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**TEESSIDE TO SALTEND ETHYLENE PIPELINE
SITES 718 AND 721
SIKE SPA, CRAYKE
NORTH YORKSHIRE**

POST-EXCAVATION ASSESSMENT REPORT

**prepared for
AC ARCHAEOLOGY
on behalf of
BP TSEP PROJECT**

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ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT

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SUMMARY

An archaeological excavation was undertaken during the summer of 2000 at Sike Spa, Crayke, near Easingwold in North Yorkshire, in advance of the construction of the BP Teesside to Saltend Ethylene Pipeline (TSEP). This report presents an assessment of the results of the excavation. Excavation identified the remains of a previously unknown settlement of late Iron and Romano-British date (Site 718). Additional archaeological recording was also carried out on a number of ditches and pits of unknown date (Site 721) 520m to the south-east of Site 718.

At Site 718, a total of five phases of activity have been initially identified. Phase 1 comprised five full or partially-surviving ring gullies representing the remains of probable roundhouses, of 6m to 14m diameter and of at least two phases. All contained handmade pottery of Iron Age type. Phase 2 was represented by a number of early features containing wheel-thrown imported Roman pottery, including a clay-lined kiln. The principal events of Phase 3 were the construction and initial use of a large (8m wide by more than 13m long) rectangular, cobble-founded building of Roman style in the later 2nd century AD. Phase 4 comprised late alterations to, and the final abandonment of, the rectangular building in the 4th century AD. Phase 5 was represented by medieval and later agricultural activity. A wide range of finds were recovered from excavated features. A substantial quantity of pottery ranging from Iron Age to late 4th century AD date was found. A quantity of animal bone was recovered. Worked stones and ceramic tiles were found in considerable numbers, indicating high status Roman-style buildings. Finds of copper alloy and glass jewellery, decorated antler and oyster shells were also made.

There have been a number of either late Iron Age or Romano-British sites excavated within the Vale of York in recent years. These include the Iron Age sites at Acaster Hill, Hushwaite (TSEP Site 716) Skeugh Farm, Stillington (TSEP Sites 719/720) and excavation on the A19 bypass at Crankley Lane Easingwold, and a late Roman villa site at West Lilling, Sheriff Hutton (TSEP Site 169). However, there remains a low number of comparative sites to Site 718 at Sike Spa. The rarity of a site which spans both the Iron Age and Romano-British periods, together with the range of artefacts and adoption of high status, explicitly 'Roman' features from at least the 2nd century makes the excavation of Site 718 of regional, and potentially national, importance in understanding the nature of settlement in this part of North Yorkshire. The assessment therefore recommends that full analysis and publication of the excavation be carried out to place Site 718 within its chronological and regional context.

1.0 INTRODUCTION

A programme of excavation, covering approximately 0.12ha, was carried out on the site of a previously unknown Iron Age and Romano-British settlement (Site 718) at Sike Spa, Crayke, near Easingwold in North Yorkshire (SE 556 702) on the route of the BP Teesside to Saltend Ethylene Pipeline (TSEP) (Figure 1). Additional archaeological recording was also carried out on a number of ditches and pits of unknown date (Site 721) 520m to the south-east of Site 718 (SE 561 698). The excavations were carried out during May and June 2000. This post-excavation assessment has been prepared by Northern Archaeological Associates (NAA) at the request of AC Archaeology on behalf of BP.

The presence of possible archaeological remains at Site 718 was identified during archaeological monitoring of topsoil stripping along the pipeline corridor by BP's archaeological inspectors, AC Archaeology. As a result a more extensive programme of excavation was proposed in order to mitigate the impact of the development (NAA 2000a). The presence of possible archaeological remains at Site 721 was identified during archaeological monitoring of excavation of the pipe trench by BP's archaeological inspectors, AC Archaeology. As a result, archaeological recording of visible features was carried out.

Following consultation with North Yorkshire County Council, the vehicle running track at Site 718 was protected with wooden 'bog mats' – the intention being to investigate this area following construction – while the area within the vicinity of the pipe trench was sample excavated and recorded. Subsequent to installation of the pipe, additional investigation and recording was undertaken (Trenches 1-7) along the course of the vehicle access track once the 'bog mats' had been removed (NAA 2000b).

The archaeological features at Site 718 show clear evidence of truncation with survival of contemporary surfaces confined to a single area within the stone foundations of a building. Artefact preservation of ceramics is of a high quality, while animal bone showed generally poor levels of survival. The features were distributed throughout the area of excavation, although concentrated toward the north-western part of the site and clearly extend both north-west and south-east beyond the limit of excavation. The full extent of the settlement is unknown. The remains were observed generally 0.4m below the existing ground surface, and were sealed by a dark relict soil up to 0.2m deep.

Archaeological features at Site 721 comprised ditches and pits with no indication of structures. Features were observed in the exposed section of the pipe trench and extended to both north and south of the trench. The full extent of the features is unknown. No finds of any type were recovered.

2.0 LOCATION

Site 718 is located at SE 556 702 within TSEP plot 44.4, about 0.5km south-west of the village of Crayke, which lies within the Vale of York, approximately 2km north-

east of Easingwold in North Yorkshire. Site 721 is located at SE 561 698 within TSEP plot 45.1, approximately 520m south-east of Site 718.

The area of Site 718 lies at a height of about 55m OD on a gentle south west slope at the base of Crayke Hill. In this area, the pipeline route runs through arable fields. The site itself lies immediately south of a sports ground in which traces of rigg and furrow cultivation are visible. The Sike Spa spring rises at approximately 40m north-west of the site and runs south-westwards along its northern edge (Figure 2). Site 721 lies at a height of some 60m OD near the edge of a spur of land extending south from Crayke village, between Crayke Lane and Daffy Lane.

The soils at both Sites 718 and 721 are of the Dunkeswick association, consisting of loamy deposits over clayey soils above till from sandstone and shale (Jarvis *et al* 1984, 165-8).

3.0 ARCHAEOLOGICAL BACKGROUND

There have been relatively few excavations of lowland Iron Age sites using modern archaeological techniques in the Vale of York. However, sites of predominantly Iron Age date have in recent years been excavated on TSEP Site 716 at Acaster Hill, Husthwaite (SE 517 729), on TSEP Sites 719 and 720 at Skeugh Farm, Stillington (SE 599 678), at Crankley Lane to the south of Easingwold (SE 523 682) and at Naburn near York (SE 613 472).

At Acaster Hill, Husthwaite, which lies approximately 5.5km north-west of Sike Spa, a single, large roundhouse c.16m in diameter was investigated (NAA 2000c). At Skeugh Farm, Stillington, which is situated about 5km south-east of Sike Spa, five roundhouses with associated ditches and postholes (Site 720), with a single roundhouse (Site 719) approximately 85m to the north-west were encountered (NAA 2000d). Excavation in the mid 1990s at Crankley Lane, Easingwold some 4km south-west of Sike Spa revealed an extensive settlement, including more than five roundhouses of varying sizes (Whyman *et al* 1994, 30). The settlement at Naburn, which lies 24km south of the present investigation and which was excavated in the 1980s, comprised a number of isolated roundhouses within an extensive field system. Occupation at each of these sites was dated to the end of the Iron Age, roughly 300 BC to AD 100, although agricultural activity continued at Naburn for some time into the Romano-British period (Jones 1988, 168).

Previously recorded archaeological remains of Romano-British date in the vicinity of Crayke include two findspots of Romano-British pottery located 700m to the north and 600m to the south-east of Site 718 (AC Archaeology 1998). Excavation within the village during the 1930s produced pottery of predominately 4th century AD date, and a single piece of Roman flue tile suggests the presence of at least one building with a hypocaust system in the area of the present village (Adams 1990, 39). Crayke also contains extensive surviving and excavated evidence of medieval settlement (*op cit* 39-44).

Romano-British pottery was recorded and limited excavation carried out during the 1950s near Woodhouse Farm, approximately 1km to the south-west of Site 718 (Hayes 1959, 90). The excavations uncovered areas of rough paving and cobbles, together with 3rd to 4th century pottery, box flue tile indicative of a hypocaust system and beehive querns. Romano-British pottery was also noted during the 1950s at Sike Spa in the area of Site 718 (*op cit* Figure 1).

Excavation at TSEP Site 169 at West Lilling, Sheriff Hutton (SE 640 644), which lies 10km south-east of Sike Spa, revealed the remains of a stone wall, cobble surfaces and pieces of plaster and *opus signinum* flooring, all associated with pottery of 4th century date suggesting a potential villa site. There was no evidence of Iron Age occupation within the excavated area (OSA 1999, 1-2).

4.0 METHODOLOGY

A methods statement for the archaeological excavation of Sike Spa, Crayke (Site 718) was produced by NAA in May 2000 (NAA 2000a). The works were carried out by NAA at the request of AC Archaeology on behalf of BP between the 8-30 May 2000. Subsequent, selective trenching was carried out between the 10-21 July 2000 (Trenches 1-7).

The area of investigation extended for a distance of approximately 200m along the route of the pipeline corridor. The full extent of the area was re-cleaned using a 360° tracked excavator with a toothless ditching bucket, operated under continuous archaeological supervision. All features were hand excavated and then individually drawn, recorded and photographed using the NAA recording system (a derivation of the MoLAS system). The site code was SSC00. The linear features were 10-25% sampled. Ring ditches were 25-50% excavated, and a 50% sample was excavated of all discrete features. The site grid and the extent of the excavation were accurately surveyed using an EDM total station and tied into the Ordnance Survey grid. Levels were tied into Ordnance Datum.

The designated pottery specialist made site visits during excavation to observe the nature of the archaeology and to give spot dates to aid the ongoing excavation. Bulk palaeoenvironmental samples were taken from all features which appeared suitable for sampling upon excavation. All artefactual remains have been cleaned, identified, marked and forwarded to the relevant specialists. The specialist assessments of the artefacts recovered, including spot dating of ceramics, and summaries of their potential for further study are included in this report.

The features at Site 721 were identified during monitoring of the pipe trench excavations. The features were cleaned and then individually drawn, recorded and photographed using the NAA recording system. No artefacts were recovered and no samples were taken.

5.0 EXCAVATION RESULTS

Site 718: Sike Spa

5.1 Introduction

Excavations at Sike Spa, Crayke have identified a multi-phase late Iron Age and Romano-British settlement. The site comprised negative features, ditches and pits, together with the cobble-filled foundations of a substantial rectangular building (Figure 2).

Features were concentrated in the north-western area of the site (Figure 3). This area was bounded to the north by the course of the Sike Spa stream, and to the south by a large recut ditch. A total of five possible roundhouse gullies up to c.10m in diameter were identified within this area. Two of these gullies (which were not contemporaneous) were directly overlain by the cobble foundations of the rectangular building, which measured c.8m wide and in excess of 13m long.

The south-eastern part of the site contained a scatter of shallow discrete features, one ditch and a large post-medieval stone drain.

From initial stratigraphic analysis of excavated features and assessment of datable finds, five phases of activity have been initially identified within the site. However, the majority of features cannot at the present stage be phased (Figure 2). These include a range of potential boundary ditches, along with a number of gullies, pits and postholes. A single cow burial identified within a heavily truncated pit (304) is among these as yet unphased features (Appendix L).

5.1.1 *Phase 1 (late Iron Age to early Romano-British)* (Figures 2 and 3)

The principal features of this phase were five ring gullies, representing possible roundhouses. Pottery recovered from these gullies was all handmade and dated to the Iron Age or (early) Roman periods.

One probable roundhouse (217), measuring c.6m in diameter, lay beneath the later rectangular building foundations. The gully contained three sherds of handmade pottery. Part of a second possible roundhouse (349), about 12-14m in diameter, lay some 4m to the north-west. Two sherds of handmade pottery were recovered from this gully. The size and positioning of these gullies indicates that they cannot be contemporary with one another. Due to the concentration of later activity, no internal features could be discerned for either roundhouse.

Roundhouse 325 measured c.8m in diameter. The gully contained two sherds of handmade pottery. The south-eastern gully terminus had cut the terminus of an earlier ring gully (346) which lay on a slightly different alignment. A number of shallow internal postholes were also identified.

A fifth possible roundhouse gully (284) measuring about 5m in diameter was identified along the eastern edge of excavation. Approximately half of the gully lying within the site had been truncated by later ditches.

Despite a lack of direct dating evidence, ditch 299 would appear to form a boundary to this phase of activity.

5.1.2 *Phase 2 (early Roman)* (Figures 2 and 3)

A number of features were identified around the area of the rectangular building which appear to predate it but contained imported wheel-thrown Roman pottery. Features assigned to this phase include a clay-lined kiln (206), comprising two parallel kidney-shaped bowls, joined together by a shallow, straight section at their north-eastern ends (Plate 2). Despite environmental assessment of the kiln's fill (205), its function remains unknown. In addition, due to its position in relation to the later rectangular building, a large curvilinear boundary ditch (263), measuring up to c.1.8m wide and c.0.65m deep, has also been assigned to this phase.

5.1.3 *Phase 3 (Roman)* (Figures 2 and 3)

The principal events of this phase were the construction and initial use of a large, rectangular building (220), represented by surviving cobble-filled foundations. The foundations of the building comprised a complete end wall (213) and stretches of two side walls (214 and 215) (Figure 3, Plate 1). The building was oriented roughly north-east to south-west and measured c.8m wide and in excess of 13m in length internally. The foundations themselves measured 1.1m to 1.2m in width, about 0.8m deep at the gable end, 0.4m to 0.55m deep elsewhere, and comprised two distinct layers of large river cobbles separated by a layer of clay (Plate 3). The dimensions of the foundations suggest they once supported a substantial building, possibly more than one storey in height. While no direct evidence remains of the type of superstructure, architectural stone was recovered from a late Roman ditch to the south. This indicates the presence of at least one high status stone building in the vicinity (see 5.1.4 below). Two pits (293 and 520), aligned centrally to the axis of the building and c.2.4m apart, have been identified as once containing posts to support the roof or upper floors.

Analysis of recovered pottery from the foundations initially suggests a construction date of mid to late 2nd century AD. The north-eastern end of building 220 was seen to lie centrally over probable roundhouse gully 217.

Other features assigned to this phase include a shallow, circular stone-lined pit (211) of unknown function and a large boundary ditch (299), which appears to mark the southern limit of the settlement in this phase. The ditch measured c.3.4m wide by 0.47m deep.

5.1.4 *Phase 4 (late Roman)* (Figures 2 and 3)

This phase principally involves later alterations to, and the final abandonment of, rectangular building 220. Initial analysis of the pottery assemblage suggests that the

building remained in use into the 4th century AD. External cobble foundations (685) (Plate 4), running parallel with the south-eastern building wall were added in the late 3rd or the 4th centuries, suggesting the addition of an external covered passage. Two internal beam-slots (641 and 675) contained pottery of later 3rd to mid 4th century date, while a patch of rough cobbled flooring (526), dated to the early 4th century survived in the eastern corner of building 220. However, 4th century pottery in a disturbed cobble spread (638) indicated robbing of the top of cobble foundations 685, suggesting that the building may have gone out of use at about this time. Several pieces of worked architectural stone, including part of a roll-moulding from a plinth, architrave or cornice were recovered from the re-cut (666) of the earlier boundary ditch 299 (Appendix F). Mid-late 4th century pottery and a 4th century coin were also recovered from ditch 250, the most southern boundary ditch identified within the excavation positioned parallel and 35m to the south of ditch 666. In addition, a small number of features scattered through the north-western half of the site are dated to the second half of the 4th century, including a dumb bell-shaped pit (460), c.1.2m in length, which contained a nearly complete late 4th century Crambeck bowl.

5.1.5 Phase 5 (medieval and later)

A relict soil (202 and 207) lying over and to the north of the rectangular building contained a number of Roman and post-Roman pottery sherds. This relict soil was seen to seal all archaeological features in this area and may represent a ploughsoil of medieval or later date. Magnetic susceptibility soil samples were taken from this and other archaeological layers to determine whether this relict soil may derive from ploughing in the medieval or later periods (see 7.16 below).

A substantial stone field drain (258) of probable 18th century date, was excavated at the south-eastern end of the site.

5.1.6 Site 721 (Figure 4)

A total of 13 archaeological features comprising ten ditches and three probable pits were identified some 520m south-east of Site 718 within the exposed section of the excavated pipeline trench. The ditches varied in size from 0.5m wide and 0.25m deep (ditch 1010) to 4.8m in width and 1.15m in depth (ditch 1011/1027). The only direct stratigraphic relationship which existed lay at the south-east of the site. Here, ditch 1011/1027 was cut by a later ditch 1029 on a significantly different alignment. Pits varied from 0.55m across by 0.2m deep (1003) to 1.1m across by 0.3m deep (1007). No artefacts were recovered from any of the features.

6.0 ASSESSMENT OF SITE ARCHIVE

6.1 Initial analysis

As part of the assessment of the site records the following level of analysis has been undertaken:

1. Provisional matrices for each site were drawn up showing the stratigraphic relationships of all 431 contexts.
2. Plans and sections were checked against context record sheets to ensure cross-referencing. Catalogues of context and finds records have been put onto a computerised database.
3. Catalogues of slide and print photographs, and illustrations have been input onto a computerised database.

The combined quantification of the site record for both Sites 718 and 721 is as follows:

Table 1: Primary archive inventory

Context descriptions	431
Plans	44
Sections	105
Colour slides (films)	10
Colour photographs and negatives (films)	11
Artefact record sheets	103

Table 2: Summary of contexts

<i>Feature type</i>	<i>Site 718</i>	<i>Site 721</i>
Pit	51	3
Gully	31	-
Stakehole	3	-
Posthole	48	-
Ring-ditch	5	-
Ditch	44	10
Kiln	1	-
Natural layers	6	-

6.2 Recommendations for further analysis

Further work needs to be carried out on the site matrix for Site 718, especially in consultation with the pottery specialist so that more reliably phased information on the site chronology can be attained. No further work need be carried out on the archive for Site 721.

Once phased the context record can be listed and described phase by phase to produce a detailed site narrative report for Site 718. Detailed phase plans should also be drawn up which illustrate all structural features.

Further analysis of the site record should be carried out in order to establish an interpretation of the site and the explanations behind the conclusions reached.

The results of the detailed analysis of the site archive should be integrated with specialist analysis of the finds recovered and synthesised into an illustrated report prepared for publication.

6.3 Storage and curation

The written, drawn and photographic records and soil samples are currently held by NAA. A representative proportion of the soil samples was sent to the University of Durham and has been processed for this assessment. The artefacts are with the relevant specialists.

The retention and disposal policy for the assemblage from Sike Spa will be to retain the vast majority of artefacts. This is because a high proportion of the material is derived from secure contexts and the assemblage is important in both regional and national terms. The archive will be placed in the Yorkshire Museum in York after completion of specialists' studies.

7.0 SPECIALIST FINDS ASSESSMENTS

7.1 Processing and quantification

Washing of the bulk finds, including animal bone, was completed after the excavation had ended. All finds recovered have been recorded, marked where appropriate, packed in labelled bags and placed in labelled museum storage boxes. A finds database was produced in order of context number. This database tabulates the artefact type, quantity and includes a brief description. The artefact assemblage from Sike Spa (Site 718) is summarised below. No finds were recovered from Site 721.

Table 3: Finds assemblage

<i>Artefact type</i>	<i>Quantity</i>
Pottery sherds	553
Ceramic building materials	65
Fired clay	280
Quern	1
Worked stone	7
Copper alloy	7
Iron	3
Lead alloy	2
Glass shards	2
Worked antler	2
Slag material	13
Bone fragments	1253

Once prepared the material was sent to the specialists for assessment.

7.2 Flint

Peter Makey (Appendix B)

7.2.1 Summary

Ten contexts produced a total of 11 flints, of which eight were retained and assessed. The flints mostly comprise flakes, with a blade and a hammerstone. They range in date from the early Neolithic to Early Bronze Age. All of the flint is residual in nature and the assemblage is too small for any assumptions to be made.

7.2.2 Recommendations

No further analysis of the flint is required, but a report should be produced for publication.

7.3 Pottery

Jerry Evans (Appendix C)

7.3.1 Summary

Seventy-five contexts produced a total of 553 sherds of pottery from secure archaeological features. The material ranged in date from the later part of the pre-Roman Iron Age to the late Roman period.

The majority of the material is in handmade fabrics. Most of these are Iron Age tradition fabrics in Iron Age derived forms. However, many and perhaps most may date to the 1st or 2nd centuries (or even later) and it is not clear if purely Iron Age deposits are present. On balance it seems reasonably likely that this was the case, but material from relevant deposits is too sparse and possibly Roman material is present. The clearly Roman material present can be dated to the 2nd century, particularly the Antonine period, and the end of the 3rd to the mid-later 4th century.

7.3.2 Recommendations

The pottery assemblage is of importance both for the interpretation of the site and the understanding of the pottery sequence during the Iron Age to Romano-British transition in this part of North Yorkshire. The national research framework for the study of Romano-British pottery identifies pottery from rural sites as being 'highly significant for our understanding of the Romano-British economy and 'Romanisation' (Willis 1997, 15) while the northern regional research framework (Evans and Willis 1997, 22, 25) emphasises the particular need for data from rural sites in the northern region.

Preliminary examination suggests that some 40 sherds are worthy of illustration. Illustration should show details of grits and surface finish.

7.4 Ceramic building materials

John Tibbles (Appendix D)

7.4.1 Summary

A total of 65 fragments of ceramic building material were recovered from sixteen contexts, comprising a diverse range associated with Romano-style buildings. Quantities of brick, roofing tile and box flue tile within the assemblage indicate all indicate a building or buildings of high status adopting aspects of Mediterranean, overtly 'Roman' lifestyle. The presence of a quantity of box flue tile demonstrates at least one hypocaust system existed nearby.

7.4.2 Recommendations

The fragments of ceramic building material are of potential and have added greatly to the interpretation of building type and settlement status within the Romano-British phases. It is recommended that a report be prepared for publication, followed by selective discard.

7.5 Fired clay

7.5.1 Summary

Ten contexts produced a total of 280 pieces of fired clay, comprising fragments of kiln lining and possible kiln furniture. The fired clay has not been assessed.

7.5.2 Recommendations

The fired clay may reveal insights into the structural construction techniques and metallurgical technology of the settlement and requires full analysis.

7.6 Quern

D Heslop (Appendix E)

7.6.1 Summary

Part of the base of a beehive quern was recovered. The quern had been damaged in its reuse as a building stone.

7.6.2 Recommendations

No further analysis of the quern is required, but a report and illustration should be produced for publication.

7.7 Worked stone

Raphael Isserlin (Appendix F)

7.7.1 Summary

A total of six pieces of worked stone were retained from three contexts and sent for specialist assessment. Five pieces comprised sandstone blocks of varying forms and all may have originated as facing stones from two or more walls. The final piece represents the central part of a plinth, architrave or cornice displaying a plain bead or roll-moulding. The top and bottom sections have been hacked away so that the central (remaining) section could be re-used. Although difficult to date stylistically, a date range in the 2nd century AD is possible.

7.7.2 Recommendations

Full analysis of the plinth stone fragment may allow a more accurate date range for and possible status of the building from which it came. Geological identification of the stones to determine the source of the stone supply should be undertaken, together with selected illustration.

7.8 Metal finds

Assessment: M C Bishop (Appendix G)

Conservation: Leesa Vere-Stevens (Appendix H)

Copper alloy small finds

7.8.1 Summary

Seven copper alloy items were recovered from five contexts. The finds comprised portions of three brooches, two coins, a ring and part of a rod. All of the finds were in a generally poor condition displaying powdery copper corrosion products.

7.8.2 Recommendations

Selective removal of corrosion crusts followed by chemical stabilisation of the objects is recommended. Coin 249AA and brooch 365AA show evidence of silver plating, which therefore require further (XRF) analysis. The objects should then be sent for detailed identification, selective illustration and publication.

Iron small finds

7.8.3 Summary

Three contexts each produced a single iron object. The finds comprised two nails and a possible tool. All of the iron finds were in a very poor condition and showed a high degree of mineralisation.

7.8.4 Recommendations

The possible tool 379AA should be conserved for identification purposes. Given their form and poor condition, the iron nails have no further potential for analysis.

Lead alloy small finds

7.8.5 Summary

Two pieces of waste lead were recovered from a relict soil (207) which sealed all discrete archaeological features. The material is in good condition, the corrosion products comprise a thin, stable surface layer.

7.8.6 Recommendations

Given its form and recovered context, the lead alloy has no further potential for analysis.

7.9 Worked antler small finds

Assessment: M C Bishop (Appendix G)

Conservation: Leesa Vere-Stevens (Appendix H)

7.9.1 Summary

A single piece of worked antler (479AA) comprised a possible handle, decorated with a ring and dot motif was recovered. The item is in two pieces but is in a stable, good condition.

7.9.2 Recommendations

The two parts of the decorated handle 479AA should be re-attached and be sent for specialist identification.

7.10 Glass

Professor J Price (Appendix J)

7.10.1 Summary

Two fragments of glass were recovered from two contexts. One fragment (523AB) is part of a Roman bangle, the other (229AB) is part of a rod of possible Roman date.

7.10.2 Recommendations

It is recommended that the bangle (523AB) is illustrated.

7.11 Slag material

P Clogg (Appendix K)

7.11.1 Summary

Thirteen pieces of slag and cinder were recovered from eight contexts. All of the five pieces of slag derive from iron working.

7.11.2 Recommendations

Due to its limited quantity, range and provenance, the slag material is of limited potential. No further analysis is required but a report should be produced for publication.

7.12 Animal bone

Louisa Gidney (Appendix L)

7.12.1 Summary

Seventy-seven contexts produced a small collection of stratified animal bone. Cattle and sheep/goat were the predominant species represented, together with pig and a relatively high incidence of horse. Context 229 produced remains from the burial of an infant lamb. Context 305 produced articulated remains of cattle from a young adult animal which showed evidence for the animal's use in draught work with a yoke. Wild species were scarce and there was a noted absence of bird bones. Preservation of bone was generally poor.

7.12.2 Recommendations

While the animal bone assemblage is of relatively small size, once phasing of the site has been finalised the results should be tabulated by species present and phase to establish whether there is a large enough grouping to justify more detailed analysis.

7.13 Environmental record

J Cotton (Appendix M)

7.13.1 Summary

Thirty-two contexts were environmentally sampled of which eight samples were assessed for this report, the remainder being held in storage by NAA. Bulk samples were taken from a variety of fills of negative features. The material was manually floated in the laboratory with both flot and residue retained upon 500 μ mesh. The residue was retained and contexts described. After drying the residues were scanned for any artefactual material and the flots for the nature of their matrices, and the quality and quantity of any plant remains present.

The majority of contexts contained bone, charcoal and small numbers of charred cereal grains, the preservation state of which limited identification. The identifiable cereal grains included breadwheat and a single oat grain.

7.13.2 Recommendations

The preservation conditions preclude interpretation and restrict the potential data that the contexts can produce. Of the eight samples assessed, none produced significant material. It is therefore recommended that no further analysis of environmental samples be carried out. However, the flots from assessed samples should be retained and preserved organic material used for possible radiocarbon dating (see 8.1 below).

7.14 Magnetic susceptibility samples

7.14.1 Summary

A total of ten soil samples were taken from topsoil, the relict soil (202) which sealed archaeological layers in the area of the rectangular building, discrete features and surrounding subsoil in order to ascertain whether relict soil 202 was formed by ploughing during the medieval or later periods, and to determine whether magnetic prospection techniques would be suitable for establishing the extent of the settlement lying outside the excavated area.

7.14.2 Recommendations

All the samples should be sent for full analysis.

8.0 SIGNIFICANCE OF RESULTS

The results of the archaeological excavation of Site 718 at Sike Spa are of regional significance with respect to the structural evidence and the associated artefactual assemblage recovered. The significance can be summarised on the basis of both the structural and artefactual record.

The excavations at Sike Spa were an unexpected opportunity to further our understanding of the Iron Age to Romano-British transition within the Vale of York. The site is one of a small but growing number within the Vale of York occupied at the end of the Iron Age, for example the recently excavated sites at Acaster Hill, Husthwaite (TSEP Site 716), Skeugh farm, Stillington (TSEP Sites 719 and 720) and Crankley Lane, Easingwold. Sike Spa provides a parallel to these in its initial late Iron Age phase, but shows a sharp contrast in its continued occupation through the Romano-British period and its conspicuous adoption of Roman traditions (see 9.0 below).

Archaeological recording at Site 721 has produced only limited new information concerning past activity around Crayke village, as the recorded features remain undated.

8.1 Stratigraphic analysis

Site 718 contains structures of two distinct building forms. A total of five probable roundhouses of Iron Age tradition have been identified. These are replaced (in the case of two of them directly replaced) by a large rectangular building of the Roman tradition. The use of Iron Age building and pottery traditions continues to varying degrees well into the Romano-British period. Due to the density of activity in the north-western part of the site, a great number of non-structural features cannot be easily related to the structures or initial phasing of the site. Artefact analysis may enable the nature, date and function of some of these features to be understood, enabling phasing of these non-structural features to be achieved.

Radiocarbon dating should be sought where pottery analysis alone cannot establish a relative chronology of important features and stratigraphic relationships. It is recommended that absolute dates using recovered ecofactual material be sought for the following features:

Roundhouse gully 325
Roundhouse gully 217

Boundary ditch 263

In addition, a literature search of similar settlements, individual structures and other features of both Iron Age and Romano-British date within the Vale of York and beyond will produce additional information and assist in placing the site at Sike Spa in a wider regional context.

The presence of archaeological features at Site 721 should be noted in relation to Site 718 at Sike Spa as it may be useful in establishing potential densities of activity in the Crayke area.

8.2 Artefactual record

The considerable quantity of ceramic material recovered from Site 718 greatly enhances the significance of the excavation. In recent years a number of assemblages of Iron Age and Romano-British pottery have been recovered from sites excavated using modern techniques within the Vale of York.

Further study and publication of the pottery assemblage will provide valuable new information regarding the transition of cultural traditions between the Iron Age to Romano-British periods on a lowland rural site. These areas have been highlighted as important at national and regional research levels (see 7.3.2 above).

The quantity and range of ceramic building material is of considerable significance as it demonstrates the presence of a high status structure or structures on or near the site. Hypocaust material and roof tiles all show the adoption of aspects of Mediterranean, Roman lifestyles.

The worked stone from the site similarly shows the presence of at least one stone building, implying high status occupation.

The slag, daub, fired clay and glass assemblages are small in number and provide only limited useful data regarding the interpretation of the archaeological record. No further analysis of these artefacts has been recommended by the respective specialists.

Once conserved, the metalwork and antler artefacts may assist relative dating of the features from where they came.

The animal bone assemblage shows a relatively high proportion of horse remains in such a small collection. This appears to be a characteristic of the north of England generally. As such, the horse bones are worthy of remark as part of a regional trend, although the preservation and small size of the total assemblage justifies only limited further study.

The environmental samples assessed produced very little data, primarily due to the preservation conditions of the site. Further analysis is unlikely to provide additional useful data.

No finds of any type were recovered from Site 721.

9.0 POTENTIAL FOR FURTHER ANALYSIS

English Heritage's research priorities for the period c.200 BC to AD 200 focus on the likely continuity in settlement and land use and, by implication, social and economic organisation, between the late Iron Age and Romano-British period, together with regional variations. In particular it is stated that closer examination should be paid to the possible pre-conquest origins of what has often been seen as the development of the Romano-British period (English Heritage 1997).

Occupation of Site 718 at Sike Spa appears to span the period from the late Iron Age through to the late Roman period. The late Iron Age beginnings of Sike Spa are paralleled in terms of both structural and artefactual evidence with the other recently excavated sites around York (Husthwaite, Stillington, Easingwold, Naburn). Its later Romano-British phase is paralleled by the potential villa site at West Lilling. However, only at Sike Spa is there positive evidence of settlement continuity through from the Iron Age into the Romano-British period. Sike Spa not only continued into the 4th century AD, but displays high status occupation and the adoption of Roman building traditions from at least the late 2nd century. The presence of a permanent mineral water spring 40m away from the excavated area is potentially of great significance because of the religious associations with these features both in the Iron Age and Romano-British periods, which in some instances led to the construction of elaborate stone temples (Green 1986, 150-7). The potential status of the site as a temple complex requires consideration.

Sike Spa lies within the hinterland of York, some 20km north of the city, which was founded as a legionary fortress in AD 71. The civil settlement which formed outside the fortress had by the early 3rd century grown so large that it was granted the status of both a *colonia* and the provincial capital of *Britannia Inferior* (Frere 1987, 83, 171,

183). An unknown but probably large area outside the fortress would have been legally organised as a *territorium* or *prata legionis* (Jones 1988, 161). From its founding, York acted as the region's most important centre for all aspects of 'Romanisation', including as a source of imported Roman pottery and other goods, and for the upper levels of society of Roman ideas and tastes in architecture, lifestyle and associated fashionable trends. The high status structure and finds from the excavation at Sike Spa indicate that the site is of unusual importance in understanding the adoption of Roman ways of life and therefore answering the English Heritage research priority in the area.

Sufficient securely stratified artefacts have been recovered to provide relative chronologies based on pottery. Radiocarbon dates will confirm 'absolute' dates of selected features. Stratigraphic phasing has not yet been achieved for the majority of features, although full integration of pottery dating and radiocarbon analysis should at least partially resolve this.

Site 721 has no potential for further analysis.

9.1 Stratigraphic record

Further analysis of the site archive of Site 718, and in particular refined stratigraphic phasing, will enable several objects of research to be realised. These areas of research would principally relate to the following:

1. The five possible roundhouses recorded within the site present an opportunity to research local and regional variations in form and dimension of these early structures. Comparisons with other Iron Age sites such as Stillington, Huthwaite, Easingwold and Naburn may increase our understanding of the settlement at Sike Spa and the overall picture of settlement within the Vale of York during the late Iron Age.
2. Similarly, the large Romano-British rectangular building presents an opportunity for research into local and regional variations in form and dimension on both domestic, and possibly religious sites. In addition, comparisons should be sought between the relative dates of transition from Iron Age to Roman building traditions at other sites in Yorkshire, especially the villa site at Woodhouse Farm, approximately 0.5km to the south (Hayes 1959).
3. Integrated synthesis of the stratigraphic evidence with the artefactual data will enable the overall development of the site to be assessed in relation to the use or function of the buildings and other features (whether domestic, ritual, agricultural or industrial).
4. Further examination of the pottery assemblage chronology and dates obtainable through radiocarbon analysis may address the issues concerning continuity of occupation and land-use from the Late Iron Age into the Roman period at Sike Spa. This would accord with English Heritage PC4 research agenda, 'Briton into Rome' (c.300 BC to AD 200), relating to continuity and change (English Heritage 1997, 44).

9.2 Artefactual record

The potential for further analysis of the artefactual record is primarily related to the pottery assemblage, in particular a detailed chronology of both the handmade and imported Roman pottery types and styles. Once established this can be integrated into the stratigraphic evidence to establish a more complete site matrix from which further avenues of research can be taken.

Limited further study of certain categories of recovered material is justified. Analysis of animal bone in relation to a more fully phased matrix may provide evidence for change in the pastoral economy of the site over time. After conservation, metalwork and antler artefacts may assist relative dating of features.

The value of each category of material within the site archive for further analysis will also be enhanced by association within an integrated study combining the artefactual and ecofactual material with the stratigraphic record and literary evidence.

10.0 PROPOSED POST-EXCAVATION PROGRAMME

The aim of the post-excavation programme will be to produce a final report for publication and a well ordered, clearly indexed archive for deposition in the Yorkshire Museum in York.

In accordance with English Heritage guidelines (1991, 21) this work will be approached in two stages:

1. Compilation of a research archive, involving work on the stratigraphy, artefacts and environmental data and the production of catalogues, illustrative material and both narrative and artefact reports.
2. Selection of data from the research archive to produce an integrated report text for publication.

The overall sequence of the programme would be as follows:

Stage 1: stratigraphic analysis

Stage 2: site narrative and archive illustrations

Stage 3: preparation of specialist reports and radiocarbon dates

Stage 4: integration and synthesis of stratigraphic and artefactual records

Stage 5: preparation of publication report text and illustrations

Stage 6: archive deposition

10.1 Stratigraphic record

Stage 1: The need to finalise a secure dating framework for the sequence of events at Site 718 is of primary importance. This will involve integrating the dating and phasing evidence reached through pottery analysis and absolute dating techniques with the stratigraphic record obtained during excavation. It is important that the stratigraphic matrix represents an accurate chronology of the excavated evidence, as this will form the basis of all further research and analysis.

Stage 2: Once the stratigraphic sequence has been established a detailed site narrative report, based upon each phase of the site development, will be prepared. Archive illustration phase plans will also be drawn up. Site 721 will be incorporated as an adjunct to this narrative.

Stage 3: Further literary research of other excavated sites would be undertaken to assist with the interpretation of the excavated evidence, and to place Sike Spa within its local, regional and national contexts. Parallels with other late Iron Age and Romano-British sites need to be examined, particularly the pottery assemblages and types of structures represented.

Stage 4: The stratigraphic and structural evidence will be integrated with the artefactual and environmental analysis. The chronology and distribution of artefacts will be analysed to establish the use of structures and function of different site areas within each phase. There will be an analysis of characteristics of both roundhouses and the rectangular building and a comparison with similar buildings from elsewhere in North Yorkshire.

Stage 5: Upon receipt of the relevant specialist material a synthesised summary text will be prepared for publication. It is proposed that the excavations of Sites 718 and 721 be published in a separate monograph publication of all archaeology encountered along the entire BP TSEP pipeline.

Stage 6: Upon completion of the publication report and associated specialist assessments the indexed site archive (paper and artefactual records) will be deposited at the Yorkshire Museum in York.

10.2 Artefactual record

The further analysis of the principle finds and environmental assemblages can be summarised as follows:

Flint

No further analysis of the flint is required, but a report should be produced for publication.

Pottery

The pottery assemblage should be analysed in view of the archaeological record to produce a fully integrated report on the pottery at Sike Spa. A fully quantified, illustrated and discursive publication report should be produced to accepted current standards of best practice. This should integrate pottery data fully with site and analytical data. Illustration of appropriate material for inclusion in the site archive and publication report should be drawn.

Ceramic building materials

No further analysis of the ceramic building material is required, but a report and selective illustration should be produced for publication.

Fired clay

Full analysis of the fired clay recovered from the site is required.

Quern

No further analysis of the quern is required, but a report and illustration should be produced for publication.

Worked stone

Full analysis of the plinth stone fragment is required together with geological identification of all the stones and selected illustration.

Copper alloy

Copper alloy objects should be fully conserved and sent for specialist identification.

Iron

Iron object 379AA should be conserved for identification purposes.

Lead alloy

No further analysis of the lead alloy is required, but a report should be produced for publication.

Worked antler

Antler object 479AA should be conserved, identified, illustrated and dated.

Glass

No further analysis of glass is required. However, the bangle 523AB should be illustrated in the final report.

Slag material

No further analysis of the slag material is required, but a report should be produced for publication.

Animal bone

Limited further analysis of animal bone in relation to a more fully phased matrix should be undertaken to provide evidence for change in the pastoral economy of the site over time.

Environmental samples

No further analysis of environmental samples is required. However, organic material recovered from assessed samples should be retained for possible use in radiocarbon analysis.

Radiocarbon samples

A total of three samples of carbonised botanical remains recovered from environmental soil samples should be assessed for radiocarbon dating. If suitable these samples should be processed to provide radiocarbon dates for important features and stratigraphic relationships within the site.

Magnetic susceptibility samples

All the samples should be sent for full analysis.

11.0 CONCLUSION

1. The post-excavation assessment of the results of the excavation of Site 718 at Sike Spa has established that the stratigraphic evidence recorded and artefactual assemblage recovered during the excavation represent one of the more extensive excavations using modern techniques of a late Iron Age and Romano-British settlement within North Yorkshire.
2. The results of the stratigraphic analysis has identified multiple phases of occupation on the site. Of these, the most important are:
 - five possible late Iron Age or early Romano-British period roundhouses.

- a large rectangular stone-founded building associated with finds indicating a high status structure, in use from the 2nd to 4th centuries AD. The type and status, whether secular or religious, of the Romano-British occupation and the site's closeness to Roman York indicate that the site is of unusual importance in understanding the processes of Romanisation in this part of Yorkshire.
3. The considerable quantity of ceramic artefacts recovered from the site greatly enhances the significance of the results of the excavations. The dateable assemblage of pottery will greatly enhance current knowledge of pottery types of this period within North Yorkshire.
 4. The post-excavation assessment has established that there is notable potential for further analysis of most parts of the stratigraphic evidence and artefactual assemblage.
 5. The further analysis of the site record and artefactual assemblages, and preparation of the publication report, would be undertaken to guidelines prepared by English Heritage. The post-excavation assessment has established an outline programme for the further analysis and report preparation.

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Text: Philip Wood
Edited by: Philip Neal and Peter Cardwell
Illustrations: Damien Ronan

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Appendix A

CONTEXT AND FINDS CATALOGUE

Context	Description	Kiln																			
		Bone	CBM	Metal	Flint	Glass	furniture	lining	Pottery	Sample	Shell	Slag	Stone								
100	layer (natural spread)																				
101	layer (natural spread)																				
102	fill of ditch 103																				
103	ditch cut																				
201	layer (ploughsoil)	15	4		2					80	1									1	
202	layer (buried ploughsoil)	11	22	3	1					84											1
203	fill of pit 204	1								8	1										
204	pit cut																				
205	fill of kiln 467	23			1					151	10	1									
206	group number (kiln)									9											
207	layer (buried ploughsoil)			1	2																
208	fill of gully 209	34				1				2	23	1								4	
209	gully cut																				
210	fill of pit 211	80	4		1						4	2									2
211	pit cut																				
212	fill of pit 211 (stone lining)																				1
213	fill of foundation trench 303																				
214	fill of foundation trench 303	2									38										
215	fill of foundation trench 303																				
216	fill of gully 217										3										
217	gully cut																				
218	fill of posthole 219																				
219	posthole cut																				
220	group no. (Roman building)																				
221	fill of pit 275	1			2						7										
222	gully cut																				
223	fill of gully 222																				
224	posthole cut																				
225	fill of posthole 224																				
226	ditch cut																				
227	fill of ditch 226	32									2	2									
228	ditch cut																				
229	fill of ditch 228	172			1	1					10	2									
232	posthole cut																				
233	fill of posthole 232																				
234	fill of posthole 235																				
235	posthole cut																				
236	fill of stakehole 237	2																			
237	stakehole cut																				
238	postpit cut																				
239	fill of postpit 238																				
240	fill of postpit 238																				
241	fill of post pipe 242										3										
242	post pipe cut																				
243	post pipe cut																				
244	posthole cut																				
245	fill of posthole 244																				
246	postpit cut																				
247	fill of postpit 246																				
248	post pipe cut																				
249	fill of ditch 250	9	1	1							16									13	

Context	Description	Kiln Kiln											
		Bone	CBM	Metal	Flint	Glass	furniture	lining	Pottery	Sample	Shell	Slag	Stone
250	ditch cut												
251	fill of posthole 252												
252	posthole cut												
253	fill of pit 254	16						7					
254	pit cut												
255	fill of field drain 256	4	2		1			2				1	
256	field drain cut												
257	fill of field drain 257							1					
258	field drain cut												
259	fill of pit 260												
260	pit cut												
261	fill of pit 262												
262	pit cut												
263	ditch cut												
264	fill of ditch 263	3						15		2			
265	fill of pit 265												
266	pit cut												
267	fill of pit 268		1										
268	pit cut	13											
269	fill of natural hollow 270												
270	natural hollow cut												
271	fill of pit 272												
272	pit cut												
273	fill of pit 274												
274	pit cut												
275	pit cut												
276	fill of pit 275	5						2					
281	fill of ditch 334												
282	natural hollow												
283	roundhouse gully cut												
284	fill of roundhouse gully 283	21						17		1			
285	same as 263												
286	same as 264	9						1		2			
287	same as 263												
288	same as 264	12											
289	field drain cut												
290	fill of field drain 289												
291	fill of pit 292												
292	pit cut												
293	pit cut												
294	fill of pit 293	10						8		1			
295	pit cut												
296	fill of pit 295												
297	posthole cut												
298	fill of posthole 297	38											
299	ditch cut												
300	fill of ditch 337	3	1							1			
301	fill of foundation trench 303	43								1			
302	fill of foundation trench 303												
303	foundation trench cut												
304	fill of pit 305												
305	pit cut	132											
306	fill of roundhouse gully 307	18								1			
307	roundhouse gully cut												
308	fill of pit 309		2										
309	pit cut												

Context	Description			Kiln		Kiln		Pottery	Sample	Shell	Slag	Stone
		Bone	CBM	Metal	Flint	Glass	furniture					
310	fill of field drain 311	3	2					1				
311	field drain cut											
318	ditch cut											
319	fill of ditch 318											
320	ditch cut											
321	fill of ditch 320							6				
322	fill of pit 323											
323	pit cut											
324	fill of roundhouse gully 325	43										
325	roundhouse gully cut											
326	ditch cut											
327	fill of ditch 326	8						1				
328	ditch cut	4			1			1				
329	fill of ditch 328	19						8				
330	pit cut	9						2				
331	fill of pit 330											
332	foundation trench cut											
333	fill of foundation trench 332	15	5				1	9				3
334	ditch cut											
335	fill of posthole 336											
336	posthole cut											
337	ditch cut											
338	posthole cut											
339	fill of posthole 338											
340	posthole cut											
341	fill of posthole 340											
342	posthole cut											
343	fill of posthole 342											
344	fill of ditch 299											
345	fill of roundhouse gully 346											
346	roundhouse gully cut											
347	stakehole cut											
348	stakehole cut											
349	roundhouse gully cut											
350	fill of roundhouse gully 349	3				54		2	2			1
351	foundation trench cut											
352	fill of ditch 353											
353	ditch cut											
354	pit cut											
355	fill of pit 354	36						1	1			
356	fill of ditch 357							2				
357	ditch cut											
358	pit cut											
359	pit cut											
360	fill of pit 361											
361	pit cut											
362	gully											
363	gully											
364	gully											
365	fill of foundation trench 351	41	1	1				7	1			
366	gully cut											
367	fill of gully 366	1										
368	ditch cut											
369	fill of ditch 368	3		1				4	1			
372	posthole cut											
373	fill of posthole 373											

Context	Description			Kiln	Kiln	Pottery	Sample	Shell	Slag	Stone
		Bone	CBM	Metal	Flint					
374	posthole cut									
375	fill of posthole 374									
376	fill of kiln 467						1			
377	structure (kiln lining of 467)	12								
378	gully	9								
379	ditch cut	16		1		8				
380	pit cut									
381	gully									
388	fill of ditch 389					2			1	
389	ditch cut									
390	fill of ditch 408									
391	fill of ditch 408									
392	fill of pit 407									
393	fill of ditch 514	7				3				
394	same as 393									
395	same as 393									
396	gully	2								
397	same as 393	11				1				
398	same as 393									
399	fill of pit 504	14		1		3	2			
400	natural									
401	fill of pit 410	2					1			
402	fill of posthole 411									
403	fill of gully 412									
404	fill of posthole 413									
405	fill of gully 414									
406	fill of gully 414									
407	pit cut									
408	ditch cut									
410	pit cut									
411	posthole cut									
412	gully cut									
413	posthole cut									
414	gully cut									
415	gully cut									
416	fill of ditch 417	7								
417	ditch cut									
418	fill of gully 419									
419	gully cut									
420	fill of gully 412	1				11	1			
421	gully cut									
422	fill of pit 423						1			
423	pit cut									
424	fill of posthole 474						2			
425	gully cut									
426	fill of gully 425					1				
427	pit cut									
428	fill of pit 427						1			
429	fill of ditch 430					2				
430	ditch cut									
431	fill of posthole 432									
432	posthole cut									
433	fill of posthole 434									
434	posthole cut									
435	fill of posthole 436									
436	posthole cut									

Context	Description			Kiln		Pottery	Sample	Shell	Slag	Stone
		Bone	CBM	Metal	Flint					
437	fill of pit 438					1				
438	pit cut									
439	fill of ditch 440	7	1			11				
440	ditch cut									
441	posthole cut									
442	fill of posthole 441									
443	pit cut									
444	fill of pit 443									
445	gully	1				2				
446	ditch cut									
447	fill of ditch 446									
448	gully	3				3				
449	field drain									
450	engineering test pit									
451	ditch									
452	fill of ditch 452									
453	gully									
455	field drain									
456	gully									
457	pit cut									
458	ditch	1				4				
459	fill of industrial pit 460		1							
460	industrial pit cut									
461	fill of ditch 461									
462	ditch cut									
463	gully cut									
464	fill of gully 463									
465	fill of ditch 466					1				
466	ditch cut									
467	cut of kiln									
468	fill of pit 469	1				2				
469	pit cut									
472	fill of roundhouse gully 473	3				2	1			
473	roundhouse gully									
474	posthole cut									
475	fill of posthole 476									
476	posthole cut									
477	fill of ditch 478					5	2			
478	ditch cut									
479	fill of ditch 480	72				9	2			1
480	ditch cut									
481	fill of pit 482						1			
482	pit cut									
483	natural									
485	fill of ditch 486									
487	fill of posthole 488									
488	posthole cut									
489	fill of ditch 490									
490	ditch cut									
491	fill of ditch 492									
492	ditch cut									
493	natural									
494	fill of posthole 495									
495	posthole cut									
496	fill of posthole 497									
497	posthole cut									

Context	Description	Kiln Kiln																		
		Bone	CBM	Metal	Flint	Glass	furniture	lining	Pottery	Sample	Shell	Slag	Stone							
498	fill of gully 499																			
499	gully cut																			
500	fill of pit 501	10																	2	
501	pit cut																			
502	fill of pit 503	3																	1	
503	pit cut																			
504	pit cut																			
505	posthole cut																			
506	fill of posthole 505																			
507	gully																			
508	pit cut																			
509	pit cut																			
510	pit cut																			
511	pit cut																			
512	gully																			
513	fill of gully 222																			
514	ditch cut																			
516	posthole cut																		1	
517	posthole cut																			
518	pit cut																			
519	fill of pit 518	2											3							
520	pit cut																			
521	pit cut																			
522	fill of posthole 219																		1	
523	fill of pit 204	23					1						1	14					1	
524	posthole cut																			
525	fill of posthole 524																			
526	layer (spread)													15						
527	pit cut	8												12						
530	fill of foundation cut 332																			
531	fill of ditch 532																			
532	ditch cut																			
533	group no. (roundhouse gully)																			
534	pit cut																			
535	field drain																			
536	fill of gully 537																			
537	gully cut																			
538	posthole																			
539	posthole																			
540	posthole																			
541	gully																			
542	gully																			
543	posthole																			
544	posthole																			
545	pit																			
546	posthole																			
547	posthole																			
548	posthole																			
549	posthole																			
550	posthole																			
551	posthole																			
552	posthole																			
553	field drain																			
554	posthole																			
555	posthole																			
600	remains of topsoil	2					1												12	

Context	Description	Kiln Kiln																		
		Bone	CBM	Metal	Flint	Glass	furniture	lining	Pottery	Sample	Shell	Slag	Stone							
601	ditch cut																			
602	fill of ditch 602																			
603	natural stone																			
604	fill of ditch 605												1							
605	ditch cut																			
606	fill of ditch 607																			
607	ditch cut																			
608	fill of posthole 609																			
609	posthole cut																			
610	test pit																			
611	fill of gully 612																			
612	gully cut																			
613	fill of pit 614	6																		
614	pit cut																			
615	fill of posthole 616																			
616	posthole cut																			
617	fill of ditch 618	20																		
618	ditch cut																			
619	fill of ditch 620																			
620	ditch cut																			
621	fill of ditch 622	8																		
622	ditch cut																			
623	fill of ditch 624	20										2								
624	ditch cut																			
625	fill of ditch 626	20						15		1		3							1	
626	ditch cut																			
627	masonry (paving)																			
628	fill of posthole 629																			
629	posthole cut																			
630	fill of posthole 631																			
631	posthole cut																			
632	fill of gully 633																			
633	gully cut																			
634	fill of pit 635																			
635	pit cut																			
636	fill of pit 637																			
637	pit cut																			
638	fill of foundation cut 680											2								
639	fill of foundation cut 670																			
640	fill of gully 641	2	1									2								
641	gully cut																			
642	layer (spread)																			
643	layer (spread)																			
644	fill of foundation cut 670																			
645	fill of pit 666 (structure)	13	4									4								4
646	fill of pit 647																			
647	pit cut																			
648	ditch cut																			
649	fill of ditch 648																			
650	natural hollow																			
651	natural hollow																			
652	fill of ditch 624	9						35												
653	layer (spread)	1	4									3								
654	fill of ditch 624	12										2								
655	fill of pit 666																			
666	pit cut																			

Context	Description			Kiln	Kiln	Pottery	Sample	Shell	Slag	Stone
		Bone	CBM	Metal	Flint					
667	fill of ditch 668	19			1		1			
668	ditch cut									
669	fill of foundation trench 670									
670	foundation trench cut									
671	fill of ditch 618									
672	fill of posthole 673						1			
673	posthole cut									
674	fill of gully 675									
675	gully cut									
676	layer (spread)									
677	layer (spread)									
678	fill of posthole 679									
679	posthole cut									
680	foundation trench cut									
681	ditch cut									
682	fill of ditch 681	1								
683	TSEP pipe trench cut									
684	fill of TSEP pipe trench									
685	masonry (wall foundation)									
686	fill of ditch 626	7					3			
687	fill of ditch 618									
688	fill of foundation cut 680						6			
689	fill of pit 690	4	3				17			
690	pit cut									
691	fill of pit 690	2								
692	fill of pit 693						1			
693	pit cut									
694	ditch cut									
1000	fill of ditch 1001									
1001	ditch cut									
1002	ditch cut									
1003	pit cut									
1004	ditch cut									
1005	ditch cut									
1006	ditch cut									
1007	pit cut									
1008	ditch cut									
1009	pit cut									
1010	ditch cut									
1011	ditch cut									
1012	fill of ditch 1002									
1013	fill of pit 1003									
1014	fill of ditch 1004									
1015	fill of ditch 1004									
1016	fill of ditch 1005									
1017	fill of ditch 1006									
1018	fill of pit 1007									
1019	fill of ditch 1008									
1020	fill of ditch 1008									
1021	fill of pit 1009									
1022	fill of pit 1009									
1023	fill of pit 1009									
1024	fill of ditch 1010									
1025	fill of ditch 1011									
1026	fill of ditch 1011									
1027	ditch cut									

Context	Description	Bone	CBM	Metal	Flint	Glass	Kiln furniture	Kiln lining	Pottery	Sample Shell Slag Stone
1028	fill of ditch 1027									
1029	ditch cut									
1030	fill of ditch 1029									

Appendix B

FLINT ASSESSMENT

Peter Makey

1.0 INTRODUCTION

The incidence and composition of the assemblage is given in Table B1. The archaeological evaluation produced a total of eight (115.5g) struck pieces of flint and a rolled lump of natural (un-struck), greenish black chert. All eight struck pieces are clearly residual.

2.0 STATE

Only one of the pieces has been broken (record 3, flake from context 202). A core rejuvenation flake (record 2, context 201) and a flint hammer stone (record 8, context 399) have been rolled. A white cortication (patina) is present on four of the pieces and none are in a particularly fresh state.

3.0 REDUCTION SEQUENCE TECHNOLOGY AND RAW MATERIAL

Three of the struck pieces (records 3-4, 7: contexts 202, 208, 328) have been manufactured on raw material that has been obtained from gravel deposits, probably from tributaries of the River Foss or the Hawkhills Beck. These sites are also the most probable sources for the lump of natural chert. The remaining five struck pieces have been manufactured on flint of boulder clay till derivation. All the struck flint has been knapped by the application of a hard hammer, consistent with the fine example from the fill of pit 504 (record 8, context 399). Tertiary flakes are present but the material is from secondary stages of lithic reduction, as evidenced by the presence of two fine core rejuvenation flakes (records 2, 7 contexts 201, 328).

4.0 TRAITS: USE WEAR

In only one instance, (crested flake, record 4, context 208) does a piece possess slight edge damage consistent with utilisation.

5.0 CHRONOLOGY

The broad core rejuvenation flake (record 7) from the ditch/cut 328 possesses traces of flaking reminiscent of regional, early Neolithic assemblages. The un-stratified core rejuvenation flake (record 2) is of a form common throughout the Neolithic. The hammer stone is of a form frequently found in local Neolithic assemblages. The remaining struck pieces are common in later Neolithic and early Bronze Age assemblages. Flakes of reddish brown flint (records 3-4, contexts 202, 208) have a tendency to occur on Iron Age sites and it is possible that some examples may be of Iron Age date. Overall a Neolithic date is most probable. It is notable that all the site's pieces of early Neolithic character are similar/consistent, in terms of cortication (patina) and overall state.

6.0 THE ARCHAEOLOGICAL POTENTIAL OF THE FLINT ASSEMBLAGE

The assemblage is too small for any assumptions to be made, however it is tempting to suggest the possible existence of two separate though residual phases of lithic activity. Core

material represents possible early Neolithic, trimming and reduction of prepared core blanks. The later Neolithic to early Bronze Age is represented by a standard background scattering of material.

Table B1: Composition of the struck flint assemblage

Flint ID	Total number	Number broken	Edge-use	CONTEXT TYPE					
				Pit	Ditch	Gully	Drain	Layer	U/S
Core rejuvenation flakes	2	NA			1				1
Hammer stones	1	NA		1					
Chunks	1	NA					1		
Flakes	3	1	1			1		1	1
Retouched									
Misc retouched blades	1	1			1				
Total = 8				1	2	1	1	1	2

Appendix C

POTTERY

Jerry Evans

1.0 INTRODUCTION

Around 558 sherds of pottery and tile were recovered from the site. The majority of the material is in handmade fabrics, predominantly quartz tempered ones, although calcite gritted wares and granitic tempered wares are also present. Most of these are Iron Age tradition fabrics in Iron Age derived forms. However, many and perhaps most may date to the 1st or 2nd centuries (or even later) and it is not clear if purely Iron Age deposits are present. On balance it seems reasonably likely that this was the case, but material from relevant deposits is too sparse and possibly Roman material is present. The clearly Roman material present can be dated to the 2nd century, particularly the Antonine period, and the end of the 3rd to the mid-later 4th century. Given the nature of the assemblage it is not really possible to determine if there are any breaks in the sequence, although the small quantity of later 4th century material might suggest the site did not continue to be occupied until the end of the century, but it might easily just mean that the site ceased using ceramics before then.

As at Mourie Farm (TSEP Site 712) a notable feature of the assemblage is the low level of wheelmade greywares of 2nd-3rd century date which might be expected to dominate assemblages in the region, at least on urban and military sites. These are replaced by handmade gritted wares in an Iron Age tradition here, particularly in the later 1st and 2nd centuries. This pattern parallels that in the Vale of Pickering and East Yorkshire, where handmade native tradition fabrics also continue to dominate assemblages until the later 2nd century (Evans 1995). It is not clear that here there is much of a change in the 3rd century, although the East Yorkshire calcite gritted wares and Crambeck greywares suggest that the usual regional pattern dominated supply by the early 4th century.

2.0 POTENTIAL

The national research framework for the study of Romano-British pottery identifies pottery from rural sites as being 'highly significant for our understanding of the Romano-British economy and "Romanisation"' (Willis 1997, 15) and the northern regional research framework (Evans and Willis 1997, 22, 25) emphasises the particular need for data from rural sites in the northern region. These sites represent the living conditions of the vast majority of the Romano-British population, and their consumption patterns, and as such an adequate sample need full examination and publication. The pottery from this site will be particularly useful as it can be compared with other recently excavated sites in Cleveland and North Yorkshire.

It had appeared that heavier use of Romanised ceramics was a feature of the northern Vale of York, going by the indirect evidence of the levels of pottery production at Catterick (Bell and Evans forthcoming), but the evidence from Mourie Farm and Crayke interestingly now suggests that this interpretation requires revision.

3.0 UPDATED PROJECT DESIGN

Research aims:-

1. to examine the chronological development of the site.
2. to examine supply to the site.
3. to examine the social networks and identity of the site's inhabitants.

4.0 POTENTIAL

The pottery will be the main source of dating evidence for the site, which will enable a chronology to be applied to the structural sequence. It will also supply evidence of ceramic supply to the site and possibly of ceramic production there or in the vicinity. The ceramics will also contribute to our understanding of the identity and local cultural affinities of the site's inhabitants.

5.0 METHODS

The pottery will be recorded by sherd count, weight, minimum numbers of rims, and RE. The material will be catalogued by context and this arranged into phase order for the publication report. The publication catalogue will consist of rimsherds and samian ware and chronologically diagnostic material, with a tabulation of full fabric occurrence from the site.

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- Evans J and Willis S H (1997) "Research framework for the study of Roman pottery in the north of Britain" in Willis S H (ed) *Research frameworks for the study of Roman pottery* 22-29
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CATALOGUE

Context 202

A 19th century bodysherd, two medieval sherds and many Roman and Iron Age tradition ones.

Context 203

A samian Dr 31 rim, AD 150-200. Also a greyware BB copy jar rim, Hadrianic-Antonine.

Context 205

A samian Dr 18 rim, a greyware rusticated bodysherd and six oxidised bodysherds, probably later 1st-early 2nd century.

Context 208

An oxidised bodysherd, 1st-2nd century.

Two fragments of samian Dr 30/37 and two other pieces.

A globular jar with stubby everted rim, in a handmade fabric with quartz, Iron Age-early Roman. A white gritty rimsherd, mediaeval.

Context 210

A barrel jar rim, handmade with quartz, and a jar base and two bodysherds, handmade with coarse quartz, Iron Age-early Roman.

Context 214

Three joining sherds of imbrex. Two handmade sherds with moderate quartz, a wheelmade greyware sherd with large quartz, and two greyware bodysherds, probably 2nd-3rd century. Also a handmade sherd with quartz and another with large white quartz along with 27 BB1 dish/bowl bodysherds, one with acute lattice, Hadrianic-Antonine, and a BB1 grooved rim dish rim, Hadrianic-Antonine.

Context 216

Three bodysherds handmade with large white quartz and gold mica, one heavily burnt, Iron Age (-early Roman).

Context 221

Six sandy oxidised bodysherds, 1st-2nd century. A greyware bodysherd, 1st-3rd century.

Context 227

A handmade bodysherd with calcite voids, Iron Age (-early Roman).

Context 229

A small tile fragment, two handmade sherds with fine quartz, three with large quartz and two with calcite voids. Roman.

Context 241

An oxidised flagon footring base, 1st-2nd century, also a handmade jar base with coarse quartz, Iron Age-early Roman.

Context 249

A Crambeck greyware type 1 bowl and a type 2 dish, a Crambeck parchment ware type 6 mortarium and a parchment ware bodysherd of later 4th century date, along with a proto-Huntcliff type calcite gritted ware jar rim, AD 330-60, overall perhaps c.AD 330-60.

Context 253

Six handmade bodysherds with coarse quartz, a jar rim, slightly everted in this fabric with stubby slightly everted rim, probably 1st-2nd century.

Context 255

Two sandy reduced bodysherds, 1st-3rd century, possibly a local fabric.

Context 257

A modern glazed sherd, 19th-20th century.

Context 264

An oxidised flagon bodysherd, 1st-2nd century. Four handmade bodysherds with calcite voids, three handmade sherds with quartz, two jars with vertical rims, handmade with fine quartz, and a bevel rimmed jar tempered with quartz and gold mica, Iron Age-early Roman. Also an oxidised ?burnt rim, perhaps a sprue cup rim.

Context 276

A calcite gritted ware jar rimsherd with thickened rim, a common Iron Age type, perhaps later Iron Age.

Context 281

Two oxidised sandy bodysherds, 1st-2nd century, a handmade bodysherd with fine quartz and 13 with coarse quartz.

Context 286

A sandy oxidised chip, 1st-2nd century.

Context 294

A handmade sherd with calcite voids, Iron Age-early Roman.

Context 301

A greyware bodysherd, probably with acute burnished lattice decoration, probably Hadrianic-Antonine.

Context 306

A handmade greyware bodysherd with fine sand, probably Roman.

Context 310

A chip in a handmade fabric with quartz, Iron Age-early Roman. Also a white glazed sherd, 19th-20th century.

Context 321

A handmade sherd with abundant fine quartz, and a vertical jar rim with large quartz. Iron Age-early Roman.

Context 327

A handmade bodysherd with very large quartz, Iron Age.

Context 328

A handmade bodysherd with large quartz temper, Iron Age-early Roman.

Context 329

Two fragments of tile, Roman.

A barrel jar rim, handmade fabric with calcite voids, Iron Age-early Roman. Also a handmade sherd with quartz, Iron Age-early Roman.

Context 330

A handmade bodysherd with quartz and a jar with everted rim in a handmade fabric with fine quartz, (Iron Age-) early Roman.

Context 333

Quartz tempered handmade bodysherds and calcite tempered ones, a crucible(?) rim fragment and a bowl or wide-mouthed jar rim, everted, in a quartz tempered handmade fabric, Iron Age (-early Roman).

Context 350

A handmade greyware simple base with quartz, probably Roman. A handmade sherd with large quartz, Iron Age-early Roman.

Context 356

A barrel jar rimsherd, handmade with quartz, Iron Age-early Roman, also a necked wide-mouthed jar in greyware, probably Crambeck, probably AD 285-400+.

Context 365

A greyware bodysherd, 1st-3rd century. Also two handmade sherds with large quartz, one with calcite voids and one with fine quartz.

Context 369

Two bodysherds and two handmade globular jar rims in a quartz tempered fabric, probably 2nd century.

Context 379

A jar rim probably in fabric 007/168 (Evans 1985), perhaps a variant of Gillam type 164, later 4th century(?). Also an everted rimmed jar in a calcite gritted fabric and some bodysherds, Iron Age-early Roman.

Context 388

A handmade bodysherd with large white quartz, Iron Age-early Roman.
A very burnt grey sherd, crucible or pottery.

Context 393

A sherd of Crambeck greyware, AD 285-400+.
A handmade quartz tempered barrel jar rim, Iron Age-early Roman.

Context 397

A calcite gritted ware bodysherd, Iron Age-early Roman.

Context 399

A calcite gritted handmade sherd, a quartz tempered one and a greyware sherd, probably early Roman.

Context 420

A jar base, handmade with large quartz, internally sooted, and a handmade bodysherd with stone inclusions. Iron Age (-early Roman.)

Context 426

A small handmade bodysherd with quartz, Iron Age-early Roman.

Context 429

Two fragments of grey sandy handmade pot, perhaps a sprue cup.

Context 437

An oxidised flagon bodysherd, very burnt, 1st-2nd century

Context 439

Two daub fragments.

A handmade sherd with sand, a handmade jar rim with quartz, a bodysherd with large quartz, and six clean handmade oxidised sherds. (Iron Age-) early Roman.

Context 445

A sherd, handmade oxidised, clean. A BB1 flange rimmed dish/bowl, exterior eroded, Hadrianic-early 3rd century.

Context 448

A sandy greyware bodysherd, 1st-3rd century, also a greyware jar rim, possibly 2nd century. A handmade bodysherd with fine quartz temper, perhaps 2nd century.

Context 458

A BB1(?) base with chamfer, Hadrianic-Antonine. A handmade bodysherd with quartz, another with calcite and a quartz tempered rimsherd, probably from a bowl.

Context 459

A fairly complete Crambeck type 1b bowl, AD 350-400+.

Context 465

A handmade bodysherd with calcite voids, Iron Age-early Roman.

Context 468

A piece of slag.

A handmade sherd with quartz, Iron Age-early Roman.

Context 472

A handmade sherd with stone tempering, and another with calcite and occasional quartz, Iron Age-early Roman.

Context 477

Three handmade bodysherds with large quartz, one with sandstone and sand. Also a sandy grey handmade fine rim, probably a crucible rather than a dish. Iron Age-early Roman.

Context 479

A handmade bodysherd with quartz, Iron Age-early Roman.

Context 519

A Dr 33 samian rimsherd, CGS, AD 120-200. Also a very eroded Dr 30/37 bodysherd, CGS, AD 120-200, and a handmade bodysherd with large quartz and granite.

Context 523

A samian Dr 31R base, probably AD 160-200, also a BB1 sherd, a greyware sherd, an oxidised sherd, three quartz tempered handmade sherds and a small jar rim, handmade with fine sand. AD 160-200

Context 526

Two rims and several bodysherds in later Roman calcite gritted ware, S-bend rim form, *circ.* AD 300-340.

Context 527

Eleven fragments, handmade, oxidised, 'clean' fired clay, Iron Age-early Roman(?).

Context 555

A handmade bodysherd with medium quartz temper, Iron Age-early Roman.

Context 600

Pottery including a calcite gritted Huntcliff type jar rim, later 4th century and a medieval green glazed handle.

Context 604

A Crambeck parchment ware mortarium bodysherd, probably AD 350-400+

Context 623

An oxidised sherd, Roman.

Context 625

A handmade bodysherd with large quartz and a chip of decorated samian, 1st-2nd century.

Context 638

A handmade sherd with granitic inclusions, also a greyware base, probably Crambeck, probably AD 285-400+.

Context 640

A BB1 jar rim, later 3rd-mid 4th century. also a crude wheelmade jar base, perhaps local.

Context 645

A samian sherd, Dr 18/31R/31R, 2nd century, also a greyware bodysherd probably 2nd-3rd century.

Context 653

A greyware bodysherd, 1st-3rd century. A BB1 bodysherd, Hadrianic-mid 4th century. Also a thick tile fragment, burnt on underside, probably floor tile.

Context 654

A fragment of daub and a handmade quartz tempered sherd, perhaps Iron Age-early Roman.

Context 667

A Dressel 20 sherd, 1st-3rd century.

Context 672

A handmade sherd with abundant fairly fine quartz, Iron Age-early Roman.

Context 688

Three jar rims in a handmade fabric with quartz, Iron Age-early Roman.

Context 689

A Crambeck type 6 mortarium, 4th century, and a Crambeck redware Dr 38 copy bowl with white painted decoration, the latter should be later 4th century.

Context 692

A handmade bodysherd with quartz temper, probably Iron Age-early Roman.

Appendix D CERAMIC BUILDING MATERIALS

J Tibbles

1.0 INTRODUCTION

There was a diverse range of ceramic building material within the assemblage that would be associated with Romano-British buildings of high status. There is evidence to suggest that at least part, if not all, of the material may have been imported into the present site from nearby prior to the construction of building 220

A total of 65 fragments of ceramic building material weighing 3860g was retrieved from a single context and was visibly examined using a 10x-magnification lens. Information regarding the dimensions, shape and fabric of the material was recorded and catalogued accordingly. It should be noted that the diversity of size and colour within brick and tile caused during the manufacturing process must be taken into consideration when comparing examples within collected assemblages and local typologies. The varying sizes and colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the brick/tile within the kiln. Identification was obscured in a few cases due to the abraded surfaces and size of the fragment. The dating of brick and tile can be highly contentious due to its re-usable nature and therefore any date range given is that of known dates where such material has been recorded.

2.0 CATALOGUE

The catalogue has been compiled from the examined ceramic building material assemblage. A Munsell colour code has been incorporated where appropriate to help define the fabrics.

Table D1: Assemblage quantification

Form	Total no. of fragments	Total weight (g)
Brick	5	550
Roof tile	17	1926
Box flue tile	11	795
Non-identifiable	32	589

From the examined assemblage of ceramic building material four broad fabric categories were identified of which two fabrics (Type 2 and 3) have similar parallels from within assemblages recorded from within East Yorkshire (Tibbles 2000).

Fabric 1: Homogenous clay fabric. Frequent inclusions of small quartz <2mm. Occasional black speckles, lithics and small iron stone <3mm). Occasional medium quartz (average 5mm x 3mm).

Fabric 2: Homogenous clay fabric. Occasional inclusions of small quartz <2mm and black speckles.

Fabric 3: Homogenous clay fabric. Occasional inclusions of small stones, lithics and quartz <3mm. Occasional to moderate black speckles.

Fabric 4: Homogenous clay fabric. Moderate to frequent inclusions of black speckles. Occasional small quartz <2mm

3.0 BRICK

An assemblage of five fragments of brick was recovered with a total weight of 550g. The majority displayed moulding sand and/or moulding impressions from their method of manufacture. All were non-diagnostic.

Table D2: Brick quantification

	No. of fragments	Weight (g)
Romano-British	4	530
Modern	1	20

Context 202 (wt 280g)

One non-diagnostic fragment of Bessalis, oxidised throughout.

One fragment of *Bessalis*, Fabric type 1, colour 5YR 6/8 Reddish Yellow.

One fragment of *Tegula Bipedalis?*, Fabric type 1, colour 2.5YR Light Red.

Context 210 (wt 150g)

One non-diagnostic *Bessalis?* Fragment. Well abraded surfaces. Fabric type 3, colour 10YR 6/4 Light Yellowish Brown. One surface shows evidence of burning/heat exposure causing discolouring of fabric (5YR 3/2 Dark Reddish Brown).

Context 300 (wt 100g)

One non-diagnostic *Bessalis* fragment. Reduced core. Residual sanding. Fabric type 1, colour 7.5YR 6/8 Reddish Yellow.

Context 689 (wt 20g)

One non-diagnostic fragment of brick. Oxidised throughout. 2.5YR 5/8 Red.

4.0 ROOF TILE

A total of 17 fragments of roof tile, with a total weight of 1.926kg were recovered. The majority of the fragments displayed moulding sand and/or impressions from their method of manufacture. To simplify identification the assemblage has been compared with East Riding assemblages and where parallels have been found have been classified accordingly (Tibbles 2000).

Table D3: Roof tile quantification

Form	No. diagnostic fragments	Diagnostic weight (g)	No. non-diagnostic fragments
Tegulae	3	805	6
Imbrices	8	581	

Context 201 (wt 325g)

Three diagnostic and one non-diagnostic roof tile fragments. All oxidised throughout and of a fabric colour 5YR 6/6 Reddish Yellow.

Two *tegulae*. One diagnostic fragment has a finger smoothed flange, Type 6. Fabric type 4. One non-diagnostic fragment, Fabric type 2.

Two diagnostic fragments of *imbrex*. Fabric type 1, colour 2.5YR 6/8 Light Red. Ferrous-based industrial residue adhering to one surface and one broken edge. Both retain residual sanding.

Context 202 (wt 150g)

Two diagnostic *imbrex* fragments. One oxidised throughout the other has a slightly reduced core. Residual sanding present. Fabric type 1, colour 5YR 6/8 Reddish Yellow.

Context 207 (wt 40g)

One non-diagnostic *tegula?* Fragment, Oxidised throughout. Ferrous-based industrial residue adhering to one surface and one broken edge. Fabric type 4, colour 5YR 7/8 Reddish yellow.

Context 210 (wt 450g)

Three joining, non-diagnostic *tegula* fragments. All oxidised throughout Fabric type 1, colour 2.5YR 6/8 Light Red.

Context 365 (wt 159g)

One diagnostic *imbrex* fragment. Reduced core and remnants of residual sanding. Fabric type 1, colour 10YR 5/8 Red.

Context 600 (wt 75g)

One diagnostic *imbrex* fragment. Oxidised throughout. Lenses of unfired clay within fabric. Fabric type 3, colour 2.5YR 6/8 Light Red.

Context 640 (wt 52g)

One diagnostic *imbrex* fragment. Oxidised throughout. Residual sanding. Fabric type 4, colour 5YR 6/8 Reddish Yellow.

Context 645 (wt 25g)

One non-diagnostic fragment of *tegula?* Oxidised throughout. Fabric type 1, colour 5YR 6/6 Reddish Yellow.

Context 653 (wt 375g)

Two diagnostic roof tile fragments.

One fragment of *imbrex*. Reduced core with residual sanding. Fabric type 1, colour 2.5YR 6/8 Light Red.

One fragment of *tegula*, oxidised throughout. Finger smoothed flange, Type 4. Fabric type 3, colour 2.5YR 6/8 Light Red.

Context 689 (wt 275g)

One diagnostic fragment of *tegula*. Oxidised throughout with lenses of unfired clay. Finger smoothed flange. Fabric type 3, colour 5YR 6/8 Reddish Yellow.

5.0 BOX FLUE TILE

An assemblage of 11 fragments of box flue tile, with a total weight of 795g. The majority displayed moulding sand and/or impressions from their method of manufacture.

Table D4: Box flue tile quantification

Box flue tile	No. of fragments	Weight (g)
Diagnostic	9	645
Non-diagnostic	2	150

Context 202 (wt 135g)

Two diagnostic fragments of box flue tile, both oxidised throughout. One fragment has well abraded surfaces. Combed face (No. of teeth: 3). Remnants of pattern, one diagonal track. One fragment has remnants of a vent, roughly made and knife trimmed. Evidence of burning/heat exposure on inner surface. Both Fabric type 1, colour 2.5YR 6/8 Light Red.

Context 267 (wt 100g)

One diagnostic box flue tile fragment, oxidised throughout. Combed face (No. of teeth: 4). Sharp/non-abraded surfaces of combed face. Pattern comprises of one vertical and two overlapping 'criss cross' tracks. Fabric type 3, colour 5YR 6/6 Reddish Yellow.

Context 439 (wt 49)

One diagnostic fragment of box flue tile. Plain faced and oxidised throughout. Abraded surfaces and remnants of returning side. Fabric type 1, colour 2.5YR 5/8 Red.

Context 459 (wt 11g)

One diagnostic box flue tile fragment. Oxidised throughout with abraded surfaces. Combed face (No. teeth: 4). One diagonal track pattern. Fabric type 1, colour 2.5YR 5/8 Red.

Context 600 (wt 25g)

One diagnostic fragment of box flue tile. Oxidised throughout with abraded surfaces. Combed face (No. of teeth: 3) with one diagonal track pattern. Fabric type 1, colour 2.5YR 6/8 Light Red.

Context 645 (wt 300g)

Two diagnostic fragments and one non-diagnostic fragment of box flue tile. All Fabric type 1, colour 2.5YR 6/6 Light Red.

Two diagnostic plain fragments, One oxidised throughout with a knife-trimmed vent (Vent Width: 70mm). The other diagnostic fragment has a reduced core and remnants of a knife trimmed vent.

One non-diagnostic, plain faced fragment. Oxidised throughout.

Context 653 (wt 75g)

One non-diagnostic fragment of box flue tile. Plain faced with residual sanding. Oxidised throughout. Fabric type 3, colour 5YR 7/8 Reddish Yellow.

Context 689 (wt 100g)

One diagnostic box flue tile fragment, oxidised throughout. Combed face (No. of teeth: 4). Combing pattern comprises of two parallel, diagonal tracks. Abraded surfaces. Fabric type 3, colour 5YR 6/8 Reddish Yellow.

6.0 NON-IDENTIFIABLE

The assemblage contained 32 non-diagnostic fragments of unidentifiable ceramic building material. These were categorised into fabric types:

Table D5: Non-identifiable quantification

Form	Fabric 1	Fabric 2	Fabric 3	Fabric 4
Non-identifiable	5	0	22	5

Context 201 (wt 255g)

Four non-diagnostic fragments of ceramic building material. One fragment has a reduced core and all have well abraded surfaces. All are Romano-British fabric. Three are Fabric type 1 and one is Fabric type 3. Colour ranges from 2.5YR 6/8 Light Red to 5YR 7/6 Reddish Yellow.

Context 202 (wt 200g)

Sixteen non-diagnostic fragments of ceramic building material. All oxidised throughout. Abraded surfaces with residual sanding present on three fragments. Fabric colour ranges from 2.5YR 7/6 Light Red to 5YR 7/6 Reddish Yellow. Romano-British fabric. Fourteen fragments Fabric type 3 and two fragments Fabric type 1

Context 249 (wt 20g)

One non-diagnostic fragment of ceramic building material. Oxidised throughout with residual sanding. Romano-British fabric. Fabric type 3, colour 2.5YR 5/8 Red.

Context 255 (wt 20g)

Two non-diagnostic fragments of ceramic building material. Both oxidised throughout. Abraded surfaces with remnants of mortar? One fragment shows mortar adhering over broken edge. Romano-British fabric. Fabric type 3 with colour range from 2.5YR 6/8 Light Red to 5YR 6/6 Reddish Yellow.

Context 310 (wt 40g)

Two non-diagnostic ceramic building material fragments. Oxidised throughout with residual sanding. Romano-British fabric. Fabric type 3, colour 2.5YR 6/8 Light Red.

Context 333 (wt 24g)

Five non-diagnostic fragments of ceramic building material. Two fragments retain residual sanding on one surface. Possibly medieval in date. Fabric type 4, colour 2.5YR Red.

Context 653 (wt 25g)

One non-diagnostic fragment of ceramic building material. Romano-British fabric and oxidised throughout. Fabric type 3, colour 2.5YR 6/8 Light Red.

Context 689 (wt 5g)

One non-diagnostic ceramic building material fragment. Romano-British fabric. Fabric type 3, colour 5YR 6/8 Reddish Yellow.

7.0 DISCUSSION

Although a large proportion of the assemblage was unidentifiable in form, the material fabric was predominately (99%) Romano-British. The dominant fabric within the assemblage was found to be Fabric Type 3 (46%).

There was a diverse range of brick and tile within the assemblage that would have been used in the various aspects of Romano-British building construction. Ceramic building material was considered to be an element of high status buildings and the assemblage recovered from the excavation suggests that such a building had existed within the vicinity. The presence of box

flue tile and the pre-depositional burning on at least one bessalis fragment indicates that at least one hypocaust had operated within a building (220) in the vicinity.

The single fragment of box flue tile within the Phase 2 ditch fill (439) may have been considered intrusive, however, the presence of five fragments of ceramic building material, albeit small, within the construction trench fill of building 220 suggests that such material was on site prior to the construction of the present building. The earlier kiln 206 may have incorporated re-used tile within its construction but depending on the kilns use, may not have incorporated the flue tiles. There is no evidence to suggest that building 220 did not contain elements of ceramic building material within its construction (e.g. floors or a tiled roof), however, it is possible that the roofing material and the box flue tile may have been salvaged from structures nearby and recycled. In Cirencester by the 4th century it was considered rare for builders to roof in tiles and those that had tiles were found to be re-used (McWhirr and Vine 1978).

The majority of the assemblage was recovered from with the Phase 5 topsoil and buried plough soil accounting for its abraded appearance. The presence of one fragment of possible medieval or later brick from context 689 is likely to be intrusive.

8.0 RECOMMENDATIONS

It is recommended that a selective discard policy be undertaken before deposition.

REFERENCES

- McWhirr A and Vine D (1978) *The Production and Distribution of Tiles in Roman Britain with particular reference to the Cirencester region*. *Britannia* 9, 1978, 371
- Tibbles S E (2000) *A Re-Appraisal of A Romano-British Tile Dump at Beck View Road, Beverley* (unpublished). University of Hull. Certificate in Archaeology Project, Department of Continuing Education

Appendix E

QUERN

David Heslop

1.0 INTRODUCTION

One fragment of a quern was recovered during excavations at Sike Spa.

2.0 DESCRIPTION

The fragment of stone represented 70% of a well made base of a beehive quern. The base measured 280mm in diameter and 170mm tall. The base was worn evenly but not excessively. Facets had been knocked off opposite sides and the quern was incorporated in a wall. The spigot hole was crudely made or damaged.

The quern was made of light-grey-yellow medium grained sandstone with inclusions of occasional sub-rounded quartz fragments upto 0.5mm across. The stone was pointed and hemispherical.

Appendix F
WORKED STONE
Raphael Isserlin

1.0 SUMMARY

A total of six pieces of building stone were recovered from excavation in advance of pipeline construction. One was of particular merit, being a portion of plinth, architrave or cornice that could be 2nd century in date. Various recommendations are offered for further work.

2.0 INTRODUCTION

A total of six pieces of building stone (36.3kg) were recovered from excavation in advance of pipeline construction. These items were examined visually to identify stone type, traces of working and which items were of intrinsic interest. A full catalogue is given below.

3.0 CATALOGUE

Context 210

Items 1 and 2. Sandstone. Two conjoining irregular pieces, on the concave face of which are grooves or channels, possibly the result of wear or quarrying technique. 120x140x280mm Total wt. 6.35g.

Context 212

Item 3. Sandstone. Rectangular block. Quarrying marks on one face; mortar adhering to the opposite face; designed to be laid on bed. One edge (the external or fair face) exhibits pecking. 120x150x310mm. Wt. 8.0g.

Context 645

Item 4. Sandstone. Facing stone. One edge (the external or fair face) exhibits pecking. The others are roughly shaped to key into the core of a wall. 110x180x240mm. Wt. 9.0kg

Item 5. Sandstone. Facing stone. One edge (the external or fair face) exhibits pecking. The others are roughly shaped to key into the core of a wall. 110x250x280mm. Wt. 6.5kg

Item 6. Sandstone. Plinth, architrave or cornice. Incomplete. Crudely cleaved from the middle of a larger piece for re-use, probably with a wedge; what are now the top and bottom faces of the surviving portion display marks of hacking where cut back for reuse from the original and possible pecking for this secondary function. One edge crudely sawn during reuse, suggesting the piece was longer, the other fractured. No signs of mortar now adhering to top or bottom faces. One corner broken in antiquity. Plain bead or roll moulding. The external (vertical) fair face is partly worn. No precise stylistic dating can be offered for this piece on the basis of the incomplete profile, but a 2nd century date-range for its carving would probably not be impossible stylistically, and the (residual) 2nd century pottery from the context in which it was found might bear this out. 75x210x260mm. Wt. 6.5kg. (small find no. 645AA).

4.0 DISCUSSION

I can offer no explanation at present for Items 1 and 2. Item 3 may just possibly cross-fit with them, at one edge, suggesting that it was cleaved from the same piece of stone before being devoted to a separate use as a building stone. (Items 1, 2 and 3 both occur in the same feature). It is worth noting that items 4 and 5 are of the same thickness, suggesting that the wall from which they came was constructed in courses 110mm thick (both these pieces were redeposited in the same context). However, Item 6 is more significant. It comes from a secondary stone dump, within ditch 337/666. A total of 3 items (nos. 4-6) came from this context, weighing 22kg. It seems to imply a building of 'polite' or semi-monumental pretensions. (Five fragments of box-flue tile also came from this context.) Some 44m north of the find-spot a rectangular structure of 9m by in excess of 16m was recorded (context 220), and it is possible that all the items in context 645 derive from the robbing of building 220, or from that of another building off-site.

Given the rural location of the site and the absence of any military connection (P Cardwell pers. comm.) this architectural fragment could betoken a villa, a shrine complex, or possibly even a rural mausoleum. Such features are being recognised more frequently in the countryside, sometimes in combination, in 'small towns' or *concilabula*.

5.0 RECOMMENDATIONS

Geological identification of the stone to determine source of stone supply and the quarry.

Illustration: Items 3-5: external fair face and one edge required; archive-standard only.
Item 6: detailed drawing to publication standard, including cross section.

Further research on Item 6 is required. A search may yield comparable stone profiles from which this item may be dated more accurately and perhaps determine the status of the site.

Appendix G
METAL FINDS
M C Bishop

1.0 INTRODUCTION

Thirteen metal small finds were recovered from excavations at Sike Spa, Crayke.

2.0 CATALOGUE

- 202AA Copper alloy coil, possibly a brooch spring. Roman. Length 11mm.
202AB Iron nail head with square-sectioned shank. Roman. Length 21mm.
202AC Circular-sectioned cast copper alloy rod, now in three pieces. Reconstructed length 50mm
205AB Slightly ovoid copper disc, possibly a coin. Diameter 25mm.
207AA Fragment of a lead sheet. Length 23mm.
207AB Blob of lead. Length 21mm.
221AA Penannular copper alloy brooch, with articulated pin. Roman. Maximum diameter 33mm.
221AB D-sectioned copper alloy ring. Roman. Maximum diameter 22mm.
249 AA Copper alloy disc, possibly a coin. Maximum diameter 11mm.
365AA Two fragments of copper alloy bow brooch. Roman. Maximum length 33mm.
369AA Iron nail. Roman. Length 16mm.
379AA Iron object, possibly part of a tool. Length 73mm.
479AA Decorated bone handle. Length 106mm

3.0 DISCUSSION

The assemblage from Sike Spa contains some objects that are clearly Romano-British, for example the three brooches (202AA, 221AA and 365AA); iron nails (202AB and 369AA) and a possible tool (379AA). The bone handle is also potentially Romano-British in origin.

4.0 RECOMMENDATIONS FOR FURTHER WORK

The assemblage merits further more detailed examination and publication. Specifically, both the copper disc (205AB) and copper alloy disc (249AA) require examination by a numismatist. The iron object (369AA) requires conservation or X-ray before more can be said, but is possibly part of a tool.

Appendix H CONSERVATION

Leesa Vere-Stevens
(York Archaeological Trust)

1.0 INTRODUCTION

This report aims to meet the requirements of MAP2, Phase 3, Assessment of Potential for Analysis, (English Heritage, 1991). The work carried out has involved an X-radiographic investigation of a selection of metal finds, and an assessment of the condition of all the finds from Sike Spa, Crayke, and suitability of their packaging for safe long-term storage was made. This report includes an evaluation of the potential of each group of material for further investigative conservation. There is also a statement outlining the conservation programme and resource requirements. There are recommendations for long term stabilisation, packaging and analytical or specialist support required.

2.0 METHODOLOGY

All the ironwork and a selection non-ferrous metalwork was X-rayed using standard Y.A.T. procedures and equipment. Each image on the X-ray plate was labelled with its find number. The plate was packaged in an acid-free archival envelope. All categories of material were examined under a binocular microscope at x20 magnification as well as viewing the X-rays where they existed. The material identifications were checked and observations made about their condition and stability. Any technological information deduced from the X-rays and/or microscope examination was recorded.

3.0 QUANTIFICATION

A total of 13 finds were assessed and one X-ray (No 5332) produced. The number of objects in each material category is listed below:

Iron	3
Copper alloy	7
Lead	2
Antler	1

4.0 CONDITION

Iron

Only three ironwork finds are represented within this category. One find (202 AB) is an iron nail. Unfortunately it was not possible to identify the other two finds from the X-ray image or visual examination. As an assemblage the condition of the ironwork is poor. There a high degree of mineralisation and little is left at the cores of most of the finds. It would seem that site conditions do not favour the survival of iron. Generally the surfaces are obscured and disrupted by a crust. The crust is composed of a mixture of orange/brown iron corrosion products, which are combined with soil from the burial environment. A number of the crusts also contain charcoal inclusions. Store dry (<15%RH).

Copper alloy

The copper alloy material is in a very poor condition. Almost all the finds display unstable powdery copper corrosion products. This may be the highly unstable form of copper chloride termed 'bronze disease'. In which case the finds require stabilisation by chemical treatment with BTA. Due to the fragile and powdery nature of the corrosion products it is also recommended that the finds be consolidated with incralac lacquer, which contains BTA as a corrosion inhibitor. I recommend XRF analysis of the following finds; no. 249AA (a coin) that appears to have a black sulphide mineral throughout the surface which may originate from a silver coating and find no. 365AA which displays a silver coloured surface coating. Store the material dry (<35%RH).

Lead

The lead alloy material is in a good condition. The corrosion products are stable in form and are composed of a thin compact surface layer of white lead carbonates. The material is stable and ready for long-term storage. Store dry (<35%RH).

Antler

The antler object is in a very good condition although it has broken into two fragments at some point. The fragments fit together very well and it is advised that they be re-adhered. The find is possibly a handle element and is tooled with a ring and dot decoration. The find arrived within the lab dry and clean, although soil is evident within interstices of the cancellous tissue. The compact surface of the find is smooth and exhibits a dull shine, it is stained due to mineralisation during burial. The find is stable and ready for long-term storage

5.0 PACKAGING UPON ARRIVAL WITHIN THE LAB

The iron work, lead and one copper alloy find (202AA) are packaged in pierced polythene bags whilst the remaining finds are suitably packaged in crystal boxes with acid free paper supports. These bags and boxes were placed in a polythene box with two 'bubble wrap' (polythene) inserts and a pierced polythene bag filled with self-indicating silica gel. The bag of self indicating silica gel was removed for disposal due to health and safety concerns and replaced with two 100g bags of uncoloured silica gel. It is recommended that the metal finds be stored separately from the antler object. The recommended environmental guidelines for antler are within the relative humidity range of 50-55% (+/- 5%), which is above the recommended guidelines for iron (<15%RH) and Copper alloy (<35% RH).

6.0 STATEMENT OF POTENTIAL

The finds and their X-rays were viewed in order to determine the potential for further research and investigative conservation in the light of the microscope examination and X-radiographic results.

Evidence of possible non-ferrous surface coatings and decorated surfaces was recorded. Suggestions made for further study and a note made of new research questions that have arisen because of the nature of the finds recovered are listed below:

Table H1: Iron

FIND No.	OBSERVATIONS/RESEARCH POTENTIAL
369 AA	No preliminary identification from the X-ray image or visual examination could be made. Severely mineralised structure. <i>If in line with research requirements localised cleaning may aid identification</i>
202 AB	Iron nail with a slightly domed head. Severely mineralised in structure. A cavity within the core is visible. Possible square cross-section to the shank. Orange iron corrosion crust obscures surface details and contains charcoal and coal inclusions. Store dry, no further treatment.
379 AA	No preliminary identification from the X-ray image or visual examination could be made. Severely mineralised structure. Surface obscured by a bulky crust composed of iron corrosion and soil from the burial. One surface shows loss to the crust which reveals dark magnetite and an orange coloured mineralised core. <i>If in line with research requirements localised cleaning may aid identification</i>

Table H2: Copper alloy

FIND No.	OBSERVATIONS/RESEARCH POTENTIAL
202 AA	Brooch spring fragment. Uneven iron and copper corrosion disrupts the surface. Areas of pitting and loss reveal a pale powdery unstable copper corrosion product. <i>Requires chemical stabilisation and consolidation if to survive long-term storage. It is also recommended that the find be repackaged within a small crystal box supported with acid free tissue.</i>
202 AC	Copper alloy rod x3. Fragments possibly fit together. Surface disrupted by active powdery copper corrosion. Metal core is evident at the broken ends. <i>The fragments require chemical stabilisation and consolidation if they are to survive long-term storage.</i>
205 AB	Possible coin or disc. Poor condition. Extensively corroded. The mixed corrosion crust has disrupted the original surface. It appears that the original surface has been lost throughout the edge but may remain in the central area. The corrosion crust is composed of organic debris mixed with soil, localised dark green carbonates (within the central area) and voluminous light green/turquoise powdery corrosion above a shiny metal surface throughout the edge. There is a small round disc like inclusion at the outer edge, which may be a rivet head. <i>The possible rivet head/disc should be investigated. The find requires chemical stabilisation and consolidation if it is to survive long-term storage.</i>
221 AA	Penannular brooch with plain rounded ends and a curled pin. The surface is covered in a mixture of copper corrosion products. The majority of the surface is covered in a thin compact layer of moss green copper corrosion. The structure is mineralised and the corrosion crust throughout the ring element displays pitted areas of loss, and the surface is disrupted by corrosion and flaking. Areas of loss reveal mineral layers which are coloured moss green, creamy brown, dark green and turquoise, often with a red metal surface beneath. The corrosion products are generally chemically stable in form but are fragile and liable to physical loss. The thin compact moss green coloured oxidation layer throughout the pin shows loss to reveal a vivid turquoise coloured corrosion beneath. Structurally the ring element is bent at one side. Soil from the burial is evident within interstices. Small fragments of compacted soil and corrosion products are evident within the packaging materials. <i>Cleaning is recommended if the find is to be published. Incralac consolidation is recommended if the find is to be displayed. Store dry (<35% RH).</i>

FIND No.	OBSERVATIONS/RESEARCH POTENTIAL
221 AB	Ring element, 'D' shaped in cross section. Substantial metal core, pitted surface. The surface is covered in a mixture of corrosion products which form an irregular, thin crust.
249 AA	Coin, Constantius II/Constans 4th century AD. Two Standing figures evident at one surface. The surface is covered with a fragile crust composed of a fine soil layer, yellow/green copper corrosion overlying an uneven black mineral that is interspersed with red cuprite inclusions. No preliminary id possible by X-ray image. <i>Further consolidation recommended, also the find should be viewed by a numismatist. If in line with research requirements the black mineral should be analysed by XRF to ascertain silver content.</i>
365 AA	Bow brooch fragments x2. Active powdery copper corrosion is evident throughout the surface and is possible bronze disease. The surface shows silvering, the bow is decorated with incised lines and the head is decorated with round indentations that may hold enamel decoration. Orange iron corrosion is evident at the head area. <i>XRF analysis is recommended to investigate the surface plating. Further investigation/cleaning to investigate traces of enamel within the circular and line decorative details is recommended. Both fragments should be stabilised by chemical treatment and fragile surface layers consolidated.</i>

Table H3: Lead alloy

FIND No.	OBSERVATIONS/RESEARCH POTENTIAL
207 AA	Lead waste fragment. Deformed structure that has received loss at points. There is a stress fracture extending from the edge into the main body of the piece. The surface is covered in a thin white mineral (possible lead carbonate). Abraded areas display a dark grey oxidised surface. Stable
207 AB	Lead waste fragment. The surface is covered in a thin white mineral (possible lead carbonate). Abraded areas display a dark grey oxidised surface. Stable

Table H4: Antler

FIND No.	OBSERVATIONS/RESEARCH POTENTIAL
479 AA	Antler, possible handle element in two fragments. Very good condition. Decorated with ring and dot decoration and two borders with incised diagonal lines at possible socket end. Stained compact tissue. Cancellous structure shows soil inclusions within interstices. Received within the lab dry and clean. <i>It is recommended that the two fragments are reattached.</i>

7.0 FURTHER INVESTIGATIVE CONSERVATION

The investigative work on the iron and copper alloy finds will involve selective removal of corrosion crusts for the purposes of research and chemical stabilisation where necessary. Documentation will take the form of written conservation records on archival paper.

8.0 ANALYSIS AND SPECIALIST SUPPORT

Suggestions for further analysis and specialist support have been made. XRF analysis of possible surface plating is required for two objects. This can be arranged by us and is outlined in the project costing. I recommend that the coins be further viewed and reported by Craig Barclay at the Yorkshire Museum.

9.0 STORAGE

It is recommended that jiffy foam supports be inserted within the polythene bags holding the iron and lead finds. A dry micro-climate has been created for objects requiring more specific environmental needs. Metals are packaged with two 100g bags of silica gel. The gel provides a dry micro-environment of less than 15% Relative Humidity which will halt any further corrosion (Knight 1992).

Appendix J

GLASS

Prof J Price

(Archaeological Services, University of Durham)

1.0 SUMMARY

Excavations undertaken by Northern Archaeological Associates (NAA) at Sike Spa, Crayke, North Yorkshire as part of the BP Teesside to Saltend Ethylene Pipeline excavations, have revealed the presence of features linked to a former Romano-British settlement. Five phases of activity have been identified at the site. The first phase incorporates roundhouse gullies, while the second phase is identified by a number of features containing Roman pottery and kiln remains, which predate the construction of a rectangular stone building, constituting the third phase of activity. The fourth phase includes a ditch fill with late Roman pottery remains while the fifth phase is linked to the medieval period and later, by post-Roman pottery remains. The site thus displays a succession of human activity. Analysis of environmental samples, faunal remains and finds from different contexts from the site therefore has the potential to provide a temporal sequence of landscape evolution and changing domestic or agricultural practices.

2.0 GLASS ASSESSMENT

Two fragments of glass were also identified, one of which is part of a Roman bangle and requires drawing, the other of which is a fragment of glass rod that may be Roman in date.

Context 229 AB: Opaque turquoise rod. Oval in section, constricted in form to segments. The date is uncertain. Analysis of the elemental composition of the glass (via energy dispersive X-ray fluorescence) would determine if it was Roman in origin. The relevance of this depends on the value of the context as determined by the excavator.

Context 523 AB: Fragment (c.33% of circumference) of bangle with D-shaped section and small internal diameter. Blue/green ground, central cord formed with dark blue and opaque rods twisted clockwise. Romano-British manufacture. Late 1st/2nd century AD. Many of these have been recovered from the region. A drawing should be included in the final report.

Appendix K
SLAG MATERIAL

Phil Clogg

(Archaeo-Analytic, Dept of Archaeology, University of Durham)

1.0 INTRODUCTION

Nine samples of slaggy material were recovered from excavations at Sike Spa, Crayke. Initial examination of the material shows the presence of ironworking slag, cinder and material of natural origin.

2.0 CATALOGUE

Table K1: Slag material

Context	Description
625	An iron rich stone/soil concretion – natural
201	1 small piece of iron working slag, probably from a smithing operation.
202	Iron working slag showing flowed surface. Not necessarily of any antiquity.
208	4 pieces of cinder adhering to burnt soil. These could have been produce in any sort of burning operation.
255	1 piece of iron working slag, probably from a smithing operation.
333	1 small piece of ironworking slag (possibly from smithing operation) + 2 pieces of cinder.
350	Large piece of iron working slag from either a smithing or smelting process.
388	Cinder

3.0 DISCUSSION

The small fragments of iron working slag are essentially undiagnostic although they could be attributed to a smithing operation. The larger piece (202) appears to be of a more modern origin, whilst piece (350) is more typical of an ancient slag although it is not possible to say whether it is from a smithing or a smelting operation. The shape suggests having been formed in either a furnace (smelting) or a smithing hearth. More positive identification as to which type may be possible through metallographic analysis and elemental analysis using EDXRF although with such a small assemblage this is by no means certain.

The cinder is undiagnostic and may be formed in any burning episode. The iron rich concretions are most probably natural formations.

Appendix L
ANIMAL BONE

L Gidney

(Archaeological Services, University of Durham)

1.0 SUMMARY

Excavations undertaken by Northern Archaeological Associates (NAA) at Sike Spa, Crayke, North Yorkshire as part of the BP Teesside to Saltend Ethylene Pipeline excavations, have revealed the presence of features linked to a former Romano-British settlement. Five phases of activity have been identified at the site. The first phase incorporates roundhouse gullies, while the second phase is identified by a number of features containing Roman pottery and kiln remains, which predate the construction of a rectangular stone building, constituting the third phase of activity. The fourth phase includes a ditch fill with late Roman pottery remains while the fifth phase is linked to the medieval period and later, by post-Roman pottery remains. The site thus displays a succession of human activity. Analysis of environmental samples, faunal remains and finds from different contexts from the site therefore has the potential to provide a temporal sequence of landscape evolution and changing domestic or agricultural practices.

A significant body of faunal remains was recovered. Most of the phased animal bones are associated with the Phase 3 Romano-British stone building, although much of it is not phased. Should this become phased, further analysis by phase would be possible. Data from two other sites in the region excavated as part of the pipeline should be included for comparative purposes - Skeugh Farm, Stillington, North Yorkshire (TSEP Site 718) and Arras Cottages, Market Weighton, East Yorkshire (TSEP Site 328).

2.0 METHODS STATEMENT

A basic suite of information on the presence of identifiable fragments of the three common domesticates, together with the potential for information on the age structure of the cull population from tooth wear and epiphysial fusion was recorded. The presence of other species was noted and comments made on any aspect of interest.

3.0 RESULTS

The full results are presented in Table L1.

Five phases of occupation have been identified, spanning pre-Roman Iron Age and Romano-British structural remains and medieval ploughsoil, but as yet the majority of the contexts containing animal bone have not been phased. Most of the phased animal bones are associated with the Phase 3 Romano-British stone building.

Preservation was recorded as generally poor because the leaching of the mineral content has left the bones very brittle with a consequent abundance of fresh breaks. The surface condition of the bones was otherwise good, with some butchery and dog gnawing marks surviving. Context 229 produced remains from an infant lamb, indicative both of seasonality and of particularly benign preservational conditions in this particular deposit.

Altogether, 79 contexts produced animal bones though the fragments were not identifiable from 19 contexts. Some of these latter were recognisable but did not encompass a 'zone' and others were too small or poorly preserved to identify. Fourteen contexts produced burnt fragments of bone, which were mostly too comminuted for identification.

Cattle and sheep appear to have been the mainstay of the livestock enterprise with remains present in 34 and 32 contexts respectively. A cattle metapodial from context 288 appears to be craft working rather than kitchen debris.

Context 305 produced articulated vertebrae of cattle from a young adult animal with the epiphyses mostly fused. One cervical vertebra has a patch of eburnation on the caudal epiphyses, perhaps suggestive of draught work with a yoke. Other fragments of limb bones are also present. This does not appear to be a complete body and may be the remains of a spit roast carcase or other ceremonial meal.

Although the term sheep/goat is used, there was no positive evidence for the presence of goat rather than sheep.

Pig was also kept with elements present in 17 contexts.

Horse was of economic importance with remains present in 11 contexts. All the sites investigated by NAA in the Eastern Yorkshire area have this distinctive peak of horse bones, which is not normally encountered elsewhere, and suggests a definite specialisation in the rural economy of this region. One horse bone, from context 249, has clearly been chopped. Such marks need not imply human consumption of horse meat; dismemberment for easier disposal of carrion, knacker's meat for dogs or accessing raw material for craft work are other possibilities to explore.

Wild species are scarce with red deer represented in only 2 contexts, with one find being of antler. This suggests the raw material for craft work was as desirable as venison for the table. No bones of dog were recovered but the presence of this species is attested by the characteristic gnawing marks on bones from 2 contexts.

Oyster shells were present only in context 249. There is a conspicuous absence of bird bones.

Overall, context 229 stands out from the rest of the assemblage for the diversity of species present and enhanced level of preservation.

4.0 CONCLUSIONS

It is accepted that there are limitations on the interpretations that can be drawn from this small group. Nonetheless, once the phasing has been finalised, it would be very desirable to produce a table by phase of the species present to establish whether there is a large enough grouping to justify more detailed analysis. Data from two other sites in the region excavated by NAA as part of the pipeline should be included for comparative purposes - Skeugh Farm, Stillington, North Yorkshire (TSEP Sites 719 and 720)) and Arras Cottages, Market Weighton, East Yorkshire (TSEP Sites 328 and 909).

Table L1: Faunal data

F = Fused bone present U = Unfused bone present Z = Bones with zones present J = Lower jaw present T = Teeth present M = Measurable bone present LAR = Large Ungulate SAR = Small ungulate Preservation: E = Excellent G = Good, A = Average, P = Poor, M = Mixed						
Context	Cattle & LAR	Sheep/Goat SAR	Pig	Other species	Pres	Comments
201	T	ZT		horse	P	
202	T				P	
203				indet		burnt
205	ZF					burnt
208	ZF	Z			P	
210	ZT	T	ZT	deer	P	dog gnawing, antler
214				indet		burnt
221	ZF				P	
227	T	T	T		P	
229	ZF	ZFU	ZT	horse deer	A	infant lamb
231		Z			P	
236				indet	P	
249				horse	P	chopped horse
253				indet	P	
255		T			P	
264	Z			horse	P	
268		Z				burnt
276	Z				P	
284				indet	P	
286		T	ZF		P	
288	ZF	TZ			P	mp craft waste
294	ZF				P	
298		ZF				burnt
300	ZU				P	
301	ZF				P	
305	ZFU				P	
306		T	T	horse	A	
310				indet	P	
324	ZFT	T			A	
327		Z			P	
328				indet	P	& burnt
329		T		horse	P	
330	T				P	
333	T	ZFT			P	& burnt
350		Z			P	
355	Z				P	
365	ZT	T			P	
367				indet	P	

Context	Cattle & LAR	Sheep/Goat SAR	Pig	Other species	Pres	Comments
369			T		P	
377		ZF			P	
378				indet	P	& burnt
379	ZT	ZT			P	
393			Z		P	
396		ZF			P	
397		ZF	Z		P	
399	Z	T	ZF		P	
401				indet	P	
416			ZT			
420				indet		burnt
439		T			P	& burnt
445		T			P	
448			Z		P	
458	Z				P	
468				indet	P	
472	ZF			horse	A	
479		JZ	ZFT	horse	A	
500	Z	ZF			P	
502				indet	P	
519		Z			P	
523	Z				P	
527				indet	P	
613			Z	horse	P	
617	ZF	ZU			A	
621	ZF				P	
623	Z	Z	Z		P	
625		ZFT			A	
640	Z				P	
645	ZFT		Z		A	
652		ZF			P	& burnt
653	T				P	
654	ZF				P	
667	ZF		ZF	horse	P	dog gnawing
672			ZF		P	
682				indet		burnt
686				indet		burnt
689				indet		burnt
691				indet	P	

Appendix M
ENVIRONMENTAL RECORD

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1.0 SUMMARY

Excavations undertaken by Northern Archaeological Associates (NAA) at Sike Spa, Crayke, North Yorkshire as part of the BP Teesside to Saltend Ethylene Pipeline excavations, have revealed the presence of features linked to a former Romano-British settlement. Five phases of activity have been identified at the site. The first phase incorporates roundhouse gullies, while the second phase is identified by a number of features containing Roman pottery and kiln remains, which predate the construction of a rectangular stone building, constituting the third phase of activity. The fourth phase includes a ditch fill with late Roman pottery remains while the fifth phase is linked to the medieval period and later, by post-Roman pottery remains. The site thus displays a succession of human activity. Analysis of environmental samples, faunal remains and finds from different contexts from the site therefore has the potential to provide a temporal sequence of landscape evolution and changing domestic or agricultural practices.

Environmental samples were taken from eight contexts, the assessment of which will determine the quality of plant macrofossil preservation over time, while identification of the remains will demonstrate the potential environmental and socio-economic data each context can produce.

2.0 INTRODUCTION

Context 205, the kiln fill from Phase 2, was dominated by charcoal associated with the former presence of the kiln. A single charred, degraded cereal grain was present in the flot, inferring that either the kiln was not used for the drying of grain, or that waste material has been cleared from the vicinity of the kiln.

Both contexts 210 and 264 (Phase 2) contained mammal bone and a small number of charred cereal grains in the flot. Similarly, context 229 (a ditch fill) contained large quantities of bone and only a small number of charred cereal grain, including breadwheat. Equivalent finds were also made from contexts 459 and 479 which contained low numbers of charred cereal grain, the latter containing a single oat grain. As identification was precluded by all but three cereal grains, the aforementioned five flots can produce little useful information.

Contexts 350 and 472 (roundhouse gully deposits from Phase 1) contained bone but neither contained charred botanical remains.

The majority of the contexts contained bone, charcoal and small numbers of charred cereal grain, however the preservation state frequently precluded identification. There is no indication that the contexts were proximal to the storage, processing or disposal of crop remains while the preservation conditions limit the potential data that the contexts can produce. None of the contexts are recommended for full analysis or further evaluation.

3.0 METHODS STATEMENT

Environmental samples were extracted from eight contexts at the site, the assessment of which will, firstly, determine the extent to which charred and waterlogged plant macrofossils have been preserved over time. Secondly, identification of the remains will demonstrate the potential of each context to produce environmental and socio-economic data.

The samples were manually floated and sieved through a 500 μ mesh. The residue was retained and the contents described. Each flot was dried slowly and scanned at x40 magnification for waterlogged and charred botanical remains. The remains were identified via comparison with modern reference material held by Archaeological Services, University of Durham. The abundance of each waterlogged species was noted and total counts of charred species were logged.

4.0 RESULTS

The contexts produced variable quantities of flot, most of which were dominated by charcoal. Mammal bone and pottery also featured in a number of flots and residues. The complete set of results is detailed in Table M1.

5.0 DISCUSSION

Context 205 incorporated a kiln fill associated with Phase 2, the pre-stone building phase. The flot was dominated by charcoal which verifies burning within the locality, most likely associated with the presence of the kiln. Only one charred cereal grain, too degraded for identification, was found in the flot. The single presence of charred grain and the degraded condition suggests that conditions were not ideal for preservation and that the context was not proximal to the storage, drying or processing of grain. Furthermore, the results may also infer that the kiln was not used for the drying of grain, or that waste material has been cleared from the vicinity of the kiln.

The pit fill of context 210 derived from a boundary ditch feature, linked with Phase 2. Both flot and residue contained mammal bone, while a small number of charred cereal grain were also present in the flot. The degraded state of the grain enabled identification only to genus level (*Triticum spp*) therefore the macrofossil can provide little information regarding crop cultivation.

Context 229 was extracted from a ditch fill containing large quantities of bone. While the flot and residue from the context also contained bone and charcoal, inferring waste deposition or burning in the ditch, only a small number of charred cereal grain were found. The identified grain present was breadwheat, a free threshing wheat found from the mid-late Romano-British period onwards (Hillman 1981). The low numbers of charred grain limit the amount of information that can be obtained.

The flot of context 264 was composed of charcoal with low numbers of mammal bone also presence. The context was taken from a ditch fill which also contained pottery and bone and was linked to Phase 2. Only a small quantity of flot was produced, within which three degraded cereal grains were found. As identification was precluded by the degraded state of the grain, they can produce little agricultural information.

Both contexts 350 and 472 were extracted from roundhouse gully deposits, associated with the first phase of activity at the site. Although both contexts contained bone, neither contained

charred botanical remains and, therefore, no information can be obtained regarding the phasing or crop cultivation during this period. The absence of charred grain may be linked to the sampling location or the poor preservation conditions of the contexts. Very small quantities of oxidised organic material were found in the flots of Context 472 suggesting that waterlogged botanical remains were once present in the gully, but have been degraded by aerobic conditions over time.

Context 459, the fill of an industrial pit cut, is associated with the stone building phase at the site, Phase 3. The flots were dominated by charcoal, although only one degraded charred cereal grain was found, therefore, evidence for burning or the disposal of burning waste can be inferred but little further information can be produced by the context.

The ditch from which context 479 was extracted contained large quantities of bone and pottery. The flots contained charcoal and bone, alongside three degraded cereal grains and one, partly degraded cereal grain which was identified as oat, a cereal found from the late to post Romano-British period onwards. The low quantities and poor preservation conditions of the charred grain limit the amount of information that can be produced, although the presence of oat implies that the context lies within the later phases of activity at the site.

Most of the flots contained low numbers of durable waterlogged seeds, including orache. The presence of the solely durable seeds in low quantities may represent bias preservation in poor conditions over time. Their presence may also signify however contamination at an unknown stage following context burial. Therefore the waterlogged species data, although indicative of cultivated landscapes, is uncertain thus precluding interpretation.

6.0 CONCLUSIONS

The majority of the contexts contained bone, some burnt, and charcoal, indicative of domestic and burning waste. Most of the contexts also contained small numbers of charred cereal grain, the preservation state of which limited identification. The implications of the findings are two fold. Firstly the remains suggest that the contexts assessed may not have been proximal to the storage, processing or disposal of domestic or agricultural remains. Secondly the preservation conditions preclude interpretation and restrict the potential data that the contexts can produce. Consequently, none of the contexts are recommended for full analysis or further evaluation.

REFERENCES

- Hillman G (1981) "Reconstructing crop husbandry practices from charred remains of crops" in R Mercer (ed) *Farming Practice in British Prehistory* Edinburgh, Edinburgh University Press: 123-162.

Table M1: Plant macrofossil data

Context	205AA	210AA	229AA	264 AA	350 AA	459AA	472AA	479 AB
Volume processed (ml)	12,800	14,000	13,000	10,500	10,500	9,000	10,000	11,000
Volume of flot (ml)	100	25	100	25	175	200	50	50
Volume of flot assessed	100	25	100	25	175	200	50	50
<i>Residue contents</i>								
Mammal bone		✓	✓					
Mammal bone (burnt)			✓				✓	
Pot						✓	✓	
<i>Flot matrix (relative abundance)</i>								
Amorphous organic							1	
Charcoal	5	4	4	4	2	5	3	4
Coarse sand	1	3	1		2	1		3
Modern roots							1	
Insect fragments	1							
Mammal bone	1	2	2		1		1	2
Small mammal bone	1			1				
Silt			2	1	4		3	2
<i>Charred remains (total counts)</i>								
Oat								1
Wheat (<i>Triticum spp</i>)		1						
Breadwheat			1					
Cerealia indeterminate	1	2		3		1		3
<i>Waterlogged remains (relative abundance)</i>								
(a) Chickweed								
(a) Orache	1		2	2	1	2	2	2
(g) Clover								1
(r) Black bindweed							1	
(t) Alder						1		
(x) Spurge	1							

[a-arable, g-grassland, r-ruderal, t-arboreal, x-broad niche]

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

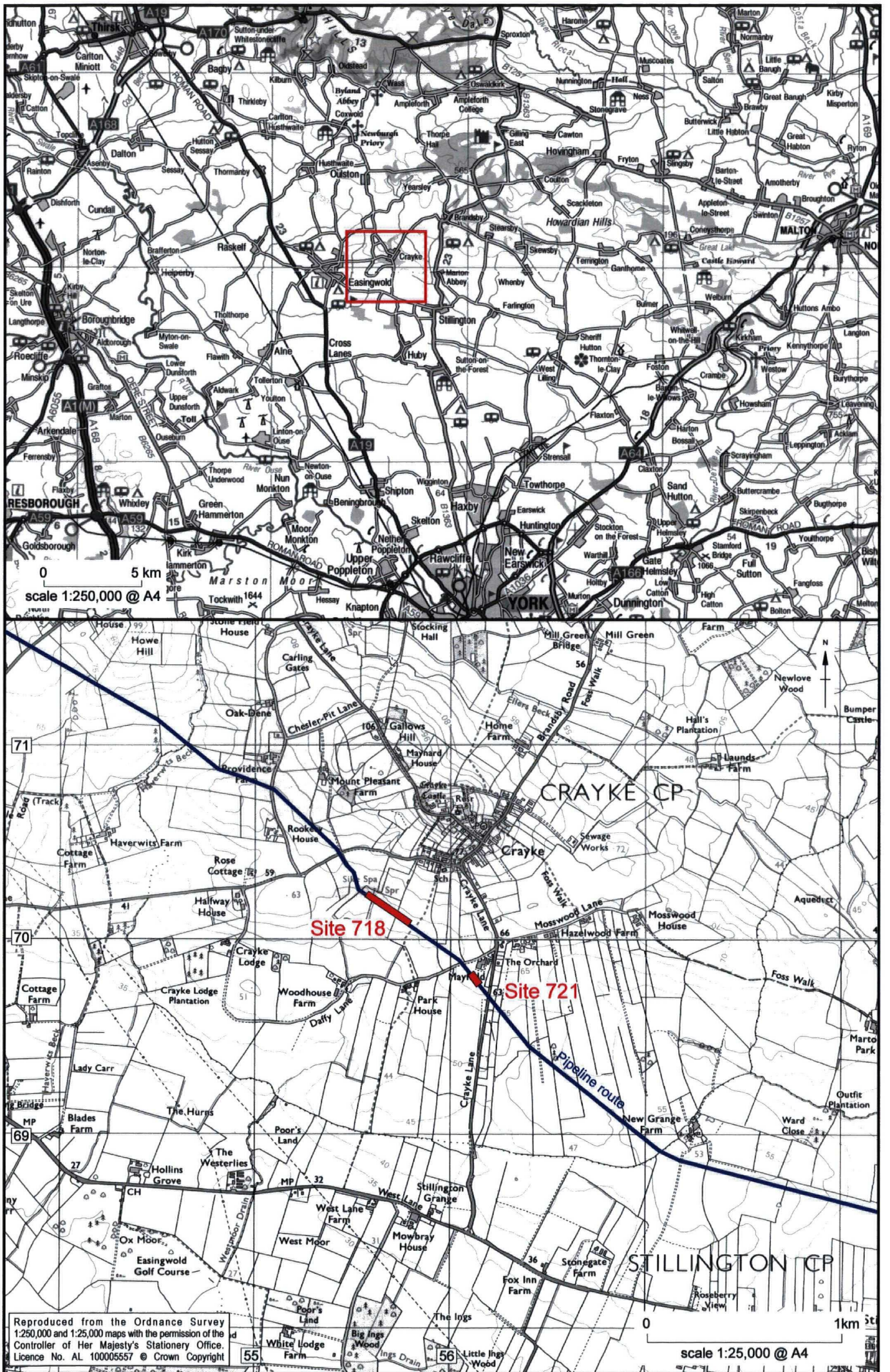
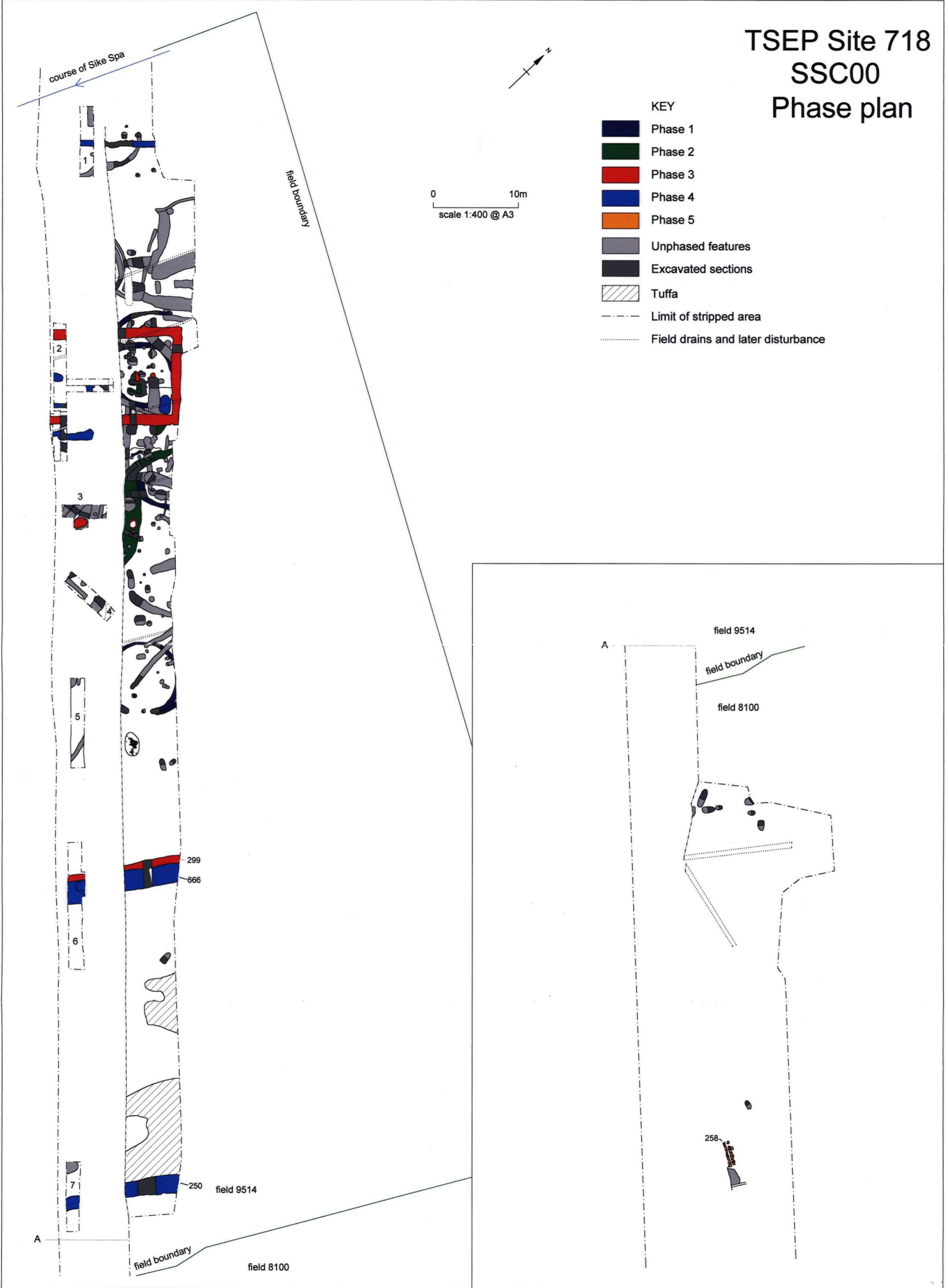


Figure 1 TSEP Sites 718 and 721: location plan

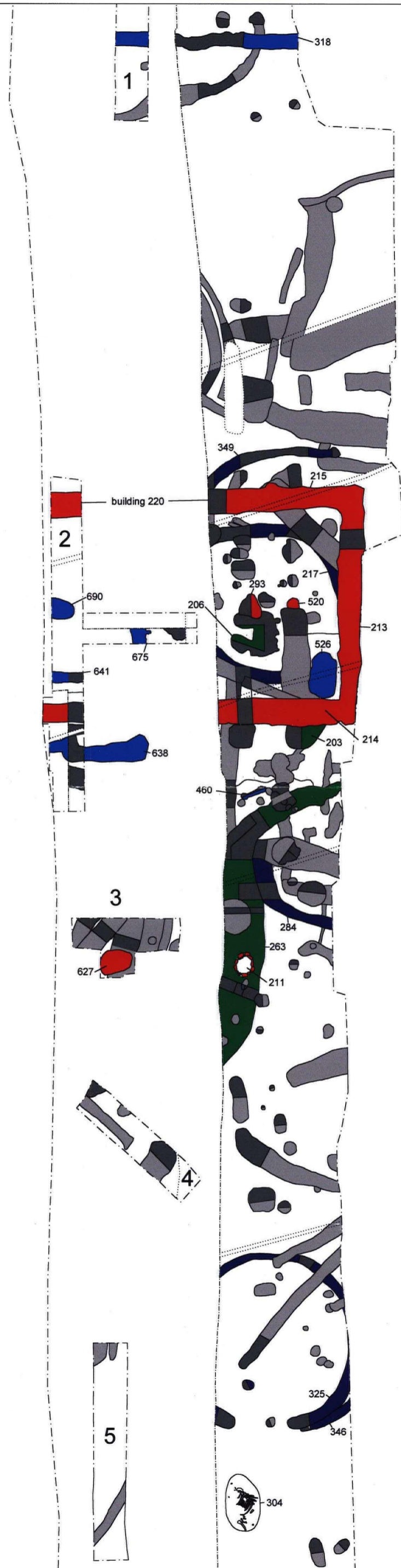
TSEP Site 718 SSC00 Phase plan



- KEY
- Phase 1
 - Phase 2
 - Phase 3
 - Phase 4
 - Phase 5
 - Unphased features
 - Excavated sections
 - Tuffa
 - Limit of stripped area
 - Field drains and later disturbance

Figure 2 TSEP Site 718: Overall phased feature plan

TSEP Site 718 SSC00 Phase plan



- KEY
- Phase 1
 - Phase 2
 - Phase 3
 - Phase 4
 - Unphased features
 - Excavated sections
 - Limit of stripped area
 - Field drains and later disturbance

0 5m
scale 1:200 @ A3

Figure 3 TSEP Site 718: Detailed phase plan (north-west of site)



Plate 1 TSEP Site 718: building 220

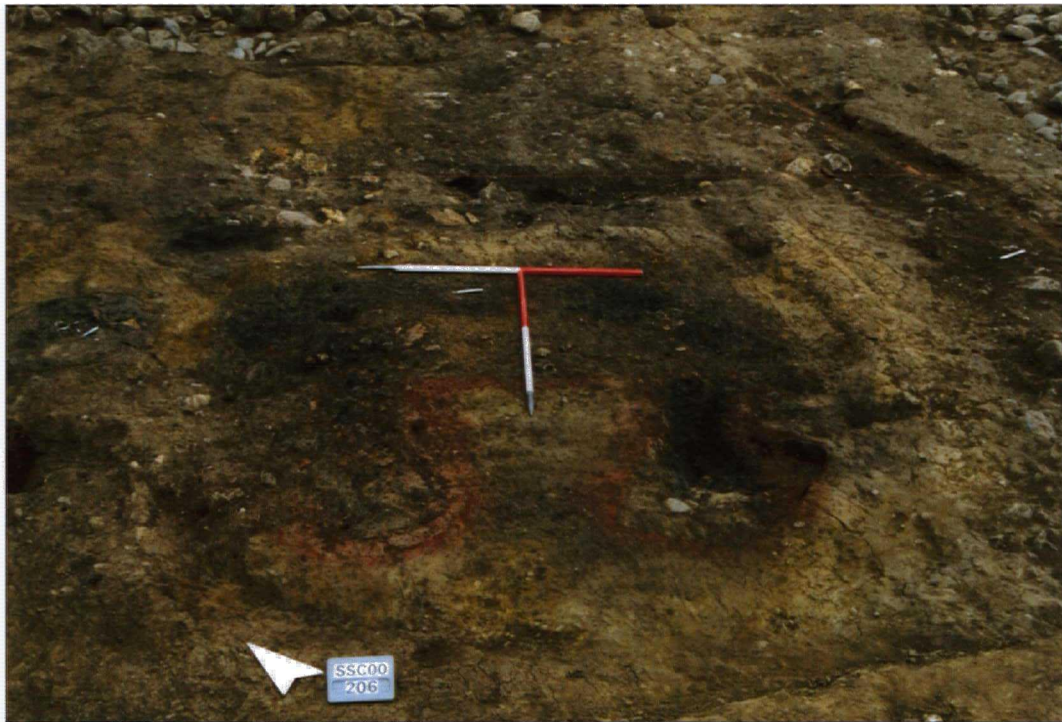


Plate 2 TSEP Site 718: kiln 206



Plate 3 TSEP Site 718: section through foundations of building 220



Plate 4 TSEP Site 718: 4th century foundations to the south of building 220