

Northern Archaeological Associates

TEESSIDE TO SALTEND ETHYLENE PIPELINE

SITE 712

MOURIE FARM, LOW WORSALL

NORTH YORKSHIRE

POST-EXCAVATION ASSESSMENT REPORT

prepared for

AC ARCHAEOLOGY

on behalf of

BP TSEP PROJECT

NAA 00/61

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TEESSIDE TO SALTEND ETHYLENE PIPELINE**TSEP SITE 712: MOURIE FARM****LOW WORSALL, NORTH YORKSHIRE****ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT****CONTENTS**

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TEESSIDE TO SALTEND ETHYLENE PIPELINE

TSEP SITE 712: MOURIE FARM

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ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT

Summary

An archaeological excavation took place in the summer of 1999 at Mourie Farm, Low Worsall, North Yorkshire, in advance of the construction of the BP Teesside to Saltend Ethylene Pipeline (TSEP). This assessment report has been compiled by Northern Archaeological Associates and summarises the results of the excavation of a Romano-British settlement. The site was identified during a watching brief of topsoil stripping of the construction corridor for the pipeline.

The site consisted of a large concentration of cut features dated to the 1st to 4th centuries AD. Two broad phases of activity have at present been identified. Phase 1 consisted of a boundary ditch marking the eastern limit of a complex of enclosures dated to the late 1st to 2nd century AD. To the east of the boundary ditch was a series of structures associated with an area of burning which has been interpreted as evidence of an industrial process associated with this phase. Phase 2, dated to the mid 3rd to late 4th century AD, consisted of further boundary ditches on a substantially different alignment to those of Phase 1. A second sequence of burnt features was also identified to the east of the central boundary ditch which has been interpreted as evidence for continued industrial activity in this phase.

It is clear that the excavation within the pipeline corridor represents a partial sample of a more extensive site. The survival of archaeology as negative features cut into the subsoil without any depth of stratigraphy and the presence of intrusive later agricultural features places limits on the degree to which the site can be phased and interpreted. Nevertheless the site is of regional importance as relatively few Romano-British settlement sites have been excavated within the area using modern archaeological techniques.

1.0 INTRODUCTION

A programme of excavation, covering approximately 0.24ha, was carried out on the site of a previously unknown Romano-British settlement at Mourie Farm near Low Worsall, North Yorkshire (NZ 403 103) on the route of the BP Teesside to Saltend Ethylene Pipeline (TSEP) (Figure 1). The excavation was carried out from late May to early July 1999. This document has been prepared by Northern Archaeological Associates (NAA) at the request of AC Archaeology on behalf of BP.

The presence of possible archaeological remains was identified during routine archaeological monitoring of topsoil stripping along the pipeline corridor by BP's archaeological inspector. A rapid evaluation carried out by NAA on behalf of AC Archaeology revealed the presence of an extensive site. A programme of excavation was undertaken in order to mitigate the impact of the development (NAA 1999).

The site comprised a series of negative features cut into the subsoil and displayed clear evidence of having been truncated by agricultural activity from the medieval period. The ground surface from which the negative features were cut did not survive at any point. Artefact preservation of ceramics was of a high quality, though animal bone was greatly deteriorated. The features were distributed throughout the area of excavation and clearly extend to the north, south and west beyond the limit of excavation. Examination of the corridor in the field to the east failed to reveal features of archaeological interest which would indicate a limit to the site to the east. The full extent of the settlement is unknown. The remains were observed generally 0.3m below existing ground level and were visible cut into fluvio-glacial clays and silts.

2.0 LOCATION

The excavation at Mourie Farm was located within field plot 16.12 approximately 1km to the east of Low Worsall and some 2km south-west of Yarm. The site lay on a level plateau between the River Tees to the north and Saltergill Beck to the south, and immediately north of the B1264 (NZ 403 103) (Figure 1).

The site was located in an area of clayey and fine loamy soils over glaciolacustrine drift and till. The excavated area was under pasture prior to topsoil stripping.

3.0 ARCHAEOLOGICAL BACKGROUND

The site lies immediately east of a Romano-British settlement study area within which 607ha of fieldwalking has been undertaken (Inman 1988). The study area was bordered by the River Tees to the north, the North York Moors to the south, and the A19 and coastline west and east respectively. The results of the fieldwalking programme identified at least 70 potential settlement sites in a landscape which had been mostly changed from deciduous woodland to fields of pasture and cereal crops before the Romano-British period. Quern stones were recovered from at least 14

sites and judging by the quantity of pottery it is probable farms produced a crop surplus which they traded for luxury items. Subject to topography, Inman believes farms were likely to be 22-26ha in size.

Excavation of an Iron Age settlement and Romano-British enclosure site near Manor Cottage, East Rounton was also undertaken on the TSEP pipeline route during June 1999 by Northern Archaeological Associates (NAA 2000). Manor Cottage (TSEP Site 713) is located 7km to the south of Mourie Farm. Excavation revealed evidence of Iron-Age circular structures, ditches, and enclosures overlain by early Romano-British boundary ditches and enclosures. The pottery recovered ranged in date from late pre-Roman Iron Age, roughly 300 BC, to around AD 100. However, there was no evidence for Romano-British occupation.

4.0 METHODOLOGY

A methods statement for the archaeological excavation of Manor Cottage was produced by NAA in June 1999 (NAA 1999) and approved by North Yorkshire County Council. The works were carried out by NAA at the request of AC Archaeology on behalf of BP between the 27 May and 2 July 1999.

The area of investigation extended for a distance of 126m along the route of the pipeline corridor. The main area of the corridor was 16m across with an access track at the northern extent 6m wide. The corridor widened to 26m at the west and east ends of the site in order to provide space for the storage of pipes. The full extent of the area, with the exception of the access track, was cleaned using a JCB 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 MF99. The linear features were 10-25% sampled where this was practicable. A 50% sample was excavated of 80% of the discrete features, extended to 100% where practical and desirable. The site grid and the extent of the excavation were accurately surveyed using an EDM total station and tied into the Ordnance Survey grid. All levels were tied into Ordnance Datum. The area of the access track was later cleaned by JCB and planned by EDM but only a limited excavation was undertaken of additional features identified within this area.

Pottery specialists made site visits during excavation to observe the nature of the archaeology and to give spot dates to aid the ongoing excavation. The English Heritage regional advisor for archaeological science for the North East also visited the excavation to aid in selection of suitable deposits for sampling. 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.

5.0 RESULTS OF EXCAVATION

5.1 Introduction

The excavations at Mourie Farm have identified a multi-phase Romano-British settlement. The site comprised negative features, ditches, pits, post-holes and linear slots with no survival of contemporary surfaces. This is due to the truncation of the site by medieval and modern agricultural practices. The archaeological features encountered within the site at Mourie Farm can be broadly divided into three groups:

- boundary and enclosure ditches
- structural linears and post-holes
- industrial type activity external to the main site

The site can be grouped chronologically into two main phases by stratigraphic and pottery evidence. However the multiplicity of inter-cutting features within the main site would indicate that this, in reality, represents a simplification of the actual sequence. This is however unavoidable due to the relatively broad date ranges for the pottery evidence and the homogeneous nature of the clay fills of the features which made the identification of stratigraphic relationships very problematic.

5.2 Phase 1 (late 1st to 2nd century AD) (Figure 2)

5.2.1 *Boundary and enclosure ditch sequences*

A substantial boundary ditch and a sequence of enclosure ditches, all dated to the late 1st and early 2nd century AD by pottery evidence, were identified. The features consisted of a north to south orientated boundary ditch (226) to the east of a sequence of enclosures defined by ditches 236, 250, 281, 294, 298, 325, 343, 347, 369 and 423. A pair of adjoining enclosures (A and B) have been identified within this sequence which may be related to stock control.

The substantial boundary ditch 226 measured 3m wide by 0.69m deep and extended across the full extent of the site on a north to south alignment. The scale of the feature would indicate that it represented a boundary of some note at the eastern limit of the sequence of enclosure ditches. The features east of the boundary ditch were industrial in nature with notably fewer ditch type features. This has led to the interpretation of ditch 226 as a boundary between areas of different activity within the site, with enclosure sequences on its western side and areas of industrial use to the east.

The series of ditches which lay to the west of boundary ditch 226 formed two adjoining enclosures with an entrance connecting them. The eastern of these enclosures (A) was defined by ditch 298, which is probably a continuation of ditch 343 north of furrow 501, and ditches 250, 325 and 423. However, the southern side

of ditch 325 was cut by furrow 503, obscuring its relationship with ditch 423, though the excavation did ascertain that ditch 423 did not continue further to the south than where it would have met ditch 325. The ditches defined a rectangular enclosure which measured 10m east to west by 8m north to south. The presence of a series of pottery sherds located against the western side of the northern extent of cut 298 is likely to reflect deliberate depositional activity at the ditch terminal and could be related to the concentration of bone in this area.

Enclosure (B) was roughly triangular in shape and measured approximately 8m north to south by 7m east to west. The central dividing ditch between the two enclosures was formed by ditch 298/343. Ditches 347, 236 and 369 are seen as a single ditch, extending some 20m on a north-west to south-east alignment, the southern end of which formed the western boundary of enclosure B. Ditch 250 was the northern boundary of both enclosures A and B. Access between the two enclosures was provided by the gap between 298 and 250 which formed an internal entrance 2.5m wide. Furrow 503 and a later ditch feature (248) obscured the extent of the enclosure ditches to the south. This was unfortunate given that the entrance to the enclosures clearly lay in this area between ditches 369 and 343.

The curving feature 252, located immediately to the north of ditch 250, was dated to the 1st to 2nd centuries AD by pottery evidence. Its interpretation is, however, somewhat problematic.

A number of other features have been associated with Phase 1 through pottery evidence, alignments and stratigraphic relationships. These include ditches 234, 222/281, 294 and 363. Ditch 222/281, which was 1.26m wide and 0.81m deep, was located on the south-western part of the site. The ditch which was on a similar alignment to ditches 298, 343 and 423 and extended for 7m. The northern end was obscured by a furrow from which it did not emerge. This feature was dated to the late 1st to 2nd centuries AD by pottery evidence.

A further north-south oriented ditch (294) lay parallel and 4m to the west of ditch 281. This ditch was cut by a structural linear (296) of late 1st to 2nd century date and may well have formed a part of the earliest enclosure group, though the possibility that the ditch represented an even earlier phase of activity cannot be ruled out.

A pair of boundary ditches of similar size and form (234 and 363) were identified in the north-west part of the site. These ditches may have been contemporary in which case they would have met at right-angles, though this relationship was obscured by furrow 499. Pottery of late 1st to 2nd centuries AD was recovered from ditch 234.

5.2.2 *Later Phase 1 features*

Ditch 315 cut enclosure ditches 236/369, 343 and 298 and must therefore have post-dated this enclosure sequence. However, four sherds of late 1st century to 2nd century AD pottery were recovered from its fill. The fact that this feature cut across the alignment of the earliest ditch sequence would indicate that it represented a re-

alignment of the boundary system within Phase 1. Ditch 315 measured 1.5m wide by 0.62m deep and was traced on an east to west alignment for some 25m. The northern side of the ditch and both the west and eastern ends were obscured by a furrow (501) which ran on an almost identical alignment.

A substantial pit (359) which was 1.75m wide and 0.28m deep extended for 1.7m north of furrow 501 in the central part of the site to the north of ditch 315. This feature could be dated to the Antonine-Hadrianic period from pottery evidence. The presence of a fairly complete Samian pot, within the fill of this feature, is very likely due to deliberate disposal and mirrors the finds concentration seen in the terminal of ditch 298. Given that it is unlikely that this feature was contemporary with Enclosure B it is probable that it related to the re-alignment associated with ditch 315.

5.2.3 Structural features

A sequence of narrow linear features on a general north to south alignment was encountered in the western part of the site. These features (292, 296, 349, 361 and 433) were uniformly narrow, varying in thickness between 0.36m and 0.55m. They uniformly displayed steep sides and relatively flat bases and did not resemble heavily truncated ditches. It is possible therefore to interpret these features as structural slots for fences lines or timber walls. The feature groups could be divided into two alignments with 349, 433 and 296 forming one with 361 and 292 roughly paralleling it some 4m to the east. Although obscured in places by numerous other features and two of the furrows it was clear that the features did not represent continuous linears as features 433 and 292 had visible terminals.

The only ceramic evidence for these structural features was a single sherd of 1st to 2nd century AD pottery which was recovered from slot 296. Though the pottery may be residual it does suggest the structural features may have been broadly contemporary to the Phase 1 enclosures.

Stratigraphic evidence places the slots as a later activity than a number of Phase 1 features. The relationship between slot 361 and ditch 236 was difficult to determine due to the great similarity of the fills of the two features. Features 292 and 296 cut the Phase 1 ditches 281 and 294 respectively, slot 361 also cut ditch 363. The relationship between the features and ditch 315 was unfortunately obscure, though their spatial relationship made it unlikely that they were contemporary.

5.2.4 Industrial type activity

A somewhat irregular area of rounded stones (201) lay 26m to the east of boundary ditch 226. This stone group showed no clear pattern but was associated with a sequence of short linear structural features (214, 263, 288, 301, 487 and 489). These structural linears did not form an obvious pattern which could be interpreted as a building or enclosure but they did cluster around an area of burnt clay, possibly a hearth (317). It is conceivable therefore that the structures represented simple wind-breaks around fires associated with some industrial practice. This was

supported by the fact that at least one of these structures, represented by slot 288, had burnt down. The two burnt areas were associated with late 1st to 2nd century AD pottery, the only dating evidence for this activity. A further linear (457) lay 2m west of the terminus of linear 489 and may have represented a continuation of the alignment.

5.3 Phase 2 (3rd to 4th century AD) (Figure 3)

5.3.1 *Later boundary features*

A substantial ditch (400) was traced for 9m on a north to south alignment. The ditch was 3.5m wide, 0.75m deep and narrowed towards the southern end which was obscured by a furrow (503). A sondage excavated to the south of the furrow failed to reveal any trace of the ditch which would indicate that it terminated beneath the furrow. The northern end of the ditch could not be traced due to the presence of a further furrow (505) at right-angles to the others. Ditch 400 may represent a boundary ditch which divided the enclosure ditches to the west from the industrial areas of activity to the east which were identified within Phase 2 features.

Three ditches were identified dated to the 3rd - 4th century AD by pottery evidence to the west of ditch 400 (ditches 330, 345/367 and 383). A relatively small ditch (345/367) paralleled ditch 400 some 11m to the west and may therefore be related. The terminal of ditch 330 cut the terminal of ditch 367 which would appear to represent a boundary feature and a further change of layout of the enclosure ditch system. To the west of ditch 330 was linear slot 383 from which a sherd of 3rd/4th century pottery was recovered. The other structural features within this northern area of the site may therefore also be of phase 2 (see paragraph 5.4.3 and Figure 4).

5.3.2 *Industrial type activity*

A second area of industrial type activity was identified 4m to the east of the first. This also consisted of a diffuse negative feature (300) which contained a mixture of rounded stones and burnt material. Two pits (333 and 335) which were cut into the base of this feature contained pottery of 3rd to 4th century AD date. Pottery of 2nd century AD date was also recovered from the primary fill of pit 333. This may indicate that an earlier pit was not completely infilled until the later date.

A broad gully-like ditch (313/215), 1.37m wide and 0.11m deep, lay immediately adjacent to feature 300 to the north and extended for some 14m to the east. This feature was also dated to the 3rd to 4th century AD by pottery evidence. Ditch feature (385) lay parallel and 5.5m to the north of ditch 313. This feature which was 1.27m wide was traced for 7.2m. This feature lay beneath the area of the pipeline running track and was not fully sectioned. As the feature contained a substantial quantity of burnt material and rounded stones it was sampled. A sherd of pottery of 3rd to 4th century AD date was recovered during this process.

Two further ditches (208 and 485) lay on an east to west alignment some 13m and 9m to the west of the burnt area respectively. Ditch 208 was dated to the late 3rd to

4th century AD by pottery evidence. Ditch 485 was not excavated but shows a similar form and alignment to 208 and is therefore likely to be related.

5.4 Unphased features (Figure 4)

5.4.1 *Western feature group*

The western feature group comprised a number of ditches, slots and pits. Ditch 248 was traced for some 13m on an uneven west to east course. The ditch cut Phase 1 ditch 236/369 and the structural linears 327 and 373 but was otherwise undated. Ditch 248 may represent an enclosure which conjoined with ditch 224. To the north of ditch 248 was a small discrete gully (228) orientated approximately east to west which cut Phase 1 structural slot 361.

A curvilinear ditch (355) extended for 10m on an south-east to north-west alignment. A probable continuation, ditch 431, lay to the north of furrow 499. The extent of this feature, part of an enclosure or boundary feature, could not be traced to the north but was seen to terminate within the site at its eastern end.

A number of small discrete pits and postholes were encountered within the western area of the site. These included pits 425 and 427 which contained a notable amount of clinkery charcoal and other burnt material.

5.4.2 *Structural features: southern group*

A group of nine structural linears (218, 220, 258, 268, 272, 274/365, 373, 327 and 379) lay close to the southern limit of the site. Linears 373 and 379 represented the same structural feature cut by a later linear (327). Cuts 373 and 379 were of distinctly structural character, with vertical sides and a flat base, and certainly represented a timber wall of some type. This feature was earlier than that represented by the more uneven cut 327. The other linears, although also structural in character, displayed less angular profiles. A second relationship was evident between linears 268 and 274/365, as the straight linear 268 cut the curving linear 274/365. It is possible to group the second straight linear 220 with 268 and the other curving linears 258 and 218 with 274/365 to make a two phase structural alignment. The rectilinear represented by 373 and 379 is somewhat problematic and it is conceivable that this distinctive feature could form part of a gate complex to Enclosure B rather than being associated with these two structural groups.

5.4.3 *Structural features: northern group*

A further group of eleven linear features (285, 287, 357, 382, 428, 435, 437, 439, 441, 443 and 508) lay towards the northern part of the site. They represent more than one structural event as a number of the features inter-cut. There were, however, no clear stratigraphic relationships.

Linears 435, 437, 382 and 439 met at a perpendicular angle to one another and were very likely representative of two successive structures, either buildings or

enclosures. Given the general occupational span of the site it is tempting to see the 4th century structure represented by 435 and 437 as the later of the two. Linears 285, 287 and 428 were parallel to each other and could be related. It is possible that linear 287 was cut by Phase 1 ditch 250 and by curvilinear 252, which was of broadly similar date, which if correct would make this feature early.

5.4.4 Eastern feature group

Two feature groups have been identified to the east of the enclosures. Ceramic evidence has dated these groups as contemporary with both Phase 1 and Phase 2. The features appear to be industrial in character due to the presence of slag waste and traces of burning. The groups consist of slots (275, 417, 455 and 497) post-holes (419, 493 and 495), a ditch (506) and spreads of stones associated with substantial burning.

5.4.5 Linear and post-hole features recorded beneath access corridor

A sequence of eight linear features (449, 459, 463, 467, 469, 473, 475 and 479) and nine post-holes (445, 447, 451, 453, 461, 465, 471, 477 and 491) were recorded beneath the access corridor. Only limited excavation was undertaken of some of the linear features identified within access corridor, none of the postholes were excavated. No dating evidence was associated with these features and it has not been possible to group them into obvious patterns.

5.4.6 Unphased discrete features

A number of discrete postholes were recorded throughout the area of excavation. These included postholes 238, 244, 254, 256, 260, 262, 266, 279, 308, 415 and 421. It has not been possible to group these postholes into recognisable patterns.

5.5 Phase 3 (medieval)

5.5.1 Ridge and furrow

Traces of ridge and furrow cultivation were revealed within the site subsequent to machine stripping. Three furrows (499, 501 and 503), spaced c.7.5m apart, could be traced on a west-south-west to east-north-east alignment. A further furrow (505) or headland strip lay in the central area of the site at approximately right-angles to the other furrows.

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. Plans and sections were checked against context record sheets to ensure full cross-referencing. Catalogues of context and finds records have been input onto a computerised database (Appendix A).
2. Catalogues of drawings, slide and print photographs have been input onto a computerised database.

The quantification of the site record is shown in Table 1.

Table 1: Primary archive inventory

Context descriptions	397
Plans	12
Sections	70
Colour slides (films)	5
Colour photographs and negatives (films)	7
Artefact record sheets	53

6.2 Recommendations for further analysis

Further work needs to be carried out on the dating of features, especially in consultation with the pottery specialist so that more reliably phased information on the site chronology can be attained. The restricted number of vessels present may make it possible to relate features by the presence of sherds from a single vessel in the fills of a number of features. Once phased the context record can be listed and described phase by phase to produce a detailed site narrative report. Detailed phase plans should also be drawn up which illustrate the structural features, enclosure ditches and industrial activity.

Further analysis of the archaeological record should be carried out which is aimed at establishing an interpretation of the site record and giving 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 (see Section 9).

6.3 Storage and curation

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

The retention and disposal policy for the assemblage from Mourie Farm will be in effect to retain all artefacts. This is because a high proportion of the material is derived from secure contexts (99%) and the assemblage is important in regional terms. The stones that are not querns may be discarded after analysis. The archive

will be placed in the Yorkshire Museum in York after completion of specialist studies.

7.0 SPECIALISTS 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 Mourie Farm is summarised below.

Table 2: Finds assemblage

Artefact type	Quantity
Pottery sherds	318
Daub	3
Whetstone	1
Quern	2
Slag	48
Bone fragments	23

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

7.2 Pottery assessment

Jerry Evans (Appendix B)

7.2.1 Summary

Some 318 sherds of pottery were recovered from the site. The Roman pottery present on site varied in date from the later 1st century AD to the 4th century AD. Sherds of an Iron Age tradition were present but it was not at all clear whether they represented an Iron Age phase of activity or the continued production of this pottery type into the Romano-British period.

The pottery assemblage is relatively typical of a rural site, though the level of finewares was considered to be relatively high (Table 3). The lack of wheelmade greywares was noted as these types would normally be expected to dominate such an assemblage further south in the Vale of York. It is believed likely that such types are replaced by hand-made gritted wares in an Iron Age tradition.

Table 3: Major fabric classes at Mourie Farm

	% count
Amphorae	0
Samian	10.1
Fineware and colour-coated wares	1.1
Mortaria	11.9
White slipped flagon fabrics	0.4
Oxidized wares	1.8
Greywares	12.6
Grittied wares	60.6
Medieval and post-medieval	1.4

7.2.2 Recommendations

Integration of pottery data with site information should be useful in interpreting differences in working areas and structure functions across the site. The presence of vessels apparently deliberately discarded at the terminals of ditches would appear to indicate a ritual function in their disposal.

The pottery assemblage is of importance both for the interpretation of the site and the understanding of the pottery sequence in this part of North Yorkshire. Preliminary examination suggests that 17 sherds are worthy of illustration.

7.3 Stone

Two fragments of fine grained sandstone querns were recovered from within context 213. One was a roughly rectangular fragment 224 x 143 x 51mm of the lower grinding stone of a small flat rotary quern. The upper face was smooth with visible rotary striations, the lower face also smooth and dished. The other fragment was approximately 20% of a flat rotary quern 380mm in diameter and 49mm thick with a slightly projecting rim round a 60mm diameter hopper. The grinding surface was flat and smoothed.

7.4 Metal finds

Two small pieces of rolled lead were recovered from the site. It is believed that these metal finds may represent a votive type of offering and may have been inscribed. It is recommended that an attempt is made to unroll them in an effort to identify if this is indeed the case.

7.5 Slag

Slag waste was recovered from the feature groups to the east of the main enclosure sequence. Specialist analysis of this material will it is hoped contribute to our understanding of the nature of the industrial process undertaken. Further analysis is particularly relevant to the slag fragments that have been tentatively identified as roasted iron ore.

7.6 Animal bone

L J Gidney (Appendix C)

A small collection of animal bones was recovered from 25 contexts, predominantly ditch fills. Preservation of the animal bones is extremely poor. The species identified are all domestic. Cattle bones and teeth were identified in possibly fourteen contexts. The smaller and more delicate bones and teeth of sheep and pigs have not survived as well as the cattle size fragments and therefore cannot be used to postulate the original husbandry practices of the inhabitants. Particularly noteworthy is the high percentage of horse remains in four contexts, far out-numbering pig and equalling the number of fragments of sheep bone. The roughly contemporary settlement at Thorpe Thewles, some 15 miles to the north, also had a high proportion of horse bones.

The most interesting aspect of this assemblage is the relatively high proportion of horse remains in such a small collection. This appears to be a characteristic Eastern Yorkshire phenomenon on Iron Age to Romano-British sites.

7.7 Environmental record

Jacqui Huntley (Appendix D)

7.7.1 Summary

Twenty-three contexts were environmentally sampled. Bulk samples were taken from a variety of fills of negative features. The material was manually floated in the laboratory with both flots and residue retained upon 500 μ mesh. 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 assemblage would indicate crop processing debris with mostly weed seeds being recovered. Spelt wheat, barley and oats were identified, though the oats may have been the wild species since the grains are not distinguishable from the cultivated species.

7.7.2 Recommendations

Three contexts (422, 424 and 426) probably have sufficient material to warrant full analysis despite poor preservation.

8.0 SIGNIFICANCE OF RESULTS

The results of the archaeological excavation at Mourie Farm are of regional significance with respect to the structural evidence and the associated artefactual assemblage recovered.

8.1 Stratigraphic analysis

A series of enclosures, structural features and industrial activity was present on the site and spanned much of the Roman period. Artefact and spatial analysis may enable the nature and function of these structures to be understood, whether domestic, industrial or agricultural. Comparison of the artefacts recovered may lead to cross-contextual links between features identifying some of those which are contemporary with each other. A literature search for parallel features on other sites and a further Sites and Monument Record search will produce additional information and assist in placing the site at Mourie Farm in a wider regional perspective.

8.2 Artefactual record

The quantity of ceramic material recovered from Site 712 greatly enhances the significance of the excavation. 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. In recent years a number of assemblages of Romano-British pottery have been recovered from sites excavated using modern techniques within the Vale of York. The pottery from Mourie Farm will be particularly useful as it can be compared with other recently excavated sites in Cleveland and North Yorkshire (see Appendix B).

The metal, slag, and stone artefacts are of limited potential but may reveal insights into the technology, activities and subsistence nature of the site.

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 on Iron Age to Romano-British sites and has also been noted in assemblages from other excavations at Manor Cottage, Creyke Beck, Crambeck, Swaythorpe and the Market Weighton pipeline. While the horse bones are worthy of remark as part of a regional trend, the poor preservation and small size of the total assemblage do not justify any further detailed study.

For the majority of the environmental samples assessed very little data has been recovered. There are three contexts (422, 424 and 426) which have both further material and a reasonable number of seeds. Full processing and analysis of would add a further, albeit small, dataset to the whole.

9.0 POTENTIAL FOR FURTHER ANALYSIS

The excavations at Mourie Farm have revealed a complex multi-phase settlement representing Romano-British activity in the North East of England. The examination of domestic sites of this period is rare in North Yorkshire and Teesside, and most

previous works are either antiquarian excavations not carried out to modern standards or excavations of limited size. Such sites are of particular interest as they represent the living conditions and rural activity of the vast majority of the population.

Sufficient securely stratified artefacts have been recovered to provide relative chronologies based on the pottery typology sequence, stratigraphical relationship together with analysis of spatial distribution and structural form.

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.

The quality of preservation and range of stratified Romano-British pottery from this site is rare in the North East. Further detailed analysis of the pottery artefacts will enhance artefact studies in the region, and shed light on the interesting contrast between the material here and the heavier use of Romanised ceramics on other sites in the Tees Valley.

Further analysis of the two fragments of quern recovered from the industrial sequence to the east of the main enclosures will contribute to the understanding of the farming processes being undertaken at the settlement.

No samples taken for radiocarbon assay are recommended for processing as such dating would not lead to a more accurate site chronology than that which is derived from the pottery evidence.

9.1 Stratigraphic record

Further analysis of the site archive, and in particular refined stratigraphic phasing will enable an integrated synthesis of the stratigraphic evidence with the overall development of the site in relation to the use or function of the structures and enclosures (whether domestic, agricultural or industrial).

9.2 Artefactual record

An assessment of metals and slag has yet to be undertaken.

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 Mourie Farm is of primary importance. This will involve integrating the dating and phasing evidence reached through pottery analysis with that derived from a detailed spatial 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.

Stage 3: Further literary research of other excavated sites would be undertaken to assist with the interpretation of the excavated evidence, and to place Mourie Farm within its local, regional and national contexts. Any parallels with other Romano-British sites need to be examined, particularly the pottery assemblage and types of structures represented.

Stage 4: The stratigraphic and structural evidence will be integrated with the artefactual and environmental analysis. The chronology, feature and artefact distribution will be analysed to establish the use of the enclosures and function of different site areas. There will be an analysis of characteristics of structural features and a comparison with similar feature types 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 at Mourie Farm 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 principal finds and environmental assemblages can be summarised as follows:

Pottery

The Romano-British pottery assemblage should be analysed in view of the archaeological record to produce a fully integrated report on the pottery at Mourie Farm. 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.

Animal bone

No further analysis of animal bone is necessary.

Slag and metal

Full analysis of all slag and metal objects is required.

Stone

Further analysis of the fragments of quern stone should be undertaken. The fragments of quern should be compared with querns recovered within the region from other rural Romano-British sites.

11.0 CONCLUSION

The post-excavation assessment of the results of the excavation at Mourie Farm has established the presence of two principal phases of enclosures from the late 1st-early 2nd century AD to the 3rd-4th century AD. In addition a series of structural linears were also present indicating a complex and extended stratigraphical sequence. The presence of two phases of boundary ditch is also of note particularly in conjunction with the two phases of industrial activity 'outside' of the main site area and dating to a similar time span.

The excavation at Mourie Farm represents a partial sample of a much larger complex, a framework which will place some limits on the interpretation of the site with regard to its detailed chronological development and function. Nevertheless continued analysis of the site phasing in conjunction with both spatial analysis of the enclosures and linears together with the pottery distribution offers the prospect of shedding further light on the potential functions of the enclosure groups.

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

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Appendix A

CONTEXT AND FINDS CATALOGUE

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
200	layer (topsoil)				8			
201	fill of 201 (stone metalling)							
202	feature cut							
203	fill of pit 204							
204	sub-rectangular pit cut							
205	land drain cut							
206	fill of land drain 205				1			
207	linear slot cut							
208	fill of linear slot 207							
209	fill of ditch 210							
210	linear ditch cut							
211	fill of ditch 212							
212	ditch cut							
213	fill of pit 214							2
214	oval pit cut							
215	ditch cut							
216	fill of ditch 215				4			
217	fill of structural linear 218	1						
218	structural linear cut							
219	fill of posthole 220							
220	posthole cut							
221	fill of ditch 222			1	2			
222	ditch cut							
223	fill of ditch 224							
224	ditch cut							
225	fill of substantial ditch	1			6			
226	duplicated							
227	fill of gully 228							
228	gully cut							
229	shallow linear gully cut							
230	fill of linear gully 229				4			1
231	cobbles associated with 201							
232	fill of feature 202							
233	fill of ditch 234				1			
234	ditch terminus cut							
235	fill of ditch 236				4			
236	ditch cut							
237	fill of posthole 238							
238	posthole cut							
239	fill of posthole 240							
240	posthole cut							
241	duplicated							
242	duplicated							
243	fill of posthole 244							
244	posthole cut							
245	fill of ditch 246			7	2			

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
246	ditch cut							
247	fill of ditch 248	1	1		1	1		
248	ditch cut							
249	fill of ditch 250	3		1	7			
250	ditch cut							
251	fill of gully 252	1			73			
252	gully cut							
253	fill of posthole254							
254	posthole cut							
255	fill of posthole 256							
256	posthole cut							
257	fill of curvilinear 258							
258	curvilinear cut							
259	fill of posthole 260							
260	posthole cut							
261	fill of posthole 262							
262	posthole cut							
263	gully cut							
264	fill of gully 263						1	
265	fill of posthole 266							
266	posthole cut							
267	fill of linear slot 268							
268	linear slot cut							
269	fill of posthole 270							
270	posthole cut							
271	fill of linear slot 272							
272	linear slot cut							
273	fill of linear slot 274							
274	linear slot cut							
275	primary fill of ditch 246							
276	stone spread in feature 277				1			
277	negative feature							
278	fill of posthole 279							
279	posthole cut							
280	fill of ditch 281							
281	ditch cut							
282	fill of pit 283				1			
283	pit cut							
284	fill of gully 285							
285	gully cut							
286	fill of gully 287							
287	gully cut							
288	fill of beam-slot 289							
289	beam-slot cut		14			1		
290	worm silt around stones 231		1					
291	fill of gully 292							
292	gully 291							
293	fill of ditch 294							
294	ditch cut							
295	fill of gully 296				1			
296	gully 295							

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
297	fill of ditch 298	1			69	2		
298	ditch cut				7			
299	stone fill of pit 300							1
300	pit cut							
301	linear slot cut							
302	fill of linear slot 301							
303	duplicate of 204							
304	linear slot cut							
305	fill of linear slot 304							
306	fill of posthole 207	1						
307	posthole cut							
308	fill of posthole 309							
309	post hole cut							
310	duplicate of 203							
311	secondary fill of 300				5			
312	stony fill of pit 313	1			20			
313	pit cut							
314	fill of ditch 315	1		1	4			
315	ditch cut							
316	burnt layer above hearth 317							
317	burnt clay forming hearth							
318	burnt layer beneath hearth 317				1	1		
319	stony fill of pit 320							
320	pit cut							
321	layer (subsoil)							
322	fill of pit 323							
323	pit cut							
324	fill of ditch 325	1			1			
325	ditch cut							
326	fill of pit 327				7		1	1
327	pit cut							
328	fill of ditch 329				1	1		
329	ditch cut	1			9			
330	fill of ditch 331							
331	ditch cut							
332	fill of pit 333							
333	pit cut							
334	fill of pit 335			1	5			
335	pit cut							
336	fill of oval pit/depression 337							
337	oval pit/depression cut							
338	fill of oval pit/depression 339							
339	oval pit/depression cut				1			
340	fill of pit 341							
341	pit cut							
342	fill of ditch 343	1			2			
343	ditch cut							
344	fill of ditch 345							
345	ditch cut	1						
346	fill of ditch 345				3			
347	ditch cut							

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
348	fill of gully 349							
349	gully cut							
350	same as 250							
351	same as 251				2			
352	fill of gully 353							
353	gully cut							
354	fill of gully 355							
355	gully cut							
356	fill of gully 357							
357	gully cut							
358	fill of pit 359				26		1	
359	pit cut							
360	fill of gully 361							
361	gully cut							
362	fill of gully 363							
363	gully cut							
364	fill of linear 365							
365	linear cut							
366	fill of ditch 367				16		2	
367	ditch terminus cut							
368	fill of ditch 369							
369	ditch cut							
370	fill of gully 371							
371	gully cut							
372	fill of pit 373	1						
373	pit cut							
374	secondary fill of gully 376							
375	primary fill of gully 276							
376	gully cut							
377	layer (subsoil)					1		
378	fill of gully 379							
379	gully cut							
380	fill of furrow 381							
381	furrow cut							
382	fill of curvi-linear 383				1			
383	curvi-linear cut							
384	burnt fill of ditch 385				1		3	
385	ditch cut							
386	fill of curvi-linear 387		3		1	1	40	
387	curvi-linear cut							
388	fill of gully 389							
389	gully cut							
390	fill of pit 391							
391	pit cut							
392	fill of pit 393							
393	pit cut							
394	fill of pit 395							
395	pit cut							
396	fill of posthole 397							
397	posthole cut							
398	fill of gully 399							

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
399	gully cut							
400	substantial ditch cut							
401	fill of ditch 400	1			5	1	1	
402	fill of ditch 400	6			4			1
403	duplicate of 247							
404	duplicate of 248							
405	duplicate of 240							
406	duplicate of 241							
407	fill of 393							
408	fill of ditch 409							
409	ditch cut							
410	fill of curvilinear 411							
411	curvilinear cut							
412	fill of ditch 413							
413	ditch cut							
414	fill of posthole 415							
415	posthole cut							
416	fill of pit 417							
417	pit cut							
418	fill of gully 419							
419	gully cut							
420	fill of posthole 421							
421	posthole cut							
422	fill of ditch 423		2		11			
423	ditch cut							
424	fill of pit 425							
425	pit cut							
426	fill of pit 427							
427	pit cut							
428	fill of gully 429							
429	gully cut							
430	fill of slot 431							
431	slot cut							
432	fill of linear slot 433							
433	linear slot cut							
434	fill of linear slot 435							
435	linear slot cut							
436	fill of linear slot 437							
437	linear slot cut							
438	fill of linear slot 439							
439	linear slot cut							
440	fill of linear slot 441							
441	linear slot cut							
442	fill of linear slot 433							
443	linear slot cut							
444	fill of posthole 445							
445	posthole cut							
446	fill of posthole 447							
447	posthole cut							
448	fill of curvilinear slot 449							
449	curvilinear slot cut							

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
450	fill of posthole 451							
451	posthole cut							
452	fill of posthole 453							
453	posthole cut							
454	fill of linear slot 455							
455	linear slot cut							
456	fill of linear slot 457							
457	linear slot cut							
458	fill of ditch 459							
459	ditch cut							
460	fill of pit 461							
461	pit cut							
462	fill of ditch 459							
463	ditch cut							
464	fill of pit/posthole 465							
465	pit/posthole cut							
466	fill of linear/ditch 467							
467	linear/ditch cut							
468	fill of linear slot 469							
469	linear slot cut							
470	fill of posthole 471							
471	posthole cut							
472	fill of linear slot 473							
473	linear slot cut							
474	fill of ditch 475							
475	ditch cut							
476	fill of ditch 477							
477	ditch cut							
478	fill of linear slot 479							
479	linear slot cut							
480	fill of linear slot 481							
481	linear slot cut							
482	fill of linear slot 483							
483	linear slot cut							
484	fill of ditch 485							
485	ditch cut							
486	fill of linear slot 487							
487	linear slot cut							
488	fill of linear slot 489							
489	linear slot cut							
490	fill of posthole 491							
491	posthole cut							
492	fill of posthole 493							
493	posthole cut							
494	fill of posthole 495							
495	posthole cut							
496	fill of linear slot 497							
497	linear slot cut							
498	fill of furrow 499							
499	furrow cut							
500	fill of furrow 501							

Context	Description	Animal bone	CBM	Lead	Pottery	Sample	Slag	Stone
501	furrow cut							
502	fill of furrow 503							
503	furrow cut							
504	fill of furrow 505							
505	furrow cut							

Appendix B

POTTERY

Jerry Evans

1.0 FACTUAL DATA

Some 298 sherds of pottery from the excavations have been examined. Roman pottery has been recovered which seems to range in date from the later 1st or 2nd centuries until the mid 4th century. Pottery in an Iron Age tradition is present, but this is probably of earlier Roman date, and there is no clear evidence there is any 1st century samian ware, with nearly all the samian being mid-later Antonine.

Table A1 shows an approximate breakdown by sherd count of the major fabric classes represented.

Table A1: Major fabric classes at Mourie Farm

	% count
Amphorae	0
Samian	10.1
Fineware and colour-coated wares	1.1
Mortaria	11.9
White-slipped flagon fabrics	0.4
Oxidised wares	1.8
Greywares	12.6
Grittled wares	60.6
Medieval and post-medieval	1.4

Amphorae are absent from the site, which is not unusual on basic rural sites. Fineware levels appear fairly high, although the method of rapid quantification is partly responsible, with samian levels 3.2% if the 19 chips from (358) excluded (and only four vessels are represented in total) and finewares 4.3% in total. The latter level is within the range for northern rural sites. Mortaria also seem well-represented, but again most of the sherds come from a single vessel and only two mortaria are represented. The really notable feature of the assemblage is the lack of wheelmade greywares, which might normally be expected to dominate assemblages further south in the Vale of York and on military sites in the north-east from the Hadrianic period until the mid 4th century. 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 North Humberside, 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. In particular there appears to be an interesting contrast between the material here and the heavier use of Romanised ceramics on other sites in the Tees Valley, one which also seems to be reflected in the Iron Age material from Manor Cottage, East Rounton. It had appeared that heavier use of Romanised ceramics was also 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 this may now be in some doubt as a result of these excavations.

Updated project design

Research aims

- 1) to examine the chronological development of the site
- 2) to examine production and supply at the site
- 3) to examine the social networks and identity of the site's inhabitants

3.0 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, which would seem to link in broad terms with those of the North York Moors.

4.0 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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Appendix C
ANIMAL BONE
L J Gidney

1.0 INTRODUCTION

A small collection of animal bones was recovered from the excavation of a Romano-British settlement discovered at Mourie Farm near Low Worsall on the route of the BP pipeline. Seventeen contexts, predominantly ditch fills, produced fragments of animal bone. The condition of the animal bones is extremely poor, the excavator has noted that the acid clay soil conditions have proved inhospitable to the preservation of animal bones. The bones from seven contexts were totally unidentifiable scraps. In context 312 even teeth, which survive longest, have been reduced to flakes of enamel which cannot be identified with confidence as cattle. The species identified are all domestic. Cattle bones and teeth were positively identified in nine contexts, sheep/goat and pig were recognised in only one context each. The sheep/goat bone only appears to have survived by virtue of having been burnt.

Several bones appear to have been deposited, and found in situ, as complete elements. Context 422 produced a cattle tibia, of which the distal end is present and fused. This bone was lifted on a bed of the underlying clay. Despite this careful attention, the shaft of the bone is crumbling into dust. Context 314 produced a cattle metacarpal with fused distal end, also crumbling despite careful packing and a supporting layer of clay. Again lifted on a large bed of the surrounding matrix was a cattle jaw from context 247. Traces of the teeth are present, suggesting it was an immature animal with molar 3 erupting. Not enough survives to record details of tooth wear. Similar care was given to most of the now unidentifiable finds.

If these whole bones were found in association with the concentrations of pottery from the ditch terminals, noted by the excavator, it may enhance the notion of a ritual element to the deposits.

2.0 DISCUSSION

While the assemblage from Mourie Farm is particularly small and poorly preserved, it is interesting that no probable fragments of horse were observed. This runs counter to the general trend observed for these small assessment sites. A relatively high proportion of horse remains appears to be a characteristic Eastern Yorkshire phenomenon on Iron Age to Romano-British sites within the region as noted in assemblages from other NAA excavations at Manor Cottage, Creyke Beck, Crambeck, Swaythorpe and Market Weighton water pipeline.

3.0 RECOMMENDATIONS

This small assemblage is extremely unlikely to be representative of the original livestock exploitation practices of the inhabitants. Further work on the group cannot be justified.

Appendix D

PALAEOENVIRONMENTAL SAMPLES

J Daniell and J Huntley

1.0 INTRODUCTION

Archaeological monitoring of top soil stripping at Mourie Farm, Low Worsall, North Yorkshire (NZ 403 103) revealed a spread of stones and some negative features, principally linear and curvilinear boundaries. Pottery (c.300 sherds) indicate a date range between the 1st and 4th centuries AD. Excavation was undertaken by staff of Northern Archaeological Associates in collaboration with BP's archaeological inspector.

Bulk samples were taken from stratified deposits in order to assess their potential to address palaeoenvironmental and palaeo-economic questions.

2.0 METHODOLOGY

The site was not waterlogged and therefore the only plant material considered to be contemporary with deposition was expected to be charred or mineralised. The samples were therefore manually floated in the laboratory with both flot and residue retained at 500 μ . The first two samples demonstrated an extremely recalcitrant nature to the clays taking some hours to completely process and therefore it was decided to process only 5 litre sub samples of the remainder. Flots were scanned at magnifications of up to x50 and notes made of the quality and quantity of seeds. In many cases the flots, being small amounts, were completely sorted.

Residues were scanned for artefactual and ecofactual material. This was felt particularly important for these soils which are iron rich which leads to mineral concretions forming around much of the charcoal and preventing it from floating.

3.0 RESULTS AND DISCUSSION

Details of the individual samples are presented in Table D1 below and the botanical data, per 5 litres processed, in Table D2.

Table D1: Results of samples

Context	Description
203	Fill of pit 204. 10YR 4/3 dark grey brown silty clay. Carbonised wood in residue otherwise purely mineral. Flot: mat of modern roots. Some charcoal including heather and monocot root bases – presumably burnt peat. Small selection of seeds including at least one possible bread wheat grain.
227	Fill of gully 228. 10YR 6/6 yellow clay. Purely mineral residue. Flot: modern roots with minimal charcoal, coal and mineral plus some industrial waste. One <i>Sieglingia</i> .
235	Fill of ditch 236. 10YR 5/6 orange-brown clay. Flot: modern roots and minimal iron stained charcoal and coal. No seeds.
247	Fill of ditch 248. 10YR 5/4 mid yellow-brown silty clay. Flot: modern roots and some relatively clean well preserved but highly fragmented charcoal. No seeds though.

Context	Description
249	Fill of ditch 250. 10YR 4/4 grey brown silty clay. Flot: modern roots and coal. Some clinkery charcoal. Moderate amounts of bone and calcined bone but all very tiny fragments. More or less no clean charcoal. Finer fractions contain some fragments of metallic looking, honeycomb clinker/industrial waste. <2mm Gramineae = 1
264*	Fill of linear slot 263, prob. Structural. 10YR 5/3 dark grey brown clay. Flot: mass of modern roots, coal and the very occasional piece of charcoal. No seeds.
273	Fill of ditch 274. 10YR 5/4 orange- brown clay. Flot: mostly modern roots, some charcoal – a mixture of oak and other species. More or less no coal. For this site the charcoal is clean and relatively well preserved. One fragment of radish pod – charred.
289*	Fill of beam slot 288. 10YR 3/2 dark brown sticky clay. Flot: Flot: modern roots and cindery charcoal. Much of the latter is root sheath/bases and fine monocot type stems. This could be burnt unhumified fen-type peat or remains of hay at least in part. There were very few seeds and these were undiagnostic.
297	Fill of uneven ditch feature which contained pos. human bone. 10YR 4/3 brown clay. Flot: clinkery coal, mineral and modern roots, occasional monocot root stocks. Quite a few tiny fragments of bone with the very occasional one calcined. A few seeds only.
304*	Fill of linear 305, pos. structural. 10YR 4/3 brown clay. Flot: modern root mat with a little charcoal – some glassy and clinkery, occasional fragments of charred heather. Modern seeds only.
314	Fill of ditch 315. 10YR 5/3 yellow brown silty clay. Flot: modern roots. Little or no coal and clinkery charcoal. Very occasional scrap of calcined bone.
317*	Burnt clay pos. hearth. 10YR 6/6 and 7.5YR 6/8 orange and yellow brown mottled clay. Flot: mat modern roots and little coal, less charcoal. Very occasional industrial waste – with appearance of metallic solidified molten flow.
317*	Burnt clay pos. hearth. 10YR 6/6 and 7.5YR 6/8 orange and yellow brown mottled clay. Flot: mat modern roots and little coal, less charcoal. Very occasional industrial waste – with appearance of metallic solidified molten flow.
328	Fill of pit 333. 10YR 5/4 grey/brown silty clay. Flot: modern roots with iron stained charcoal – lots of oak and some heather. One each oat grain and Sieglingia.
331	Fill of pit 332. 10YR 4/3 dark brown clay. Flot: clinkery and glassy charcoal with occasional fragments of heather. A small selection of plant remains including 2 spelt glume bases.
354	Fill of gully. 10YR 6/4 grey-brown clay. Flot: modern roots mat with minimal coal and glassy charcoal. No seeds were identified.
360	Fill of gully. 10YR 6/4 grey brown clay. Flot: mat of silty modern roots with occasional fragments of coal and glassy charcoal. No seeds were identified.
386	Fill of curvilinear. 10YR 6/4 grey brown clay. Flot: mat of silty modern roots with a little charcoal and coal.
389	Numbered with cut. Should be 388 fill of gully 389.
401	Upper fill of boundary ditch 400. 10YR 5/3 dark grey brown clay. Flot: silty material with some modern roots and a little each of coal and charcoal. The very occasional fragment of bone survived.
402	Primary fill of boundary ditch 400. 10YR 5/6 orange brown clay. Flot: mineral and coal with more or less no charcoal. Very few modern roots either. One trigonous sedge nutlet.

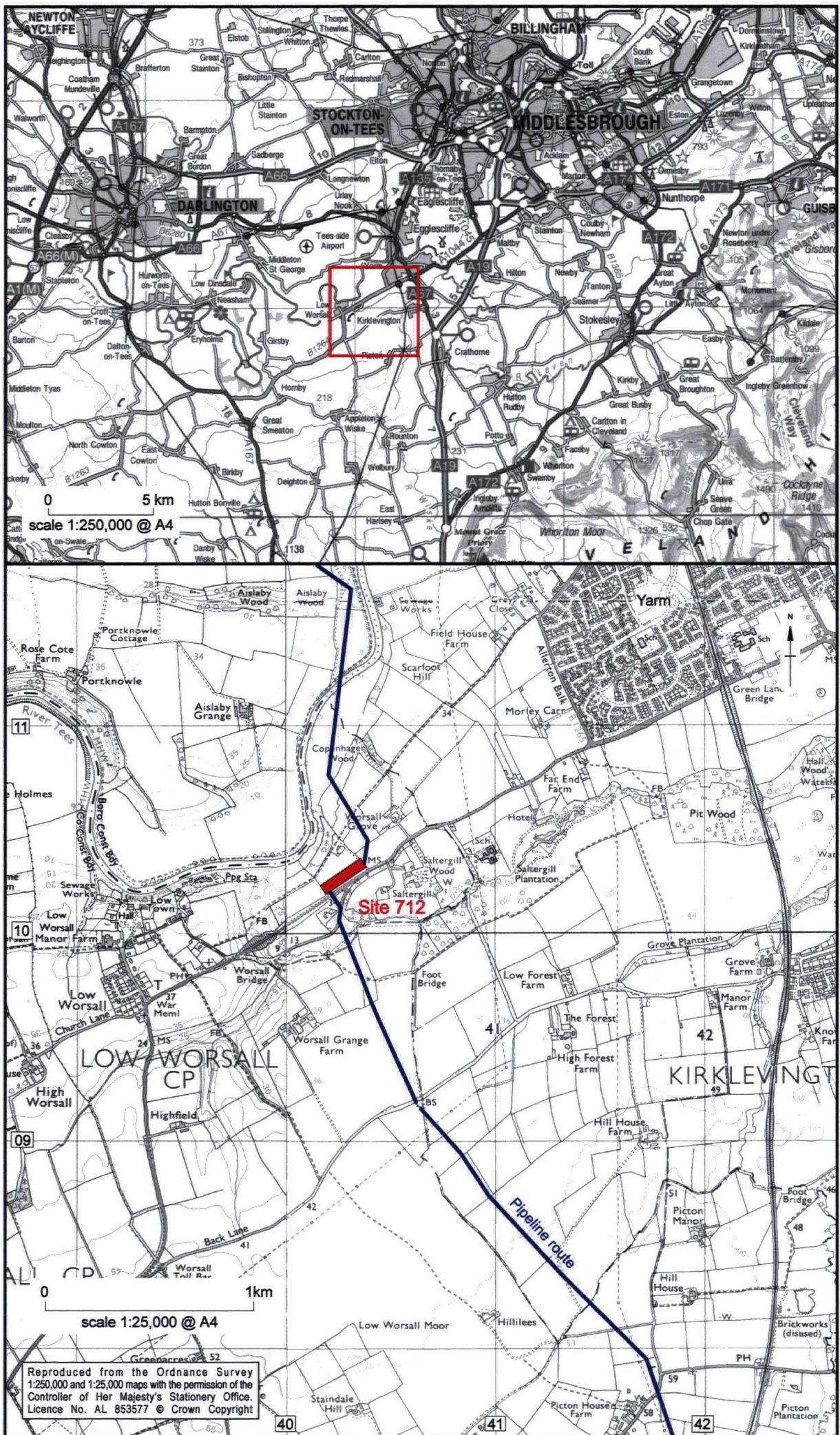
Context	Description
422	Fill of ditch 423 (highly 'organic' looking contained much charcoal). 10YR 4/2 dark grey brown clay. Flot: modern roots and clinkery charcoal and bone fragments. Very occasional coal. Some monocot rootstock type material. Selection of seeds and one of the richest samples from this site.
424	Sample from burnt pit 425, contained numerous pot-boilers. 10YR 5/3 dark grey brown clay. Flot: modern roots and charcoal, coal and burnt soil. Generally clinkery and glassy material. Cereals very badly preserved. Modern straw remains.
426	Sample from pit adjacent to 425 similar fill. 10YR 3/3 really dark brown clay with large stones. Flot: modern roots and clinkery charcoal with a little coal. About 6 fragments of indeterminate cereal and one barley grain – badly preserved though. Nothing in finer fractions.
428	Fill of gully 429. 10YR 3/3-3/2 dark brown clay. Flot: Mineral and modern roots with clinker/industrial waste – pinkish grey spatter. Occasional coal and very occasional charcoal – one or two fragments heather. No seeds.

Twenty-three samples were processed and assessed. Only 12 contained any charred plant remains and concentrations were low (Table C2). This is not unusual but means that primary deposits of, for example, crop processing debris are not available to study.

The immediate impression with this assemblage, as with the one from MC99 (TSEP Site 713), is of crop processing debris with mostly weed seeds being recovered. Spelt chaff indicates that this species of wheat was being used as was barley and apparently oats. The oats, however, may have been the wild species since the grains are not distinguishable from those of the cultivated species. The three contexts, 422, 424 and 426 probably do have enough material to warrant full analysis despite poor preservation. They would enable a small but hopefully significant dataset to be accrued for this site and which could be compared with the earlier dated site at MC99.

Table D2: Botanical data (5 litres processed in all cases)

Context	203	227	249	273	289	297	328	331	402	422	424	426
<2mm Gramineae			1									
Raphanus pod frag				1						1		
Sieginglia decumbens	2	1			1	1	1	5		10	3	
Carex (trigonus)						1			1	4		
cf. Ulex europaeus										1		
Avena awn										2		
Cerealia indet	2					1					5	6
Triticum sp.											1	
Galium aparine											1	
Montia font. Chnd					1							
Hordeum undiff						1						1
Avena							1					
spelt glume base								2				
<4mm legume								1				
cf. Triticum aestivum	1											
Total	5	1	1	1	2	4	2	8	1	18	10	7
Seeds/litre	1	0.2	0.2	0.2	0.4	0.8	0.4	1.6	0.2	3.6	2	1.4



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Figure 1 TSEP Site 712 (MF99): location plan

TSEP Site 712 MF99

Mourie Farm, Low Worsall
NZ 403 103

Phase 1



0 25m
scale 1:400 @ A3

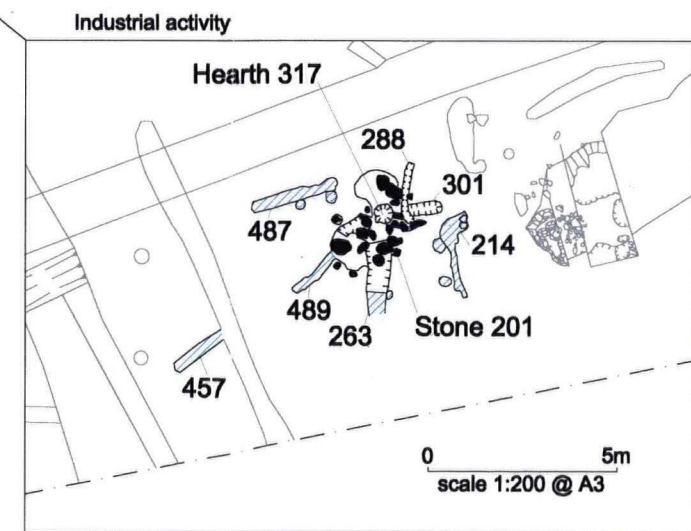
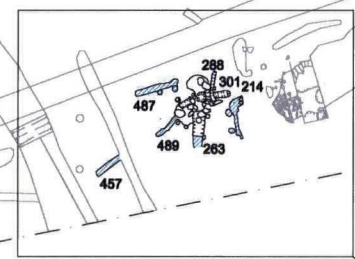
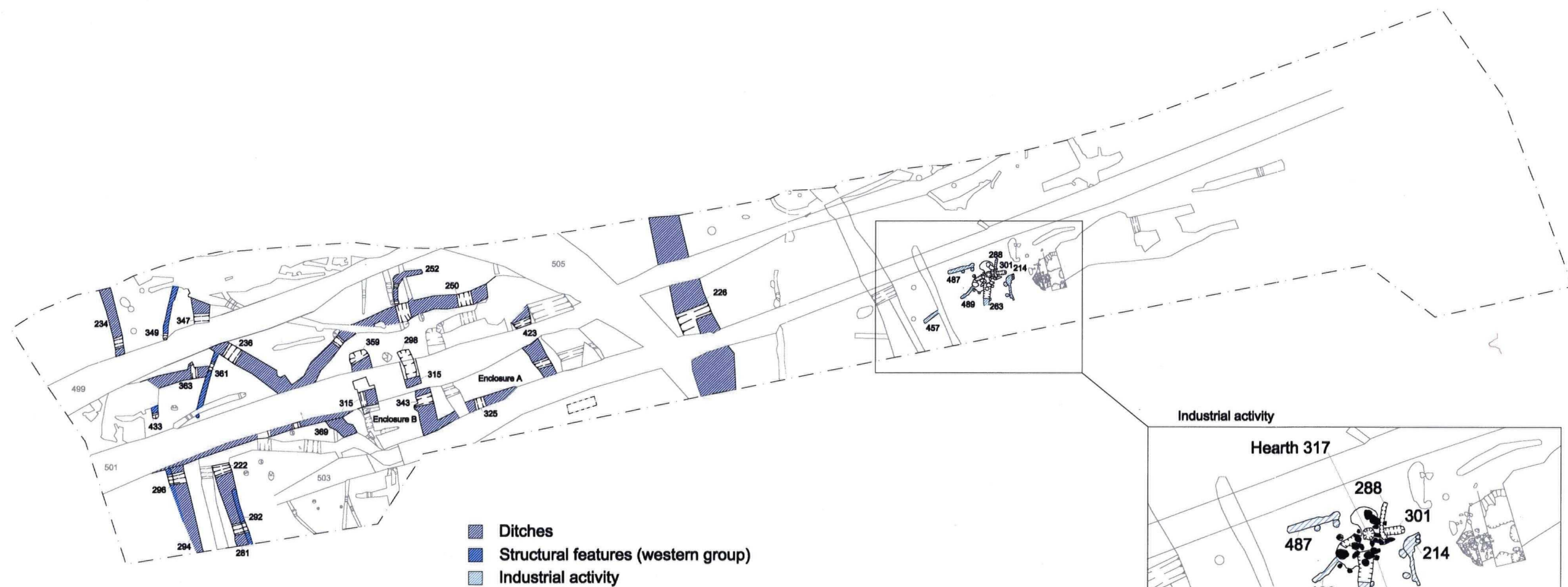


Figure 2 TSEP Site 712: plan of Phase 1 features

TSEP Site 712
MF99

Mourie Farm, Low Worsall
NZ 403 103

Phase 2

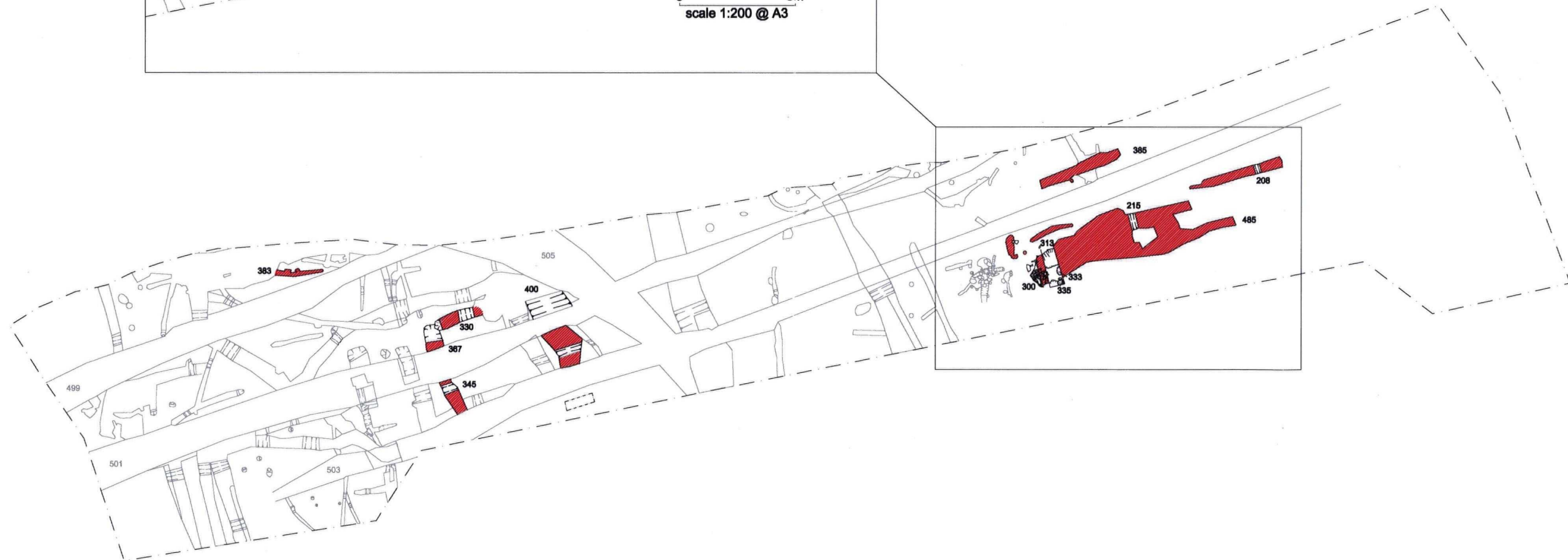
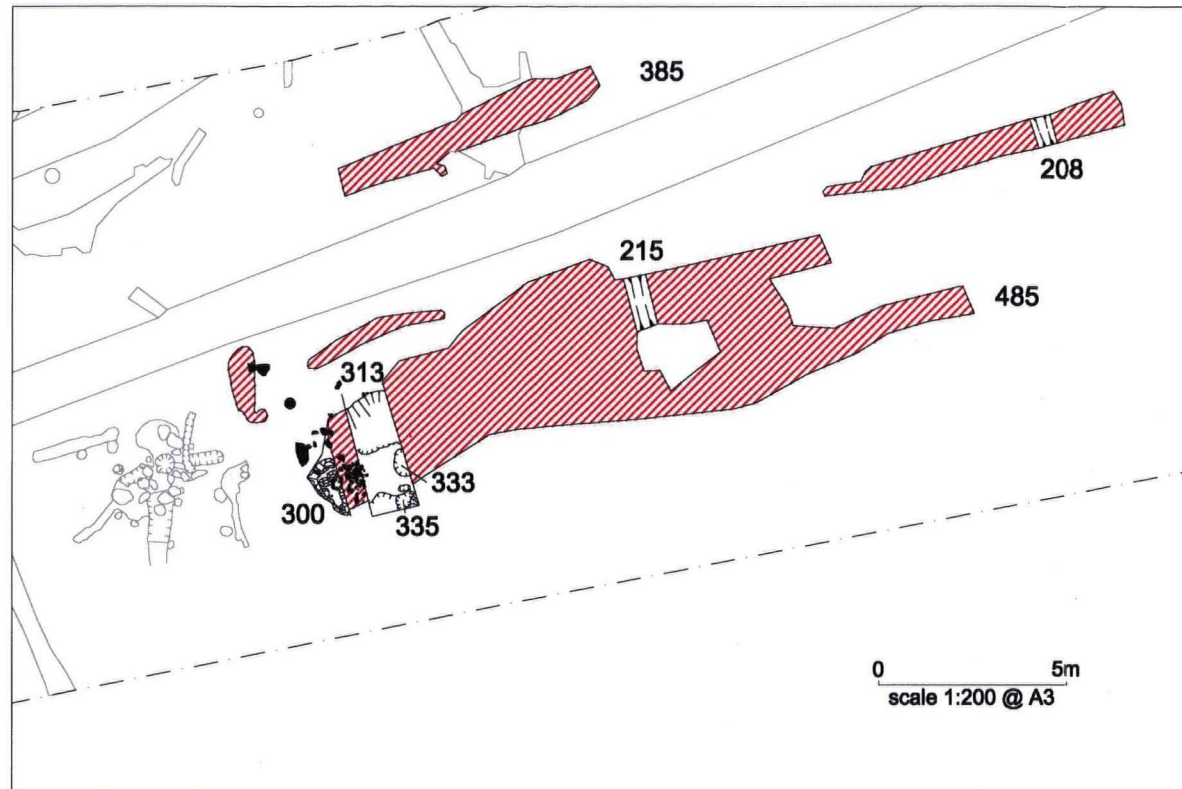


Figure 3 TSEP Site 712: plan of Phase 2 features

TSEP Site 712 MF99

Mourie Farm, Low Worsall
NZ 403 103

Unphased features

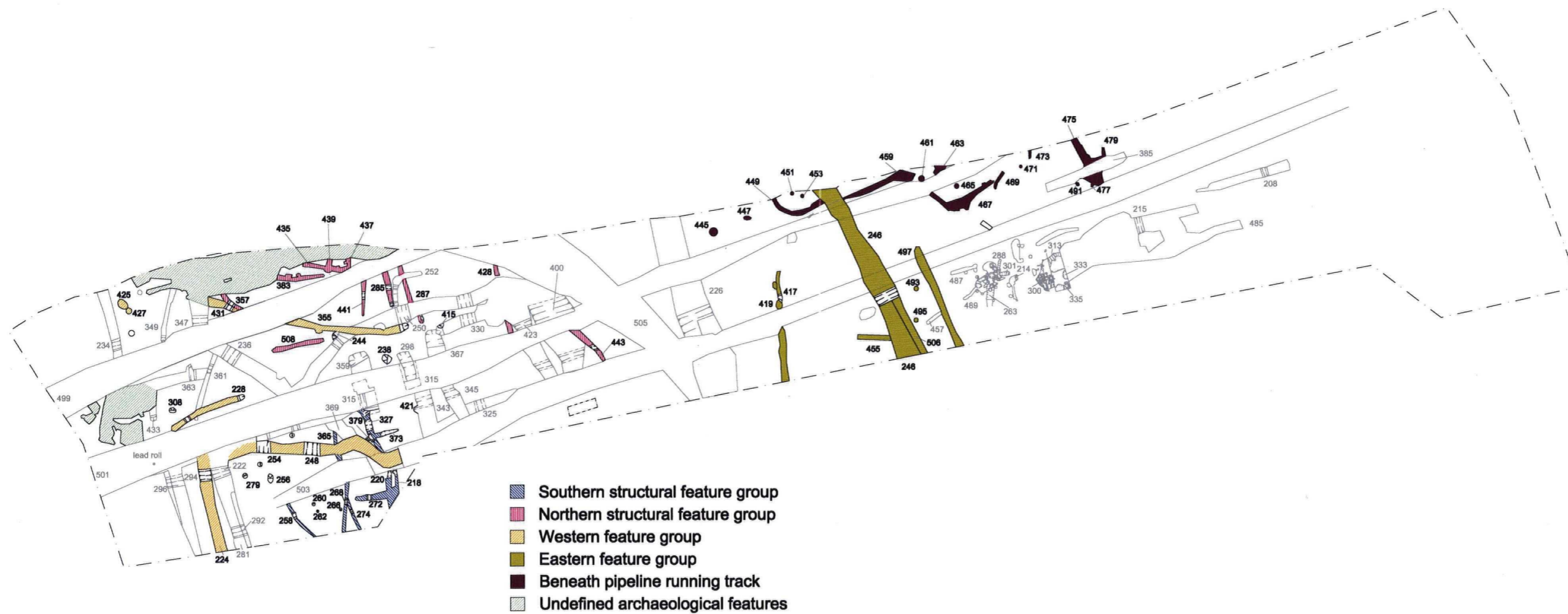


Figure 4 TSEP Site 712: unphased feature plan