The fill of this pit produced seven sherds of third to fourth century pottery.

Ditch 6, on a roughly parallel alignment 15m to the west, was only seen in Area 76. In Sections 15069, 15083, 15070 and 15106 it was seen to be up to 93cm wide and 30cm deep (Fig 61b), the southern part becoming increasingly shallow, probably as a result of ploughing. Nineteen sherds of pottery dating from the second century to the fourth centuries AD were collected from its fills.

On a similar but less regular alignment, Ditch 7 ran north from Ditch 1, curving slightly to the west to terminate just short of Ditch 2. Excavated Sections 15126, 15047, 15049, 15045 and 15096 showed that it was up to 1.40m wide and 35cm deep, similar to the dimensions to Ditches 3 and 7. It became increasingly shallow to the north.

Ditches 1 and 2

Sections 15012, 15202, 15073, 15137, 15022, 15123, 15032, 15058 and 15119 were excavated through Ditch 1, which crossed the entire width of Area 75 (Plate 27). It had a fairly consistent profile, with moderate to steep sides, and a slightly concave to a narrow-concave base, but increased in width and depth towards the west, from 1.50m wide and 50cm deep to 2.00m wide and 70cm deep (Figs 62e & d). In addition to a pottery assemblage dated to the third and fourth centuries AD (Fig 63, 169, 173, 176; Fig 64, 187), finds included a third or fourth century copper alloy coin (Registered Find 25031) and a fragment of Millstone Grit quern stone (Appendix 8). A glass bead (Registered Find 25030) dated to the sixth to seventh centuries AD was presumably intrusive (Fig 65b).

Ditch 2 was perpendicular to Ditch 1, and of similar dimensions and profile, being 2.05m wide and 66cm deep with moderately steep sides, and a shallow-concave base in Sections 15027, 15222, 15015 (Fig 61a) and 15076 (Fig 61c, Plate 23). This ditch was and was recorded as being a

stratigraphically earlier than Ditch 1 and finds included pottery dated to the first or second centuries AD (Fig 63, 170, 175; Fig 64, 179-180), but other finds from the two ditches seems to be broadly contemporary. A distinctive fragment of Roman tile was recovered (Fig 65a). The primary fill was sampled as Environmental Sample 26126 (Appendix 6).

Ditches 4 and 5

Perpendicular to Ditch 1, and running south from it, Ditch 4 was also of similar profile and dimensions (Figs 62c & b). Ditch 15110 on the same alignment in the north-eastern corner of Area 76 is almost certainly a continuation of the same feature, and has been grouped as part of Ditch 4, along with Sections 15020, 15033 and 15132 in Area 75 (Plate 26). Pottery from Ditch 4 has been dated to the third to fourth centuries AD (Fig 63, 162-163, 166; Fig 64, 178, 183, 187-188).

Adjacent to the farm track, an apparent re-cut of this ditch displaced to the east [15133] (Fig 62b) produced a Roman coin (Registered Find 25032) of AD 330-335 (Appendix 8) and considerable quantities of pottery (Fig 63, 167-168; Fig 64, 182, 184). This re-cut truncated a ditch [15134] running westward 7m to the eastern limit of excavation. This ditch was smaller, 90cm wide and 36cm deep, with moderately steep sides and a concave base. It produced two sherds of third to fourth century pottery.

Parallel to Ditch 1 and 25m to the south, Ditch 5 consisted of two short sections crossing the north-west corner of Area 76, separated by a 1m-wide gap. It was of a similar width to Ditch 1 but was altogether shallower so that the apparent gap between Terminals 15216 and 15204 may have been no more than a shallow section that had been ploughed away. It was deeper, up to 40cm, in the Sections 15056 and 15085 to the west (Fig 62a). The excavated fills yielded seven sherds of pottery dated to the third and fourth centuries AD.

Two more ditches were roughly parallel to Ditch 1. Only a short length of ditch 15206 was visible in the north-western corner of Area 75. It was 1.60m wide and 40cm deep with moderately steep sides and a concave base. It produced three sherds of pottery dated to the second century or later. The short length of Ditch 15108 visible in the extreme south-east corner of Area 76 was of similar dimensions to Ditch 4 and may have been a return of that feature but it had no dating evidence.

Gullies

Gully 15226 in the extreme south-western corner of Area 75 was oriented east-to-west and was 60cm wide and 30cm deep with moderately steep sides and a concave base. It contained pottery dated to the third century or later. To the north, Gully 15162 with similar dimensions ran for a 3.50m on a parallel alignment to Ditch 1. It contained pottery dated to the mid-third century AD and a mid- to late third century copper alloy Roman coin (Registered Find 25034). Gully 15135 was a short feature, 80cm wide and 22cm deep, that appeared to feed into Ditch 1 immediately east of its intersection with Ditch 2. It produced seven sherds of mid-third to fourth century pottery.

Pit Group 1

Pits 15060, 15062, 15064 and 15066 formed an intercutting group extending north from Ditch 1 (Fig 62d; Plate 28). The most southerly of the group [15060] was cut by the ditch, and probably by the pit to the north, though interrelationships within the group were unclear. All of these pits were oval or circular in plan, with moderate to steep sides and concave bases. There were up to 1.60m in length and between 18cm and 29cm in depth. Similar pottery dating to the third or fourth centuries AD was found in the fills of all four suggesting that they are broadly contemporary with each other, and with Ditch 1.

Pits

Pit 15017 in the eastern part of Area 75 was sub-rectangular, 1.20m long, 1.10m wide and 40cm deep. It had an upper fill of re-deposited geological clay over a primary silting fill from which four sherds of pottery dated to the second to third centuries AD were recovered. Around 4m to the north, Pit 15140 was rather elongated, 2.56m long, 1.62m wide and 17cm deep, with gradually sloping sides and a concave base. It produced a single sherd of pottery dated to the second century AD.

Beyond the western terminus of Gully 15162, Pit 15176 was 80cm in diameter and 20cm deep, and yielded eight sherds of pottery dated to the third to fourth centuries AD (Fig 63, 174; Fig 64, 185). Pit 15189 was cut into the silted fill of Ditch 4. It had a diameter of 60cm and a depth of 25cm with moderately steep sides and a concave base. Ten sherds of fourth century AD pottery were recovered from its fill. There were two irregular pits close to the southern edge of Ditch 1 almost opposite its intersection with Ditch 2. The more northerly, Pit 15157, produced twelve sherds of pottery, while Pit 15159 yielded thirty-six sherds, all dated to the third to fourth centuries AD (Fig 64, 181).

A substantial amount of sub-angular limestone fragments had been discarded into the fill of Pit 15164, a roughly oval feature 2.12m long, 1.85m wide and 47cm deep in the south-east part of Area 76. Ten sherds of third to fourth century pottery were collected from its primary fill. It appeared to cut both an extension to Gully 15102, and Pit 15165 to the south, which also had a fill of limestone fragments and produced eight sherds of similarly dated pottery.

Undated Features

In addition to the features described above, a number of features contained little or no dating evidence. These included three linear features and four fairly regular pits in addition to a number of irregular or poorly defined pit-like features. At least some of these are likely to have been of natural in origin, as tree-root or animal disturbance.

In the south part of Area 76, Gully 15102 was a very small feature no more than 6cm deep, possibly running into Ditch 6 though the area of intersection had been ploughed away. The gully contained a single abraded pottery sherd. Gully 15145, another small feature 40cm wide and 11cm deep, in the north-east part of Area 75, ran for 6m on a parallel alignment to Ditch 3 and would have intersected Ditch 1 just beyond the eastern limit of excavation. Just to its west, Feature 15147 was 1.90m wide, 90cm wide and 18cm deep with an uneven base.

Pit 15088 in the north-west part of Area 75 was circular with a diameter of 99cm and was 33cm deep with steep, well defined sides. In the same part of the site, Feature 15025 was larger, 4m long, 2.70m wide and 30cm deep, with an undulating base. An iron nail (Registered Find 25026) was recovered from its fill (Appendix 8). Posthole 15043 was a small feature between Ditches 2 and 7. Pit 15187, 2m to the east of Ditch 4, was 60cm in diameter and 25cm deep with steep sides and a concave base.

In Area 76 Feature 15081 to the west of Ditch 6 was quite linear in appearance and may have been the truncated base of a ditch. It was 2.56m long 1.20m wide 18cm deep and had a few fragments of limestone in its fill. To the west of Ditch 4, Feature 15117 was 2m long, 1.50m wide and 28cm deep. Feature 15104, a shallow oval pit truncating the northern terminus of Gully 15100, produced two pottery sherds dated to the second to third centuries AD.

A spread of subsoil-like material (15183) covered the south-west corner of Area 76, its investigation severely hampered by the adverse weather conditions. Three sherds of second to third century pottery were recovered from it. The irregular pit-like features recorded to the east of the spread, including Features 15185 and 15181, which had two abraded sherds of Roman pottery in its fill, seem to have been outlying remnants of it. Pit 15079 nearby was 1.61m long, 1.00m wide and 16cm deep with irregular sides and base much disturbed by tree roots. Three sherds of pottery dated to the third century AD were recovered from its fill.

Discussion

Evidence for pre-Roman activity on the site includes eleven pieces of residual worked flint, probably from the middle or later Bronze Age (Appendix 1), including a well-made scraper on a thick, hard-hammer flake. Residual prehistoric pottery included at least three possibly Bronze Age sherds and two sherds decorated with the scoring typical of the mid- to late Iron Age (Appendix 2).

There is a small amount of pottery broadly dated to the second to third century, but the bulk of the pottery was later than mid-third century. There are no specifically late Roman wares so occupation of the site must presumably have ceased by the mid-fourth century.

The vagaries of sampling errors in features containing only small quantities of dateable material mean that any postulated sequence of features must be speculative. There seems to have been a high degree of residuality on the site, and the difficulty in distinguishing fills and possible disturbance from tree-root activity means that intrusive finds could also be common. The resolution that can be expected of pottery-dating in these circumstances is quite coarse, and insufficient to discriminate between the rather closely spaced phases of activity.

Various alignments can be discerned among the linear features. Ditches 1, 2 and 5 together with Ditch 15200 and possibly Ditch 15108 and some elements of Ditch 4 seem to form a clear rectilinear pattern. Ditches 6 and Gullies 15162 and 15102 are on a similar alignment but do not fit quite so easily into the pattern. Ditch 3, Ditch 15145 and possibly Ditch 15134 appear to be on a slightly different alignment. The orientation of Ditch 7 and perhaps the southern part of Ditch 4 is puzzling. Probably the best that can be said is that there was a series of rectilinear enclosures defined by ditches in the late third to early fourth centuries; this field system was probably modified and renewed during this time and may have replaced an earlier field system, perhaps of second century date of which little remains.

The bone assemblage showed that cattle was the most common species and the production of prime beef appears to have been the main goal. Sheep or goat and pig are of minor importance to the economy. Horse bones are more common than pig. There are some indications that venison may also have been consumed (Appendix 10). The presence of cattle bones suggests that the field system was used as pasture. The ditches would have acted as field boundaries for managing livestock as well as channels for the drainage of water.

The environmental evidence from the thirteen processed bulk samples is generally indicative of dumped domestic debris. The abundance of chaff in five of the richer samples is probably associated with crop-processing activities, most likely fine sieving residues, which are generally associated with the final stages of the crop processing sequence (Appendix 6). The material collected from the samples indicates the proximity of human activity of a domestic character, producing dumps of rubbish particularly at the junction of Ditches 1 and 2, but also that crop processing activities were being carried out at the site. Analysis of the charred botanical material did not indicate whether the site was producing, as well as consuming the crops, or merely carrying out the final stages of processing on a piecemeal basis. Evidence that flour was being produced is provided by the recovery of two fragments of Millstone Grit quern (Appendix 6). The limited palaeo-environmental evidence indicated that the site lay within an open grassland landscape. There was very little evidence for shady or woodland habitats.

The substantial amount of pottery and animal bone recovered is an indication of nearby settlement but there was no evidence of any building or associated structures within the pipeline working width. Only three fragments of ceramic building material were recovered (Appendix 5), which suggests that brick and tile were not used in the construction of nearby buildings. Some of the flattish limestone fragments noted in the fills of some features may have been displaced from nearby structures. Limestone does not occur in the natural geology of the site. The site is near the top of a slope, and there were indications that ground erosion had occurred, this being the most likely explanation for the variations in depth of some of the ditches. If this is so, shallow building remains, such as beam-slots would have been lost to ploughing. However, it is more likely that the pottery and bone was derived from domestic activities that took place beyond the area of the pipeline easement.

10.2.2 Site 11, Field System and Settlement Evidence, PRN 62205, Plots 20/2 & 20/3, Kirkby la Thorpe (TF 0940 4645)

Summary: Part of a rectilinear enclosure system was uncovered spanning the pipeline easement in Plots 20/2 and 20/3. The pottery assemblage dates the enclosures to the third to fourth centuries AD. A large quantity of ceramic building material, including box tiles, suggests the close proximity of a high status Romano-British building. There was evidence of Anglo-Saxon activity in Plot 20/2.

Artefact type	Count/Sherds	Weight/g
? PH pot	48	383
RB pot	453	9266
RB CBM	125	8497
Med pot	13	133
Animal Bone		20,840
Other	Flint, fired clay, quernstone frags, metalwork, stone, shell, slag, crucible fragments, Med & undated CBM, 2 Late Med-PM pot	

Table 12: Site 11, Finds Summary

Introduction

The site was 500m to the north-west of the village of Kirkby la Thorpe and lies at approximately 11m AOD on fairly level ground, falling away very gradually to the south (Fig 66; Plate 30). It covered the southern half of Plot 20/2 and the northernmost third of Plot 20/3, a distance of 250m along the pipeline easement. The surface geology consists of Sleaford sands and gravels.

The site was initially identified in the ADBA from a cluster of small cropmarks on an air photograph kept by Lincoln Sites and Monument Record (Plate 29, Ref 1715-19 TF 0946/1). Subsequent discussions with the SMR have since resulted in the site being assigned the PRN number 62205. It has been suggested that the cropmarks are related to activity associated with the Shrunken Medieval Village of Kirkby la Thorpe. A recommendation was made to re-route the pipeline away from the site, after first carrying out field reconnaissance, fieldwalking and geophysical survey of the surrounding area in order to select a route with a lower potential impact, but engineering constraints prevented this option.

Fieldwalking in good conditions in Plot 20/2 produced a significant artefact scatter. This included eleven sherds of Roman and five of Anglo-Saxon pottery. However, retrieval conditions in Plot 20/3 were very poor; only one Late Neolithic or Bronze Age flint, one sherd of Roman pot and one sherd of medieval pot were recovered. No upstanding earthworks were visible in either plot (NAL Report 150).

The geophysical survey detected an area of enhanced susceptibility readings associated with ditch-like linear anomalies and possible pits. These readings were concentrated in the northern half of Plot 20/3 suggesting an association with the enclosure cropmarks (NAL Report 150, Volume 2).

It was recommended that evaluation trenches should be excavated to allow for detailed assessment of the remains. Initially, the intention was to open four trial trenches in each plot (Trenches 12-19). Trenches 15-17 produced Romano-British features while Trenches 12 and 13 contained features that were later found to be Anglo-Saxon. A Romano-British ditch in Trench 14 it was masked by overlying furrows and was not detected until excavation. No significant features were revealed in Trench 18. Trench 19 was not opened as the decision had by then been made to excavate the whole site. A copper alloy finial from an iron object (Registered Find 25184, Fig 72d) and a fragment of a bone object, possibly a whistle (Registered Find 25136, Fig 72c) were recovered from Trenches 16 and 17 respectively.

The topsoil was carefully removed under archaeological direction, using tracked back-acter excavators fitted with smooth-faced buckets, to reveal the extent of the archaeological deposits. The site was then cordoned off to protect it against construction traffic before being excavated.

Results

The removal of topsoil revealed the remains of a rectilinear enclosure ditch system and several smaller, less regular ditches, gullies and pits (Fig 67). The northern half of Plot 20/2 was dominated by Anglo-Saxon settlement activity (see Site 10 below). The field system was on a roughly north-to-south and east-to-west alignment. It appeared to overlie a number of smaller ditches, curvilinear gullies and an area of irregular pitting.

While it has been possible to confirm the stratigraphic relationships between a small number of individual features it has been difficult to ascertain any overall phasing. Pottery dates loosely place the majority of features in a third to fourth century band, with only Ditches 2, 4 and 6 containing higher proportions of mid- to late fourth century material. This suggests that the evolution of the site occurred over a relatively short time. An attempt has been made to divide the features into three phases based on feature type and dating evidence (Fig 68), but these should be treated with caution.

PHASE 1: Third to fourth century features

PHASE 2: Mid- to late fourth century enclosure ditches

PHASE 3: Medieval ditch or furrow

PHASE 1

The following features, all located in plot 20/3, have been assigned to Phase 1:

Linear features at western side of excavation area

Ditch 20555 and Gully 20556 emerged side by side from the western edge of excavation and ran in a north-easterly direction for around 10m before being cut by Ditch 2. Neither feature appeared to continue to the north of Ditch 2. The features were irregular, with widths varying between approximately 65cm and 2.00m for Ditch 20555 and between 55cm and 90cm for Gully 20556. They were separated by a thin wedge of sand, though they presumably had a relationship at a higher level before being truncated by ploughing.

In profile, Gully 20556 was gently sloping with a wide, flattish base and a maximum depth of 25cm. Ditch 20555 was more substantial and clearly defined. In profile it had fairly regular sloping sides with a wide, even base and a maximum depth of 48cm. A gentle V-shaped groove 5-10cm deep was noted in the base of one of the interventions through it. Both features became shallower and less distinct to the north-east, and they had similar charcoal-flecked fills.

Ditch 1

Two adjacent features on the same alignment have been grouped together as Ditch 1. Gully 20607 appeared to cut the western edge of Ditch 20609/20565 (Fig 70d). The southern ends of both features were cut by Ditch 4, while the northern end continued beyond the western limit of excavation. A narrow strip of natural substrate separated the two elements of Ditch 1 for a distance of 5m. Gully 20607 appeared to be turning towards the west at the point where it was truncated by Ditch 4 to the south. It was visible for approximately 11m to the north of Ditch 4 and it is possible that it was truncated by Pit 20564. In profile, it was V-shaped, 72cm wide and 28cm deep. Ditch 20609/20565 was 1.70m wide and 38cm deep at its southern end, decreasing to 18cm deep at its northern end. Both sections showed a very gentle rounded profile. Gully 20607 was fairly sterile, but pottery (Fig 71, 192, 195, 197-198, 204) and a small quantity of animal bone being recovered from Section 20565, the more northerly of the interventions through the ditch.

These two features were similar in form to Ditch 20555 and Gully 20556. Assuming they were contemporary they may have formed a corner 3m to the west of the excavated area.

Feature 20551 was a discrete length of gully approximately 3.35m long, 51cm wide and 18cm deep on a parallel alignment to Ditch 1 and just over 1m to the west. It had steep sides and a flat base, and its fill contained several medium-sized angular chunks of limestone and a single sherd of pottery.

Gully Group 1

A group of curvilinear gullies in the centre of the excavation area have been grouped together as Gully Group 1. This includes Gullies 20547/20592, 20594, 20596/20530, 20542 and 20545. All were cut by Ditch 8. These five gullies all had similar, gently sloping profiles and flat bases and varied in width between 50cm and 1.10m and in depths between 8cm and 33cm.

Their alignment and similarity of fill suggests that Gullies 20592/20547 and 20596/20530 were originally a single feature with a combined length of approximately 19m. This gully could be extrapolated in a broad arc beyond the eastern limit of excavation to form a ring-ditch with Gully 20545, though this assumes that the intervening part was shallower and has been truncated by ploughing. This postulated ring-ditch would have had an internal diameter of around 13m.

Postholes 20540 and 20541 could be remnants of an internal structure. They were isolated features with no finds. Neither feature had a clear edge, being defined principally by the presence of limestone fragments packed together in two groups approximately 3.5m apart (Plate 31). These were originally interpreted as post-pads but the acute angling and irregular form of the stones makes post-packing seem more probable. Posthole 20540 consisted of a group of four stones in an area 33cm by 23cm and reaching a depth of 19cm. Posthole 20541 had four large stones with three smaller fragments, and was approximately 30cm by 30cm with a depth of 30cm.

At the point where they intersected, no distinction could be seen between Gullies 20594 and 20596 and they seem to have been contemporary. Though isolated in the centre of the putative ring-ditch, Gully 20542 was also similar, suggesting it was also contemporary. The fills of all these gullies were fairly sterile mid-grey-brown sands or silty sands, with only Gully 20545 standing out as having a reddish grey fill. Gully 20547/20592 contained several large unworked stones and very occasional charcoal flecks, Gully 20542 contained a fragment of dye pot (Registered Find 25131), and pottery (Fig 71, 203) was recovered from Gully 20594.

Other Phase 1 Features

Feature 20514 against the north-west edge of the easement was initially interpreted as a pit, but after sectioning was understood to be a gully terminus (Plate 32). It was visible for 2m and appeared to be oriented roughly north-east to south-west. It had moderately steep, regularly sloping sides and a flat base with a maximum width of 1m and a maximum depth of 29cm. The fill produced a Roman iron key (Registered Find 25044, Fig 72b), a fragment of copper sheet (Registered Find 25043), sherds of pottery (Fig 71, 207) and several quite large fragments of sandstone, some of which showed evidence of burning.

Feature 20518 was partially exposed towards the north-western limit of the excavation and may have been an isolated pit or the terminus of a linear feature. It had a maximum width of 2.1m and a depth of 33cm, probably increasing to the west. The feature contained a notable quantity of charcoal, a small amount of burnt animal bone and a few pottery fragments.

Pit 20564 appeared at the western edge of the easement and was almost circular in plan with a U-shaped profile and a depth of 56cm (Fig 70c). It contained several medium to large limestone fragments and a variety of artefacts including a punch or chisel (Registered Find 25051) and seven sherds of pottery, one possibly of Iron Age date. It was recorded as cutting Ditch 1 although this relationship was not certain.

Two large semicircular features lay at the extreme southern end of the site and appeared to be cut on their northern sides by Ditch 4. Pit 20573 appeared opposite Ditch 1 on the south side of Ditch 4, but its relationship to Ditch 1 could not be determined because of the greater depth of Ditch 4. The

vestiges of this pit were 5m long and 2.70m wide. In section the pit appeared to have gradually sloping sides and a rounded base, with a maximum depth of 55cm (Fig 69a). However, as the section was offset to one side it is possible that the feature may have been deeper towards the centre. The pit contained a fairly sterile, orangey mid-brown sandy silt and produced little in the way of artefacts apart from a fragment of Roman tile (Fig 72a).

Pit 20580 was 4.5m long and 3.75m wide, with its northern edge apparently cut by Ditch 4 and its eastern edge by Ditch 8. In section it could be seen to have irregular sloping sides (Fig 70a), but it was not bottomed because of the high water table; a depth of at least 65cm was recorded. The bulk of the fill (20581) was a dark to mid-brown sandy silt while the earlier fill (20582) was a darker grey. The excavator of this pit was hesitant about its relationship with Ditches 4 and 8; this uncertainty casts some doubt on the attribution of finds from Pit 20580, Ditch 4, Ditch 8 and Slot 20509 excavated within Evaluation Trench 17. In plan, Pits 20573 and 20580 appeared to be connected by an irregular strip of fill but there was insufficient time to excavate this area and their relationship is unconfirmed.

PHASE 2

The main elements of the field system ditches seem to belong to this slightly later phase:

Ditch 2

Two full sections [20598], [20575] and two partial sections [20532] (Fig 69a) were dug across the width of Ditch 2. This ditch, visible in the north-west corner of Plot 20/3, appeared to be the south-eastern corner of a rectilinear enclosure ditch. At the western edge of excavation it was 85cm wide and gradually increased to about 1.70 at its northern edge. To the west it had a U-shaped section with a maximum depth of 48cm, but became more V-shaped and deep, to 63cm, in its eastern arm. All sections were relatively artefact-rich, with over 100 sherds of Roman pottery (Fig 71, 196, 205-207), the remains of a possibly Iron Age vessel, and a copper alloy pin (Registered Find 25052). A concentration of charcoal was noted towards the western end of the feature. Part of an articulated horse skeleton (20600) was also recovered (Plate 31).

Ditch 3

Ditch 3 ran north to south across the north-eastern corner of the site. Two distinct linear deposits were visible at the surface and excavation showed them to represent two separate phases. The earlier phase, Ditch 3A, Ditch Sections 20507 and 20549, collectively Ditch 3a, belonged to the earlier phase, while Sections 20550 and 20517 were from the later Ditch 3b.

Ditch 3a was fairly regular, between 3m and 3.5m wide and cut along its eastern edge by Ditch 3b, which was a smaller feature 1.0m to 1.7m wide. Both ditches had widely differing profiles and depths in the excavated sections (Figs 69c & 70b). This suggests that there may have been some confusion with Feature 20583 (see undated features below) which runs east to west across this area. The artefact assemblage from Ditch 3a appeared to be more typical of the later phase despite it being stratigraphically earlier. Most of the artefacts (Fig 71, 206) were recorded as having come from the deeper section, where the potential for confusion was greatest. Two sherds medieval pottery was retrieved from the upper fill of Ditch 3a, perhaps the consequence of disturbance associated a former field boundary visible on the 1979 Air Photograph.

Ditch 4

Ditch 4 was initially located within Trial Trench 17 as Cut 20509. Records from this stage show a gentle V-shaped profile with a series of fills, with no suggestion of a re-cut, but following topsoil removal, two distinct linear fills were visible at the surface. In Section 20568 (Fig 70a) they were recorded as two fills of the same feature while in the other (Fig 69b) a narrower feature [20603] appeared to be cut by a broader one [20602]. Ditch 4 appeared to cut Ditch 1 and Pits 20573 and 20580 and to be cut by Ditch 8. The bone object (Registered Find 25136; Fig 72c) recovered from the base of Section 20509 has been variously interpreted as a whistle or a Late Saxon bone pottery stamp; if the latter it was presumably intrusive from a later re-cutting or disturbance from Ditch 8.

Other finds included crucible fragments (Registered Finds 25105, 25106, 25121) and metal-working slag. The pottery (Fig 71, 189-191, 194, 200, 202) suggests a late fourth century date for all the deposits.

Features in Plot 20/2

The remaining features ascribed to this phase were in Plot 20/2 and overlap with Site 10 to the north. Ditch 5 [20006] was recorded in Trench 15, Plot 20/2. It appeared to run north to south and was roughly 90cm wide and 24cm deep with fairly steep sides and a wide flat base. Two sherds of pottery (Fig 80, 21) and a small amount of animal bone were recovered. This area was not recorded on the detailed site plan and no archaeological features were noted following topsoil stripping.

Ditches 6 and 7 were at the southern end of the excavation area in Plot 20/2 (Fig 78b). Ditch 6 was aligned roughly east to west and appeared to be contemporary with Ditch 7 which was on a perpendicular alignment. Sections 20204, 20387 and 20208 were excavated in Ditch 6, showing it to have gradually sloping sides and a slightly concave base. It was between 1.10m and 1.90m wide and 41cm to 45cm deep, and had a single fill that contained a small quantity of pottery (Fig 80, 22) and animal bone. The section excavated across Ditch 7 was not fully recorded because of shortage of time. This ditch was between 2.5m and 3m wide and appeared to be more regular than Ditch 6.

PHASE 3

Ditch 8 was 11m to the east of Ditch 1 and on the same alignment. Sections 20537, 20525 and 20590 show similar profiles, the feature being 48cm deep adjacent to Gully 20545 and becoming shallower to the north. A sherd of thirteenth to fifteenth century pottery from its fill supports the interpretation of this feature as an unusually deep medieval furrow. Several furrows, also probably medieval, were recorded on plan in the northern half of Plot 20/2; these appeared to peter out approximately 30m to the north of Ditch 7.

Undated features

Ditch 20503 was identified in Trench 16. It was aligned roughly east to west and consisted of a U-shaped cut approximately 1m wide and 20cm deep. It contained a mid-orange brown sandy silt and produced 725g of animal bone and 6 fragments of Roman ceramic building material. This had a fabric commonly associated with later fourth century features. Ditch 20583 was very indistinct and irregular in plan but appeared to run on roughly the same alignment to Ditch 20503. It had a gentle rounded profile with a wide rounded base. Where sectioned, it measured approximately 1.70m wide and 30cm deep. It is described as containing a mid-brown-yellow silty sand and produced no finds. Neither of these features was accurately planned, and it is not clear if they were parts of the same ditch. Their relationship to Ditch 3 is equally unclear.

Unstratified & Unlocated Artefacts

Unstratified topsoil finds (20500) included a fragment of whetstone (Registered Find 25110) and pottery from the late third to fourth centuries and thirteenth to seventeenth centuries. The subsoil (20501) produced two iron objects (Registered Finds 25045 and 25046), a fragment of a Roman copper alloy key, fragments of Rhenish lava quern-stone, and Roman and medieval pottery. finds collected over the site. Other unstratified finds (20612) include a piece of worked shell (Registered Find 25098). There were few contexts in Plot 20/3 that were numbered during the rapid excavation in advance of construction work but were not planned and have proved impossible to locate. Context 20504 in Trench 16 contained forty-nine sherds of late third to fourth century pottery and Context 20613 in Trench 17 contained eight similarly dated sherds.

Discussion

The earliest activity appears to consist of insubstantial rectilinear demarcation features associated with shallow gullies and pits. The cropmarks suggest an enclosing ditch running west from the pipeline before making a 90° turn to the north. Within this, a number of smaller rectilinear divisions and possible pits are apparent. The pottery indicates a relatively short occupation period spanning

the third to fourth centuries with a peak in the mid to late fourth century. The small amount of late first and second century pottery is more likely to be the result of earlier manuring practices.

Gully Group 1 could possibly be the remains of a circular structure. There are precedents for similar structures from this period. At Rampton a single roundhouse of the first century AD was found amid a complex of enclosures, the finds from which seem to attest to occupation until the fourth century. Breaston provides another example, having roundhouses within a sub-rectilinear enclosure, but here there is more confidence that occupation commenced in the Roman period rather than before, showing that the presence of roundhouses alone cannot preclude a Roman-period foundation (Dark & Dark, 1997). The relative sparseness of confirmed mid- to late fourth century pottery suggests an earlier third to fourth century date for this structure.

The small number of artefacts from Gully Group 1 suggests it was not a dwelling. Alternative uses such as storage, shelter or workshop space are possible. The lack of additional structural evidence and the relatively small quantities of domestic waste within the features suggest the site lies at the periphery of the main occupation area. There is nothing to suggest that we are seeing anything other than a low or medium status farmstead. By contrast with the Phase 2 features, there is no strong association with ceramic building materials, and therefore no reason to believe that any substantial roofed structures existed nearby.

The darker colour of the ditch and pit fills and the greater quantity of artefacts suggest increasing activity levels in Phase 2. The features are more regular than those from Phase 1 and suggest planning on a larger scale. The range and quantity of ceramic building material recovered indicates that there was a substantial building nearby. The presence of box-flue tiles, *tegula* and *imbrex* tiles and brick suggests that this may have been a villa complex. The range of fabric types and different *tegula* flange profiles suggests that the tiles were purchased from several sources, possibly some distance from the site. Although there was no sign of any structural remains in the excavated areas, it is a reasonable hypothesis to suggest that Ditches 3 and 4 may have formed a boundary ditch to an enclosure surrounding this building.

The site produced the largest assemblage of animal bone from the pipeline, the majority coming from Ditches 2 and 4 (Appendix 10). Cattle were the commonest species; estimates of age at death suggest that they were mainly being raised for prime beef. The population structures of both sheep and pig are also consistent with meat production. Perhaps of more interest was the evidence from butchery marks that horses may have been exploited for meat. This does not necessarily indicate human consumption as there is evidence that dogs were also being kept. Generally, this material suggests the continuation of farming and domestic occupation of the site in this phase. An articulated horse skeleton from Ditch 4 showed evidence of joint disease symptomatic of heavy work.

A large assemblage of metal-working slag was recovered from Ditch 4. There was a single piece of tap-slag, normally produced during iron-smelting, but much of the material was more typical of smithing: the production, repair or recycling of iron objects. The lack of hammerscale suggested that this was not taking place in the immediate vicinity of Ditch 4, although it is unlikely that slag would have been transported any great distance. There was also a considerable quantity of anomalous glassy slag, for which there is no very obvious explanation. It may be the result of some other high temperature process, or an error by the iron smith. A small amount of this glassy slag was also found in Ditch 2. A relatively large quantity of tuyere fragments was also found. Tuyeres were used for high temperature processes to protect the bellows' nozzle from the heat of the fire, and could be associated with non-ferrous metal working as well as iron smithing. The orange, oxidized colour of some of these pieces is unusual, and may also point to some other use than iron smithing. Small pieces of fired clay probably derived from hearth or oven structures.

The only slag from Phase 1 was a single piece of hearth bottom, again indicative of smithing, but the presence of intrusive medieval pottery in the same context suggests that this piece may also have been intrusive and belong more properly to Phase 2.

The transition from Phase 1 to Phase 2 seems to represent a development from a small farmstead to a higher status site, probably with a brick-built dwelling, accompanied by a change from a purely agricultural to a more diverse use. Iron-working was undoubtedly taking place on or very near to the site, and there may also have been some other industrial activity also taking place. This development seemed to have occurred towards the end of the fourth century.

Only one feature was assigned to Phase 3. Although it is an apparently isolated feature, it is likely that this is a furrow from a medieval ridge-and-furrow system.

A search through the NMR Air Photograph collection at Swindon found a photograph (Ref 1715-19 TF 0946/1) showing cropmarks in the area of the site (Plate 28). These form a pattern of rectilinear enclosures in the north-east corner of Plot 20/3; these enclosures were originally interpreted as medieval croft boundaries (NAL Report 147, add. p xiii). The linear features found on site appear to correspond to the west side of the densest concentration of these features, which may imply that main focus of activity was immediately to the east of the pipeline easement.

Traces of an extensive field system were recorded during the construction of the 1998 Hatton to Silk Willoughby Gas Pipeline approximately 1.8km to the south east between TF 10440 45320 and TF 10356 to 45090 (NAL, Report Nos. 134). These contained pottery with a predominant mid-third to fourth century date. The presence of several pieces of Roman fine wares and glass suggested a fairly affluent settlement nearby. The presence of some Roman brick and roofing tile also suggested that this settlement may have had at least one brick-built structure with a tiled roof.

Excavations carried out in 1995 to the west of Mount Lane, approximately 1.2km to the south-east at TF 0986 4526, also identified Roman deposits. The occurrence of a single *tessera* and fragments of box-flue tile suggested this site was close to a high status building, perhaps a villa complex (LHA, Volume 31, 1996, 54).

10.2.3 Site 12, Artefact Scatter, Plots 20/5 & 21/1, A17/Boston Road (TF 0932 4583)

Summary: A significant scatter of pottery and ceramic building material, principally of the Roman period, was detected during fieldwalking.

Introduction

Plots 20/5 & 21/1 lie either side of the A17, adjacent to its junction with Boston Road. The ground is fairly level, lying at just below 10m AOD. The surface geology consists of Sleaford sands and gravels.

A significant scatter of principally Romano-British material was detected under moderate to good conditions during the fieldwalking survey. The majority of finds were recovered from Plot 21/1 where visibility was better. The pottery consisted of everyday domestic wares, although one fragment of high status Samian ware was collected. As well as the positively identified Roman ceramic building material (CBM) there were a number of unidentified fragments which could be either Roman or late post-medieval. However, there was insufficient CBM to suggest the presence of buildings utilising these materials. Several oyster and mussel shells were also noted, suggestive of food waste (NAL, Report No. 150).

The geophysical survey found distinct linear anomalies in both plots which could have indicated traces of a former field system (NAL, Report No. 150).

Pre-construction fieldwalking and geophysical surveys led to a recommendation that eight evaluation trenches, numbers 20-27, be opened over a distance of approximately 3.5km prior to construction to establish the presence and nature, or absence, of any underlying remains.

Results

Due to extensive delays, resulting from the foot-and-mouth outbreak, it was not possible to open up the evaluation trenches prior to construction. Supervision of the topsoil stripping revealed no archaeological features in either field.

Discussion

It is probable that the majority of the Roman artefacts collected during fieldwalking were the by-product of activities associated with the second to third century aisled building and field system immediately to the south of Boston Road in Plot 22/1 (See site report for Area 90, Plot 22/1).

10.2.4 Area 90, Aisled Building and Pits, Plot 22/1, Kirkby la Thorpe (TF 09185 45300)

Summary: Remains of an aisled building, dating to the second to third centuries AD, were located close to the A1121 Boston Road. A number of pits were found in the eastern and southern parts of the site as well as a series of gullies. Medieval furrows crossed the site.

Artefact type	Count/Sherds	Weight/g
IA pot	2	19
RB pot	517	5170
Medieval pot	12	124
Animal bone		2635
Tile	15	1471
Other	Shell, worked flint, worked stone, slag, burnt clay, metal work, glass and coins.	

Table 13: Area 90, Finds Summary

Introduction

The site was directly to the south of the Boston road (A1121), approximately 700m to the west of Kirkby La Thorpe (Fig 73). The area of excavation extended just over 30m along the pipeline easement. The ground surface was around 10m AOD, falling slightly to the south. The surface geology consists of Sleaford sands and gravels.

The desk-based assessment identified cropmarks of medieval ridge-and-furrow (NAL, Report 147, Addendum p xv). Cropmarks, including a north-to-south oriented linear feature and small enclosures, were identified 150m to the east of the site (AP, TF 0941 4570). The plot was under pasture at the time of the field-walking survey (NAL, Report 150, p 24, Site 6) but a significant scatter of Roman pottery and ceramic building material was recorded immediately to the north of the Boston road (NAL, Report 150, fig. 8). The geophysical survey detected a linear anomaly to the south of the site, later identified as a former field boundary (Bartlett-Clark Consultancy, 2000).

Results

Aisled Building

Topsoil stripping revealed two parallel lines of circular post-pits, medieval furrows and what seemed to be a spread of occupation deposits to the east of the site (Fig 74).

The two parallel rows of post-pits were oriented on north to south (Plates 33-35). The individual post-pits were mostly circular with diameters between 80cm and 1.1m and depths between 20cm and 40cm (Fig 75a-f). Their fills were largely made up of coarse lumps of limestone with central post-pipes clearly marking where the wooden posts would have been. The dimensions of the post-pipes would indicate that the posts were quite substantial timbers, up to 30cm in diameter. Post-pits 22036, 22056, 22057 and 22073 in the eastern row were regularly spaced approximately 3.5m apart. The western row was less complete; the two pits at the southern end, Pits 22040 and 22044, matched the corresponding pits eastern row, but the Pit 22046 was an elongated oval shape, perhaps a result of disturbance when its post was removed. No post-pit was recorded in the position where the northernmost member of this row would have been expected. A small gully and a furrow of the ridge-and-furrow crossed this area and may account for the loss of this pit. The rows were an average of 4.6m apart from the centres of the post-pits. Pottery recovered from these features was dated from the second to the early third centuries AD.

There were two small linear features at the north end of the post-pit group. Gully 22084 continued the alignment of the eastern row of pits for 2.5m to the north but was then truncated by a modern service trench. Roughly perpendicular but less distinct, Gully 22086 ran westward from the most north-easterly of the post-pits, before being lost beneath a furrow in an area that had also been disturbed by the pipeline construction work. Taken together, these two linear features are suggestive of the outline of a northward extension to the building represented by the post-pits. Pottery

recovered from these features dates from the second to third centuries AD. A silver *denarius* of Septimius Severus, minted AD 192-211, was retrieved from the fill of Gully 22084, which also contained several limestone lumps similar to packing in the fills of the post-pits.

Pit 22045 containing a significant amount of charcoal, was found to the immediate west of the disturbed third post-pit [22046] on the western side of the building. The relationship between these two features was unclear. A semi-compacted, charcoal-rich layer (22077) was cut by Post-pit 22073 and Gullies 22084 and 22086 in the north corner of the site. This layer contained pottery dating from the prehistoric, second and early to mid- third centuries AD.

Gullies and Ditches

Three linear features were found to the east and south of the site. Gully 22092 extending from the eastern baulk of the site for about 10m before becoming indistinct was, on average, 60cm wide and marked the southern limit of visible features on the site.

Ditch 22009/22011/22015 extended northwards towards the road from the southern baulk of the area of widened easement for the road crossing (Plate 36). It was 1.15m wide towards its southern end but tapered to almost half the width before it was obscured by a spread of subsoil towards the northeast corner of the site. Pottery from its upper fill has been dated to the second and early third centuries AD (Fig 76, 157, 161).

Pits and Postholes

Postholes 22090 and 22088 were both circular and were similar in size, with diameters of 63cm and 56cm respectively. They were 3m apart, in the area to the north of Gully 22092. No dating evidence was recovered from either of these features. Pit 22003 to the east of these two postholes was a shallow feature containing an almost complete skeleton of a dog along with two sherds of Iron Age pottery.

The eastern side of the site was a confusing area of inter-cutting pits. Because of the need to clear an access for construction traffic, this area was excavated rapidly, and many of these features were seen only in section and not recorded in plan. In the extreme south-east corner of the site, Feature 22118 was cut by Pit 22047 which ran beneath the southern baulk. The fills of this pit appeared to have been successively cut by Features 22096, 22097, 22100 and 22098. Pottery dated to the second or third century AD was recovered from the fills of two of these features.

Approximately 8m to the north, Pits 22083 and 22116 did not yield any finds. Further north again, Pit 22022 was identified against the eastern baulk. A piece of human cranium was recovered from its fill together with a small amount of burnt stone and iron-smelting slag. Another pit seen only in section [22028] lay to the west, both features cut by a Pit 22026 which contained pottery finds (Fig 75, 158). An excavated slot 2m to the north revealed Pits 22082 and 22024, both with unclear relationships, and both yielding relatively large quantities of second or third century pottery (Fig 76, 154, 159).

At the north of the site, Pit 22064 was oval, 2.5m long, and truncated by modern service trenches. Pottery, dated to the second century AD (Fig 76, 155-156), and iron-smelting slag were recovered from this feature.

Cremation Pyre

Pit 22006 cut into Ditch 22009 contained burnt human bone, along with other burnt material, and was initially thought to be a small cremation burial. The lack of a cremation vessel and the presence of burnt clay, burnt stone and charcoal, however, suggested that the human remains were burnt *in situ*. The human bone that remained in this feature was too small to be collected by hand; any larger pieces of bone would have been retrieved for burial (Appendix 9). Part of a neck of a Roman glass bottle was also retrieved from this context.

Later Features and Unstratified finds

Two furrows approximately 10cm deep and spaced 7m apart crossed the site on a north-to-south orientation, cutting through earlier features. A piece of ironwork, probably a horse-shoe dating from between the late thirteenth and fifteenth century AD, was retrieved from the fill Furrow 22034 and nine sherds of Roman pottery (Fig 76, 160) were recovered from Furrow 22113.

Unstratified finds from the site included burnt stone, Anglo-Saxon, medieval and post-medieval pottery, knapped flint and ceramic building materials. Fourteen sherds of Roman pottery from the third and early fourth centuries AD were also recovered. A silver *denarius* of Vespasian (AD 69-79) was retrieved from the subsoil.

Discussion

The post-pits in the north-west corner of the site were probably the remains of an aisled building. No evidence was found for the walls of the building, but in form and dimensions it appears to be typical of aisled buildings known from other sites (Hingley, 1989 p 39-45). The eight posts would have carried a roof which extended 2m or so beyond the posts on either side giving a total width of around 9m. Assuming the three visible bays are the total length of the building this would give an internal area of around 100m².

The dimensions of the building are quite regular, the spacing between centres of posts on the eastern side being 3.55m, with less than 5cm variation. This is almost exactly three-quarters of the spacing between the two rows. Using a quoted value for a Roman *pes* of 29.57cm, each bay would have been almost exactly 12 by 16 *pedes*. The shape of the building appears to be slightly out of true, the western posts being around 15cm to the south of the points they would need to be to give right-angled corners. The regularity of the spacing might argue for the building being pre-fabricated on the ground as a series of trusses which were then raised into an upright position rather than being built between individual posts set in the ground.

The small gullies to the north of the structure may indicate that there was an extension to that end, or could have delimited an adjacent yard area, assuming they are contemporary with the building.

There was little evidence for domestic activity on the site and it may be that the building was a barn rather than house. It has been suggested of similar structures that they may have had a dual function both as barns and as farm workers' dwellings associated with larger residences (Hingley, 1989 p 41). The lack of ceramic building material from the site suggests that it was predominantly a wooden structure. Only a few undated pieces of tile were recovered; either the structure had a thatched roof, or a tiled roof was removed for re-use elsewhere after the building went out of use.

Remains of a very similar structure were found during the excavations of Old Sleaford around 1.5km to the west (Elsdon, 1997 p 23, 49-50) but no conclusions could be drawn about the role of this building. Other examples of Romano-British aisled buildings have ranged from basic agricultural buildings to advanced domestic complexes (Hingley, 1989).

The main axis of the building is perpendicular to the modern Boston Road. This is not recorded as a Roman road, but this alignment and juxtaposition hints that the modern thoroughfare may have ancient antecedents. It is likely that there would have been trackways leading from Old Sleaford towards the fenlands to the east.

Assuming that Ditches or Gullies 22092, 22009, 22011 and 22015 are contemporary with the aisled building, they would presumably have marked the boundaries of an enclosure around it. The other features within this boundary are not easy to interpret. The two postholes may have formed part of a small structure.

The lack of any substantial evidence makes it difficult to ascertain the original function of the complex of pits in the south-east part of the site. The more northerly ones contained significant

quantities of animal bone and pottery and may have been used for refuse disposal, at least as a secondary function. The larger pits to the south of the site could have been quarry pits for gravel. However they appear to have been re-cut at a later date for some other function.

Cattle were the predominant species within the small assemblage of animal bone from the site and sheep or goat (14%), pig (2%), horse (14%), dog (6%) and goose (6%) bones were also present (Appendix 10a). Although the sample consisted of only 49 fragments, the range of material suggests that there was domestic activity on the site. This concurs with the hypothesis that the aisled building could be a farm worker's dwelling associated with a larger residence.



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Figure 59: Location of Site 6, Enclosure System, North Hills (Scale 1:2500)

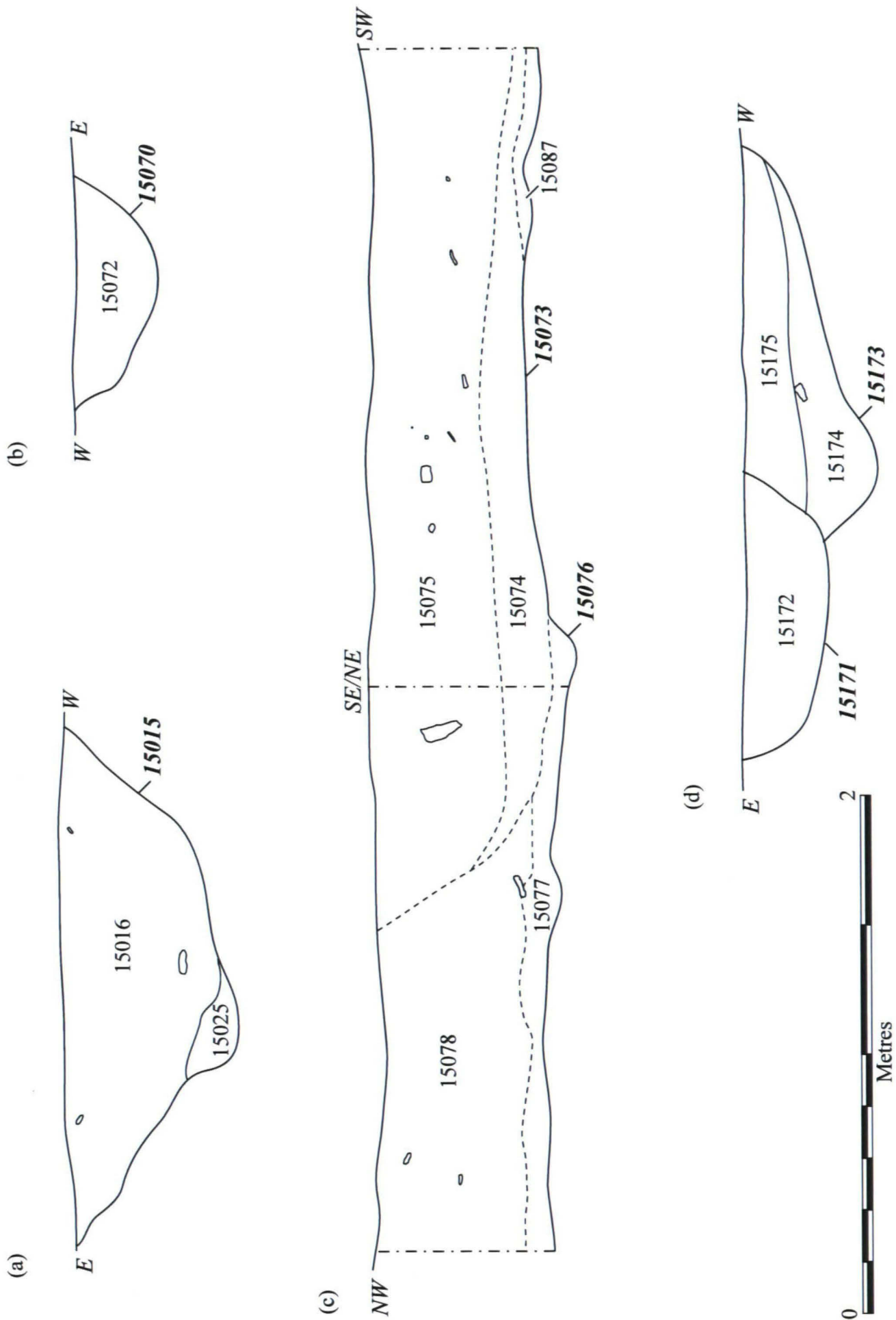


Figure 61: Site 6, Sections (scale: 1:20)

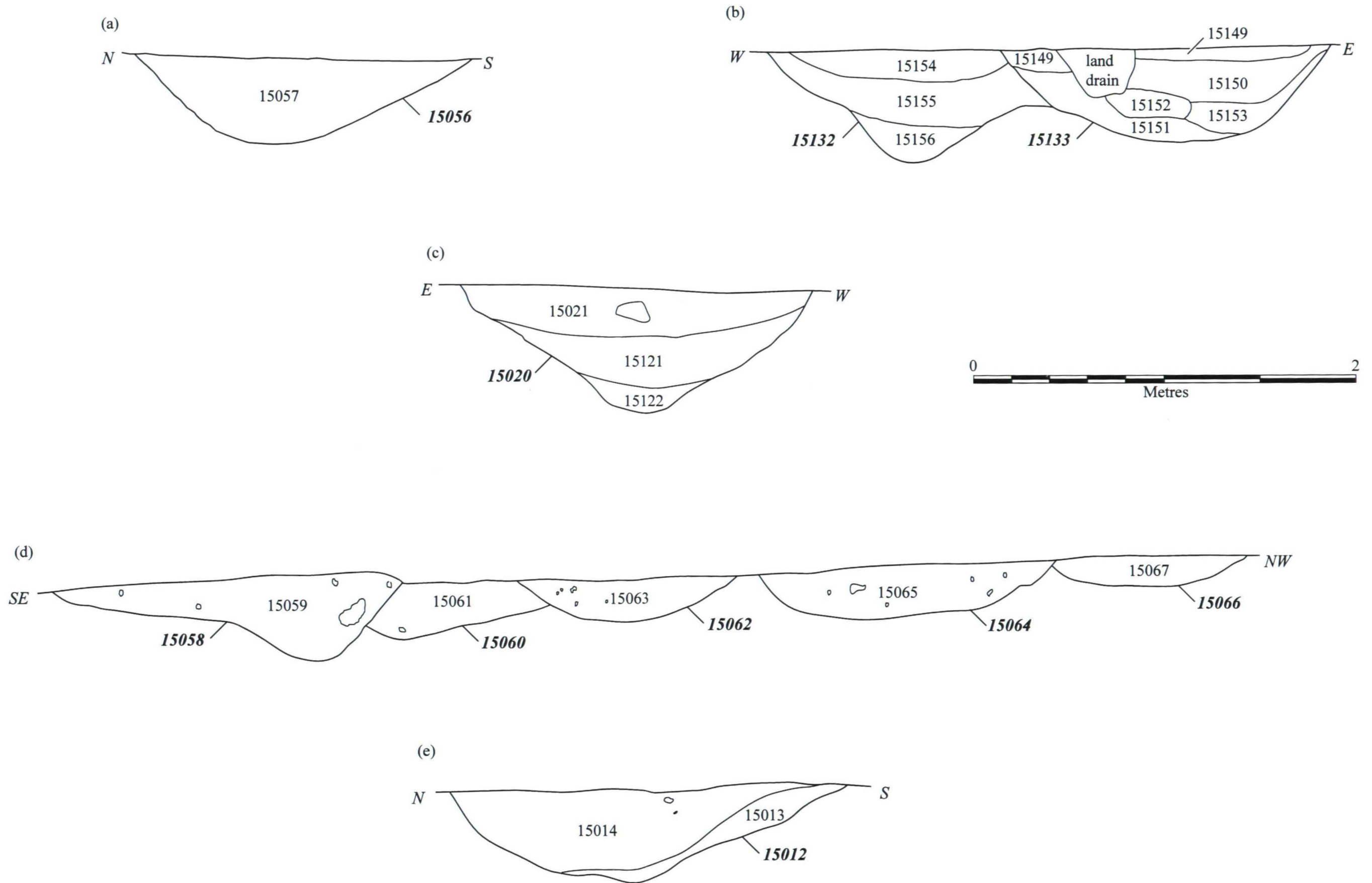


Figure 62: Site 6, Sections (scale: 1:20)

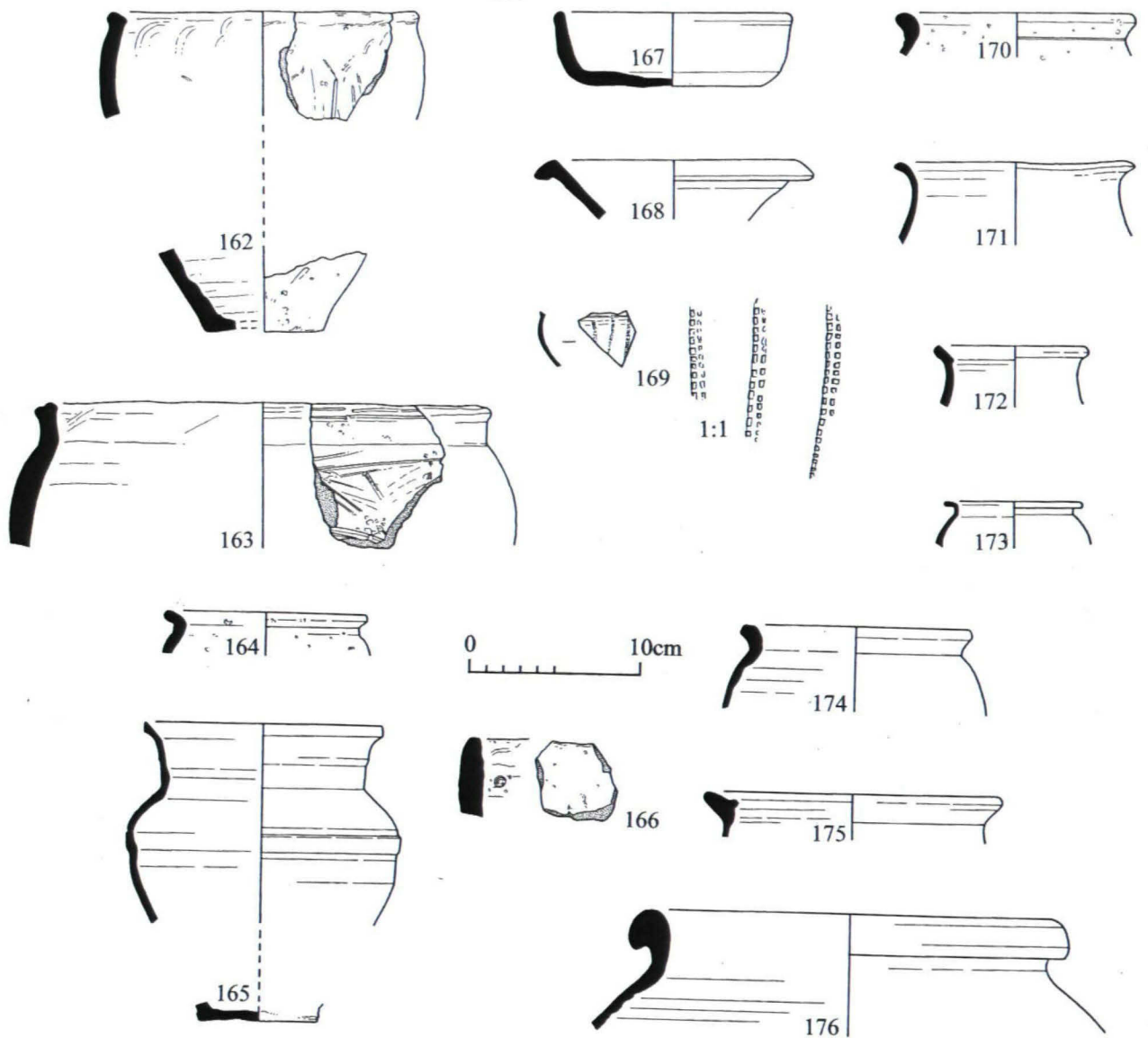


Figure 63: Site 6, Pottery (scale: 1:4)

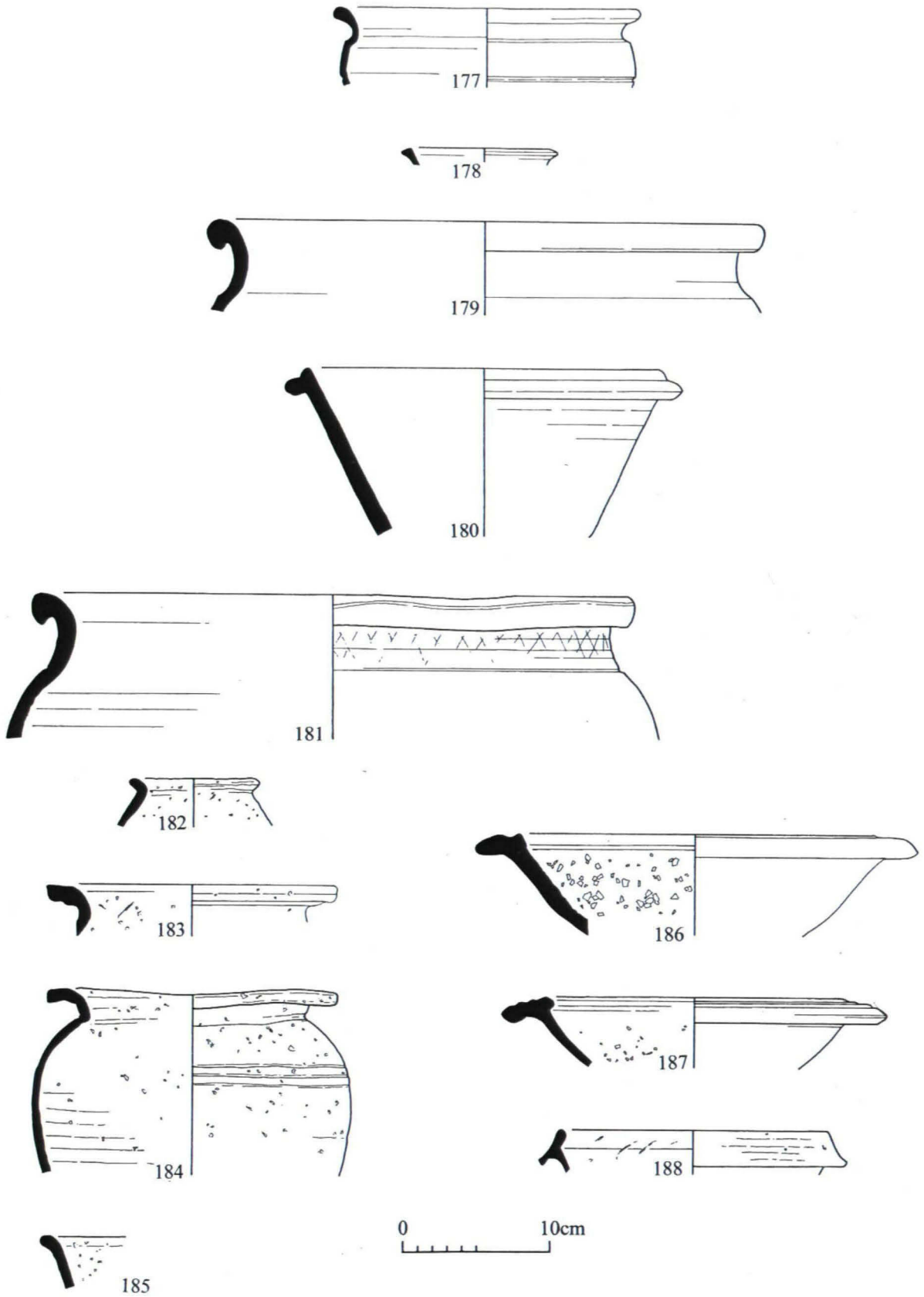


Figure 64: Site 6, Pottery (scale: 1:4)

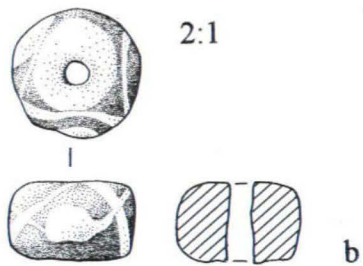
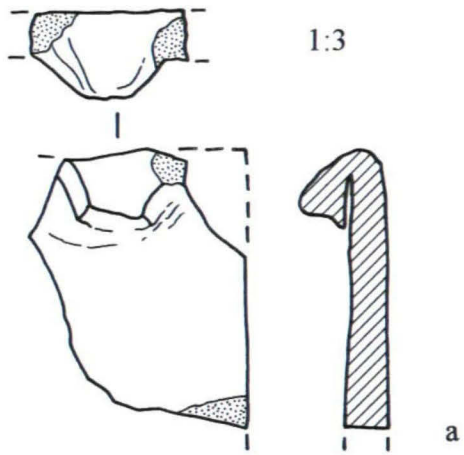
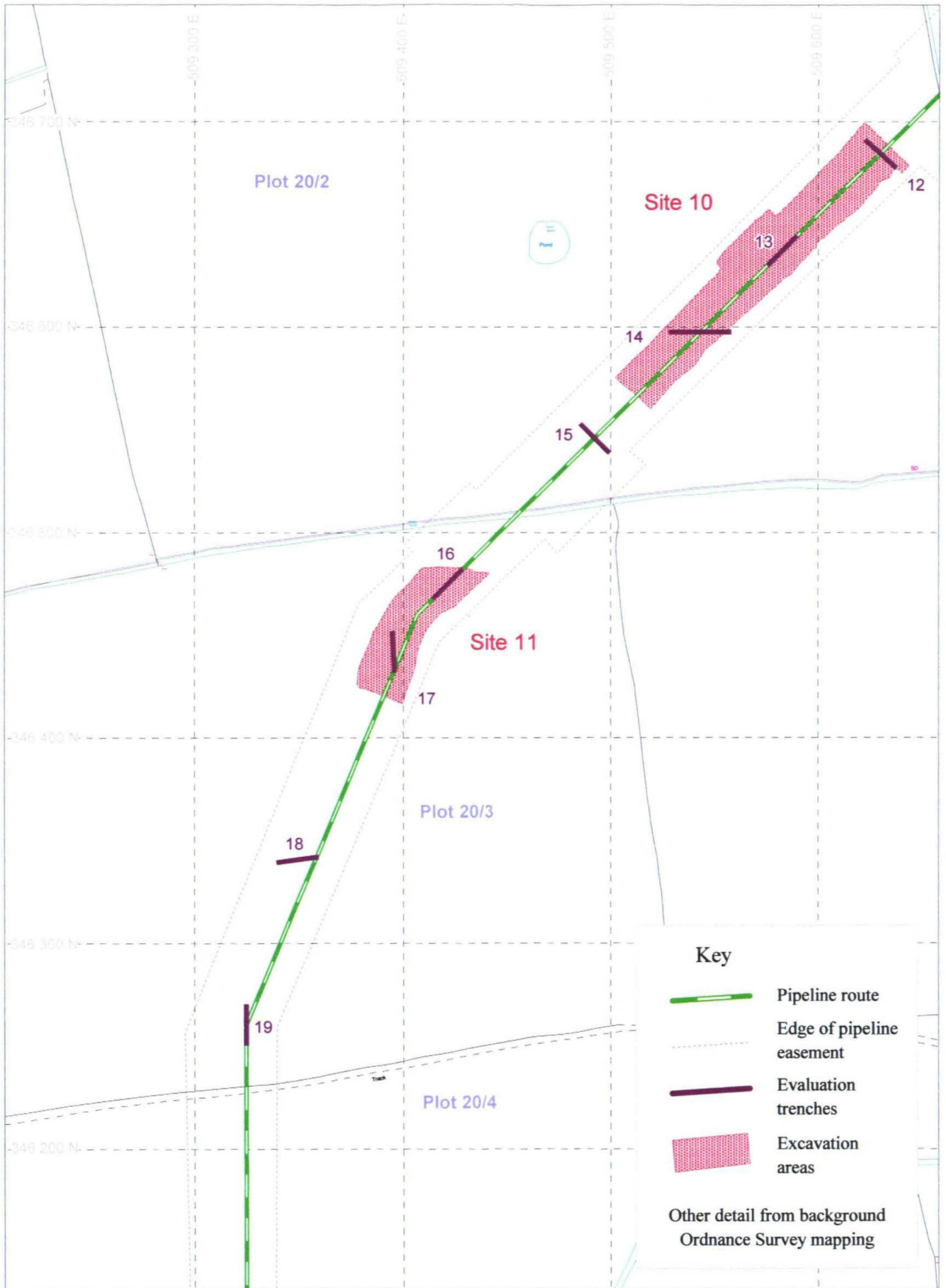


Figure 65: Site 6, Finds



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Figure 66: Location of Site 11, Enclosure System, Kirby la Thorpe 2 (Scale 1:2500)

509380E
346490N

509440E
346490N

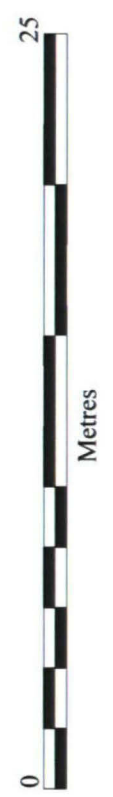
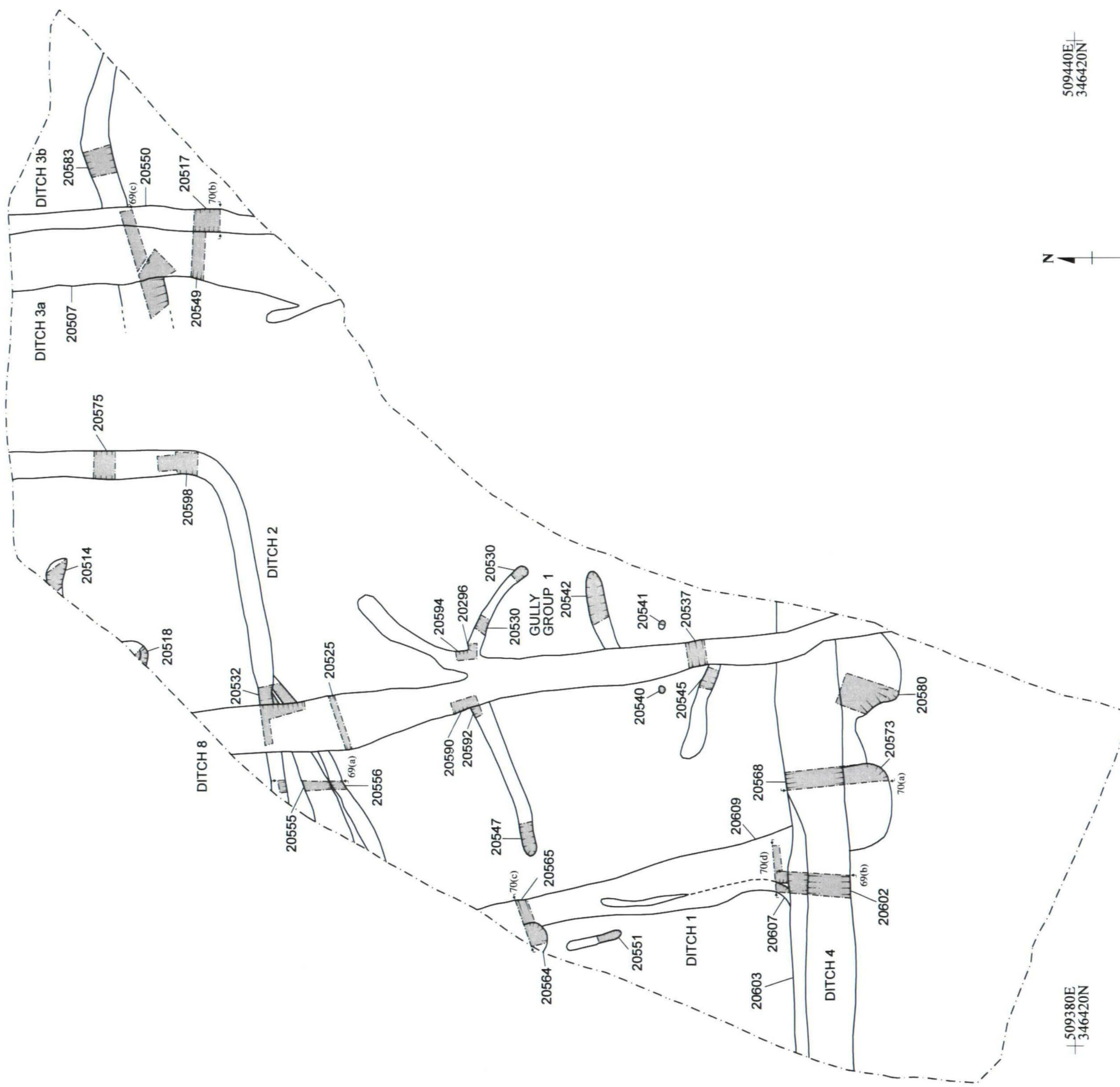


Figure 67: Plan of Site 11 (scale: 1:250)

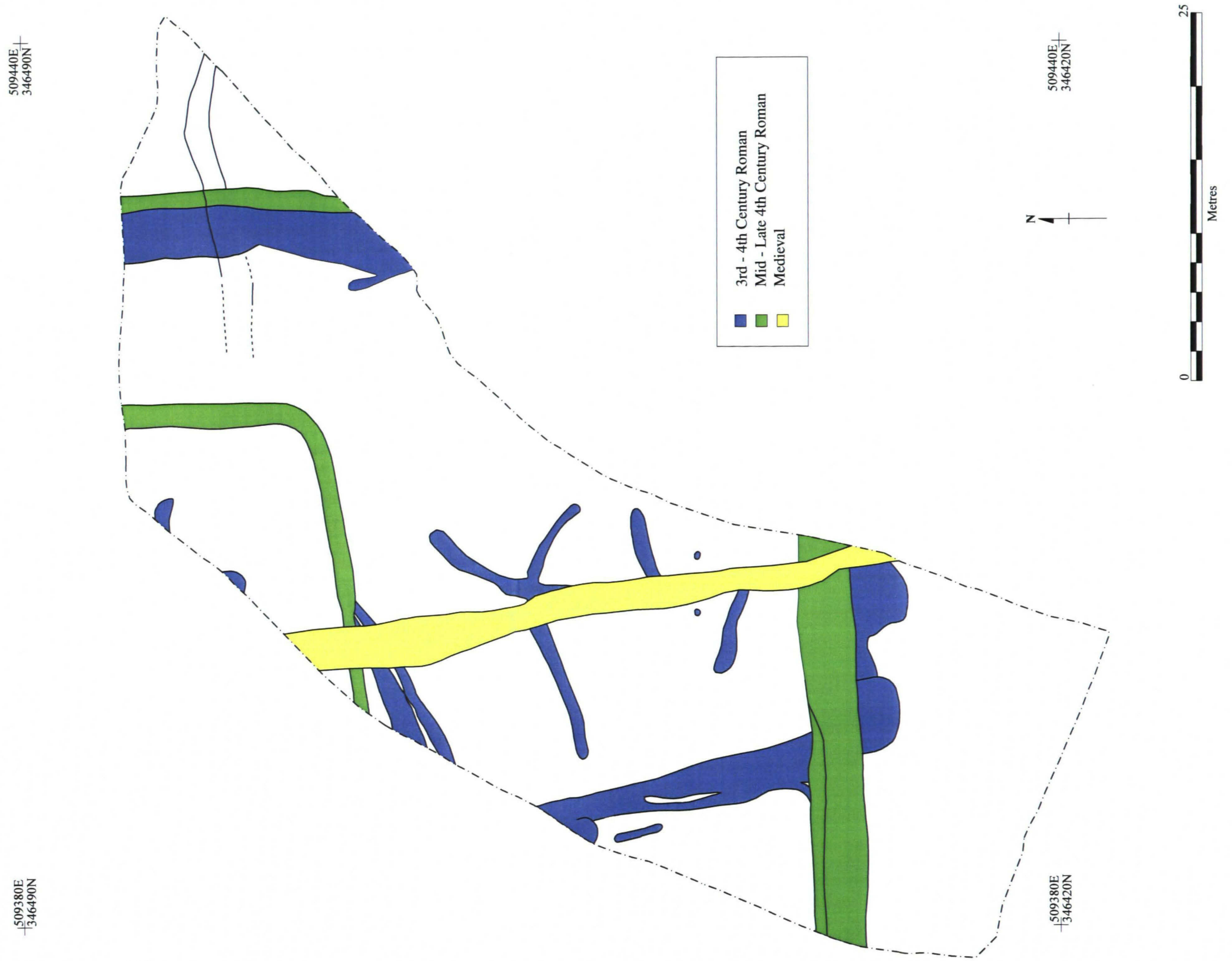


Figure 68: Phased Plan of Site 11 (scale; 1:250)

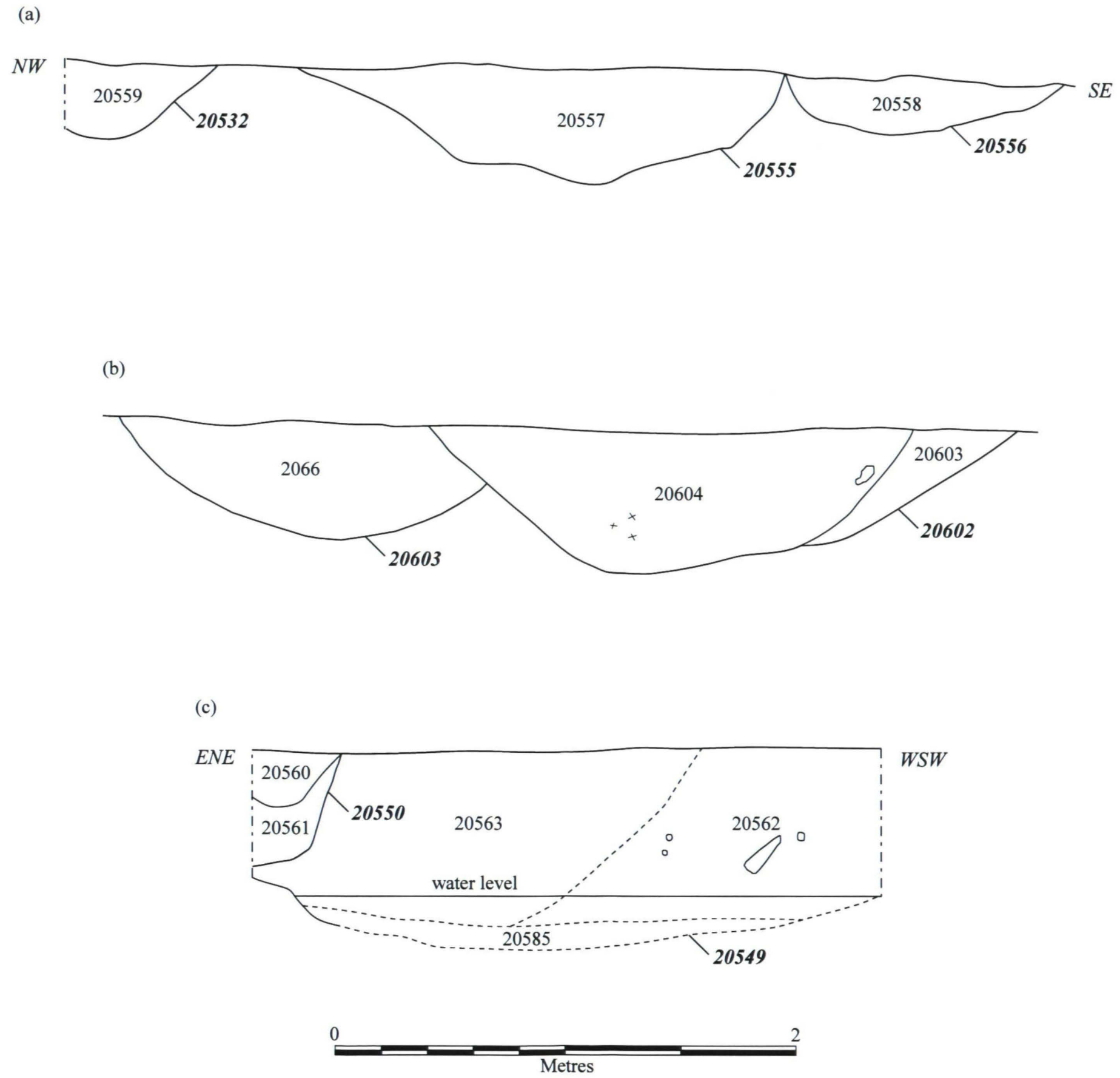


Figure 69: Site 11, Sections (scale: 1:20)

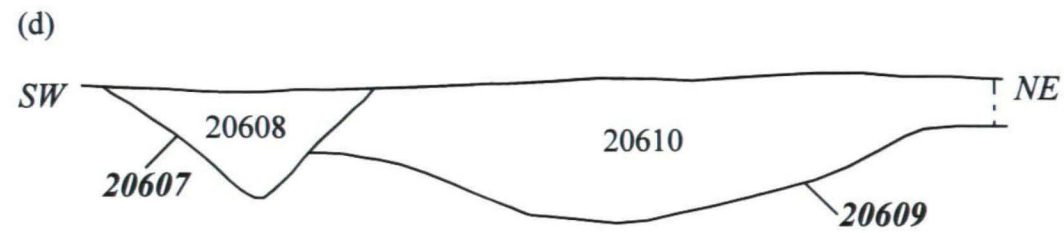
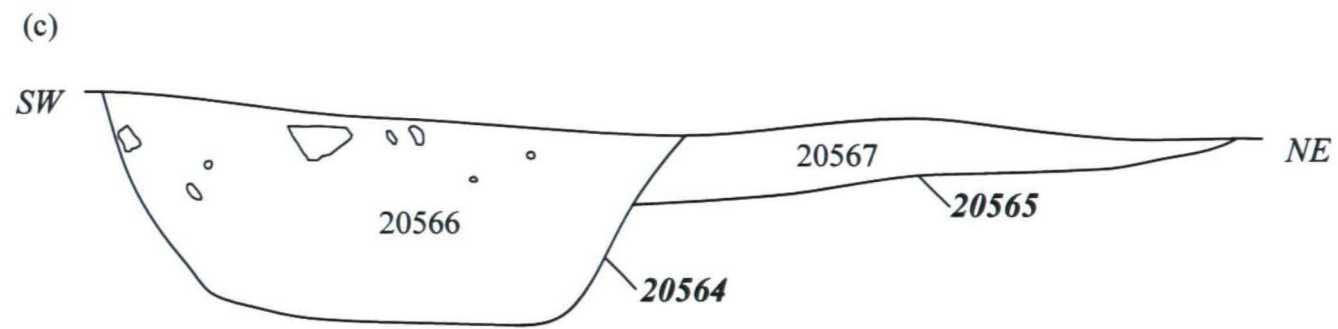
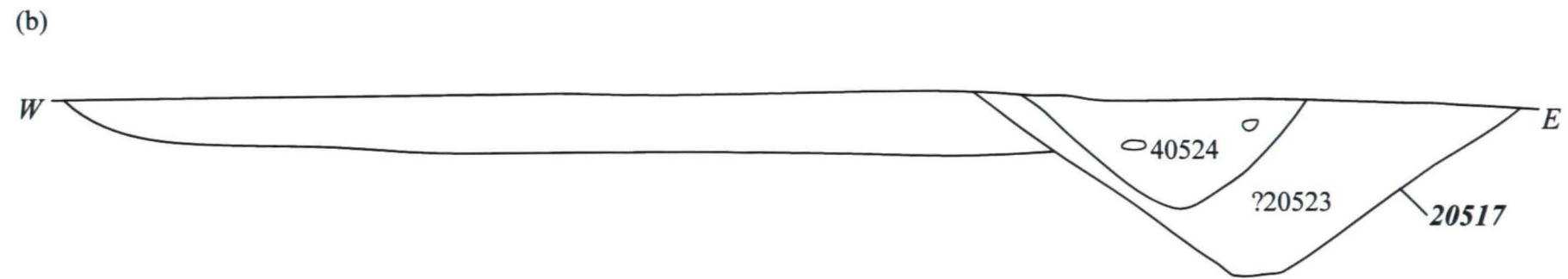
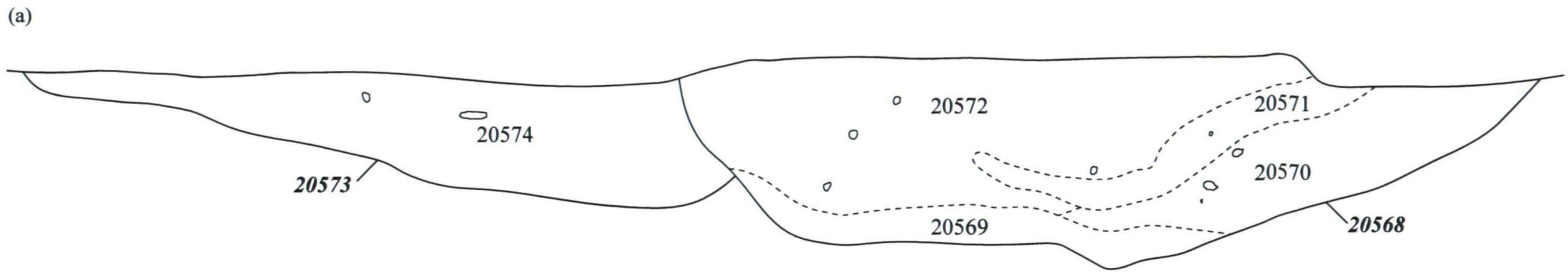


Figure 70: Site 11, Sections (scale: 1:20)

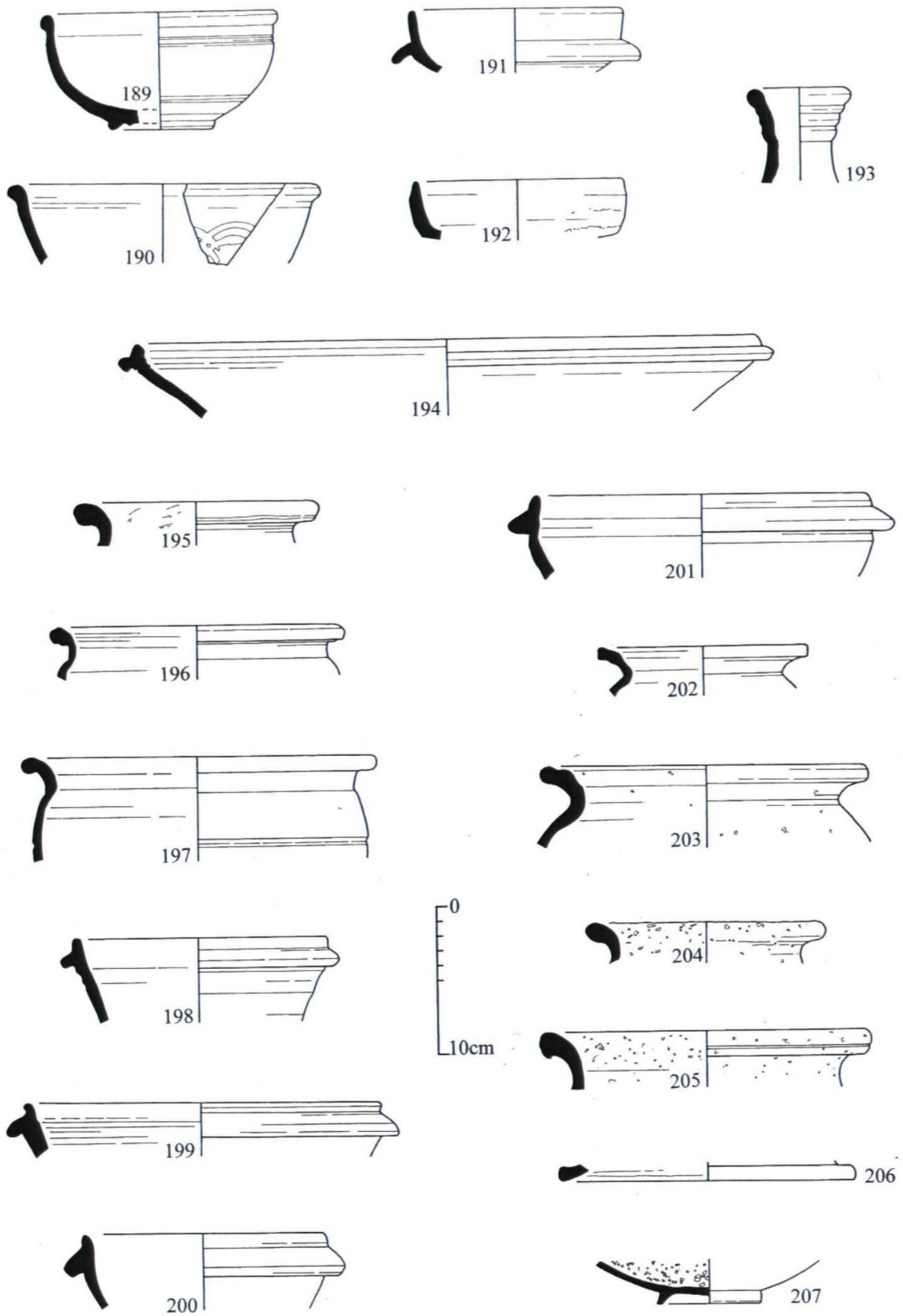


Figure 71: Site 11, Pottery (scale: 1:4)

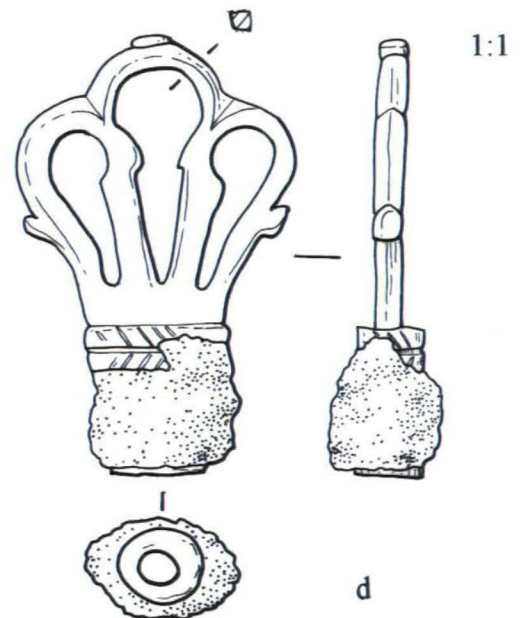
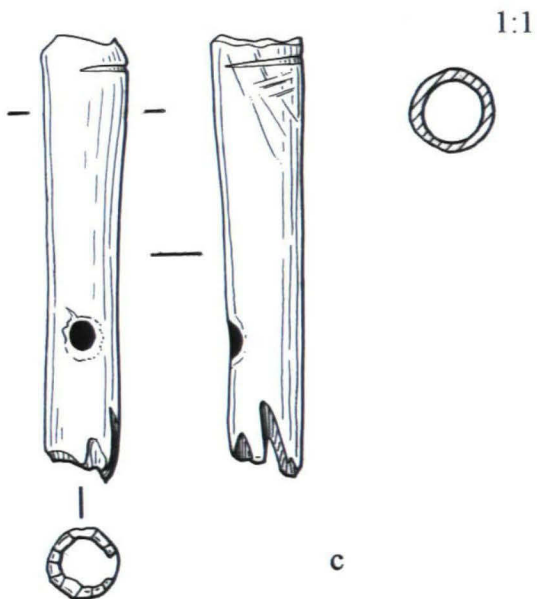
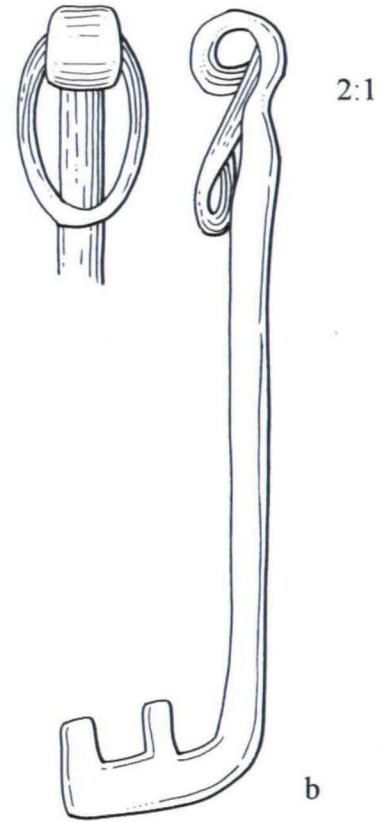
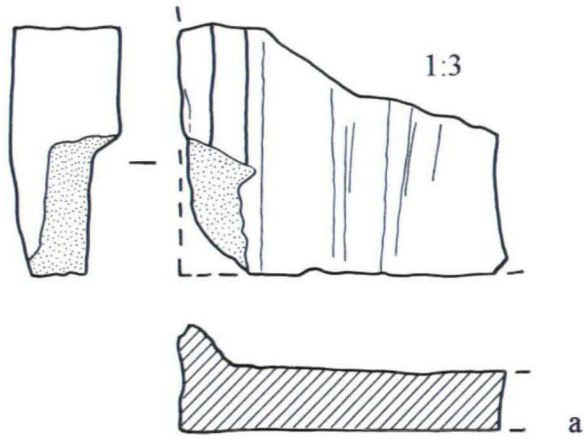
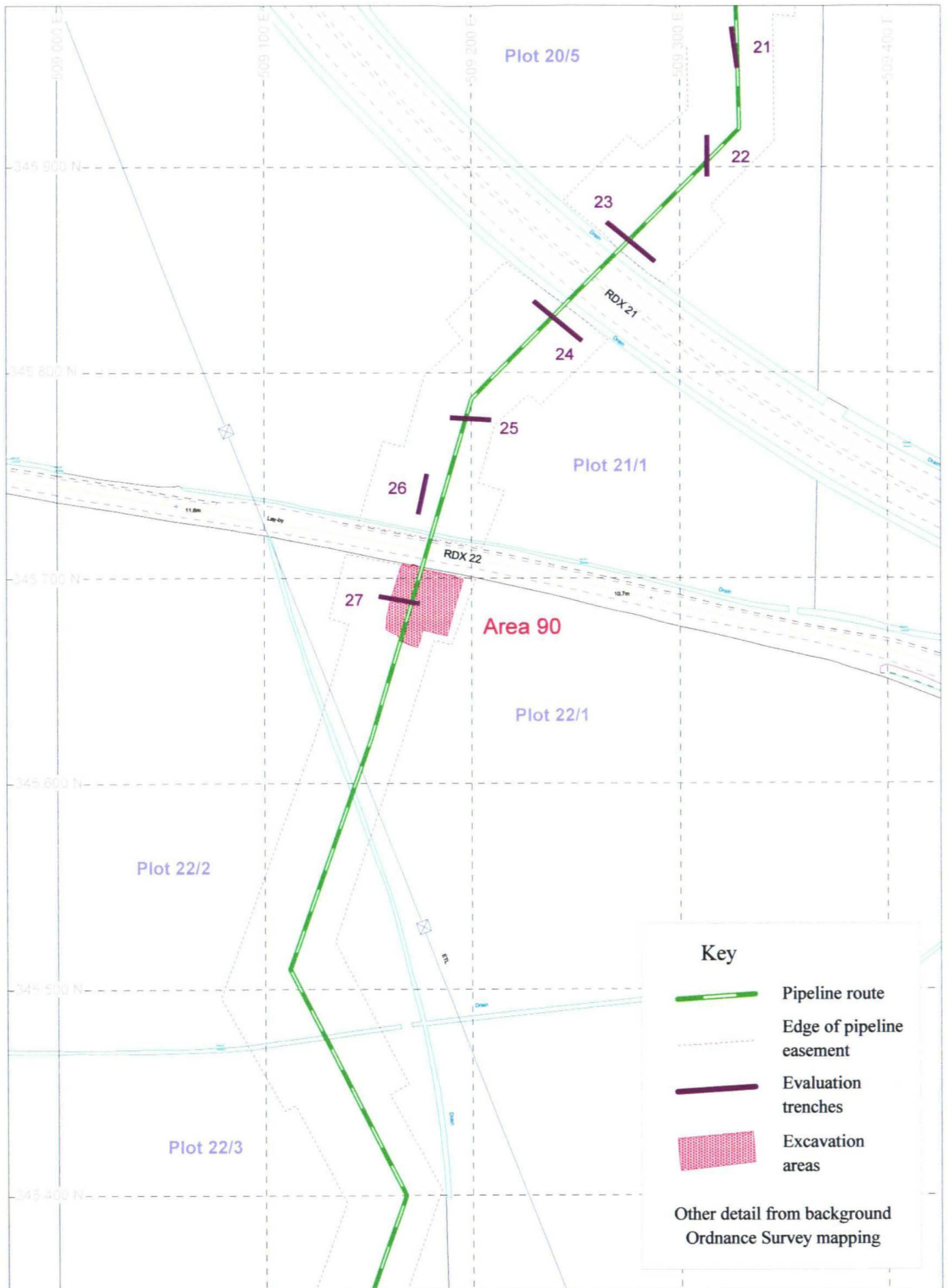
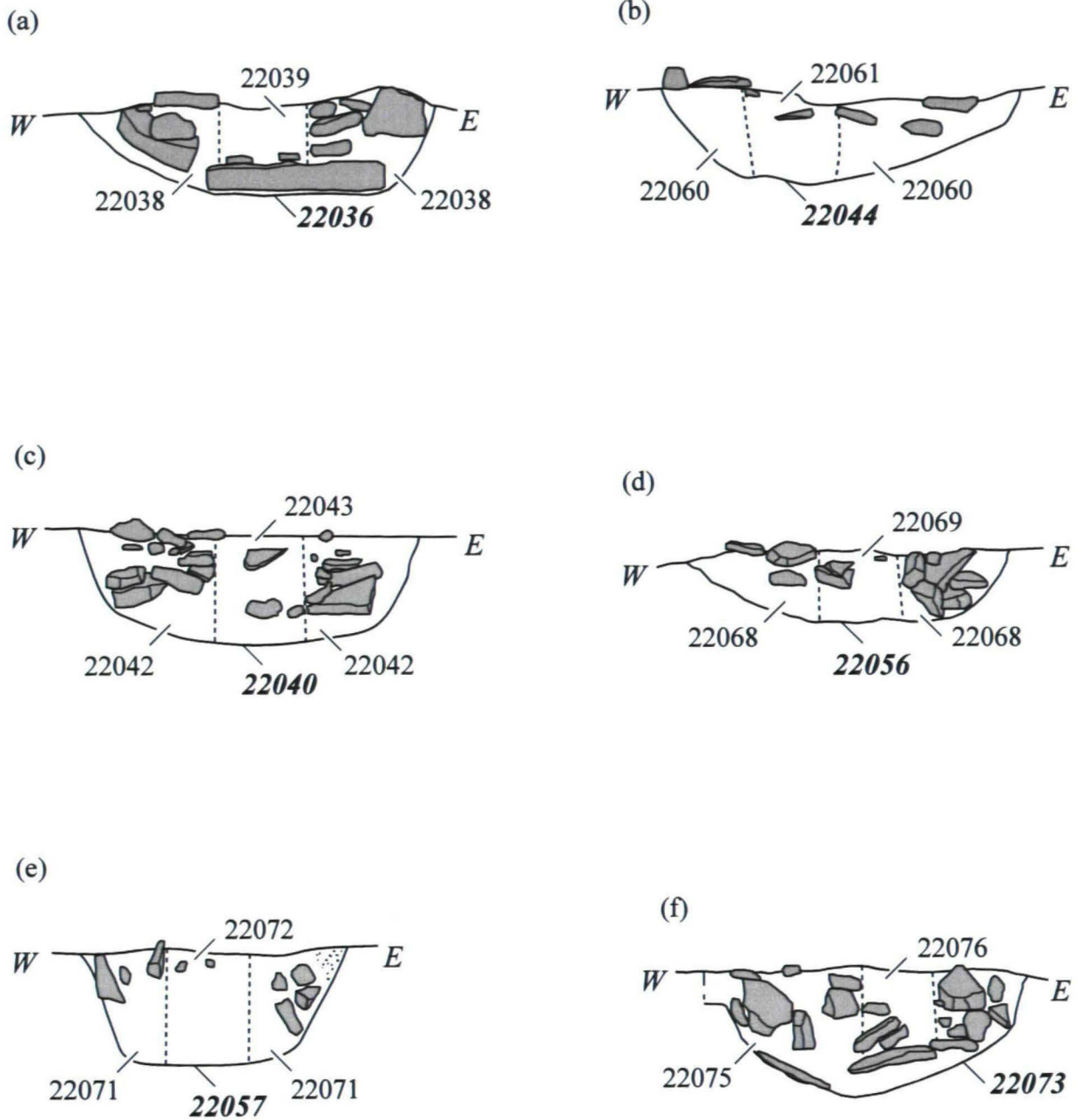


Figure 72: Site 11, Finds



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Figure 73: Location of Area 90, Aisled Building/Enclosure System, Boston Road (Scale 1:2500)



Key

 Limestone post padding



Figure 75: Area 90, Sections (scale: 1:20)

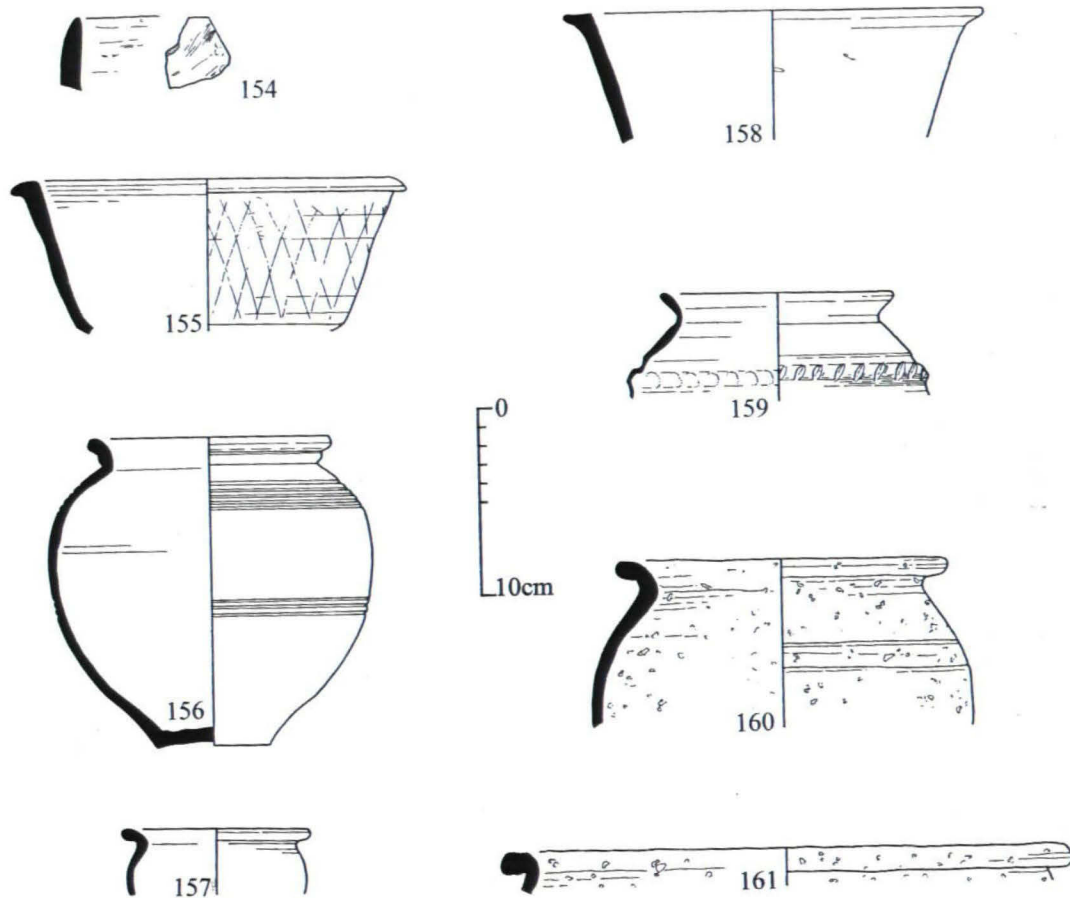


Figure 76: Area 90, Pottery (scale: 1:4)

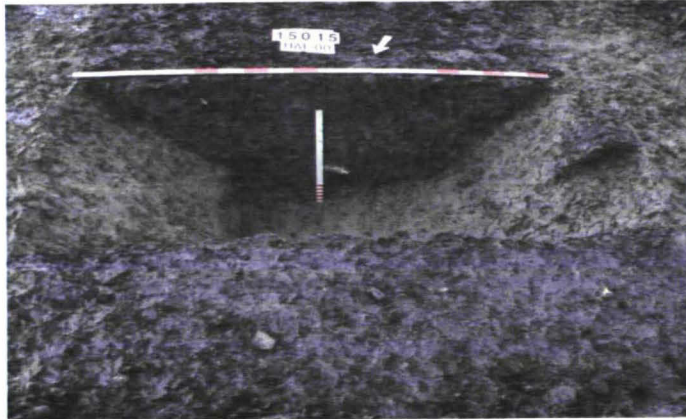


Plate 23: Site 6, Ditch 15015, part of Ditch 2



Plate 24: Site 6, General view of Area 75, looking north-east

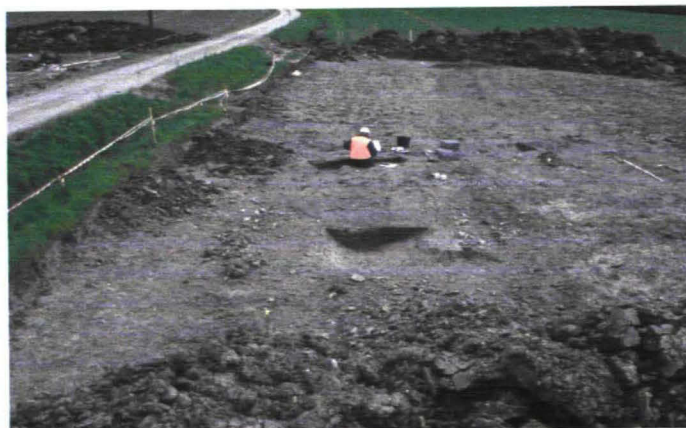


Plate 25: Site 6, General view of Area 76, looking east



Plate 26: Site 6, Ditches 15132 & 15133

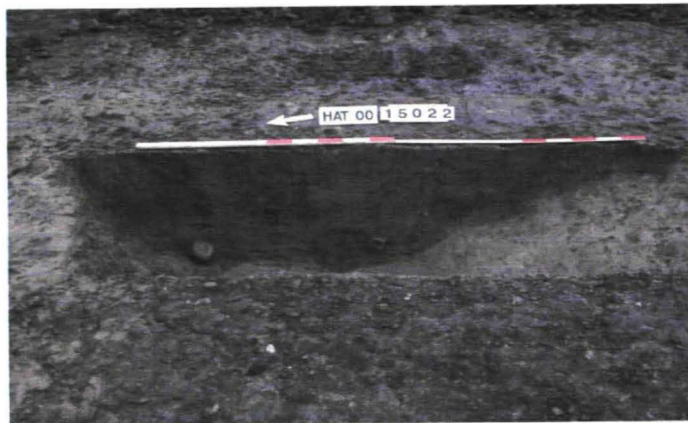


Plate 27: Site 6, Ditch 15022, part of Ditch Group 1



Plate 28: Site 6, Ditch 15058 and Pit 1

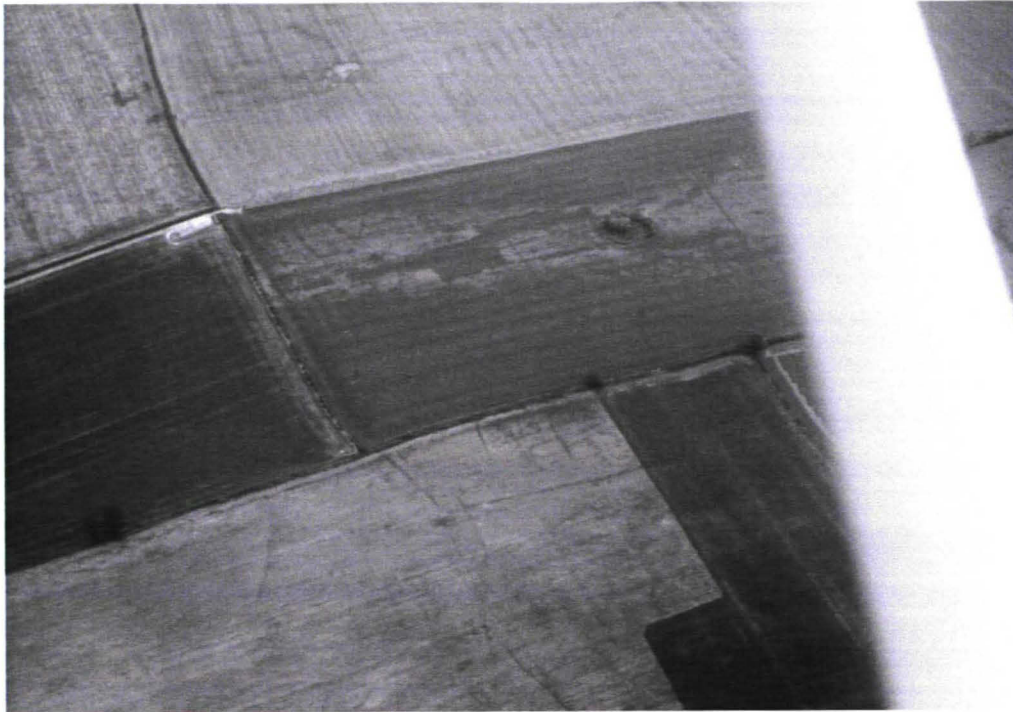


Plate 29: Site 11, Air Photograph showing cropmarks (*Ref AP 0946/1*)



Plate 30: Site 11, General View, looking north

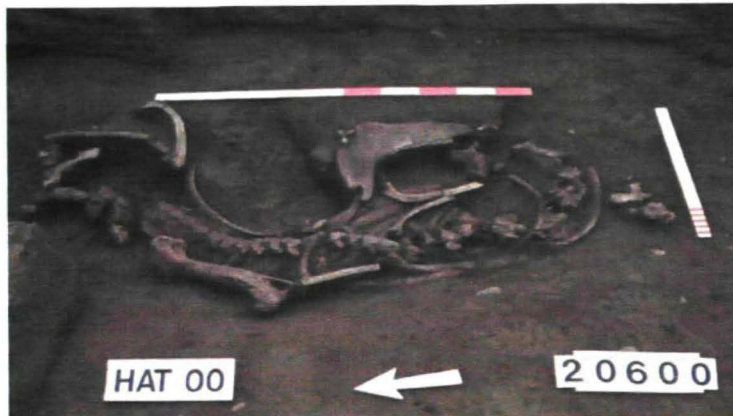


Plate 31: Site 11, Partial Horse Skeleton 20600
in Ditch 20598

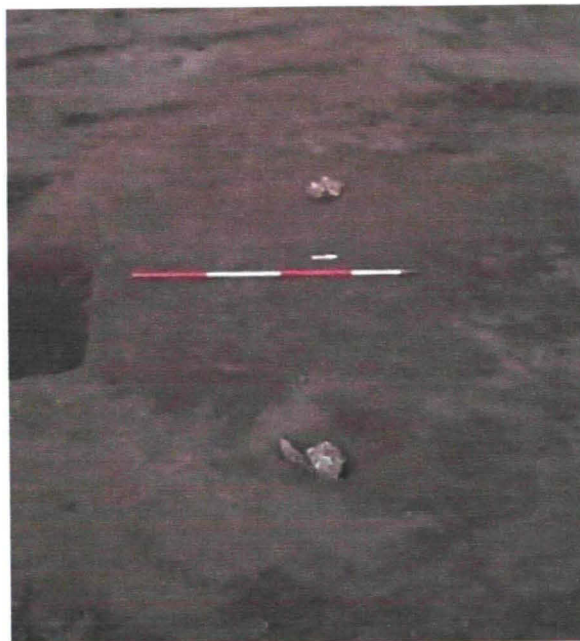


Plate 32: Site 11, Gullies 20514 & 20551,
looking west

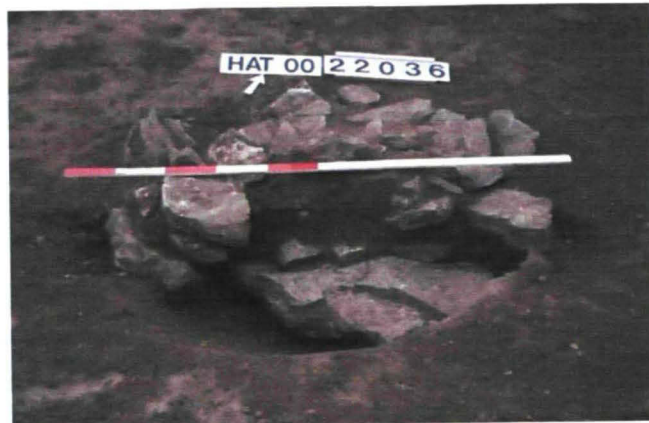


Plate 33: Area 90, Posthole 22036



Plate 34: Area 90, Posthole 22058



Plate 35: Area 90, Aisled Building, looking north

11 ANGLO-SAXON

11.1 Summary

Remains from this period are relatively unusual and the single Anglo-Saxon site recorded on the pipeline at Site 10, Area 83, Plot 20/2 is of considerable significance.

11.2 Site Reports

11.2.1 Site 10, Settlement Evidence, Plot 20/2, Kirkby la Thorpe (TF 09575 46625)

Summary: *A clearly defined Grubenhau was recorded, along with numerous postholes, pits and gullies, many of which contained significant quantities of Anglo-Saxon pottery and associated artefacts. These features post-date third to fourth century Romano-British ditches associated with Site 11 which encroach on the southern end of the site.*

Introduction

The site was approximately 500m to the north-west of the village of Kirkby la Thorpe (Fig 77) and was on fairly level ground at roughly 11.2m AOD. The surface geology consists of free-draining Sleaford sands and gravels.

The site covered approximately the northern half of Plot 20/2, a distance of 150m along the pipeline easement. Remains of an earlier Romano-British enclosure system dating to the third to fourth centuries were recorded at the southern end of the Plot (see Site 11).

No significant archaeological aspects relating to this site were highlighted in the ADBA, though ridge-and-furrow cropmarks were noted across the entire field and cropmarks relating to Site 11 were identified at the south end of the plot (DBA:OW, NAL Report 147). Fieldwalking under ideal conditions produced a significant artefact scatter, including nineteen flints, eleven sherds of Roman pottery and five of Anglo-Saxon pottery. No upstanding earthworks were visible (NAL Report 150).

The geophysical survey detected a distinct increase in susceptibility readings in this field, and magnetometry showed linear anomalies interpreted as ditches or ridge-and-furrow, as well as some pit-like features. These readings were concentrated in the centre of the field (NAL Report 150, Volume 2).

It was recommended that evaluation trenches should be excavated at the earliest opportunity to allow for detailed assessment of the remains and, given the probability of encountering archaeological deposits, that advanced topsoil stripping and excavation were then likely to be proposed.

Four evaluation trenches were opened (Trenches 12–15). Trench 15 produced a Roman ditch (See Site 11) while Trenches 12 and 13 contained features initially undated but found to be of Anglo-Saxon date on full excavation. Although a Roman ditch ran beneath Trench 12 it was masked by overlying furrows and was not detected at the time of the evaluation trenching. On the basis of these evaluation results, it was agreed to proceed with area excavation in advance of construction. The topsoil was machine-stripped by back-acters with smooth-faced buckets, under control of the archaeologists. The site was then cordoned off to protect it against construction traffic before being excavated.

Results

Topsoil stripping revealed a large number of possible postholes, pits, irregular gullies and a single *Grubenhau* (Figs 78a & b). The excavation was extended to the west to fully expose and confirm the nature of the *Grubenhau*. In order to simplify the results the features have been broken down into groups:

Grubenhause Group 20343

The location of this feature was first highlighted by the abundance of pottery fragments seen during topsoil stripping. Machine excavation was halted at what was thought to be subsoil level and continued by hand. After removing the remaining subsoil *Grubenhause* 20312 (Figs 79a & b) was visible as a sub-rectangular, dark grey-brown humic deposit. The feature was divided into quadrants and excavated by hand (Plates 37 & 38).

It was oriented roughly east to west and was approximately 4m long by 3m wide, with a maximum depth of 40cm. In profile it had steep sides and a flat base. There was no evidence to suggest an artificial floor surface or walls. The base of the cut contained a relatively sterile layer of gravelly silt (20338) 20cm deep. The remainder of the fill was dark grey-brown humic silt (20313) rich in charcoal and artefacts, including 151 sherds of Anglo-Saxon pottery (Fig 81, 11-15), two pig fibula pins (Registered Finds 25138 and 25047; Figs 82b and 82c respectively), copper fragments (Registered Finds 25048 and 25078), fragments of crucible (Registered Find 25049), four iron nails, four pieces of worked flint and quantity of slag. This fill was overlain by a layer of subsoil, (20311) with a similar composition and containing similar pottery (Fig 81, 16) along with a loomweight (Registered Find 25119) and fragments of Roman glass, tile, slag and an iron knife blade. With hindsight it seems likely that the machining of this specific area was slightly excessive and what was initially identified as subsoil may have been the upper fill of the *Grubenhause*.

Three postholes were directly associated with the structure. Postholes 20396 and 20398 were just inside the structure at either end, and Posthole 20314 was in the north-eastern corner. A further posthole [20344] was 65cm to the east of the *Grubenhause*. The internal postholes were circular and between 26cm and 44cm in diameter and 10cm to 31cm in depth. Posthole 20344 was oval, 60cm long and 46cm wide, and had a maximum depth of 40cm. All had near vertical sides and a flattened base. Posthole 20398 retained a visible post-pipe (20399) approximately 10cm wide and surrounded by clay packing. This post-pipe contained charcoal and a small amount of animal bone.

Soil samples were analysed from Postholes 20314, 20398 and *Grubenhause* Fills 20313 and 20338. The presence of notable quantities of Roman ceramics is not significant as residual material is common across the site and relates to the adjacent third to fourth century enclosure system of Site 11. The same is probably true of the metalworking debris. As large quantities of animal bone are also associated with Site 11 it is likely that some of the material recovered from the *Grubenhause* is also residual.

Posthole Groups 20274, 20239 and 20218

Three distinct concentrations of postholes were noted which may relate to structures or fence-lines.

Posthole Group 20274 lay approximately 12m to the south-east of the *Grubenhause* and consisted of a sub-rectangular arrangement of Postholes 20275, 20277, 20279, 20281, 20293, 20295, 20307, 20309 and 20324. A further five possible postholes shown on the plan were not excavated and have not been assigned individual numbers.

This group enclosed an area approximately 6m long by 3m wide, with the long axis oriented north to south. The postholes were all either circular or oval. The smallest was 29cm by 23cm and the largest was 50cm in diameter. Depths varied between 13cm and 20cm. With the exception of Postholes 20295 and 20307, all contained a similar, sterile, greyish orange, sandy silt. Postholes 20295 and 20307, together forming the south-west corner of the group, contained greyish sandy silt, with occasional charcoal flecks. Nine sherds of Anglo-Saxon pottery were recovered from Posthole 20281 (Fig 81, 2).

Posthole Group 20239 was 20m to the north-east of Posthole Group 20274. Although there is no clear structure to the arrangement, the concentration of features is sufficiently dense to suggest a focal point of activity.

The group consists of Postholes 20244, 20246, 20248, 20250, 20252, 20254, 20256, 20258, 20260, 20262, 20264, 20266 and 20269. The layout was roughly semicircular with an external diameter of between five and six metres. The postholes were mostly circular with diameters ranging between 20cm and 65cm. Profiles varied between U- and V-shaped with depths between 8cm and 25cm. Fills were predominantly mid-brown silts and silty sands with only Postholes 20244, 20248 and 20252 containing occasional charcoal flecks. None produced any artefacts.

The erratic distribution of these postholes may indicate more than one phase of construction. It is also possible that additional features have been truncated by a furrow immediately to the east of the group while the mixed sand and gravel natural subsoil meant that identification of these features was difficult. Pit 20242 and Pot-boiler Pit 20008 lay in close proximity to this group and may have been associated.

Posthole Group 20218 lay towards the southern end of the site and consisted of two sets of postholes on perpendicular linear alignments, east to west and north to south. Extrapolating the lines of each could create a right angled corner, perhaps of a fenced enclosure. No additional postholes were recorded to the west or north so it not possible to say how far any fencing may have continued in these directions.

The north-to-south alignment was made up of Postholes 20225, 20232 and 20234, and the east-to-west alignment of Postholes 20219, 20221 and 20223. Two further possible postholes were noted in plan between Cuts 20221 and 20219 but were not excavated. All of these features were roughly circular in plan with diameters ranging from 22cm to 32cm and depths between 11cm and 32cm, apart from Posthole 20234 which had a depth of only 1.5cm. All had almost identical fills, but those of the east-to-west alignment contained occasional charcoal flecks. Three sherds of Anglo-Saxon pottery were retrieved from Posthole 20221.

A further twelve postholes were excavated across the site: Features 20297, 20318, 20320, 20322, 20330, 20332, 20334, 20346, 20352, 20354, 20391 and 20392. None form any convincing alignments. The majority are circular or oval in plan with diameters ranging from 15cm to 42cm. Depths vary between 5cm and 22cm and half contained occasional charcoal flecks. Posthole 20297 was larger, measuring approximately 62cm by 36cm and with a maximum depth of 22cm. Within this there appeared to be evidence of a post-pipe measuring 24cm wide by 14cm deep. A small sandstone *tessera* from Posthole 20318 (Registered Find 25132) was the only find from these features.

Gullies

A number of fragmentary and irregular gullies were recorded, the majority in the northern half of the site: Gullies 20200, 20206/20283/20285, 20227/20358/20401, 20236, 20288/20291, 20339, 20341, 20348, 20370, 20372 and 20390.

A mixed natural subsoil and medieval furrows hampered attempts to discern any overall layout. Gully 20227/20358/20401 was the only well-defined feature, varying in depth in its three excavated sections between 27cm and 54cm. It contained a single fill producing charcoal and artefacts. The fill had a peaty texture towards its southern end, quite similar to the post-habitation fill of the *Grubenhäuser* approximately 3m to the south.

While clear in plan some of the features were very poorly-defined in profile. For example, Gully 20206/20283/20285 was only 3cm deep in places and had suffered extreme animal or root disturbance. Gullies 20200, 20236, 20372 and 20390 were similarly vague. There is a possibility that Gully 20341 may have served as a posthole slot but excavation results were ambiguous. Fills were all relatively sterile and varied in depth between 13cm and 54cm. It is possible that some may represent localised variations in the natural substrate, or be the result of animal or root disturbance

rather than real features. The other gullies were slightly clearer and generally contained darker fills with a higher frequency of charcoal. Depths varied between 16cm and 36cm.

Finds from these features included Anglo-Saxon pottery in Gullies 20206, 20283, 20227 and 20358, and a loomweight (Registered Find 25114) in Gully 20227.

Pits

These are by far the clearest feature type on the site and the richest in finds. A total of twenty-two pits were recorded: Features 20202, 20229, 20240, 20242, 20271, 20272, 20316, 20326, 20328, 20336, 20350, 20356, 20360, 20362, 20364, 20368, 20376, 20379, 20383, 20389, 20393 and 20403. A further five possible pot-boiler pits are discussed separately below.

The pits varied considerably in size, plan, profile and fills. Depths varied between 10cm and 99cm, the majority being less than 50cm deep. Approximately half contained dark grey brown or grey black fills, usually coinciding with greater quantities of charcoal. Descriptions of the pits can be found in the Context Summary (Appendix 14). The pits were scattered across the entire site with no obviously significant concentrations. Finds from Pit 20383 included a large base sherd of Roman pottery (Fig 80, 20). Anglo-Saxon Pottery was recovered from Pits 20403 (Fig 81, 1), 20376 (Fig 81, 3), 20368 (Fig 81, 5-8), 20360 (Fig 81, 9) and 20350 (Fig 81, 10). Soil samples were analysed from Pits 20229, 20350, 20356, 20360, 20368 and 20376.

Feature		Prehistoric pottery		Roman pottery		Saxon pottery		Animal Bone	Other
Cut	Fill	Shrds	Date	Shrds	Date	No.	Wt/g	Wt/g	
20008	20020							1	11 burnt stone 5270g
20009	20018								35 burnt stone 5205g
20009	20019								1 flint
20229	20231			1	2 nd				
20242		1	?IA						
20272	20272								1 flint
20326	20327					2	2	90	1 flint
20328	20329					12	348	1	
20350	20351			2	Mid 2 nd -3 rd	67	697	129	42g slag, 26g burnt clay
20356	20357			3	Late 2 nd +	2	11	204	
20360	20361			1	1 st -early 2 nd	26	114	970	2 burnt stone, 2 flints, 14g slag, <1g CBM
20362	20363			2	1 st -early 2 nd	2	28	10	88g slag, 1 burnt flint
20364									1560g slag
20366									22 burnt stone 1405g
20368	20369			1	Roman	63	351	2344	369g slag, 28g burnt clay, <25053> ?ceramic pouch, <25102> crucible frags, 1 flint,
20368	20382					1	<1	693	<25139> Fe object, 518g slag, 1 flint, 34g Roman tile, 5g CBM
20374								1	4g burnt clay, 10g slag
20376	20377					30	330	38	4 glass 1g
20376	20378					3	4		
20379	20380								1 flint
20383		1	MLIA					575	17 burnt stone 2965g
20385				3	Mid 2 nd +			90	3 burnt stone 2380g

Feature		Prehistoric pottery		Roman pottery		Saxon pottery		Animal Bone	Other
20393	20394			1	2 nd +	7	117	435	<25054>stamped Saxon pot sherd, 186g slag
20403	20404					3	82		

Table 14: Finds from Site 10, Pit Features (Highlighted rows relate to pot-boiler pits).

Pot-Boiler Pits

Five pits shared certain characteristics which imply a specific function: Pits 20008, 20009, 20366, 20374 and 20385. These features were spread across the site and did not appear to have any particular associations. These features are all circular or oval in plan, between 40cm and 1.90m in diameter with maximum depths of between 12cm and 27cm. In profile they have steep sides and wide, slightly concave bases.

All except Pit 20374 appeared to have a deliberately applied, partial or full, clay lining. All five contained large quantities of heat-damaged stones. In Pit 20374 these stones apparently formed a layer over charcoal-rich deposits, while in Pit 20366 they overlay an unusual multi-coloured clayey fill flecked with red and yellow ferrous deposits (20372). All contained at least moderate amounts of charcoal with some larger fragments.

Pit 20385 produced three sherds of Roman pottery, one of which was very abraded. Given the frequency of artefact re-deposition across the site this cannot be considered a reliable dating tool for the pits. It seems most probable that these features are contemporary with the surrounding Anglo-Saxon features.

The absence of any burning to the clay linings and the moderate quantity of charcoal present suggests that the four lined pits were receiving the stones rather than being the site of the heating. In direct contrast the lack of clay lining and the presence of high quantities of charcoal and burnt stones within Pit 20374 suggest that stones were being heated here. The clay lining may have allowed water to be retained within the pit which, was then warmed by the addition of preheated stones. A soil sample was analysed from Pit 20374.

Unstratified finds from the topsoil included a sixth century cruciform brooch (Registered Find 25001, Fig 82a), a post-medieval copper alloy buckle fragment (Registered Find 25134) and a surface scatter 20395) of Anglo-Saxon pottery (Fig 81, 4).

Discussion

The *Grubenhäuser*, with its square shape, flat base and postholes at its sides was very typical, and there can be little doubt of its interpretation. The extensive pottery assemblage and other finds suggest a sixth or seventh century date. Settlement sites of this date are rare in Lincolnshire and have been identified mainly through pottery scatters (Vince, 1993, p 22). The discovery of structural remains evidence is of considerable significance for the study of this period in the region.

The posthole groups are less easy to interpret. While the three main groups may represent settlement-associated buildings, they could equally well be fence-lines for stock enclosures or for delimiting land-division boundaries. By their nature, postholes tend to be less easy to date than larger domestic structures, but the evidence points to them being broadly contemporary with the *Grubenhäuser*.

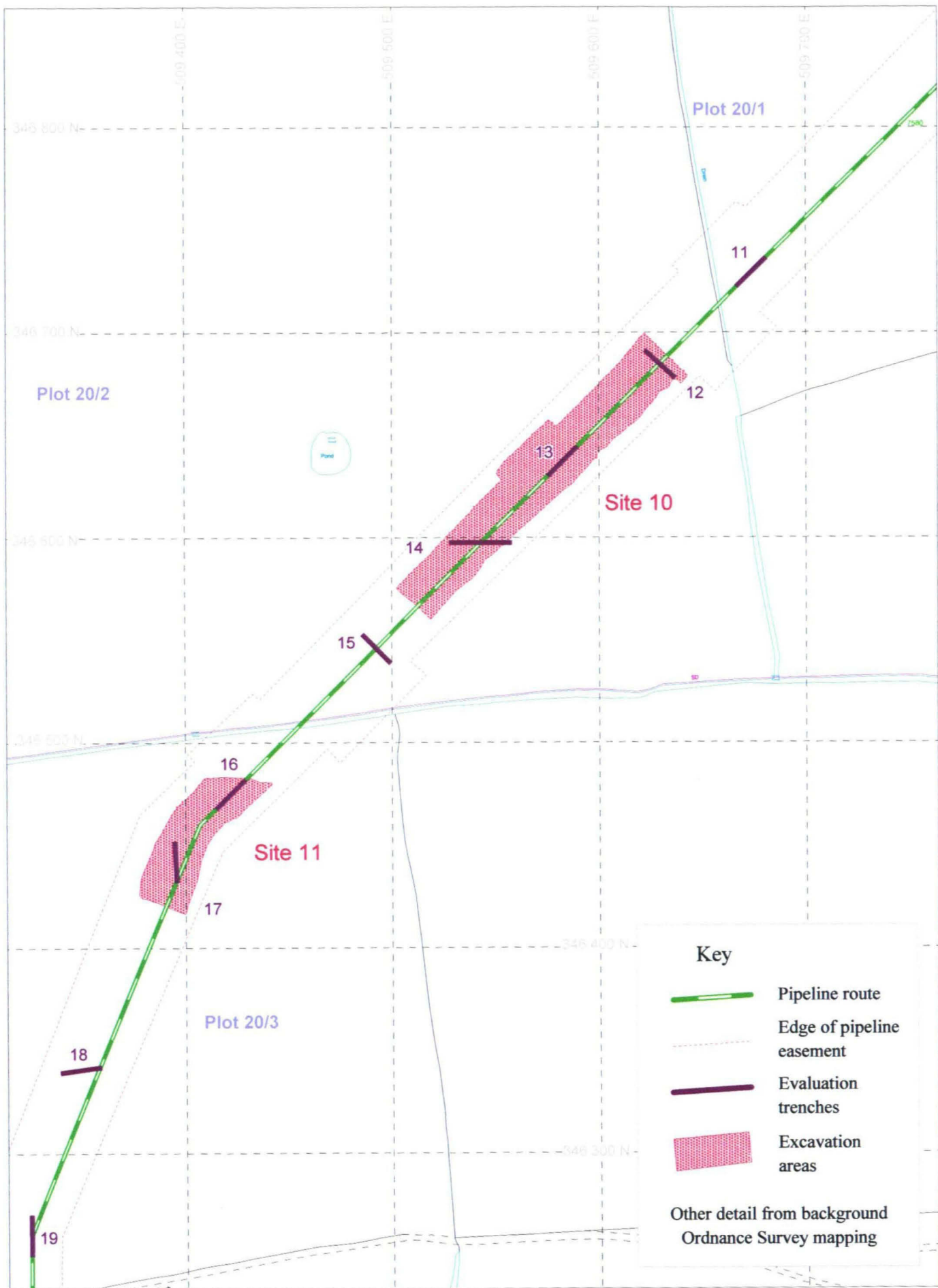
The same is probably true of the majority of the pits. Dating was complicated by the presence of the finds-rich Romano-British site, Site 11, 200m to the north. While it is possible that some of the pits and other features relate to this site, much of the pottery recovered from this period was abraded and was probably residual. The same is probably true for the relatively large quantities of slag. There

was no evidence of furnace-type features and this material is also likely to have come from the earlier site.

In most cases, the pits had little evidence of their original function although their dark fills, comparatively rich in organic material, suggest that they were used for domestic waste disposal, at least as a secondary function. An exception was the pits in which there were quantities of 'pot-boilers', stones cracked by heating and dropping into water. These pits appeared to have had their sides deliberately sealed with a clay lining which would imply that water was being contained within them. If it was water that was being heated with the pot-boilers, it would tend to suggest that these were washing pits, either for personal ablutions, laundry or an industrial use such as wool processing.

Because of the relative rarity of sites of this period, further analysis was carried out on the pottery assemblage. The initial assessment found that while much of the material could be paralleled with pottery fabrics found on other sites in central Lincolnshire, there a number of the vessels had an unusual fabric. A sample of these unusual types was selected for analysis using thin-sectioning and Inductively Coupled Plasma Spectroscopy (ICPS). The results of these analyses suggest that the vessels probably have a relatively local origin, since they are chemically distinguishable from sherds of similar date from sites at Brough and Dunholme (Appendix 4).

Two large ditches at the south end of the site appeared to be part of Site 11 (Section 10.2.2 above). This site was identified from cropmarks on air photographs and appears to be a component of a much larger Romano-British landscape. The discovery of Site 10 is a reminder that the cropmark features in this area may have their origins over a broader time span, including the Anglo-Saxon period.



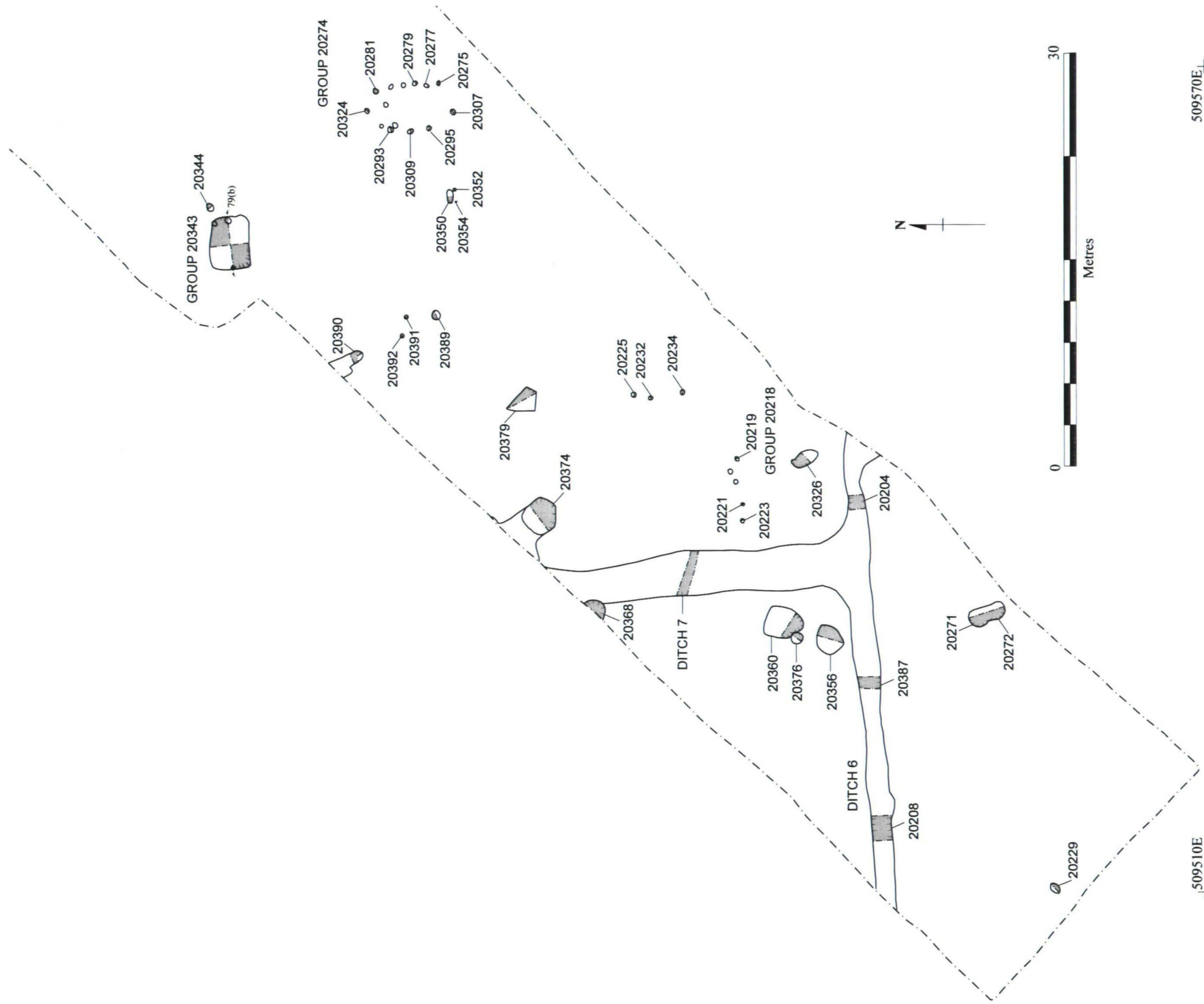
Background mapping reproduced at 1:2500 scale by permission of Ordnance Survey © on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number AL 100021059

Figure 77: Location of Site 10, Settlement, Kirby la Thorpe 1 (Scale 1:2500)



Figure 78a: Site 10, Plan of North part of Site (Scale 1:300)

509510E
346650N



509570E
346560N

509510E
346560N

Figure 78b: Site 10, South part of Site (scale: 1:300)

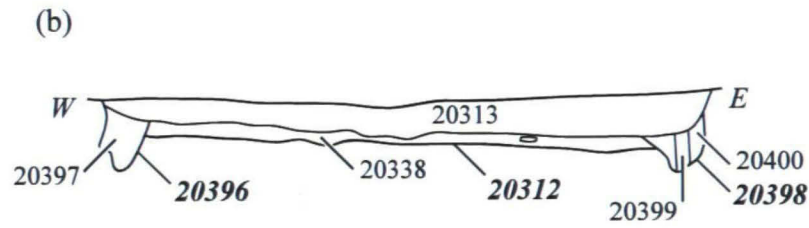
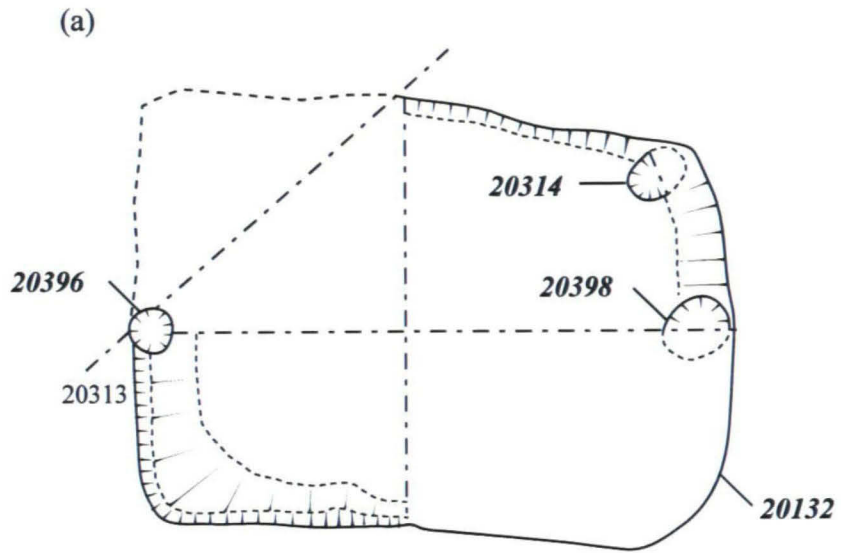


Figure 79: Site 10, Plan and Sections of *Grubenhaus* (scale: 1:50)

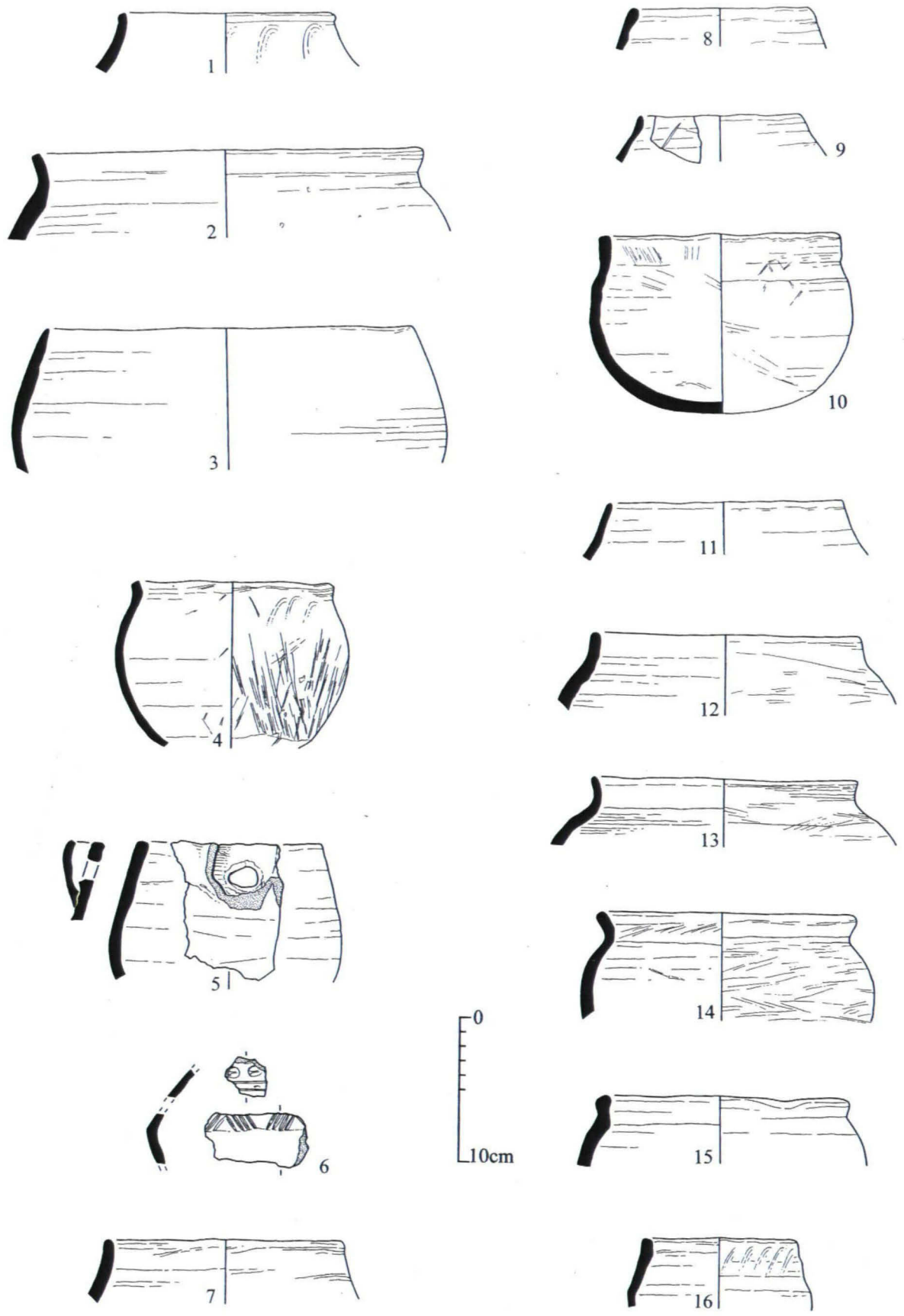


Figure 80: Site 10, Pottery (scale: 1:4)

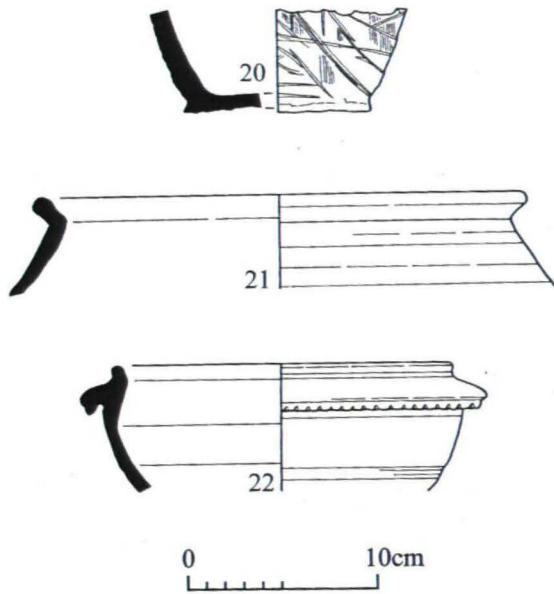


Figure 81: Site 10, Pottery (scale: 1:4)

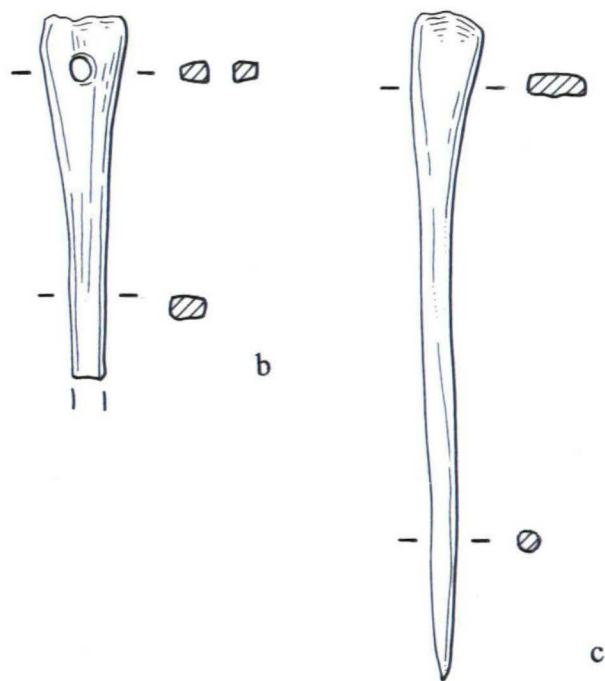
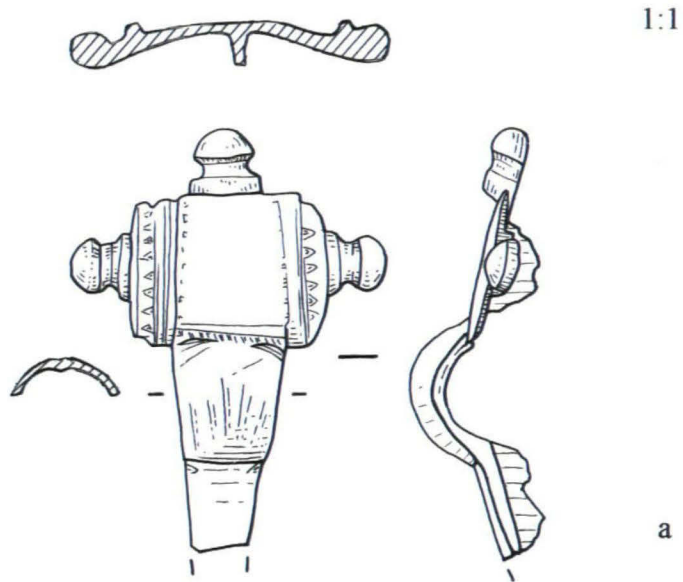


Figure 82: Site 10, Finds



Plate 36: Site 10, Clay-lined Pit 22009



Plate 37: Site 10, *Grubenhaus* 20312, looking north-east



Plate 38: Site 10, *Grubenhaus* 20312, post-excavation view, looking south-west

12 MEDIEVAL

12.1 Summary

Two medieval sites with structural remains were investigated. Wall foundations in Area 93, Plot 9/4 are thought to be of a fairly substantial building, possibly a watermill. Remains in Site 8, Areas 87 & 88, Plot 16/5 have been interpreted as an aisled barn associated with Haverholme priory.

Site 9, Plot 16/6, retains a high potential for archaeological remains despite an apparent absence of features.

12.2. Site Reports

12.2.1 Area 93, Stone wall and linear features, Metheringham Barff, Plot 9/4 (TF 0914 6210)

Summary: The foundations of a wall, including a right-angled return, were discovered during the excavation of the pipeline header trench. These foundations are believed to be medieval in date. There were a number of linear features associated with it.

Artefact type	Count/Sherds	Weight/g
RB pot	11	195
Medieval pot	133	2045
Tile	13	1544
Fe objects	20	238
Animal bone		514
Other	Burnt clay, CBM, shell and worked stone	

Table 15: Area 93, Finds Summary

Introduction

The site was 2.4km east-north-east of St Wilfred's Church, Metheringham and 700m north of Moor Lane (Fig 84). It extended for approximately 65m along the pipeline easement, but excavation was confined to the 4m-wide header trench. The site was on chalky boulder clay, with river sands and gravels towards the south of the field. The land was flat and was at an average height of 6.3m AOD.

The desk-based assessment identified a possible pillow mound or a boundary bank 600m to the south-east of the site (NAL, Report 147, p 25). Fieldwalking found medieval and post-medieval pottery, and stone scatters to the north of the field were noted but thought to be of natural origin (NAL, Report 155, p 29). The geophysical survey revealed magnetic anomalies and slightly raised susceptibility values in the vicinity of the stone scatter (Bartlett-Clark Consultancy, 2000).

Results

No archaeological features were noted during topsoil stripping, but the excavation of the header trench revealed part of a masonry structure and a number of linear features (Fig 85).

Masonry Structures

The foundations of four walls and a demolition layer were excavated (Fig 86). The most substantial wall (9500) had two upper courses of flat limestone slabs containing a central core of limestone fragments set on a base of pitched limestone footings (9525). This wall, on a south-west to north-east orientation, survived for 3.2m and was between 1.1m and 1.2m wide (Plates 39-41). No mortar was seen, so the structure appears to have been of dry-wall construction. There was a slight curvature, the northern side bowing outwards. To both the west and east, the wall came to abrupt halts, the stone-work apparently robbed away. Pottery found within the lower course has been dated to the late twelfth to fifteenth centuries AD.

Just to the south of Wall 9500, the edge of a linear cut [9521] on a parallel alignment was clearly visible. This feature was 23cm deep and appeared to have been a construction trench for the wall. It extended beyond the eastern and western boundaries of the header trench. In section, another feature [9528] could be seen, positioned directly beneath Wall 9500 (Fig 87c) and apparently on the same alignment. It was 1.28m wide and 44cm deep, but due to time constraints it was impossible to determine its full extent and it may have been a pit rather than a linear feature.

The northern face of Wall 9500 was formed by a layer of flattish limestone fragments (9524). Butted against this face and extending at a right angle to it, Wall 9535 extended for 1.6m to the north. It was 1.1m wide, approximately the same width as Wall 9500, but only the lower course remained. This consisted of crudely laid horizontal limestone slabs and fragments, in contrast to the pitched footings of Wall 9500. This section of wall also differed in that it was not completely faced with larger slabs, the northern face especially being little different from the central rubble core.

A third wall (9526) was butted against the northern end of Wall 9535 forming a right-angled corner. It ran in a north-east direction parallel to Wall 9500 for 1.75m, although a line of surface stones suggested that it originally extended further. It had an outer face of large, flat limestone slabs, continuing the line of the northern end of Wall 9535, but the inner side had a relatively thin layer composed predominantly of smaller limestone fragments, so that this wall was significantly thinner, being only 35cm wide. There was insufficient structure remaining to see how the stones were bonded, but there was no evidence of any mortar within the masonry or from the surrounding area, suggesting that it was earth-bonded.

A single course of pitched footings (9536) running into the eastern edge of the header trench was parallel to Wall 9535 and was visible over a distance of 1.6m. It was up to 47cm wide and identical to the lower course of Wall 9500. Its northern end was lost in Rubble Spread 9523 before the point at which it would have intersected with Wall 9526, so no relationship could be established between this structure and the other sections of wall.

A layer of limestone rubble (9523) covered the surface beyond the outer faces of the walls, to the south of Wall 9535 and to the north of Walls 9526 and 9536, and appeared to be derived from their demolished upper parts. It contained three large slabs of limestone but primarily consisted of smaller limestone fragments similar to those found within the core of Walls 9500 and 9535. Pottery recovered from within this layer has been dated to the early to mid- thirteenth century AD.

A layer of compacted earth (9532) formed a surface in the area between the walls. This layer contained a significant amount of pottery dating to the twelfth to fifteenth century.

Linear Features

Nearly 7m to the south of Wall 9500 and on a parallel alignment, a linear feature [9511]/[9513] 2.4m wide and varying in depth between 15cm and 30cm (Fig 87a & b) crossed the header trench. It contained large quantities of limestone fragments, for the most part randomly arranged but with occasional alignments reminiscent of the facing slabs in the masonry to the north. Pottery recovered from this feature has been dated from the thirteenth to fourteenth centuries AD. Where it intersected the eastern edge of the header trench, it was overlain by a group of limestone pieces (9527) forming a small platform approximately 1.1m square, which appeared to have resulted from the break-up of four larger slabs.

A further 6m south of Feature 9511/9513, another shallow, linear feature [9509] ran on a roughly parallel alignment from the western edge of the header trench for 5.75m before terminating abruptly in a squarish butt-end. It was 1m wide with straight sides and a flat base 20cm deep. No artefacts were recovered from its fill.

Approximately 13m to the south, an east-to-west oriented ditch [9503] averaging 1.9m wide and 36cm deep and visible across the full width of the header trench marked the southern limit of the

area. Its tertiary fill (9505) contained a sherd of pottery dating from the thirteenth or fourteenth century AD, the only dating evidence from the feature.

At the northern end of the site, Linear Feature 9520 on a similar orientation to Wall 9500 was approximately 6m wide but tapered from the western to eastern edges of the header trench. Its fill (9519) was silty and contained a number of rounded pebbles towards the base. The original cut appeared to be only 39cm deep but Re-cut 9537, slightly to the north, was 94cm deep. The edge of the re-cut had been truncated by a second re-cut [9534]. This was modern; the upper fills contained barbed-wire and the land owner recalled that it was filled during the 1980s. Another linear feature, 2m to the north, was crossed by two modern land drains, and was interpreted as an earlier phase of drainage feature.

Discussion

Linear Feature 9511/9513 appeared to be the robbed-out remains of wall foundations the sides having been dug out to allow easy removal of buried stones. Stones that were rejected as too small or of the wrong shape would have been abandoned and form the rubble-rich fill of the feature. This wall would have been approximately 7m from the surviving foundation, Wall 9500/9525. These two walls were tentatively interpreted as the external walls of a building, their dimensions and spacing implying that it was a substantial structure.

To visualise what this structure might have been requires a considerable degree of speculation. Assuming a width of nearly 7m, and by comparison with similar buildings of this type and period, the internal length of the building can be expected to have been at least 12m (Dyer, 1994). The thickness of the walls probably implies that they were constructed entirely of stone although it is possible that they were timber-framed on a low stone plinth. Medieval tile recovered from Layer 9501 overlying the site, including a roof-tile with a characteristic applied rounded cut nib (Fig 88), indicated that the building had a tiled roof.

The two short sections of wall on the north side, Walls 9526 and 9536, were considerably thinner, making it likely that these were foundations for less substantial walls, not bearing the weight of the main roof. They possibly formed a smaller construction attached to the main building, perhaps part of an entrance way, a small outside storage area or part of an outer structure related to the function of the building.

Up until at least 1956, Ordnance Survey maps show a watercourse that would have run very close to the site of the building. This flowed north-northeast from Moor Lane (TF 09850 61570) to join the existing drain approximately 50m north-east of the site (TF 09130 62220). The track running alongside the drain turns sharply to the east at this point. The pond to the south-west of the site (TF 09085 62095) is on the line of this old watercourse.

The wide linear feature at the north end of the site [9520] is also on this line and probably corresponds with this stream or dyke. There was barbed-wire in the fill of the latest re-cut of this feature, which accords well with the cartographic evidence that this watercourse was still open in the 1950s.

The Domesday survey recorded three mills at Metheringham, but does not make any distinction between watermills, windmills or handmills. The evidence from the pottery finds on site suggest that the building was in use during the late twelfth and thirteenth centuries AD, a hundred years or more after Domesday. Nevertheless, it is not entirely fanciful that the wall foundations are on the site of one of these mills.

If the building was a watermill, a leet would have been necessary to drive the wheel as the building was not immediately adjacent to the watercourse. This is a common feature of certain types of water-mill as a second channel, in conjunction with a sluice gate, helps to control the flow of water to the wheel (Syson 1991). However, there was no evidence found of such a watercourse.

Two unstratified pieces of worked stone appear to be fragments of querns or millstones, lending weight to the supposition that the building was a mill. Otherwise, the material recovered from the site gave little indication as to its function.

Of course, the building could have served many other functions. The foundations seem quite substantial for a simple dwelling, and isolated houses were unusual at this period as they were rarely sited away from villages of this period. There are records of a pillow-mound nearby (TF 09150 62180). These rather enigmatic landscape features appear to have been artificial rabbit warrens, and may have had a lodge associated with them from where they could be managed (Henderson, 1997).

12.2.2 Site 8, Building Remains, Plots 16/4 & 5, Ruskington 2 (TF 0973 4997)

Summary: The removal of topsoil revealed remnants of stone walls and post footings. Various gullies, ditches, pits and postholes were also recorded. Pottery and ceramic building material date the main period of occupation to the early to mid- thirteenth century. The remains are probably associated with nearby Haverholme Priory.

Artefact type	Count/Sherds	Weight/g
RB pot	48	636
Medieval pot	287	
Medieval Tile	185	
Animal bone		8,696
Other	Burnt stone, metalwork ,glass, oyster & mussel shell, worked stone, slate roof tile fragments	

Table 16: Site 8, Finds Summary

Introduction

The site was approximately 1km to the south-east of the village of Ruskington (Fig 89). It lay at the interface of two very different geologies: Sleaford sands and gravels, and boulder clay. The ground here is fairly level at an average height of 7m AOD.

The northern end of Plot 16/4 was highlighted in the ADDBA as being potentially associated with a cropmark complex (MON 349273, NAL Report 147). Pre-construction excavation showed this complex to be confined to a late Iron Age site in Plot 16/3 (Site 7, Section 6.2.4 above).

Fieldwalking identified a dense scatter of medieval roofing tile, but crop growth restricted artefact retrieval to a small sample from the centre of the plot. The tile scatter corresponded to a slight increase in magnetic susceptibility readings, and very minor magnetic anomalies. It was emphasised that a magnetometer survey would not necessarily respond to such small scale structural features as stone wall footings, post holes or foundation trenches (NAL Report 150).

It was recommended that evaluation trenches were excavated at the earliest opportunity with provision for further excavation or other mitigation as required. Three trial trenches were opened but none produced evidence of archaeological deposits (Trenches 6-8), so no further work was recommended other than to monitor the area during construction.

Results

During the watching brief, no archaeological deposits were identified when the topsoil was first pulled-back by back-acters. However, subsequent inspection of the entire easement width revealed the remains of wall foundations and further archaeological features (Fig 90). A layer of silty clay subsoil of variable thickness was distributed across the site masking underlying deposits. Contact horizons with the natural clay were generally diffuse and, in some cases, imperceptible.

The need to keep a running track open for construction traffic meant that discrete areas had to be cordoned-off and investigated. Five separate areas were excavated. In Area 1 at the south end of the site, there was a series of ditches and curvilinear gullies. The ditches appeared to have been sealed by an episode of deliberate dumping, which in turn pre-dated the gullies.

Area 2 was 20m to the north. Remnants of substantial wall foundations and further structural features such as footings for pad-stones and postholes were recorded. A dense spread of building rubble was partially exposed beneath the subsoil along the eastern edge of the excavation.

Area 3, an extension of the excavation to the east, produced only very fragmentary glimpses of ditches and gullies covered by the layer of subsoil. Areas 4 and 5, to the south and north of the ditch forming the field boundary between Plots 16/4 and 16/5, both contained substantial ditches.

Area 1

The features in this area were exposed during grading activities at the southern field boundary and include two possible ditches, several gullies and two pits.

Ditches

Layer 27001/27044/27038 of probable dumping or rapid silting covered the top fills of Ditches 27027/27045 and 27000/27032/27041. The masking effect of this layer and limited excavation opportunities meant that it was not possible to establish the stratigraphic relationship between these two ditches.

Ditch 27027/27045 ran parallel to the modern field ditch immediately to the south. Proximity to the field boundary and machine disturbance meant that only the northern edge of the cut was visible but the dimensions and profile suggested that the southern edge would be lost beneath the modern boundary. A maximum depth of 65cm was recorded and a width of approximately 3m is speculated (Fig 93a & b). Primary Fill 27046 contained nine sherds of either Iron Age or middle Saxon pottery as well as early thirteenth century sherds. The upper fills produced a larger quantity of thirteenth century pottery, of which none is definitely later than the middle of that century.

Ditch 27000/27032/27041 was less coherent. In one section it was a fairly regular U-shape with a maximum depth of 45cm and a probable width of around 1.40m (Fig 93b). In one excavated section it had been partly truncated prior to the deposition of Layer 27001/27044/27038 but in the other excavated sections this layer completely sealed the fills below (Fig 93a). The overall profile became wider and more irregular to the east.

The fills of Ditch 27000/27032/27041 contained a group of twenty-four pottery vessels, mainly glazed jugs from Lincoln and Nottingham. Sherds of a Potterhanworth curfew were distributed between an excavated section and the overlying layer (27023) cleaned away by machining. The latest two vessels probably date to the last quarter of the thirteenth century, implying that this feature was covered by Layer 27001/27044/27038 some time after this date. The primary fill also produced three undiagnostic roof tile fragments.

Layer 27001/27044/27038 was between 20cm to 33cm deep and consisted of mixed layers of blue, orange and brown-orange silty clays with occasional pebble-rich lenses, giving a generally dirty appearance.

A large concentration of pottery, given the collective number 27008, was initially ascribed to Layer 27001. Fifty-four vessels were represented by this group. Most of this material belongs to the period between the early and mid- thirteenth century although at least nine vessels are of a slightly earlier mid- to late twelfth to early thirteenth century date. The assemblage contains a high proportion, about 50%, of coarseware vessels as well as undecorated jugs from Nottingham and Lincoln.

However, the relatively sterile nature of the layer and the presence of late thirteenth century pottery within the upper fill of Ditch 27000/27032/27041 cast doubt on the provenance of this assemblage. It is possible that the pottery is derived from an earlier fill of Ditch 27000, possibly Fill 27031 which had unclear interfaces.

If Layer 27001/27044/27038 was deliberately deposited, it may represent efforts to level out a hollow, the northern limit of which was defined by Ditch 27000/27032/27041. If, however, it is a result of rapid silting it would suggest a change in activity in the surrounding area.

A concentration of limestone fragments from one of the excavated sections may be structurally derived, perhaps representing tumble from a collapsed wall. A deposit of burnt ash-like material and fragmented limestone was recorded between the ditches, pre-dating Layer 27001/27044/27038. There was no evidence of a hearth or associated structure.

Smaller Linear Features

The surface plan and pottery dates suggest that the gullies post-date the ditches and the layer above them. Six shallow gullies were recorded: Features 27002, 27021/27052, 27009, 27004/27048, 27011/27013/27017 and 27015/27024/27050.

Gullies 27002, 27009 and 27021/27052 appeared relatively straight, with widths up to 45cm and depths of around 12cm. The three longer gullies were curvilinear and may have been elements of small enclosures. Gully 27015/27024/27050 appeared to cut Gully 27052 but its relationship with Gully 27011/27013/27017 was unclear; in section they appeared to run alongside each other. The features were not all of the same depth: Gully 27004/27048 was between 5cm and 12cm deep, Gully 27011/27013/27017 between 25cm and 45cm deep, and Gully 27015/27024/27050 between 10cm and 20cm deep.

Gully 27011/27013/27017 appeared to be cut by Pit 27039, which was circular, 90cm in diameter and 48cm deep. It is possible that this represents the remains of a post-pit within the gully but this relationship was not clear and finds recovered from the section may have originated in either feature.

All of the gullies contained a relatively sterile brownish fill with occasional charcoal flecks. Three produced small assemblages of pottery. The fills of Gully 27004/27048 contained only two small sherds, the latest of which may date to anywhere between the thirteenth and fifteenth centuries. Gully 27015/27024/27050 produced a small group from at least fourteen vessels with the latest sherds dating to the thirteenth century and including at least two residual mid- to late twelfth to early thirteenth century jars in shell-tempered Potterhanworth ware. It also contained an iron nail (Registered Find 25074). The latest three vessels from a small mixed group of eight sherds from Gully 27011/27013/27017 are likely to date to the second half of the fifteenth century.

A total of 53 tile fragments were also recovered from Gullies 27021/27052, 27011/27013/27017 and 27015/27024/27050. With the exception of one peg and one nibbed tile from Gully 27052, all of the fragments came from undiagnostic roof tiles. Most of the tile recovered from Gully 27052 was in a finer fabric whereas those from the other two gullies, with the exception of two fragments from Gully 27015/27024/27050, were in a more common coarse fabric.

Feature 27019, in the north-eastern corner of the area, was a large irregular pit, possibly a quarry pit. It produced thirty sherds of thirteenth to fifteenth century pottery and four fifteenth to seventeenth century sherds, as well as thirty-five fragments of medieval tile.

Areas 2 and 3

Three wall foundations were recorded, together with two other possible foundations and two large post-pad footings. A further nine postholes, four pits and three gullies or ditches were also identified. An extensive layer of building rubble was partially exposed along the eastern edge of the area. It is likely that extensive stone robbing had taken place making the task of reconstructing the layout of the site more difficult. While some of the features appeared to be aligned there was little overall pattern, suggesting that these are the remains of a range of buildings belonging to more than one phase. Because of these difficulties the results have been broken down into four groups: Structure A; Structure B; Structure C, and Miscellaneous Postholes and Pits.

Structure A

Six postholes were identified near the western edge of excavation which appeared to form a regular alignment: Postholes 27232, 27239, 27243, 27245, 27253 and 27275. These were mostly circular

and were 20cm to 15cm wide, with depths of 35cm to 45cm. Postholes 27243 and 27245 contained single abraded Roman pottery sherds with a possible date range of second to fourth century, while Posthole 27275 contained burnt limestone fragments and charred cereal grain in its upper fill.

As only part of this potential structure was exposed it was not possible to verify this interpretation. It lay in the region of the north-west corner of Structure B, but is not obviously related and probably pre- or post-dates that structure. The pottery sherds appear to be residual and therefore not reliable for dating the features.

Structure B

This structure was defined by three substantial segments of wall foundation. Wall 27218 marks the northern end of the structure (Fig 91a; Plate 47), with Wall 27249 as its opposite number to the south (Fig 91b; Plate 45). Wall 27272 was assumed to be the eastern wall of the structure (Fig 91c). Both of the end walls were 1.00m to 1.10m in width. The eastern face was absent from the badly damaged side wall and it survived to a width of only 60cm; is not possible to be certain of its original width.

The southern and eastern walls had a single layer of vertical or slightly pitched limestone blocks overlain by a layer of horizontal limestone fragments and bound with mortar (Fig 92b & c; Plate 46). None of the stone appeared to be worked. Pit 27200, only 6cm deep, contained a layer of limestone fragments as well as fragment of tile (Fig 94b). It followed a similar orientation to the Wall 27272 and was probably a remnant of the foundation trench of this wall.

The northern wall had two courses of oppositely pitched limestone blocks forming a herringbone pattern in section (Fig 92a; Plate 44). A few level pieces suggest this too had originally been overlain with horizontal stones. Again the stone appeared to be bound with mortar and none was worked. Pit 27281, 85cm by 48cm and 34cm deep, was recorded near where the north-western corner of the structure would have been. The irregular shape of this pit suggested that it may have been dug to rob away the corner stones of the building.

The distance between the two ends would give Structure B an internal length of approximately 30m. As no western wall was recorded it is impossible to be sure of the width. A small fragment of ditch [27261] was noted in a sondage cut into the western edge of site baulk and may have been a robber trench on the line of the western wall. It was approximately 1.00m wide and 40cm deep, but contained no residual building stone and its profile was perhaps too regular for a robber trench. If this was on the line of the wall, the internal width of the structure would be approximately 12m.

Stone Footing 27202, probably for a pad-stone, was recorded 10m south of the northern wall of the structure, set approximately 5m inside the line of the eastern wall. Stacked horizontal limestone fragments (Plate 43) were set in a sub-rectangular pit roughly 95cm long by 56cm wide and 40cm deep. Feature 27204, 5m to the south, was initially interpreted as a similar stone footing, but is more likely to have been the base of a small pit or posthole containing an accumulation of stone fragments. Another possible footing, Feature 27238, was 5m to the east, beyond the line of the east wall of Structure B. However, this is unlikely to have been associated with the structure as it was at a lower level, and it may have been no more than an accidental arrangement of large, flat stones within the extensive rubble spreads in this part of the site.

Concentrations of limestone rubble and occasional tile fragments (27206), (27216) and (27219) were visible across much of the eastern half of Area 2 (Plate 47). The tile included a nibbed fragment (Fig 94a) and an unusual piece with a relief stamped pattern (Fig 94c). Excavated box-sections showed that these concentrations extended in all directions beneath Subsoil Deposits 27242 and 27301. Given the numerous surface scatters of similar material emerging elsewhere, but not investigated, this indicates a very extensive spread of material. The lack of any corresponding remains in Area 3 is more likely due to concealment by the subsoil than a true absence.

The rubble layer itself was between 10cm and 15cm deep and consisted of a matrix of light brown silty clay, possibly degraded mortar, containing small rocks, gravels and occasional charcoal flecks. Within this were large numbers of irregularly sized and shaped limestone fragments, apparently unworked. A small number of tile fragments were also recorded. Two possible fragments of wall or post-footing remains were identified amongst the rubble scatters (27213) and (23236) but both were badly damaged and ambiguous.

Structure C

Stone Footing 27268 at the northern tip of Area 2 was apparently isolated, though it is likely that this feature formed part of another structure, possibly extending to the west of the pipeline. The substantial footing was 86cm by 1.10m by 15cm and consisted of a rubble core of small pebbles surrounded by large fragments of limestone arranged to form a sub-rectangular platform and bound with mortar (Plate 42). No cut was discernible and the stones appeared to be bedded into the natural substrate. The fragmentary nature of the internal packing material suggests that a pad-stone, probably for an upright timber, would have sat on this foundation layer.

Miscellaneous Postholes and Pits

In addition to the six postholes forming Structure A, three further postholes were recorded within the interior of Structure B. Postholes 27255 and 27259 had depths of less than 8cm and may have been natural in origin. Posthole 27257 was more convincing, with a diameter of 38cm and a depth of 20cm. None produced any artefacts.

Pit 27228, beneath the Layer 27206/27216/27219, was 1.6m east to west, but investigations were restricted to a narrow slot which prevented measurement its north to south dimension. A maximum depth of 53cm was recorded and a single mixed clay silt with occasional charcoal flecks. The pit had filled prior to the deposition of the rubble layer and probably pre-dates Structure B, given its proximity to the proposed eastern wall.

Pits 27265 and 27279, within the interior of Structure B, were roughly circular, around 85cm in diameter and no more than 20cm deep. The fills of both contained fragments of medieval tile and animal bone, and Pit 27279 also contained fragments of Collyweston slate roof tile.

Pit 27297 was within Area 3 and appeared to form a terminal to Ditch 27305. It was slightly oval, approximately 1.70m across, with a gentle rounded profile and a maximum depth of 40cm. It contained a single fill with occasional charcoal flecks. Several medieval tile fragments, two of which were of the finer fabric type, and two sherds of pottery with a thirteenth to fifteenth century date band were recovered. This feature was probably contemporary with the later gullies of Area 1.

Pit 27220, the most interesting of this group of pits, was possibly the remains of a watering hole. It was indistinct in plan, only being identified during investigation of a tile concentration at the surface. Two slots dug across its width revealed a roughly U-shaped circular cut, approximately 3.00m in diameter and with an original depth of 60cm. Following an initial period of silting the feature had been re-cut [27320] with a shallower profile and a depth of approximately 45cm (Fig 92d). This cut had been deliberately lined with flat fragments of rough limestone (27222). Above this there was a deposit of clean sandy fill at one edge (27224), followed by a mixed and dirty, brown, gritty or stony clay (27223) filling the next 25cm, and followed in turn by an irregular layer of tile, including one waster and three fragments of finer fabric type. The remainder of the cut was filled by a sterile sandy clay loam, (27226).

Five linear features were noted in Area 3: Ditches 27299, 27302, 27305, 27310 and 27312. All were ill-defined, and Ditches 27302 and 27312 were recorded only in section.

Area 4

A large linear feature [27284]/[27292] was recorded running broadly parallel to the bridleway on the boundary between Plots 16/3 and 16/4. This feature seems to be the open drain recorded on the 1956

OS map, having been replaced by a 4" land drain visible in the section. Traces of a former hedgerow were also noted along its northern edge. The open drain appears to have gradually meandered north and south and the outermost cuts and fills were indistinct both in plan and section so that the feature had a total width of approximately 7m and had a maximum depth of 80cm. Another drain, recorded on the 1st edition OS map of 1824, still runs on the other side of the bridleway and shows similar migratory characteristics.

It is not possible to be sure of the longevity of this ditch. The presence of finer fabric tile fragments, a tile waster and potentially later thirteenth-fifteenth century pottery types could indicate a medieval origin. Alternatively the finds could have been re-deposited within a much later feature, the larger stone fragments perhaps being dumped at the field edge during stone clearance. A fragment of gravemarker (Appendix 8, Fig 95) was retrieved from the uppermost fill of Cut [27284].

Area 5

Ditch 27291 was approximately 2.60m wide by 70cm deep and contained a gradual series of sterile fills. It is not possible to securely link this feature with either Site 7 to the north or the medieval remains beyond the field boundary ditch to the south. The fact that this feature is curvilinear and appears to be enclosing an area to the north suggests the former. No artefacts were recovered from the fills despite the presence of numerous unstratified medieval artefacts in the surrounding area including a copper alloy fitting (Registered Find 25080; Fig 94d).

Discussion

Haverholme Priory

It is clear from the stone foundations that we are dealing with at least two significant structures. Vernacular buildings of this type would have required a substantial outlay of money and labour, the most likely source of both being Haverholme Priory.

Haverholme was originally granted to the Cistercians in 1137 but, unhappy with the location, they were later given Louth Park in exchange. The site and buildings already erected were then granted to St. Gilbert, so that it became the second double priory of his order (Knowles & Neville Hadcock, 1971).

On an island between the New and Old River Sleas, the priory was surrounded by low-lying, marshy land. Excavations in the 1960s showed buildings extending as far as the peat covered slopes around the clay plateau (Jones, 1965). This suggests that space was limited. Just over 1km to the north-west, Site 8 is on fairly low lying land, but the slight rise in ground level, and the change to more free-draining sands and gravels, may have made it a convenient site for the growing priory's home farm or grange (Fig 83).

Both the pottery and tile assemblages support the contention that the site was associated with the nearby priory. The ware-type composition of the glazed jugs, mainly Nottingham and Lincoln types, is not typical of local rural assemblages where a significant number of vessels are usually from a more local source. At the priory site, however, Nottingham and Lincoln wares were common among the pottery recovered from excavations (Appendix 4).

A tile kiln was excavated at the priory in 1964 and 1970. The kiln assemblage has not been published so material held in archive at the City and County Museum was examined for comparison. The tiles recovered from the kiln site all appear to be in the finer of the two fabrics. However, several of the kiln props are in the coarser fabric suggesting that both fragments are local. None of the retained tiles are an exact parallel for those from Site 8, although the nibs are of a similar type. A ridge tile with applied strip decoration is similar to examples made at the kiln at the priory. The two fragments of single brick are also similar to examples found in the priory kiln make-up (Appendix 5).

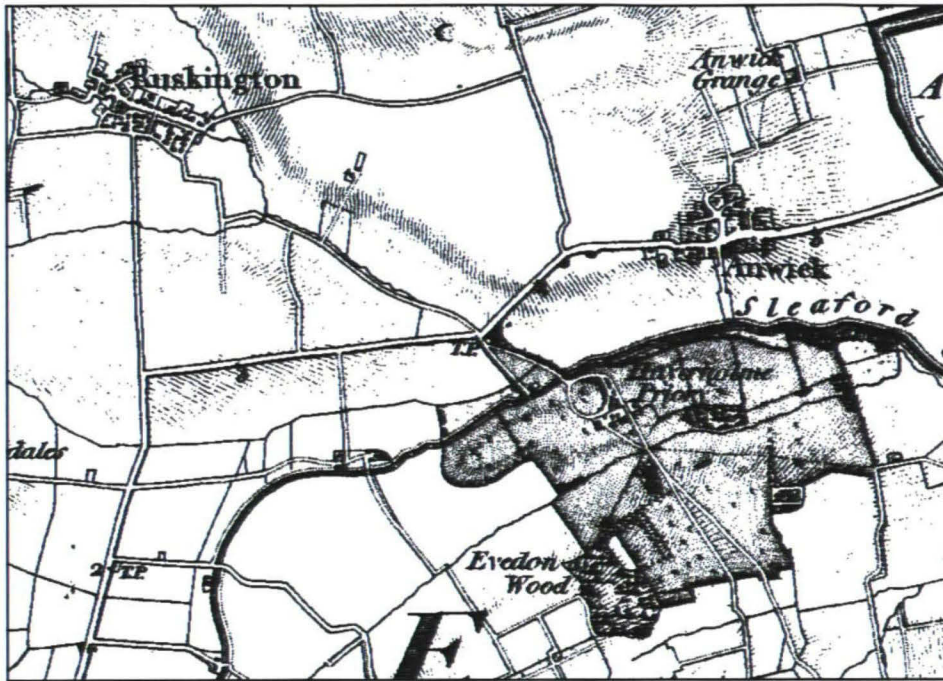


Figure 83: Extract from 1st Edition 1" Ordnance Survey Map, 1824 (Not to scale)

The presence of Collyweston slate roofing also suggests a wealthy landlord. This material was imported from quarries in the village beyond Stamford and although found in both Roman and medieval contexts within Lincoln itself, seems to have been of relatively restricted use. As ceramic tile was being produced locally, the use of the more expensive slate suggests that its users were relatively more affluent (Appendix 8).

The fragment of grave-marker (27274) from Ditch 27284/27292 provides further evidence for a link between the two sites. This stone is the upper corner of a double grave-marker that has been split roughly in half vertically to facilitate re-use. In the centre of one face is a deeply drilled circular hole. This shows signs of abrasion and is probably a socket for a har-hung door (Appendix 8).

This grave-marker type seems to have developed out of the unornamented, equal-armed cross types. The cross-head type itself was also adopted for use on more imposing shaft monument such as Castle Bytham 2 and Keddington 1 (Everson & Stocker 1999, 320-2; 326). Both of these more precisely dated monuments come from the central decades of the twelfth century, but the grave type represented here may have been in production for a somewhat longer period, say from around 1120 to 1180. This date range would make its transfer from Haverholme Priory a distinct possibility as the stone is unlikely to have travelled far.

Chronological Sequence

Twenty-four pottery vessels dating to 1170-1230 probably indicate the beginning of intense activity on the site. Structures B & C may have been constructed towards the end of this period, around 1220-1240, marking the peak of activity as suggested by the pottery. The presence of only two vessels that can be securely dated to the last quarter of the thirteenth century suggests either a rapid decrease in activity between the mid- and late thirteenth century or a significant change in the activities being undertaken on the site.

Pottery and the finer tile fabric recovered from the gullies and pits of Area 1, the probable watering hole in Area 2 and the ditch in Area 4, suggest a resurgence in activity, perhaps even as late as the fifteenth century.

Unfortunately, it has not been possible to date the demise of the structures. The priory itself was abolished at the dissolution in 1538 but there is no mention at that time of this type of satellite establishment. There is reference in 1604 of a descendant of William Thorold, who received half of the Priory site in 1544, having Haverholme Grange (Trollope, 1872). However, no details are given and the probability that Site 8 is the remains of this grange is slim.

Structural Evidence

The composition of the remains of the walls is fairly typical of medieval masonry. The inner and outer faces were built up simultaneously, the gap between them being filled with mortar rubble. Medieval facings fall into two principal categories, rubble and ashlar. Rubble, as is seen at Site 8, appears in the documents as 'rough walling' and was a cheaper type of construction, using stones of irregular shape and size. It also required a less skilled workforce (Hislop, 2000).

The foundations of Wall 27218, however, have a herringbone appearance, more typical of the eleventh century. In this technique the stones are set obliquely, so that the direction of pitch alternates from course to course in order to provide a system of counterbalance. The resultant herringbone patterns were interspersed with horizontal levelling courses of thin flat stones. Herringbone masonry is found in a number of Anglo-Saxon churches but was also used in early Norman work and is not necessarily confined to the eleventh century (Hislop, 2000). This technique is not obvious in any of the other wall remains and may be an isolated course, used to add greater stability to the foundations, but the poor preservation of the other masonry across the site makes this impossible to confirm.

A considerable quantity of ceramic building rubble was recovered from the site, including 183 fragments of medieval tile and two fragments of a single, possibly late medieval, brick. Several tiles were represented by more than one fragment and many were in a fresh condition. Most of the tiles recovered are flat roofers; of the few that have an indication of suspension type, nine have nibs, eleven have peg holes and a further two examples have evidence for both nibs and peg holes. Only one definite ridge tile was recovered although several other undiagnostic fragments, including a relief-stamp decorated example, may also be part of ridge tiles. The ridge tile is much larger than those in use in medieval Lincoln and may have been produced for a specific type of building or perhaps as wall capping. The tiles are mainly associated with pottery of thirteenth century date, although the finer of the two fabrics and the wasters are almost exclusively associated with potentially later features.

Much of the material is abraded, possibly due to the low firing temperature of many of the tiles. There is no evidence for mortar on any of the tiles and this fact, together with the occurrence of six badly fired tiles may suggest that all of the material is kiln waste and was used on the site for make-up rather than roofing (Appendix 5). The only tiles to be closely linked with a structural context were four fragments of roof tile recovered from the surface of the rubble layer relating to Structure B. This small group includes both the stamp-decorated tile and a flat roof tile with incised zig-zags on one edge which may represent a tiler's mark or batch mark (Appendix 5). This group, however, is insufficient evidence to suggest a tiled roof, alternative materials being thatch or slate tiles, several of which were recovered from Pit 27279 within Structure B.

Excavations in the 1960s of the preceptory of the Knights Templar at South Witham, SK 929205, recorded remains of three large and four smaller barns. The three large barns measured 27m by 12m, 26m by 11m, and 29m by 12m. The first two had remains of aisled post-pads while the third had internal divisions (May, 1966). These dimensions are similar to those hypothesised for Structure B, 30m by 12m. Although no associated walls were found for Structure C, the footings imply that the buildings were quite substantial.

Function

Numerous grants of land in the surrounding area are listed in the priory charters making it a major local landowner (Lincolnshire Notes & Queries, 1922 & 1923). As such they were likely to be

producing and receiving large amounts of produce. As a home farm, Site 8 would probably have needed domestic accommodation as well as a wide range of buildings to match the needs of a mixed farming economy such as a threshing barn, granary, cattle sheds, stables, pig-sties and workshops.

Analysis of the soil sample taken from Posthole 27275 within Structure A has established the presence of processed grain on the site. No modern roots or seeds were recovered from the sample and therefore little or no contamination is expected. The charred seed component was relatively rich with 321 seeds per litre of soil. Both cereal and wild species were identified but the cereals made up 84% of the total. This suggests that the cereal was relatively clean, with only a few weeds and no chaff. Given the presence of only a few weeds, the majority of which are of a similar size to the grain, it is likely that the chaff had already been cleaned from the grain and that this sample assemblage represents a late stage in the processing sequence. The general cleanliness of the grain would suggest that the cereal was destined for human consumption (Appendix 6).

Because of the uncertain relationship between Structures A and B and the absence of further environmental and archaeological information, it has not been possible to determine whether the grain was being processed within either structure or was merely being stored as an end product. The charred nature of the barley and its association with burnt limestone fragments suggest a fire may have damaged at least part of the associated structure, although there is no evidence to suggest a major destructive event.

There is only limited evidence within the excavated area for other activities. Analysis of the animal bone assemblage consisted of a brief assessment of the entire site and did not take chronology into account. Of the 8,696g of bone recovered, sheep or goat bones account for 49% of the total number of identified species, with cattle making up a further 30% and pig only 1%. A further 18% of the fragments have been identified as horse, but with perhaps only one individual being spread between a number of contexts. Other species identified include dog and common crow. Crows scavenge domestic refuse and their bones commonly occur on settlement sites (Appendix 10A).

The plainness of the glazed jugs and the high proportion of coarseware vessels, mainly jars, suggest that this assemblage was associated with a specific use of the site. The presence of at least six curfews or smokers must also be associated with the site function. These vessels were intended for covering up a fire overnight but could also have been used for smoking fish or meat. The relative scarcity of bowls, with only one recovered, argues against any association with dairy use (Appendix 4).

General

It is clear from the remains that this is a site of regional importance and significant for understanding the evolution of Haverholme Priory. Excavation has shown that unidentified remains exist both within and beyond the limits of the pipeline easement and may be largely protected by subsoil deposits. It is possible that such remains include additional structures and evidence of further activities hitherto undetected.

12.2.3 Site 9, Potential Archaeological Remains, Ruskington 3, Plot 16/6 (TF 0966 4985)

Summary: Air photographs and geophysical survey results strongly suggested that there were archaeological features present at this site, but nothing was found during close monitoring of the topsoil stripping. It is possible that underlying remains were concealed by cultural subsoil layers.

Introduction

The site lies immediately to the north of the A153 (NAL, Report No. 150). The ground is fairly level, lying just below 7m AOD. The surface geology consists of Sleaford sands and gravels.

Air photographs show a cropmark of a track-way defined by a pair of parallel ditches immediately to the north-west of the pipeline. The field also gave comparatively high magnetic susceptibility values and one possible pit-like anomaly (NAL, Report No. 150).

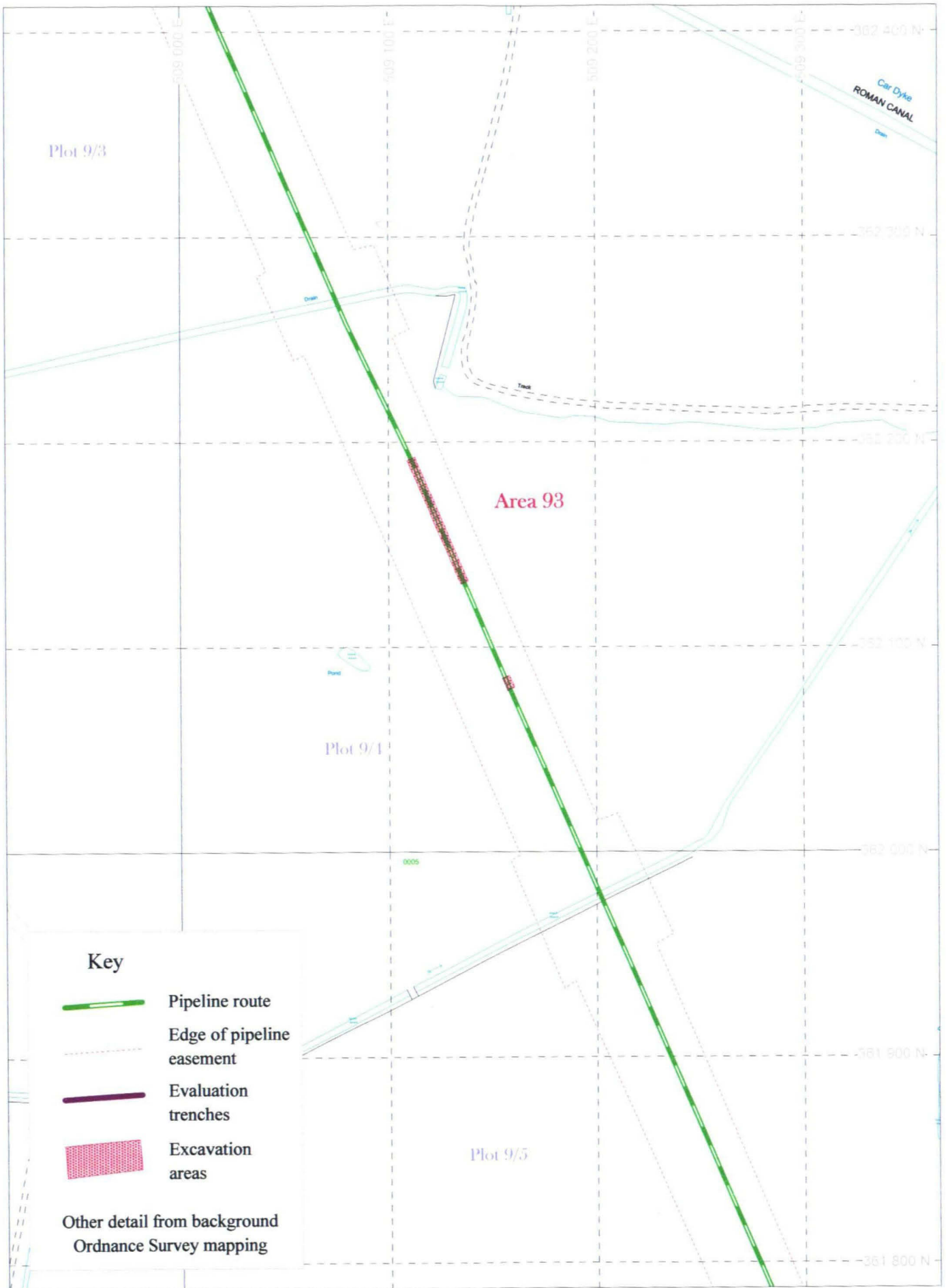
Results

Due to extensive delays, resulting from the foot-and-mouth outbreak, it was not possible to open up the evaluation trenches prior to construction. Supervision of the topsoil stripping and of the excavation of the pipe-trench revealed no archaeological features.

A single fragment of unstratified animal bone and an undiagnostic piece of flint were recovered during construction.

Discussion

No evidence was found for any archaeological features at this site. However, conditions during topsoil stripping and trenching were not ideal and it remains a possibility that archaeological deposits could have escaped detection. The close proximity of the medieval remains at the southern boundary of Site 8, together with the cropmark evidence and the geophysical anomaly detected during the pre-construction surveys, suggests that archaeological features could be present, but that they are cryptic, not readily visible or masked by subsoil layers.



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Figure 84: Location of Area 93, Building Foundations, Metherringham Barf (Scale 1:2500)

509100E
362200N

509170E
362200N

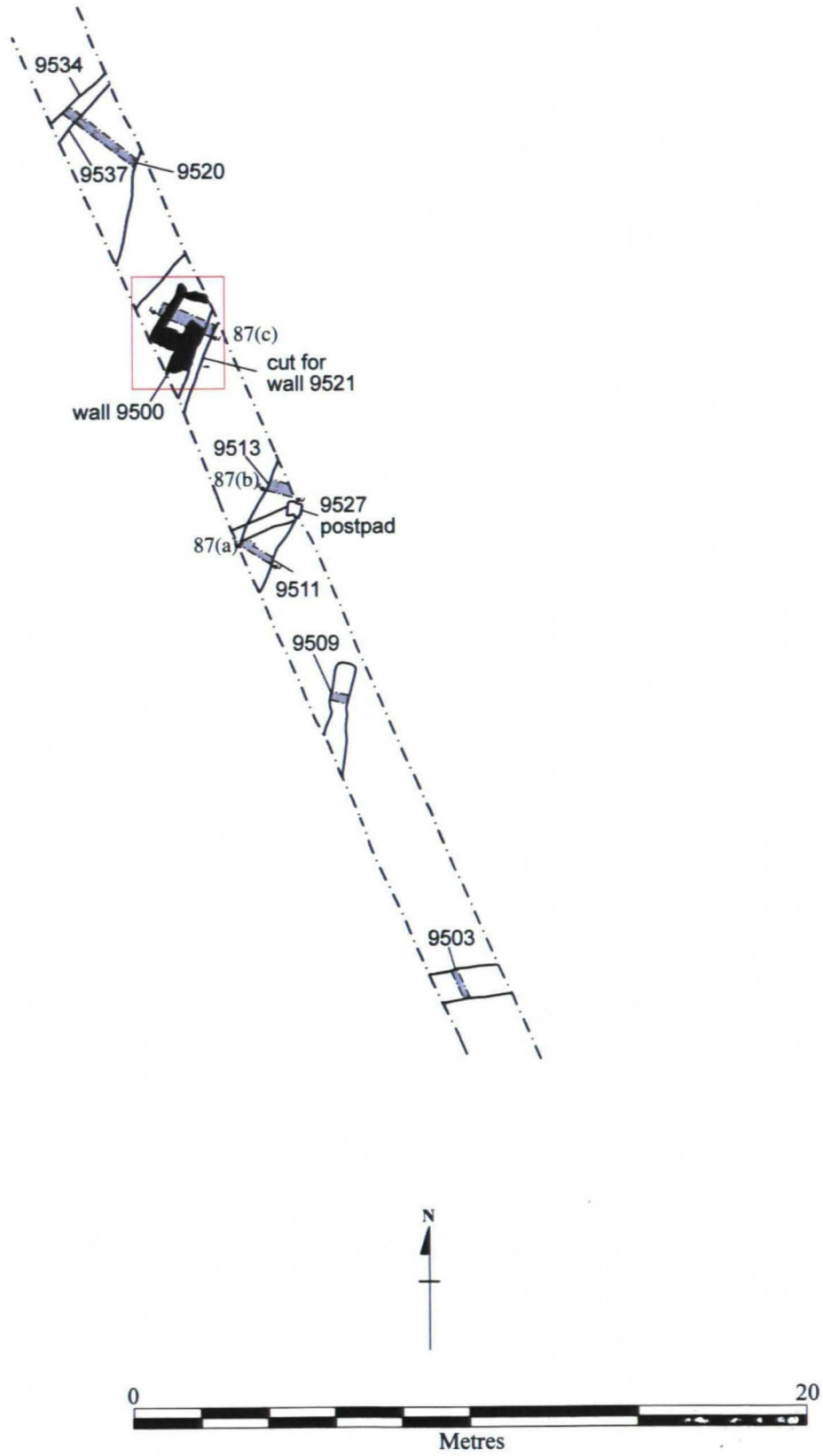


Figure 85: Plan of Area 93 (scale: 1:400)

509170E
362100N

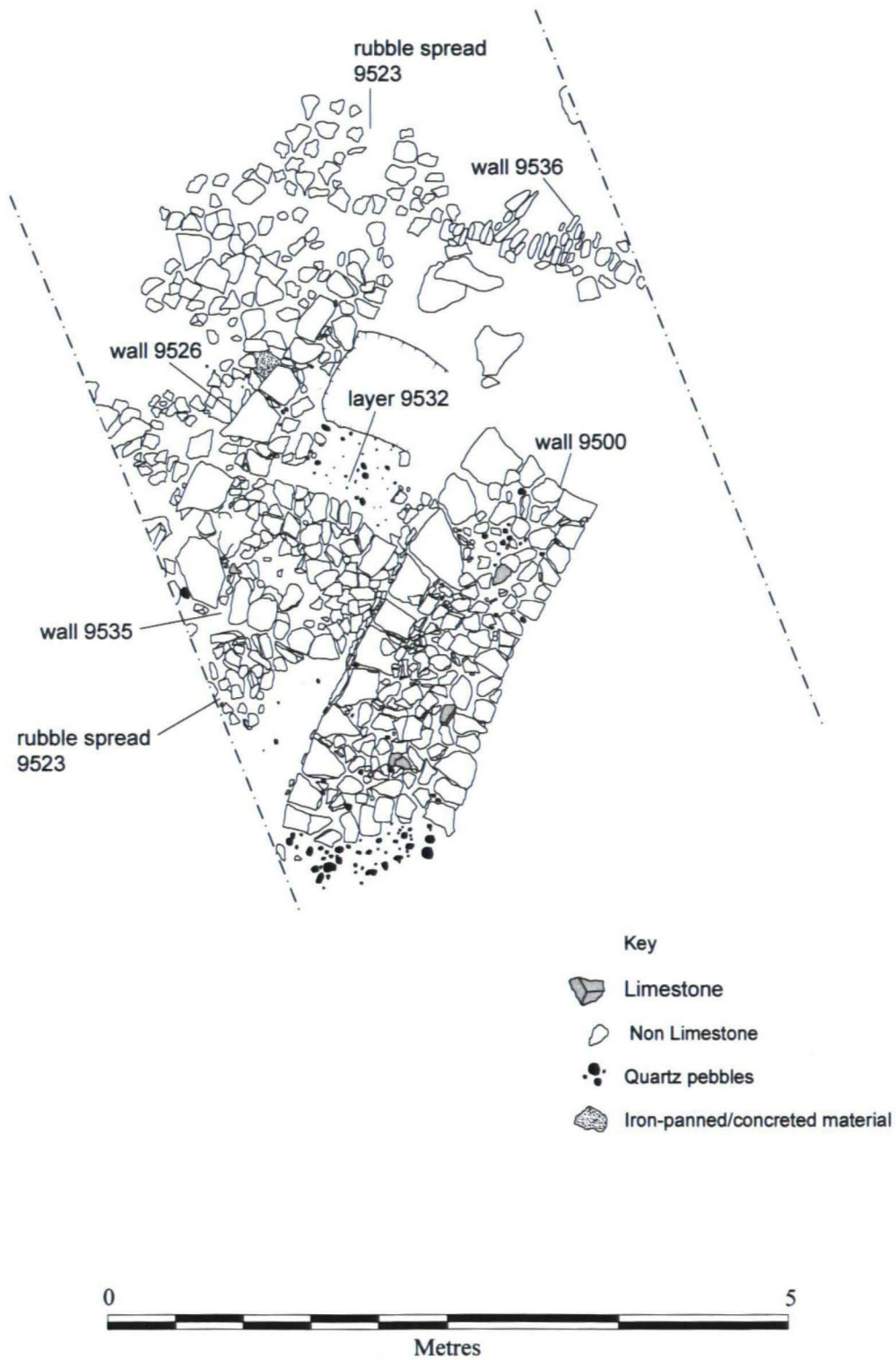


Figure 86: Plan of Area 93, Detail of wall foundations

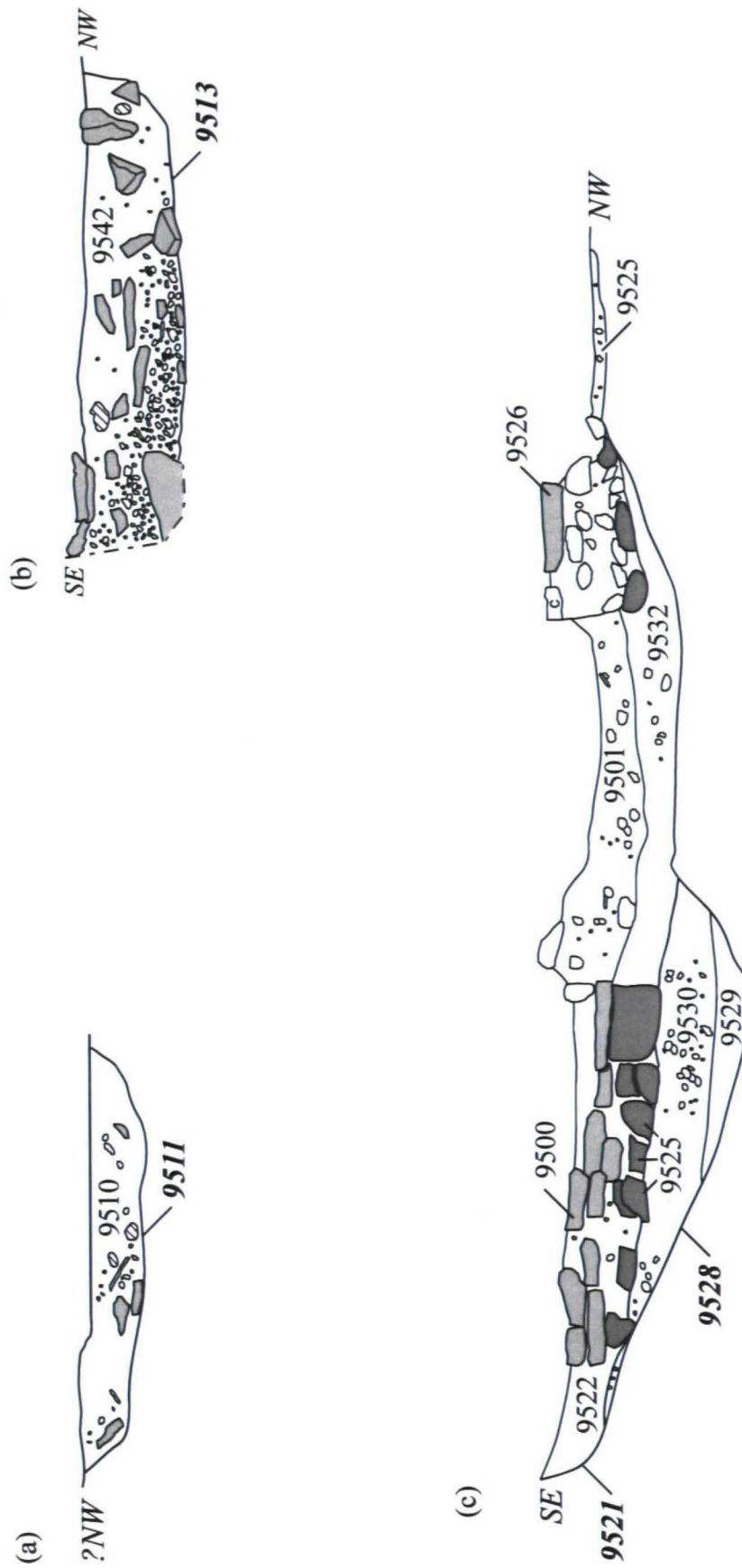


Figure 87: Area 93, Sections (scale: 1:20)

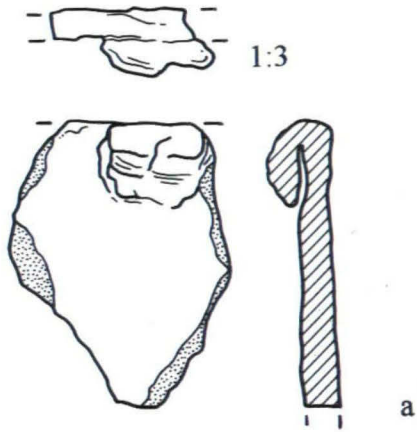
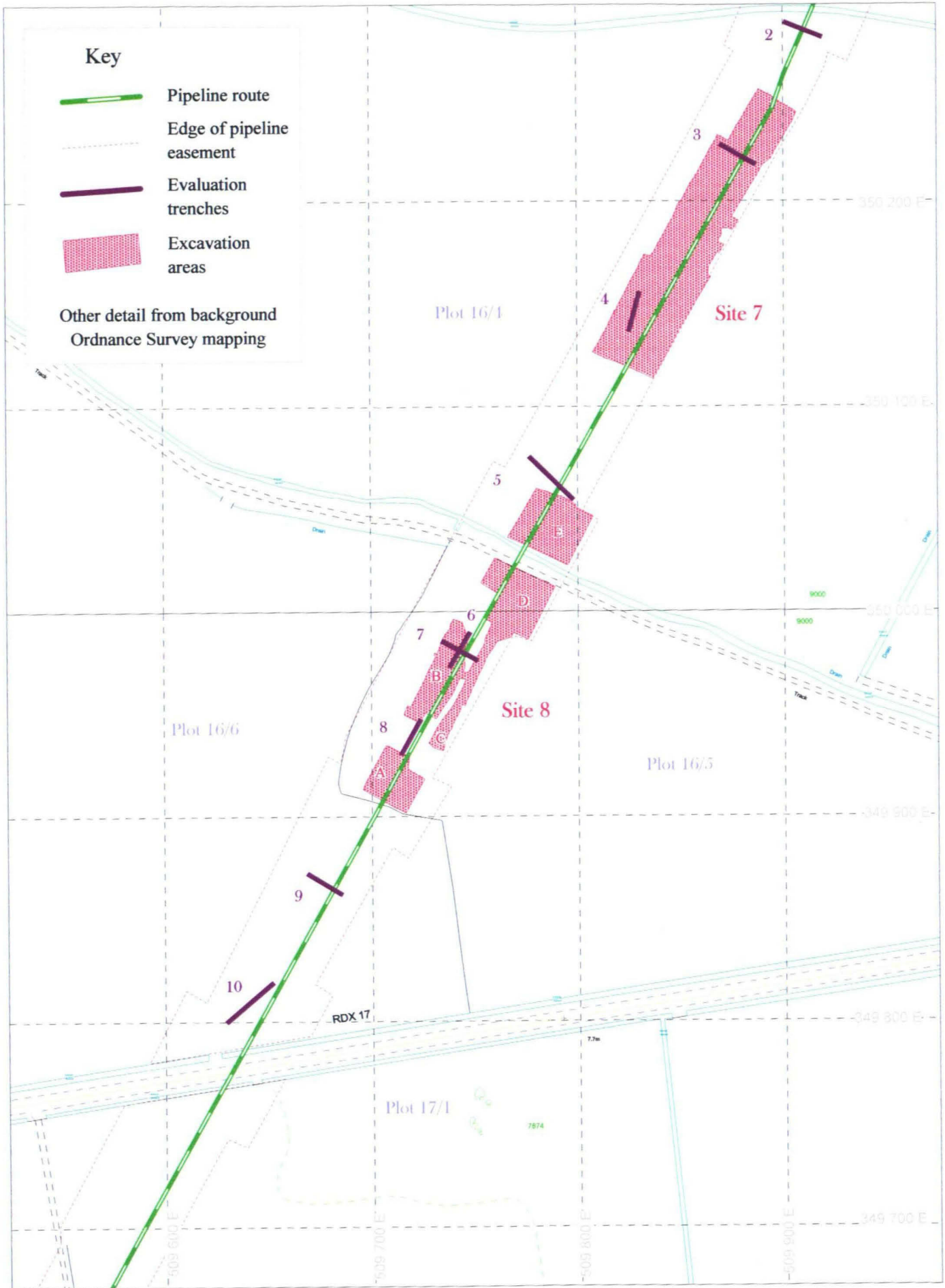


Figure 88: Area 93, Finds

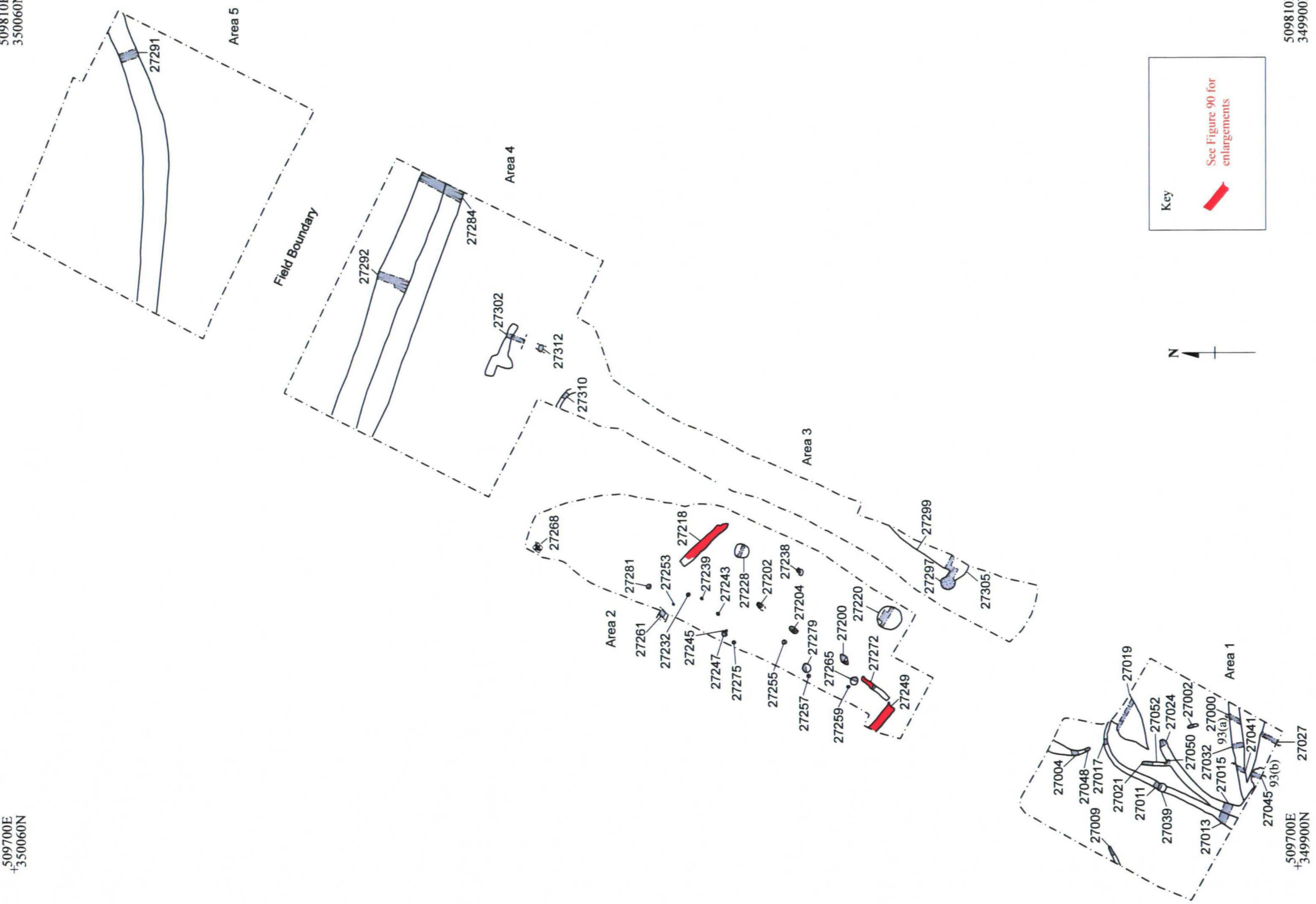


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Figure 89: Location of Site 8, Building Remains, Ruskington 2 (Scale 1:2500)

509810E,
+350060N

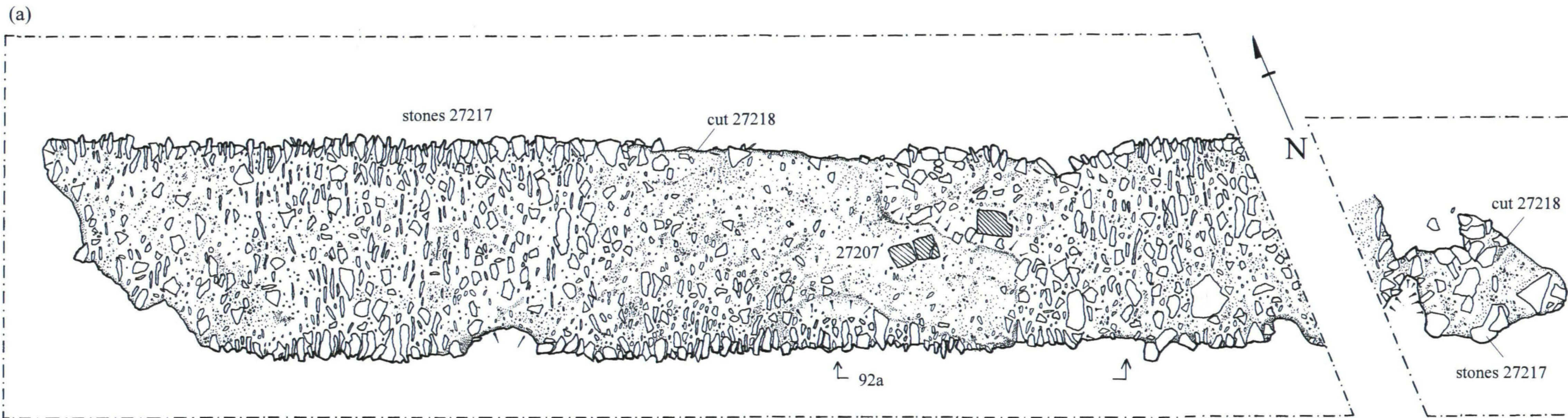
509700E,
+350060N







509810E,
+349900N

509700E,
+349900N

Figure 90: Plan of Site 8 (scale: 1:500)



KEY

-  Worked Stone
-  Worked Stone - burnt
-  Tile
-  Bonding Material

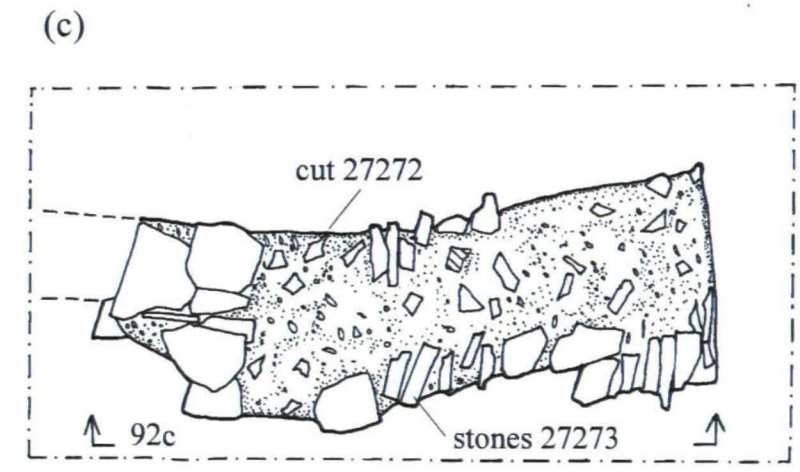
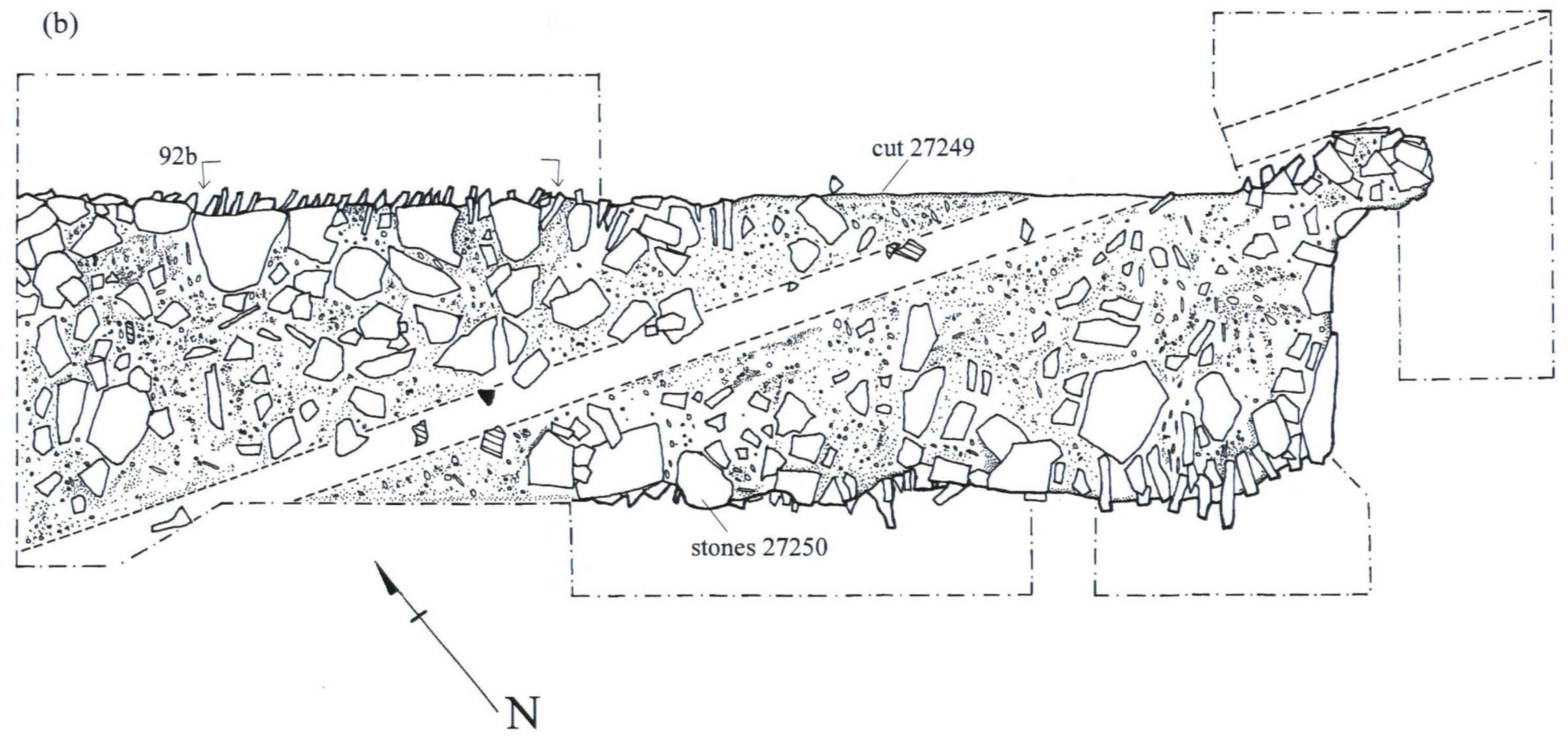


Figure 91: Site 8, Detail of Wall Foundations

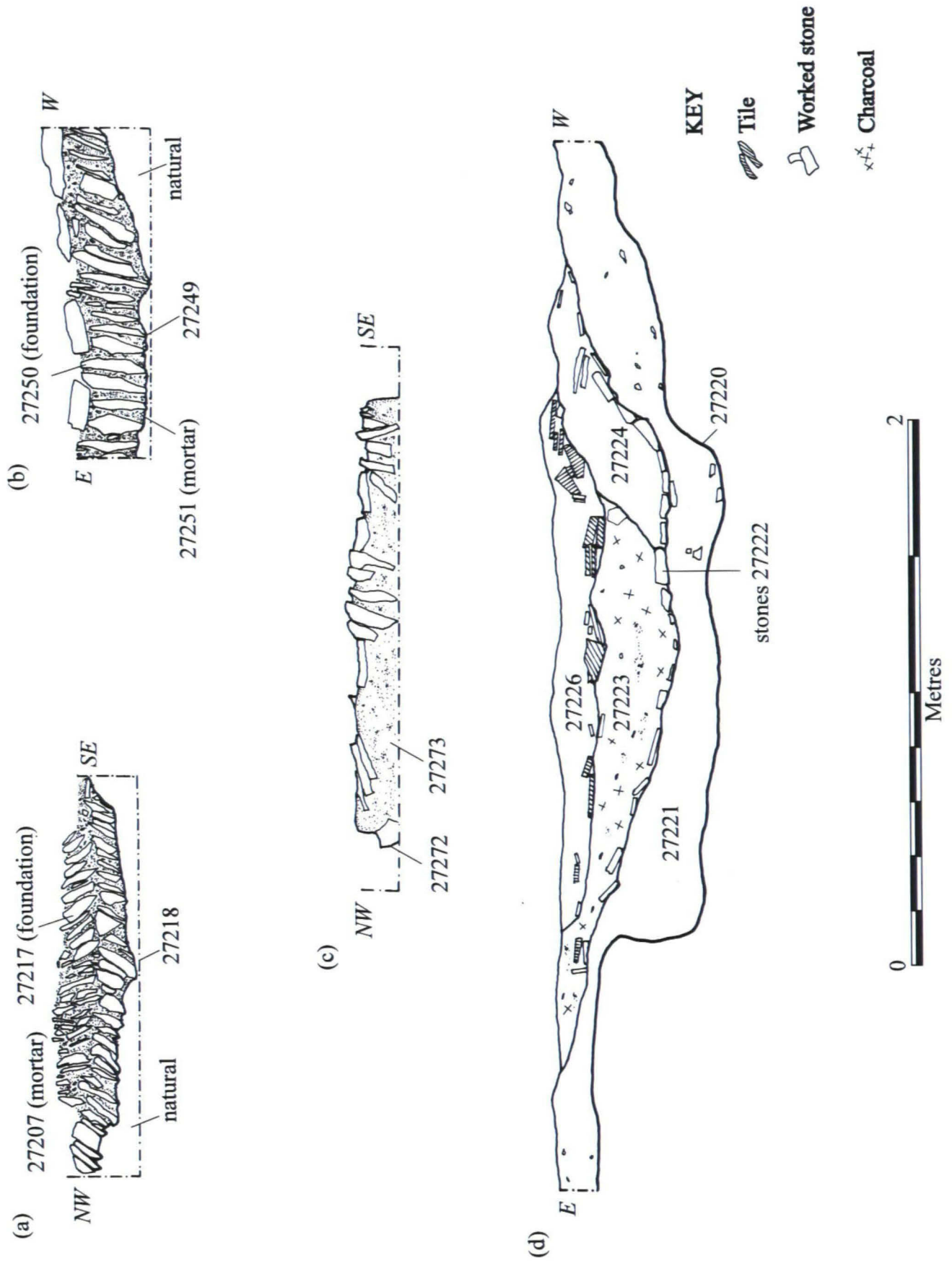


Figure 92: Site 8, Detail of Wall Foundations

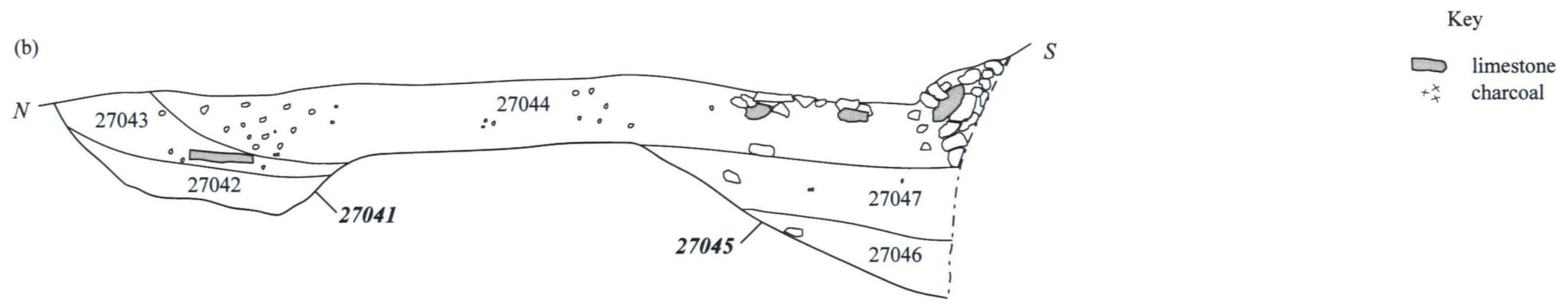
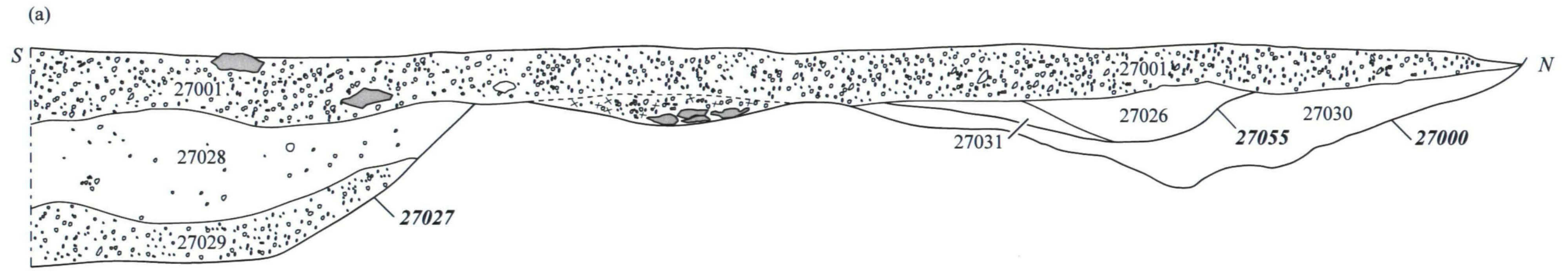


Figure 93: Site 8, Sections (scale: 1:20)

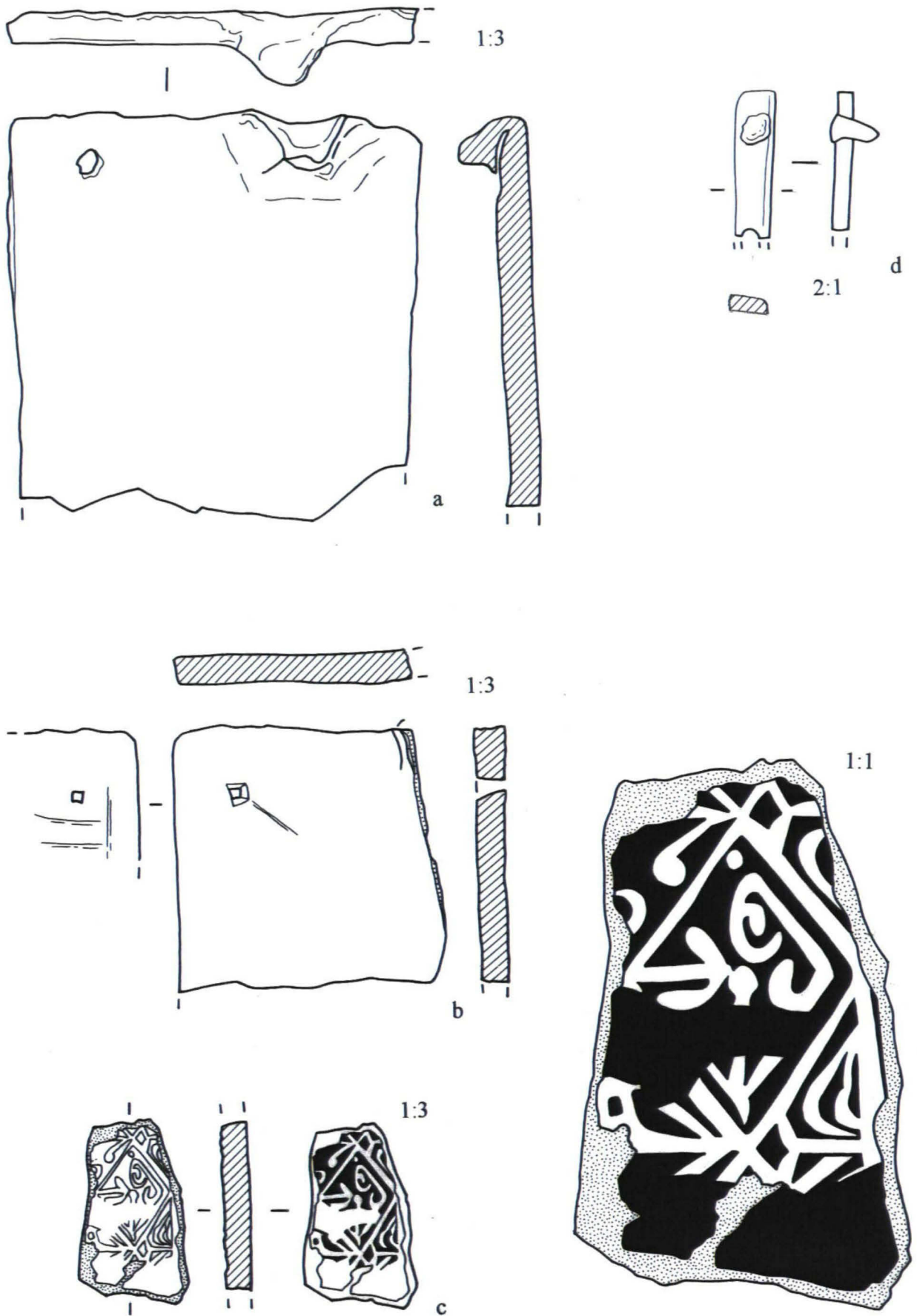
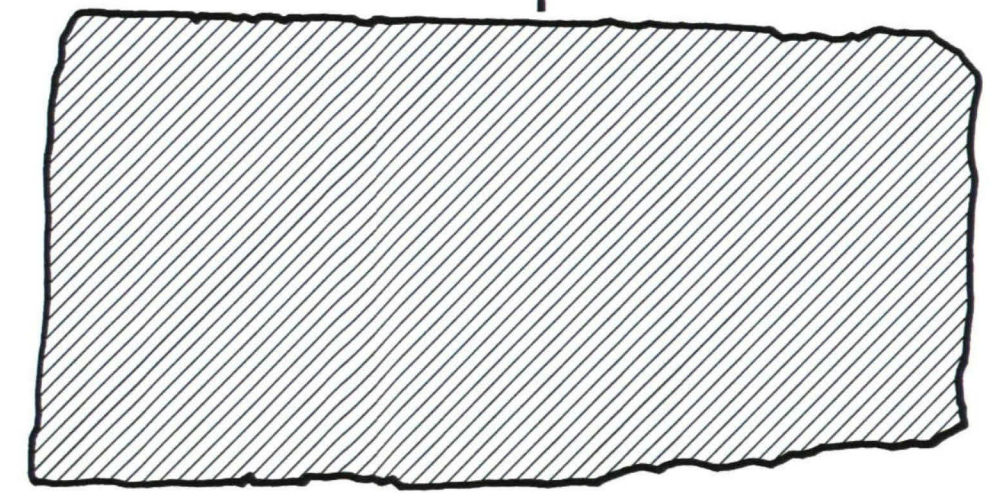
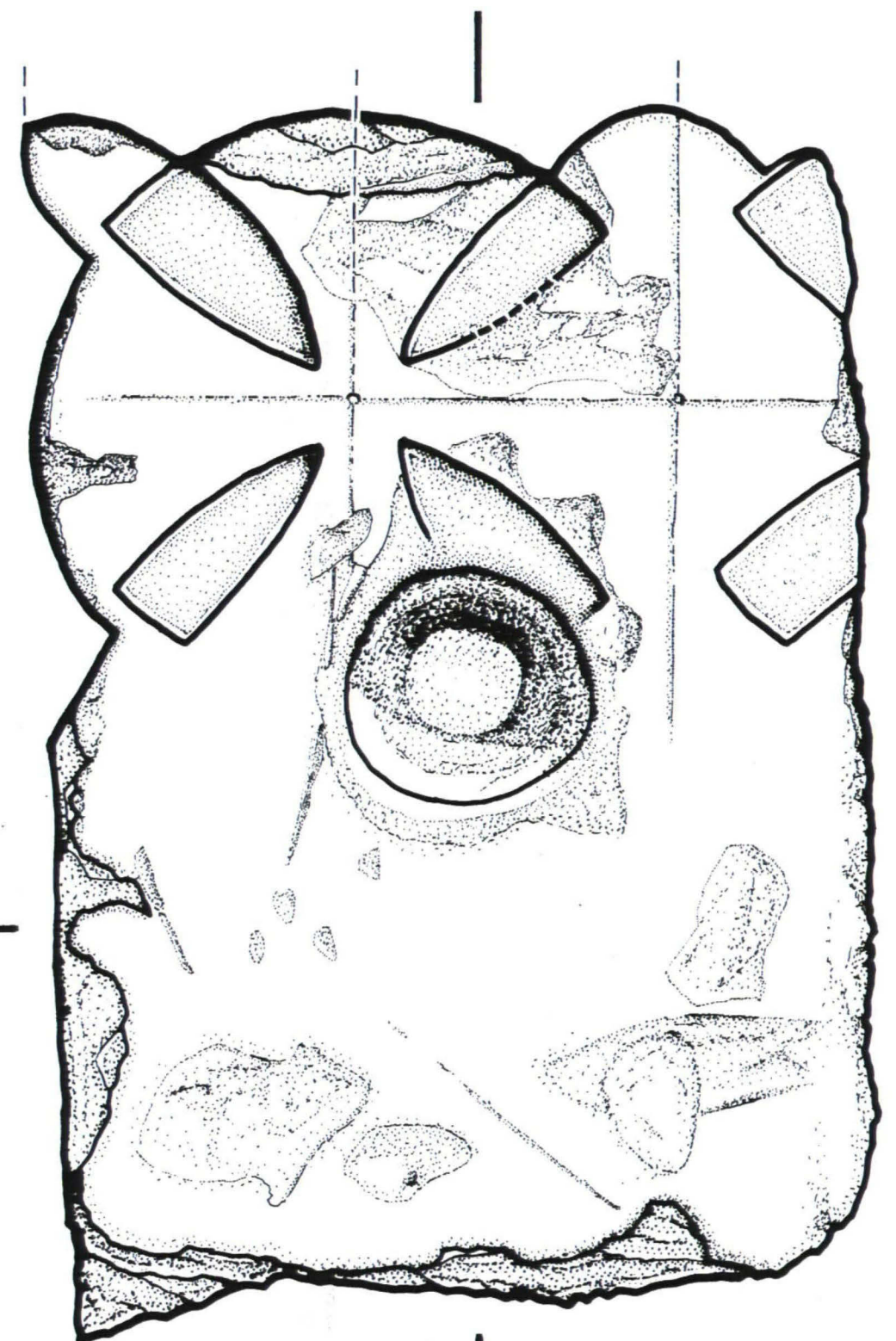
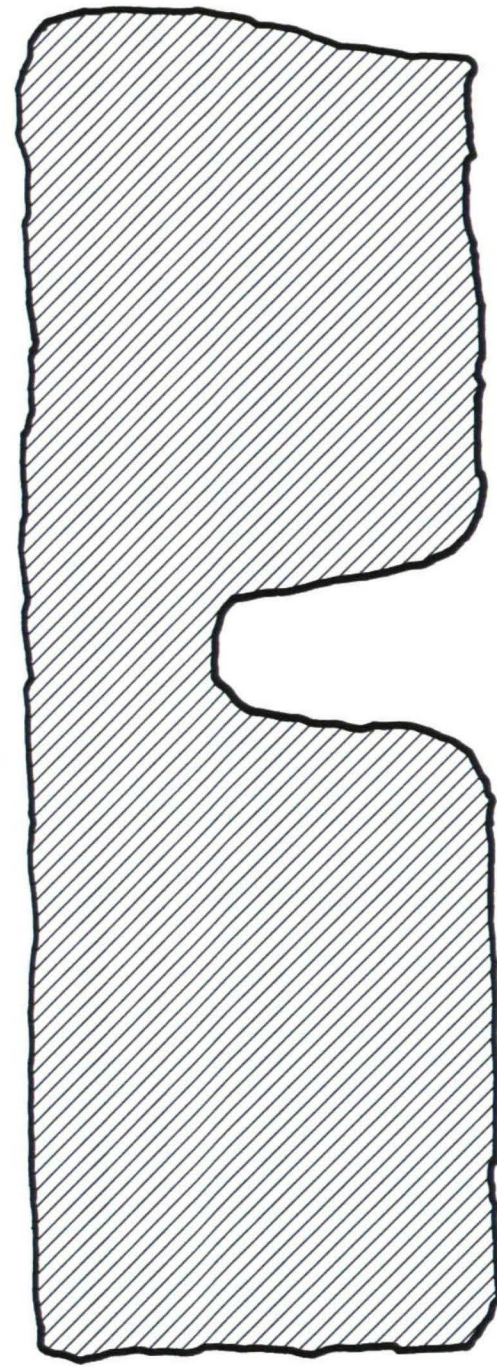
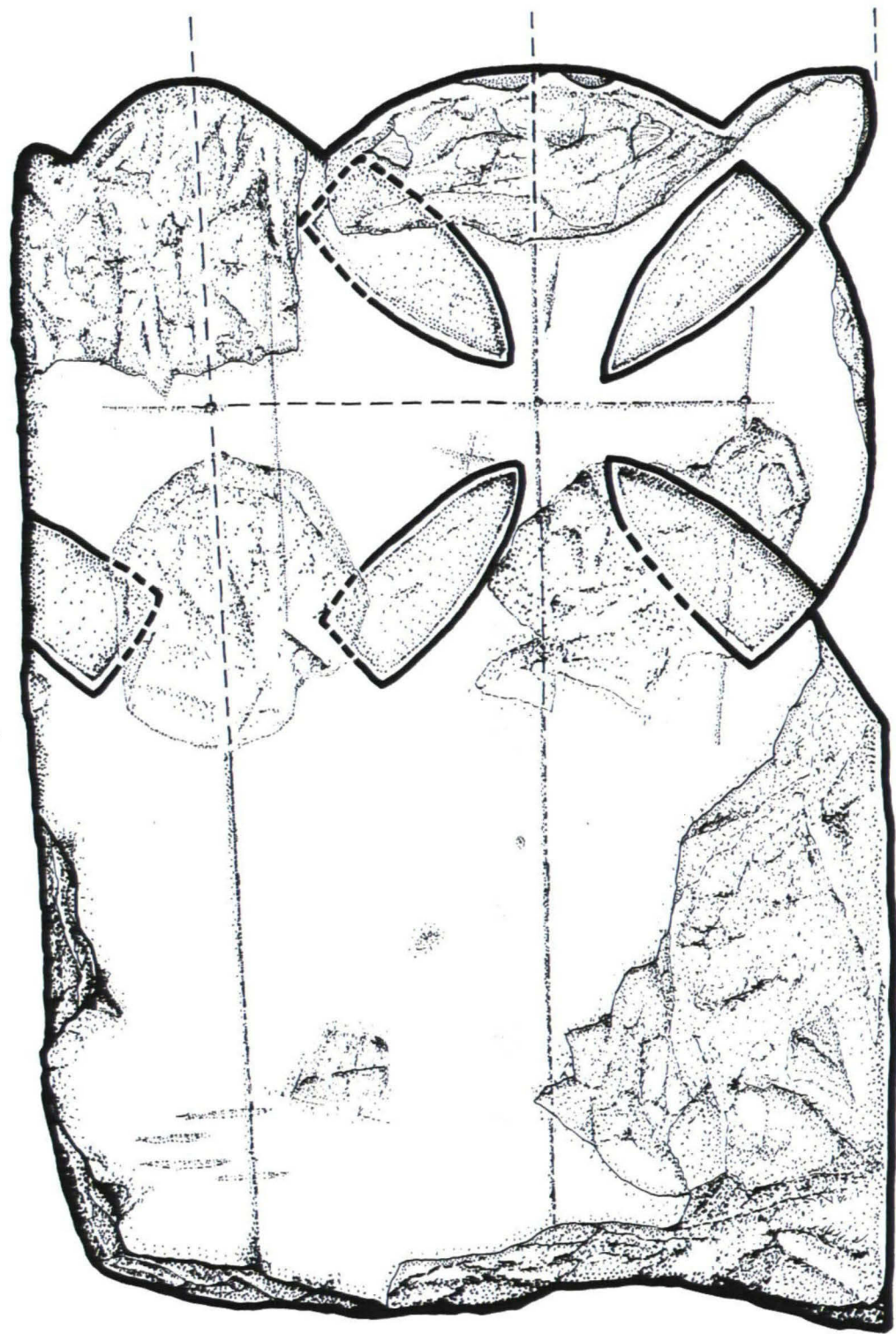


Figure 94: Site 8, Finds



0 4cm

Figure 95: Site 8, Worked Stone



Plate 39: Area 93, Building Foundations



Plate 40: Area 93, View of Building Foundations, looking north-east

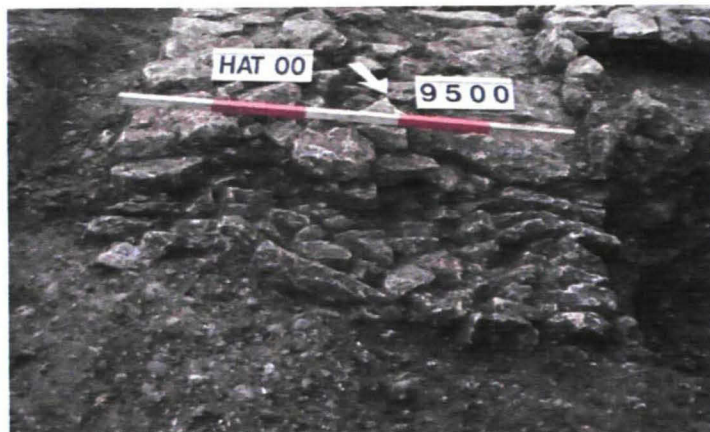


Plate 41: Area 93, Wall 9500, northeast-facing section



Plate 42: Site 8, Post Footing 27268, looking south-east



Plate 43: Site 8, Post Pad 27202, southwest-facing section

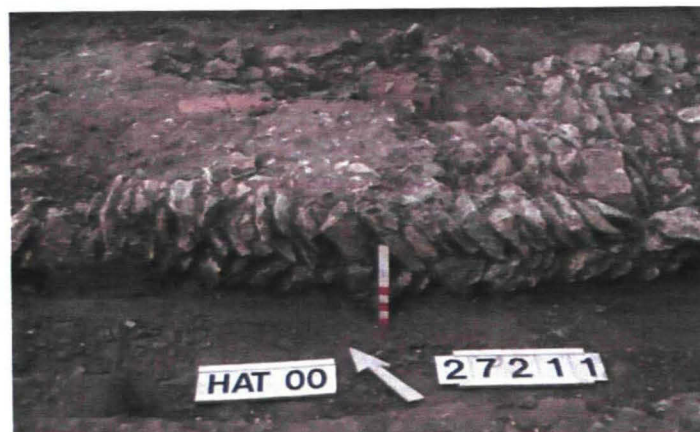


Plate 44. Site 8, Wall 27217, showing pitched limestone Footings 27211



Plate 45: Site 8, Wall Foundations 27272 and 27249, looking east

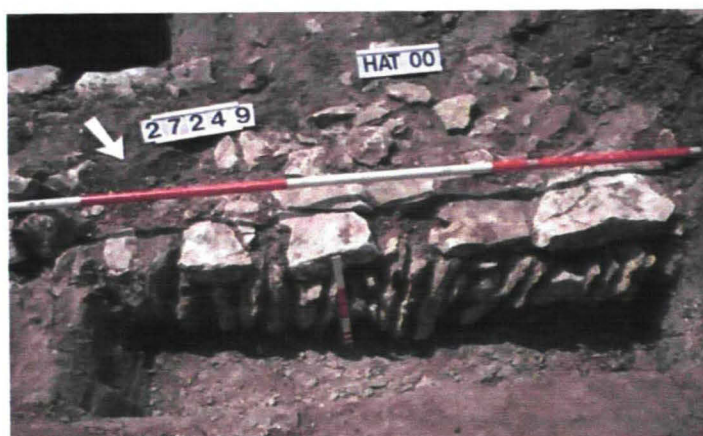


Plate 46: Site 8, Footings of Wall 27249



Plate 47: Site 8, Demolition Layer 27219 and Wall 27217, looking north-west

13 POST-MEDIEVAL OR EARLY MODERN

13.1 Summary

A single site produced evidence of remains associated with the former 'Brackleigh Farm' including a well and the footing for a pump. The farm is known to have existed into the early twentieth century. In addition, the field survey noted a spread of building material on the north side of Hoop Lane near Road Crossing 3 (Site 3, TF 13850 74360). A small re-route at this point meant that the site was no longer crossed by the pipeline, and nothing was observed in this area during the watching brief.

13.2 Site reports

13.2.1 Site 4, Area 79, Brick structures and pits, Plot 3/4, Lodge Farm (TF 1355 7255)

Summary: Evaluation trenching proved largely negative, but topsoil stripping revealed a brick-lined well, the footing for a pump and a stone surface. A small pit and several linear features were also located. Cartographic evidence suggests the brick features were associated with the former 'Brackleigh Farm'.

Artefact type	Count/Sherds	Weight/g
Glass	46	517
Post-medieval pot	138	4216
Modern pot	10	130
Animal bone		3680
CBM	98	19116
Other	Burnt clay, clay pipe, Fe objects, modern pot, shell, Pb objects, burnt flint, Cu objects and slag.	

Table 17: Site 4, Finds Summary

Introduction

Lodge Farm is 5km due south of Wragby on the B1202 Bardney road and the site was 500m to the east of the farm buildings, just to the south of a concrete track giving access through the farmyard (Fig 96). To the east of the farm, the land dips down into the shallow valley of a small stream, rising up again to an average height of 9.5m AOD on the site. The proximity of the stream has resulted in patches of silty alluvium overlying the chalk-rich clay till.

The desk-based assessment identified medieval ridge-and-furrow crop marks over this area (NAL, Report 147, p 26), and former buildings of 'Brackleigh Farm' in the adjacent field (NAL, Report 147, App C).

Flint artefacts, including a Neolithic or Bronze Age axe, as well as a small number of sherds of Roman, medieval and post-medieval pottery were found in the field walking survey (NAL, Report 147, p 16). The geophysical survey detected a magnetically disturbed area including some distinct individual features which corresponded to a susceptibility anomaly (Bartlett-Clark Consultancy, Vol. 2, 2000).

Prior to topsoil stripping, five evaluation trenches (Trenches 45 to 49) were opened. Of these, only two showed any archaeological features: Trench 47 revealed a single pit of post-medieval date, and Trench 46 had two undated linear features. It was considered at that stage that these results did not justify full area excavation. However, during topsoil stripping more extensive remains were uncovered.

Results

Pit 3002 in Evaluation Trench 47 (Fig 97) was only partly excavated as it extended under the

northern baulk, but the visible part was 2m long. Its fill (3003) contained unidentifiable animal bone and two sherds of post-medieval pottery.

Linear Features 3004 and 3007 in Evaluation Trench 46 were parallel, 1.45m apart, on a north-west to south-east orientation. Feature 3007 was only 10cm deep and 1.2m wide, while Feature 3004 was 50cm deep and 3m wide. Both extended across the width of the trench. No artefacts of any type were recovered from either feature.

In the main excavation area, Well 3501, vertically sided, circular and brick-lined, was excavated to a depth of 1.2m (Plate 50). Its wall consisted of a single thickness of mortared bricks, with an internal diameter of 1.85m. Nine courses were visible when excavation was halted due to health and safety restrictions. The presence of rubble of similar masonry within the loose fill of the well suggested that the higher parts of the wall had been purposely pushed into the well. A number of post-medieval artefacts were present in the fill.

Footing 3504, a smaller structure 1.5m to the north-east, had eight courses of brick positioned on a flat brick base. Its internal diameter was 60cm and the base was at a depth of approximately 56cm. The fill of the feature contained rocks up to 30cm long, bricks, and a variety of other artefacts indicating it had been deliberately back-filled (Plate 48).

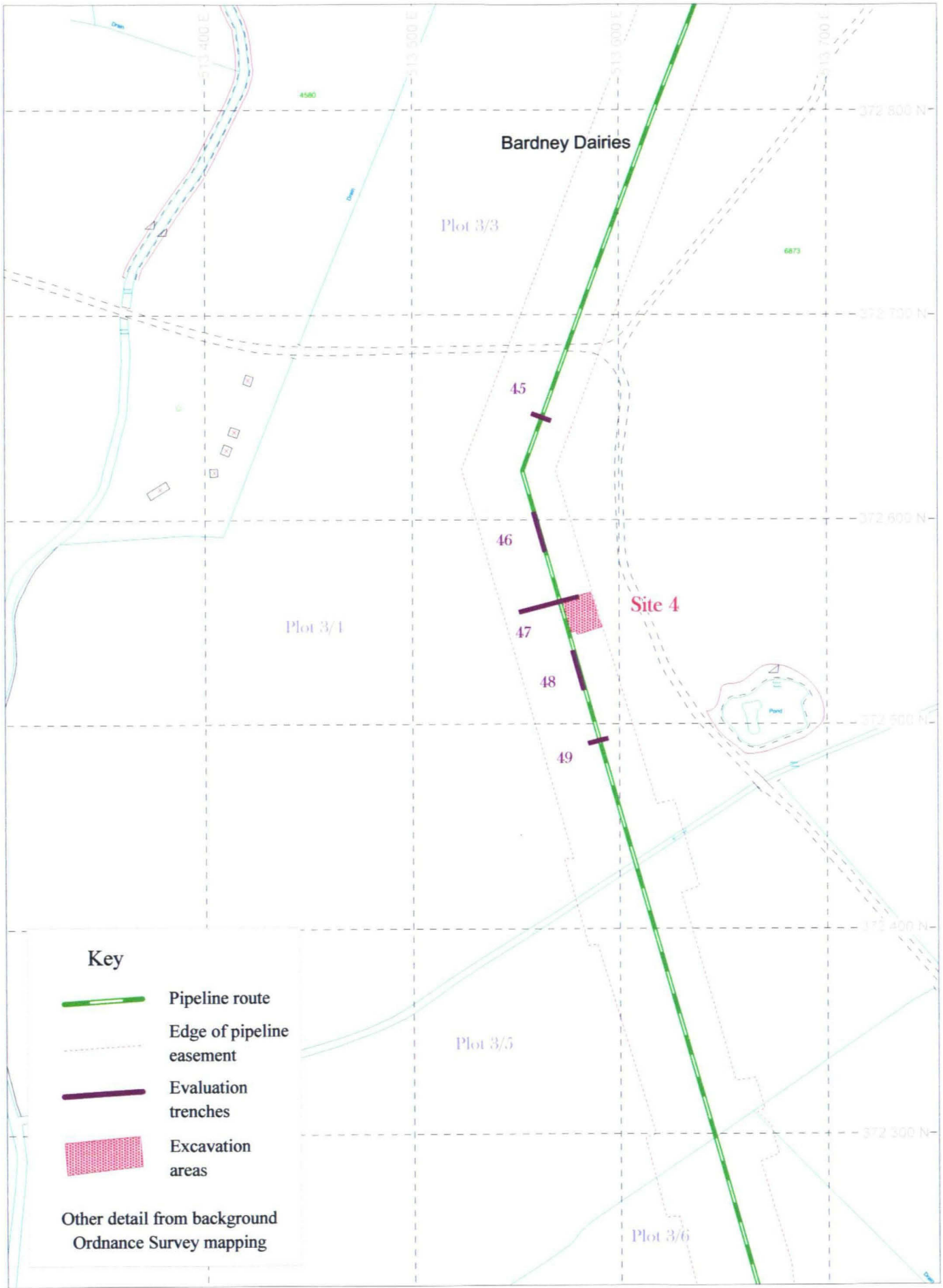
An irregular spread of brick rubble immediately to the north could have been the remains of a third well-like structure, but it had been severely damaged by land-drains and was not numbered or investigated further. Pit 3511, 10m to the south of Well 3501, and Pit 3002 in Evaluation Trench 47, were the only other cut feature recorded. Pit 3511 was circular, 24cm deep and 1m in diameter.

A layer of blocks and smaller fragments of stone (3508) (Plate 49) formed a metalled surface 3m to the south of Well [3501]. It was roughly circular with a diameter of approximately 4m and overlay a rather larger spread rich in charcoal with burnt brick and tile (3517). A 27cm deep extension of this layer to the west, with less burnt material but still containing significant amounts of brick and tile was recorded as a shallow linear feature [3520]. Much of the site was obscured by patches of remnant topsoil (3507) from which many finds, including thirty-eight sherds of post-medieval pottery and items of horse furniture, were retrieved.

Discussion

Linear Features 3004 and 3007 noted during the evaluation correspond to a former field boundary shown on early Ordnance Survey maps (OS 1905). Maps of this date also show the buildings of 'Brackleigh Farm' approximately 50m to the east of the site, and the brick-lined features and the stone surface appear to have belonged to this farm. In conversation with the farmer at Lodge Farm, he remembered a well and a pump in the area during his boyhood in the early 1950s, which would correspond to Well 3501 and Footing 3504. However, he had no recollection of the stone surface (3508).

Linear Feature 3520 was probably of minor significance. It was quite shallow with diffuse edges and it is possible that the finds within the lower fill were impressed into it by machinery during the demolition of farm structures.



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Figure 96: Location of Site 4, Building Remains, Bardney Dairies (Scale 1:2500)

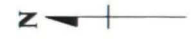
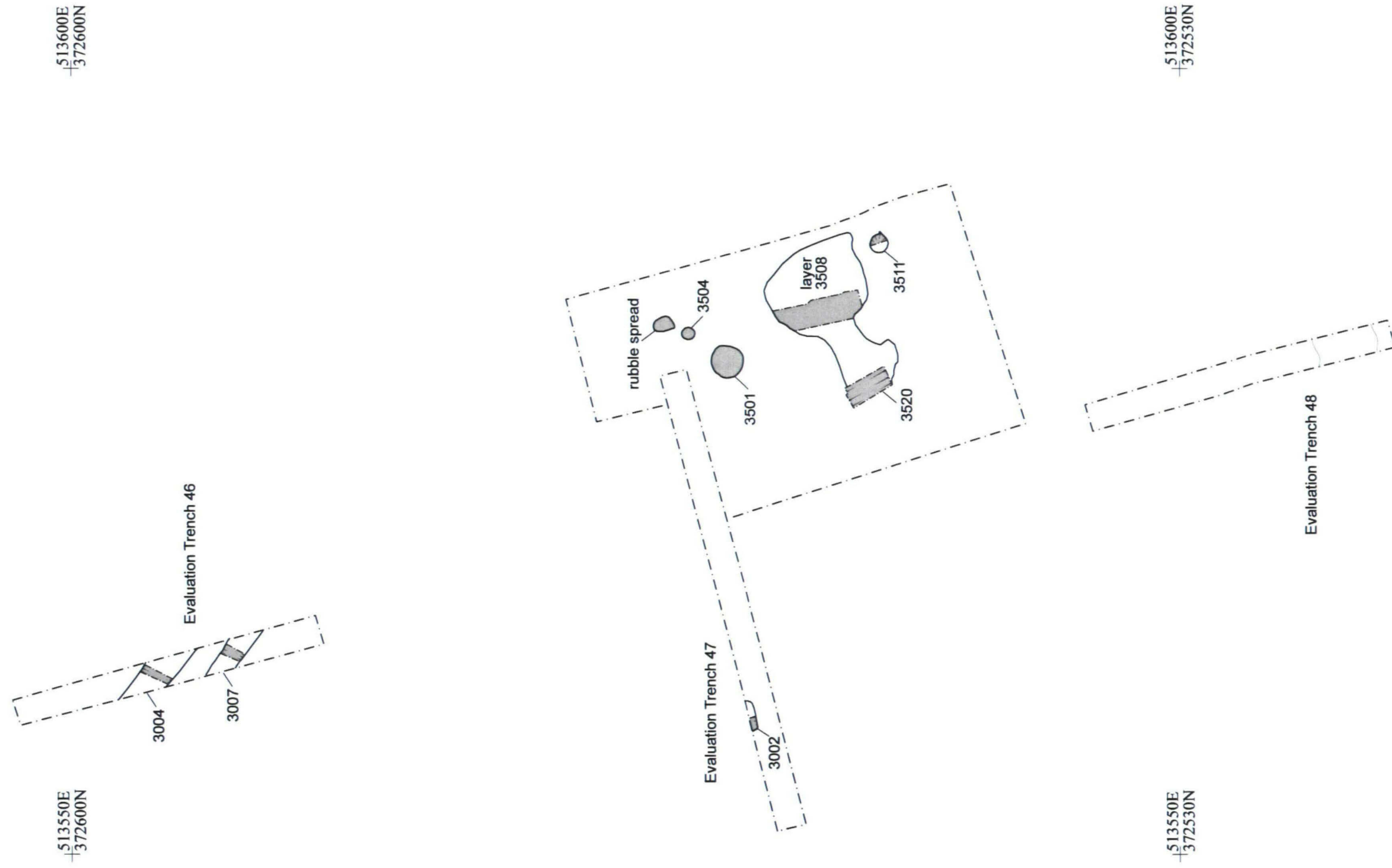


Figure 97: Plan of site 4 (scale: 1:300)



Plate 48: Site 4, Well 3504

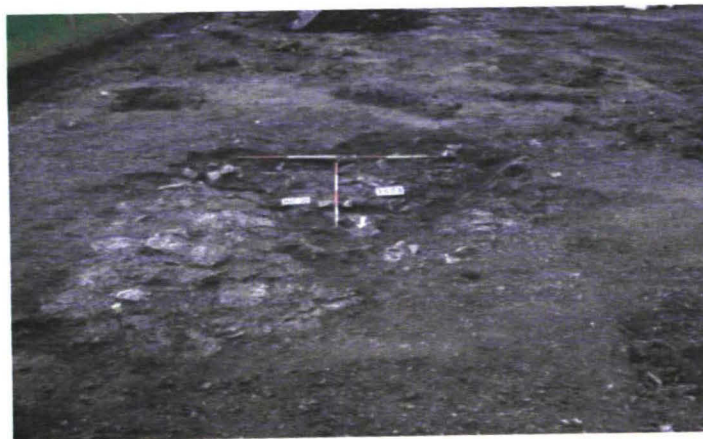


Plate 49: Site 4, Metalled Surface 3508



Plate 50: Site 4, Well 3501

14 UNDATED

14.1 Summary

Two sites have been included here. Area 82, Plot 5/6, had the remains of two furnaces which must have been medieval or earlier but could not be dated with any greater precision. Site 5, Plot 14/4 had some poorly-defined features from which a few sherds of pottery were recovered. This pottery spans a wide range of dates and was mostly residual.

14.2 Site Reports

14.2.1 Area 82, Iron-working site, Plot 5/6, Bardney Common (TF 1262 6903)

Summary: This small site consisted of the bases of two features, containing large quantities of bloomery slag. There was also a single pit and a small linear feature. The slag was very atypical and potentially significant, but attempts to date the site have been unsuccessful.

Artefact type	Count/Sherds	Weight/g
IA Pot	20	225
RB Pot	2	100
Burnt Clay	29	1406
Slag	207	14975

Table 18: Area 82, Finds Summary

Introduction

The site was 150m to the north of Horncastle Road (B1190) and 850m east-southeast of St Oswald's Church, Bardney (Fig 98). The River Witham passes 1.1km to the south-west. The features were within an area 19m wide and 59m long. The site lies, on average, at 11m AOD, and the surface geology consists of old river sands and gravels as well as areas of boulder clay.

The desk-based assessment identified a former Post Mill 300m to the west-south-west (TF 512350 368868) and ridge-and-furrow crop marks 350m south-south-west of the site (TF 512460 368650) (NAL, Report 147, p 26). Fieldwalking produced small quantities of Roman, medieval and post-medieval pottery (NAL, Report 155, p 280). The geophysics survey detected a dense area of magnetic disturbance and a corresponding strong susceptibility anomaly (Bartlett-Clark Consultancy, 2000). The site was found during topsoil stripping.

Results

Two features with extensive evidence of long-term heating were excavated (Fig 99). One of these [5002] has been identified as a bloomery shaft furnace; the other [5003] was presumably also associated with iron production or working, but is not typical of any known type of furnace (*Jane Cowgill, pers comm.*).

Feature 5002 occupied an area approximately 2m long by 1m wide, with its long axis oriented south-east to north-west (Figs 100 a & b; Plate 52). It was very truncated and plough-damaged and during excavation it was extremely difficult to define. The drawings are misleading as they depict it after the underlying heat-reddened natural substrate had been excavated. Before excavation, it could be seen to be the poorly preserved remains of a conventional shaft furnace with its associated tapping pit (*Jane Cowgill, pers comm.*).

Only the base remained of the furnace itself. The putative cut [5010] shown on the section drawing was the lower limit of the heat-reddened natural layer (5009) below the furnace. Defining the base of the furnace was a block of *in situ* tapping slag (5011), not shown on the section drawing, but above or within Layer 5009. The lowest furnace fill (5005) above and around this block of slag,

contained abundant small and medium sized pieces of slag but very little charcoal. This was sealed by Layer 5006 in which there was a spread of collapsed furnace wall (5004), more extensive than shown on the drawings. Layer 5005 did not extend below Feature 5003; again, the drawing is misleading. Overall, the remains of the furnace were too shallow and disturbed to be precise about its dimensions, but the shaft is likely to have had an internal diameter of 25cm to 30cm.

The tapping pit to the north-west [5007] was probably around 90 cm wide, and no more than 5cm to 10cm deep, the plan and section drawings showing it very over-cut. Its fill (5012) contained slag and fired clay. The sandy silt layer beneath (5008) was recorded as being charcoal-rich, but it seems more likely that the very dark colour was the result of heat-modification. Processing of the samples from the feature yielded surprisingly little charcoal from any of the deposits.

An Accelerator-Mass Spectrometer Radiocarbon date on a piece of charcoal recovered from a sample of the slag-rich fill (5012) from Furnace 5002 produce a date of around 2140 BC (Beta 169433, Measured Radiocarbon Age: 4110 +/- 40 BP; Conventional Radiocarbon Age: 4090 +/- BP; $^{13}\text{C}/^{12}\text{C}$ ratio -26.0 ‰; calibrated at 2σ to 4810 to 4750 BP, 4710 to 4500 BP or 4480 to 4440 BP). This date is clearly far too early for iron slag and indicates that the sample was contaminated with earlier material.

Feature 5003 was at the eastern limit of excavation, 2.5m to the south of Furnace 5002. It was a circular pit [5013] with straight sides and a flat level base having a diameter of 1.5m. It was excavated to a depth of 40cm below the modern plough soil (Plate 51). The walls and base had been lined with a plastic clay 13cm thick, the outer surface having very clear finger impressions showing that the sides and base of the feature had been deliberately moulded. It was considered whether these areas constituted repairs to the lining but this could not be confirmed or dismissed. The upper part of the clay (5016) was reduced-fired to a grey colour and was very hard. This blended into the clay below (5017), which was still soft and was of a bright red to orange colour. Although two fills were identified, they were not distinct and differed only in the size of their inclusions. The upper fill (5014) consisted of large amounts of vitrified and unvitrified, oxidised and reduced fired clays and slag in a fine black sandy matrix. The lower fill (5015) was similar but with larger pieces of fired clay and slag. The excavators had the opinion that it may have been back filled when it was no longer required for use, or that it had been purposely collapsed into its base. The whole of this feature was not exposed as it extended into the south-eastern baulk of the site (Plate 53). The flots from the samples produced a minute amount of comminuted charcoal.

During excavation of the header trench, Gully 5020 was revealed 25m to the north-east of the furnaces. It extended from the western edge of the header trench for 2.3m and was 50cm wide and 10cm deep. Two pits were recorded in the watching brief further to the north-east. Pit 019 was 1.9m long by 1.6 m wide and up to 19cm deep and contained a single deposit (053) which contained slag, charcoal, burnt stone, and burnt wood fragments. Pit 020 was smaller, 70cm in diameter and 10cm deep. This feature contained slag and charcoal, and also contained heat-affected pebbles that appeared to have been burnt *in situ*.

Two unstratified sherds of Roman pottery recovered from the site are likely to be stray finds from manuring.

Discussion (This section is based on discussion with Jane Cowgill)

While Furnace 5002 can be readily interpreted as a bloomery furnace for smelting iron metal from the ore, Feature 5003 is puzzling. Iron smelting furnaces are usually very small, indeed similar in size to Furnace 5002. If Feature 5003 was associated with iron production, especially if it was contemporary with Furnace 5002, it was exceptionally large and substantial. High temperatures for sustained periods would have been needed to create the heat-affected zone in the clay lining, but there was no vitrification of the base or sides of the feature. Smelting furnaces normally have oxidising condition in their bases, while the sides and base of this feature had evidence of prolonged exposure to reducing conditions. By the high medieval period, some smelting furnaces were as large

as Feature 5003 but the base would usually be oxidised to some depth and be partially vitrified. The north-eastern side of the feature was beneath the edge of site baulk, but there was no indication of any tapping pit associated with it, in the exposed part of the site.

The reducing conditions might suggest that this was used for carburisation, the solid state absorption of carbon into iron to produce steel or similar alloys. This usually involved wrapping individual pieces of red hot iron with organic matter such as leather or charcoal and sealing it in a clay coating, and maintaining it at a high temperature for several days. This process may not have been physically possible in a furnace as large as Feature 5003, but for this interpretation to be correct, the process would have been carried out on an exceptionally large scale. Feature 5003 is unlike any known carburisation furnaces: indeed, it has no obvious parallels.

Sixteen samples were taken from the two features, though not all have been processed. The slag has not been catalogued, but has been kept in its entirety and is housed the Lincolnshire County Archives. The slag is very unusual, having a very cindery composition, surprisingly high magnetic content and includes some unusual forms.

The site must date from a period somewhere between the beginning of the Iron Age and the late medieval period, when most bloomeries were replaced by blast furnace technology. Although there was no dating evidence from the features, their form and appearance would tend to suggest a date towards the later part of this range: perhaps the late Saxon or medieval periods.

The ready availability of charcoal was an important consideration in the siting of furnaces, and it may be significant that this site is in one of the most wooded parts of Lincolnshire, where many of the woods are known to be medieval in date if not earlier. Industries tend to preserve their required resources. More speculatively, the site may have monastic connections, being almost exactly equidistant from Bardney Abbey and Topholme Abbey. Recent research is highlighting the importance of the medieval iron industry for Cistercian houses, where their economic dependence on iron may have exceeded that of wool-production, usually thought to be the main source of their wealth. It is possible that some of the many closely spaced Monastic houses that were sited along the Lincolnshire Ridge overlooking the River Witham may have also smelted iron to generate income, and for use in church-building.

Though undated, the site is of considerable interest. In particular, the slag assemblage is very atypical of other broadly comparable sites. It is hoped that resources may become available in the future for full recording and further study of this material.

14.2.2 Site 5, Linear Feature and Pits, Plot 14/4, Digby Fen (TF 0971 5451)

Summary: This small site consisted of a single linear feature which may have been of Roman date and four rather amorphous isolated pits. Two contained prehistoric pottery, and one of the others Roman pottery. The remains of three medieval furrows were also noted.

Artefact type	Count/Sherds	Weight/g
Knapped flint	3	45
RB pot	9	145
Medieval pot	3	11
CBM	3	168
Undetermined pot		16
Prehistoric pot		45
BA pot		15
IA pot		5
Post-medieval pot		6
Burnt flint		6
Animal bone		5
Modern pot		5

Table 19: Site 5, Finds Summary

Introduction

This site was 2km east of Digby village and 700m south of the Digby to Walcott road (Fig 102). The land is low-lying at around 9.5m AOD, with a very slight slope down to the north. Field-walking found a scatter of Iron Age pottery and prehistoric flint (NAL, Report 155, p 17, Site 5). At the time of the geophysical survey, the field was newly ploughed making it unsuitable for magnetometer surveying, but susceptibility readings indicated a slight increase of activity (Bartlett-Clark Consultancy, 2000).

The Sites and Monuments Record includes details of a number of surface finds from the vicinity: two early Bronze Age flat bronze axes, one plain and the other with pecked decoration (TF 097555), a large barbed and tanged flint arrowhead from the early Bronze Age, from Digby Fen, and a flint scraper and a possible flint knife both dated to the Bronze Age (TF 51023539) from 750m to the south-east of the site. An artefact scatter consisting of flint and Bronze Age pottery was discovered 1.6km to the south-east during investigations for the earlier pipeline (TF 511050 354120; NAL Report 134, p 17-20, Site 10).

This area was one of the evaluation sites, and five trenches were opened. Following the discovery of two pits in Trench 50, the most northerly, a decision was made to strip the full width of the easement in the northern part of the field with back-acter excavators under archaeological supervision. During the watching brief, a further curvilinear feature was revealed in the header trench in the south part of the field.

Results

Two shallow pits 1m apart were seen in Evaluation Trench 50. There were no finds from Pit 14008 but Pit 14010, a rather amorphous feature 3m long, 75cm wide and 10cm deep, contained knapped flint and sherds of prehistoric pottery along with broken pieces of ceramic field drain. It was cut by a shallow furrow [14003] which produced pottery dating from the fifteenth to seventeenth centuries.

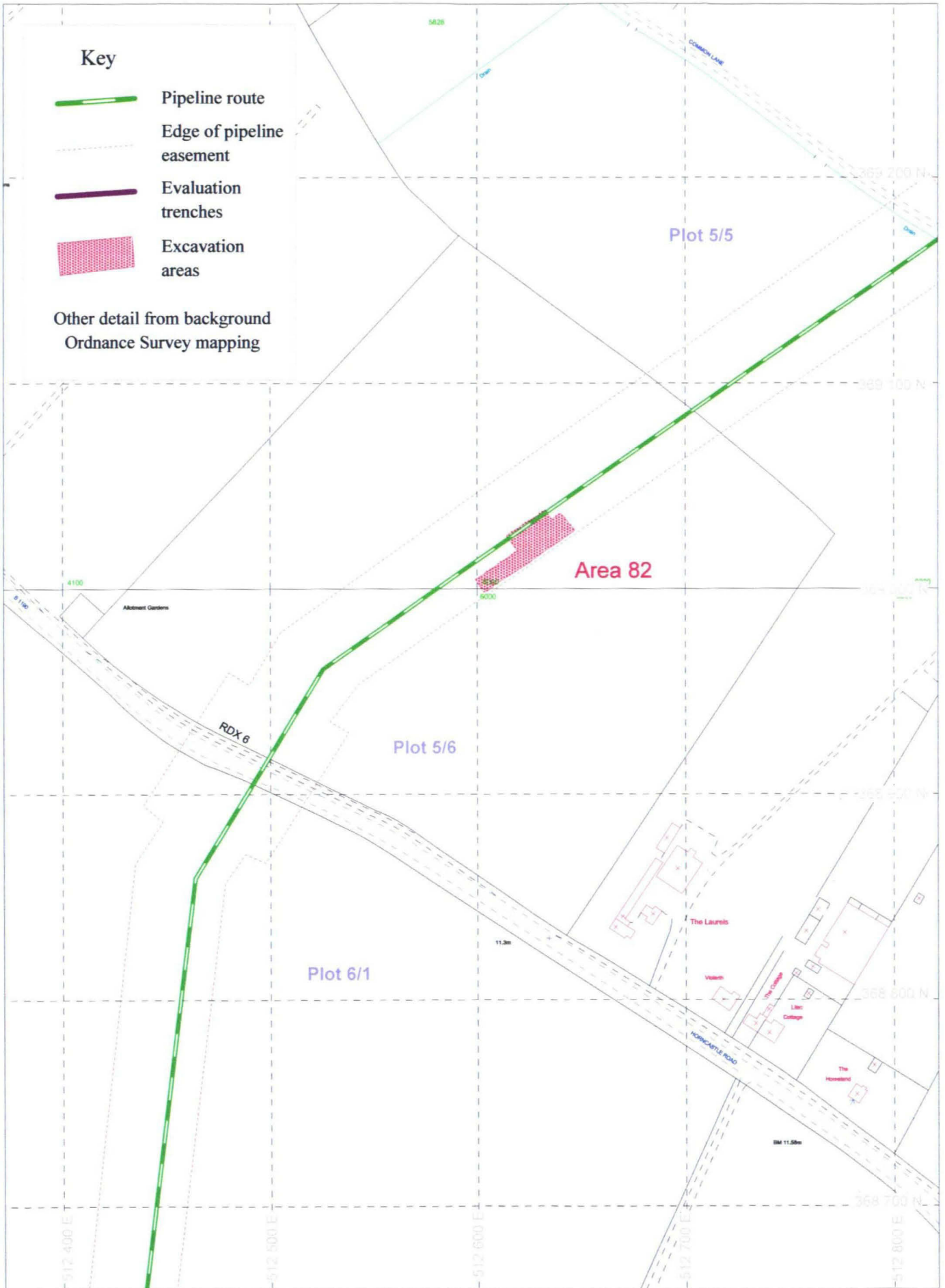
Two further shallow pits were revealed when the rest of the area was stripped. Pit 14400 was circular and contained pottery, possibly dating from the Iron Age, and knapped flint. However, it was very shallow and amorphous and may have been little more than a depression in the surface of the natural subsoil in which residual pottery had accumulated by plough action. Roman pottery, along with burnt flint was recovered from Pit 14402.

Towards the south end of the field, Linear Feature 035 was visible for a distance of 8m when the header trench was excavated. It was 1.3m wide at its eastern end tapering to 75cm at its western end and 32cm deep. Its secondary fill (034) contained seven sherds of Romano-British pottery. The ditch appears to have been re-cut some time after the deposition of this layer. The upper fill (032) contained a single piece of unidentifiable ceramic building material.

Discussion

The four possible pits on this site were all shallow and amorphous, and are difficult to interpret. At least one of them may have been a natural feature. The quantity of residual prehistoric pottery, along with the fieldwalking finds does, however, indicate that there was activity nearby in the Bronze Age or Iron Age. Any substantial remains have either been destroyed by ploughing, or lie beyond the limit of the pipeline easement. The linear features in the north part of the field are clearly the remnants of a medieval ridge-and-furrow system.

The dating evidence suggests that the isolated curvilinear feature at the south end of the field is early Roman. In the absence of any other remains, it is impossible to assess the significance of this feature, but its presence signals the possibility that there may be more substantial archaeological deposits from the period in the immediate area.



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Figure 98: Location of Area 82, Bloomery Furnaces, Bardney Common (Scale 1:2500)

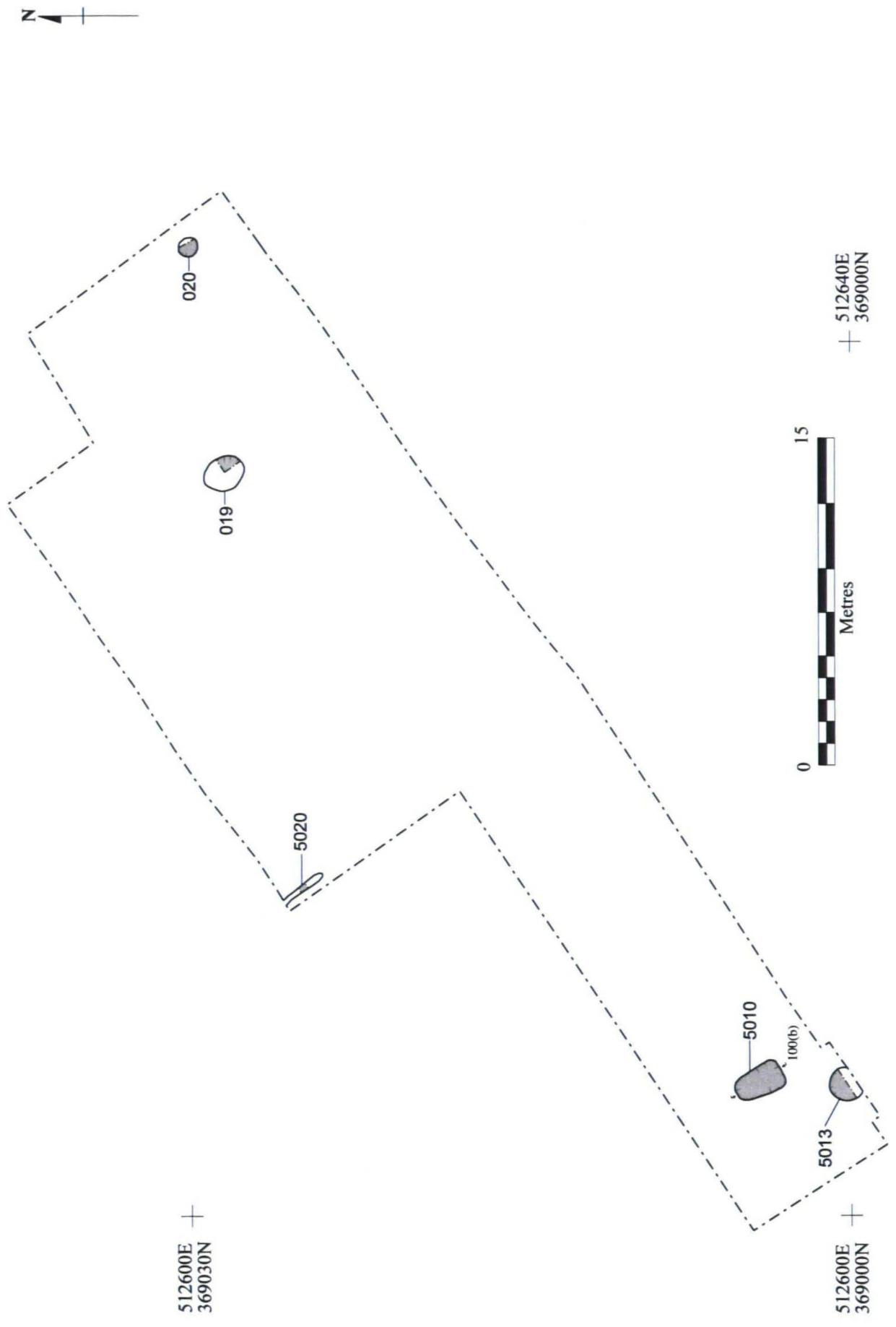


Figure 99: Plan of Area 82 (scale: 1:250)

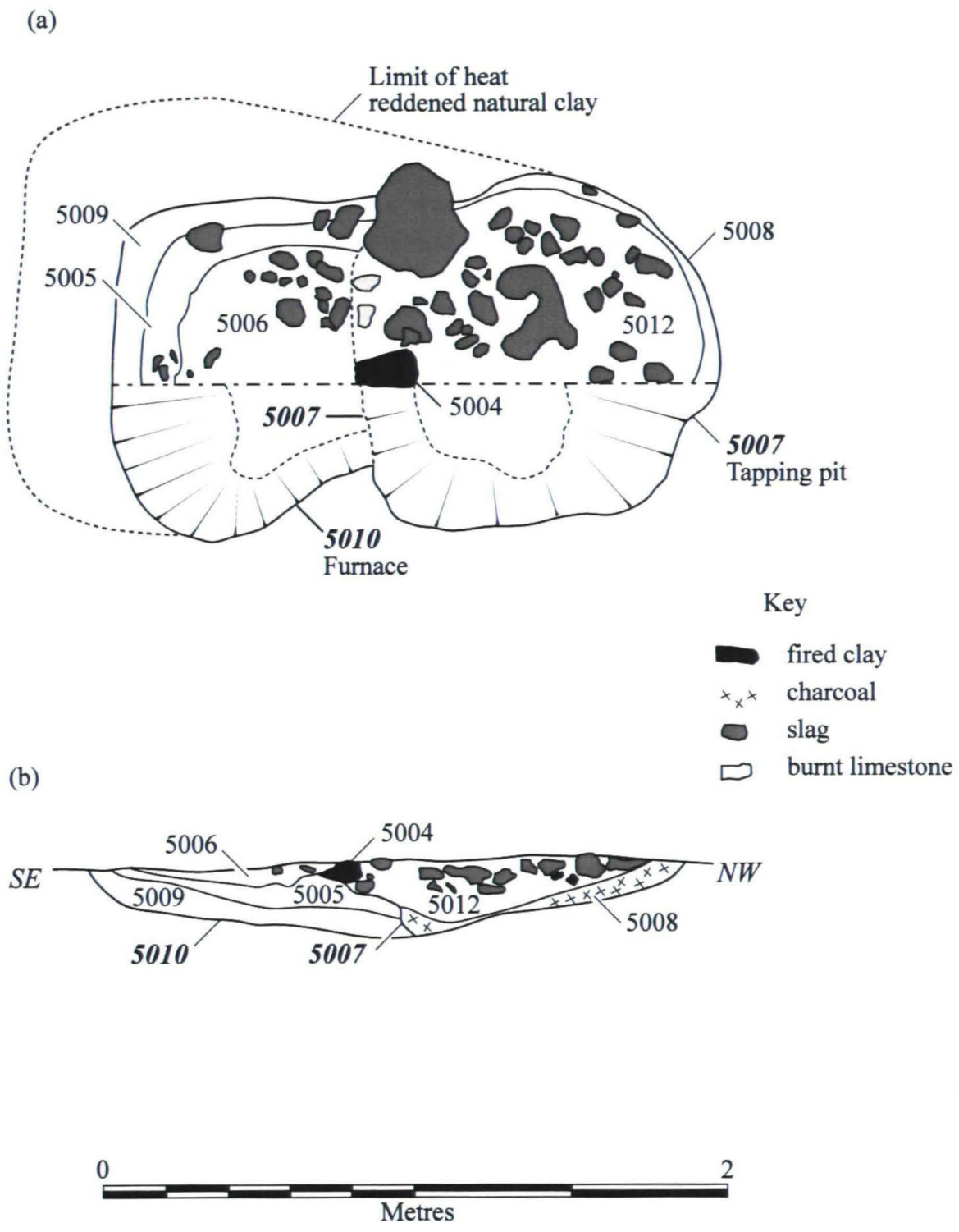


Figure 100: Area 82, Plan and section of Bloomery Furnaces (scale: 1:20)

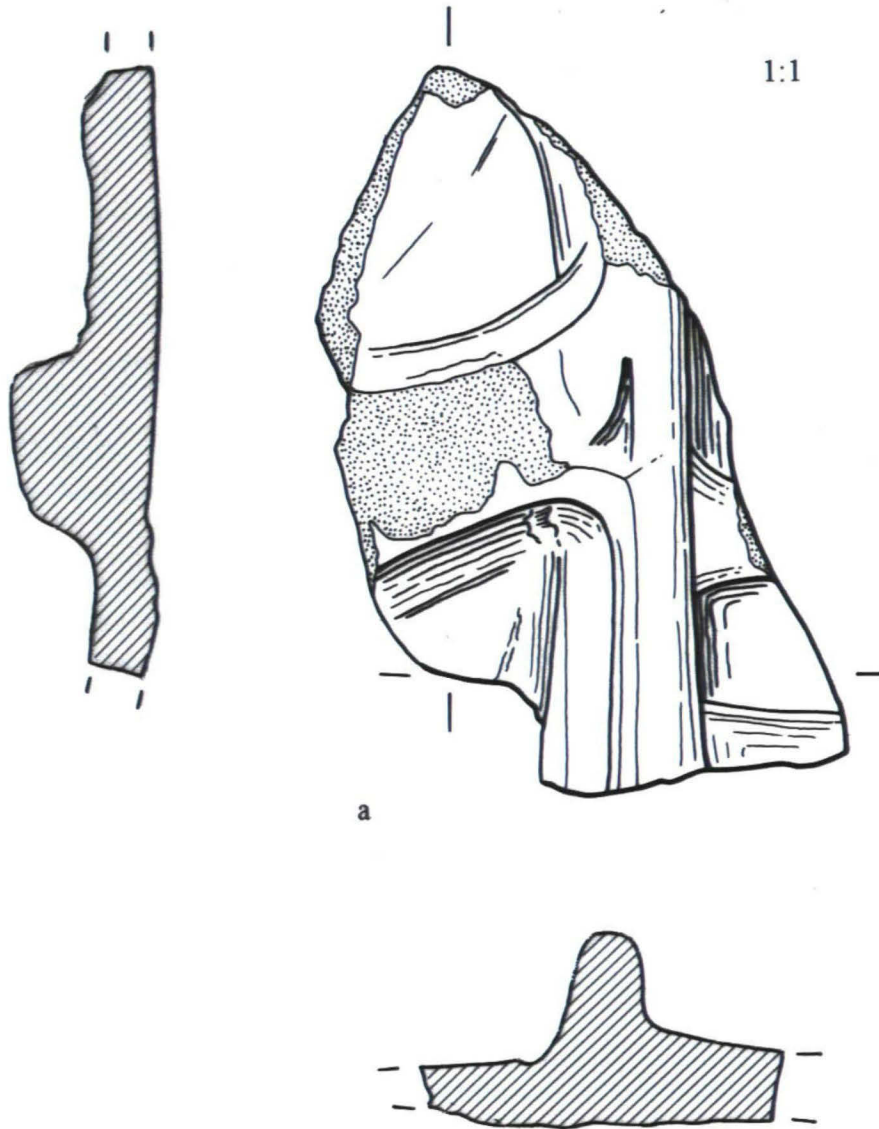
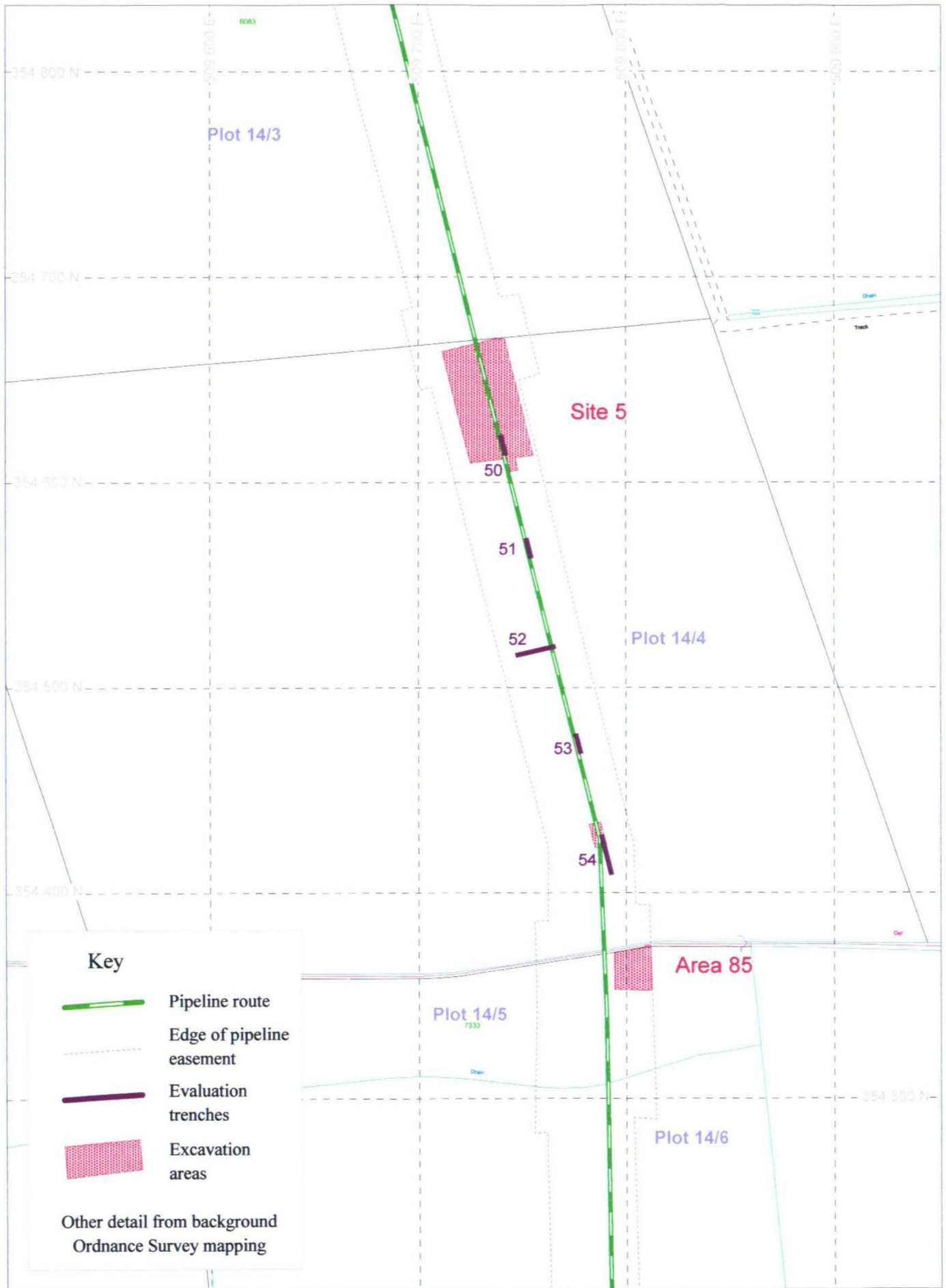


Figure 101: Area 82, Find, Fired clay object



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Figure 102: Location of Site 5, Linear Features and pits, Digby Fen (Scale 1:2500)

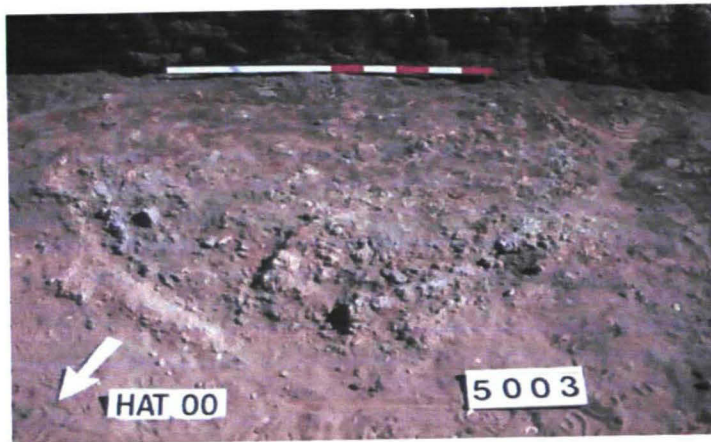


Plate 51: Area 82, Furnace 5003, pre-excitation



Plate 52: Area 82, Furnace 5002, pre-excitation

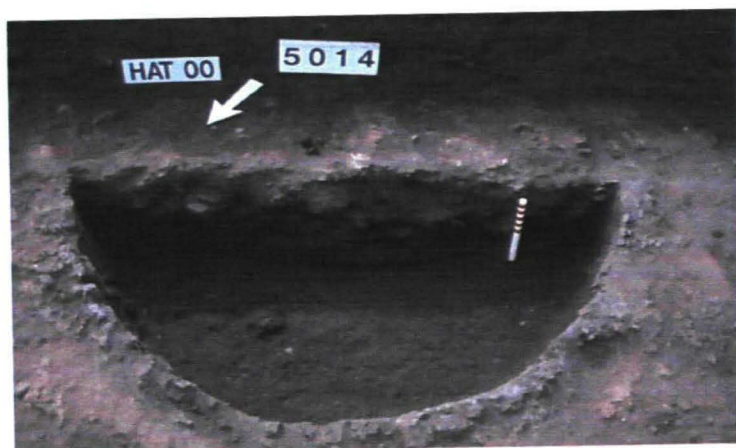


Plate 53: Area 82, Furnace 5003, northwest-facing section

15 CONCLUSION

Archaeological investigations throughout planning and construction phases of the pipeline made a significant contribution to the archaeological record of the region. This evidence would otherwise have remained undiscovered due to the lack of opportunity to investigate such areas.

The information gained has enhanced our understanding of settlement and land use in this part of Lincolnshire. Evidence has been found of previously unknown archaeological sites. These range from isolated Bronze Age cremation sites to prehistoric, Roman, Anglo-Saxon and medieval settlements and field systems. Flints and other artefacts, both stratified and unstratified, testify to the exploitation of this land from the Mesolithic to the present.

While all of the archaeological information is of at least local importance, several of the larger sites are undoubtedly of regional significance. Two of the sites (Site 7, Ruskington 1, and Site 11, Kirby la Thorpe 2), produced significant evidence of late Iron Age or early Roman industrial activity, whilst the bloomery furnace site (Area 82, Bardney Common), hints at the former extent of iron production, unfortunately undated. The Anglo-Saxon pottery assemblage from Site 10 (Kirby la Thorpe 2), has contributed significantly to our knowledge of this period. The medieval building foundations at Site 8 (Ruskington 2) probably formed part of the estate of Haverholme Priory.

16 REPORT, FINDS AND ARCHIVE DEPOSITION

The site records, drawings, photographs and artefacts have been prepared in accordance with the *Conditions for the Acceptance of Archaeological Archives* from the *Handbook of the Lincolnshire County Council Archaeology Section* and the *Guidelines for the deposition of archives with City and County Museum, March 20002*. The entire archive will be deposited at the Lincoln Archive. The accession number for this project is 2000.102.

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