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**ARCHAEOLOGICAL INVESTIGATIONS  
ALONG THE ROUTE OF A PIPELINE  
BETWEEN RISEGATE AND  
WEST PINCHBECK  
LINCOLNSHIRE  
(RWP 99, RWP199, RWP299)**

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**Work Undertaken For  
Anglian Water Services Ltd**

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**ARCHAEOLOGICAL  
PROJECT  
SERVICES**





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## 1. SUMMARY

*An archaeological watching brief was undertaken during the excavation of an easement and water-main trench between West Pinchbeck and Risegate, South Holland, Lincolnshire. Following the initial watching brief, two areas were selected for a more detailed examination (or enhanced watching brief).*

*Prehistoric remains dating from the Mesolithic (10,000-4000 BC) to the Iron Age (800 BC-AD 42) are known at the western limit of the pipeline. The pipeline passes through areas containing extensive Romano-British (AD 42-410) archaeology identified through aerial photography and fieldwalking. Two such areas were affected by the pipeline route. During the medieval period (AD 1066-1540) the area was largely fen, though reclamation (indicated by fen-banks) followed by limited settlement is characteristic of the area around the pipeline.*

*The initial watching brief monitored stripping of the topsoil along the route of the pipeline trench along its entire route. Two areas were then subject to further detailed examination, comprising an enhanced watching brief, which was undertaken following the topsoil stripping and before the excavation of the pipeline trench. These two areas correspond to known settlement remains of Romano-British date. A watching brief was also undertaken during the excavation of the pipeline trench, though conditions were not conducive for thorough recording.*

*The watching brief identified natural sands and silts and two former creeks as well as undated, Romano-British and medieval ditches along the route of the pipeline. The enhanced watching brief recorded two areas containing Roman ditches, a few postholes and associated domestic refuse. These represent the first settlement of this area following marine flooding that had occurred during the*

*latter part of the prehistoric period. One of these areas, along Fifth Drove, was probably used by herders on a seasonal basis. The second area, in Gosberton Clough, contained evidence for more long term occupation, and is located on the edge of a previously identified Romano-British settlement.*

*Finds recovered from the investigation include a moderate assemblage of pottery of the Roman period. These indicate a relative degree of sophistication perhaps suggesting moderately high status of the occupants. Carved bone pins, vessel glass and a fragment of a copper alloy brooch were also retrieved. Other finds include brick, tile, slag and other ironworking residues.*

*The animal bone assemblage suggests that cattle were the most important animal followed by sheep. Pig, horse, dog and cat were also retrieved along with fish, shellfish and eggs also contributing to the diet. Environmental samples indicated that crop processing was taking place with wheat being the principal cereal grown.*

## 2. INTRODUCTION

### 2.1 Definition of a Watching Brief

*An archaeological watching brief is defined as “a formal program of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed.” (IFA 1999).*

### 2.2 Background

*Anglian Water Services Ltd approached Lincolnshire County Council Archaeology Section for advice concerning the archaeological implications along the route*

of proposed water main replacement between West Pinchbeck and Risegate, Lincolnshire. The County Archaeological Officer advised that the pipeline will pass through archaeologically sensitive areas and recommended that an archaeological desk-based assessment should be undertaken of the route (Herbert 1999). A programme of geophysical survey was then carried out on two areas. Following this it was determined that an archaeological watching brief, with a contingency for further detailed work, should be undertaken during the groundworks.

Archaeological Project Services was commissioned by Anglian Water Services to undertake the watching brief during the water main replacement between West Pinchbeck and Risegate, Lincolnshire. The work was carried out between the 8<sup>th</sup> October 1999 and 26<sup>th</sup> February 2000.

### 2.3 Topography and Geology

The investigation area lies 10km northwest of Spalding and 12km northeast of Bourne in the parishes of Pinchbeck and Gosberton, in the administrative district of South Holland, Lincolnshire (Fig. 1).

The route of the pipeline starts at a pumping station on the south side of Parson Drove, West Pinchbeck at National Grid Reference TF 1652 2776 and heads northwards along the west side of Fifth Drove. It then turns east to follow the B1397, crossing the Pointon Lode and heading north whereupon it turns east, north of Gosberton Clough to finish at Risegate at National Grid Reference TF 2056 2985. The total length of the pipeline is 5.7km and it traverses generally level ground at a height of *c.* 3m OD.

The proposed pipeline chiefly crosses soils of the Wisbech Association, typically coarse silty calcareous soils, extensive on the silt fenland around the Wash and on current or former river courses (Hodge *et*

*al.* 1984, 361-2). However, the western part of the route traverses calcareous soils of the Wallasea 2 Association (*ibid.* 338). These soils overlie sands and clays of marine-derived alluvium of late prehistoric and post-Roman date (BGS 1992).

### 2.4 Archaeological Setting

Ancient natural water courses cross the route of the pipeline and can be correlated with the more irregular or sinuous cropmark features shown on Figure 2. At least two infilled natural channels (roddons) cross the route of the pipeline in the area of Fifth Drove and Gosberton Clough (Fig. 2). The channels were formed during marine flooding that occurred between the Early Bronze Age and the Late Iron Age/Early Roman period.

The whole area traversed by the pipeline had previously been the subject of an extensive fieldwalking programme, the Fenland Survey. Prehistoric settlement had been identified during the Fenland Survey within the southern part of the pipeline corridor, close to the junction between Parson Drove and the South Forty Foot Drain (Fig. 2, Nos. 5 and 6). A considerable spread of worked flint and pottery, dating from the Late Neolithic to the Early Bronze Age periods was recovered from this area. These artefacts were found on the surface of a sand 'island' in proximity to a circular cropmark feature, perhaps representing a barrow (Hayes and Lane 1992, 112). A subsequent excavation undertaken in this vicinity revealed several pits, post holes and gullies associated with a Neolithic and Bronze Age pottery assemblage with a range of flint tools dating from the Mesolithic period (Crowson *et al.* 2000, 139).

Pottery of probable Late Iron Age date was recovered during the same programme of field walking (Hayes and Lane 1992, 113), 240m southeast of the pipeline (Fig. 2, No. 3). Late Iron Age material was rarely



recognised during the Fenland Survey, although salt-making or settlement may have been attempted after 150 BC (*ibid.*).

Recent plotting of aerial photographs has revealed an extensive system of droves, enclosures and fields all defined by an interconnected system of ditches. These are presumed to be of Roman origin based on their morphology, though few have been securely dated.

Little is understood of the economic base of Roman settlement of the fens, although salt-production is known to have played a significant role during the early part of the period. This was probably supported by stock rearing which is suggested by numerous enclosures recorded on aerial photographs. Despite the extensive field walking survey (Hayes and Lane 1992), and other work that has occurred, few Roman sites have been excavated in the Fenland.

Romano-British sites identified within, or in close proximity to the pipeline corridor, are represented by finds of Roman pottery and fragments of fired clay found during field walking toward the southern limit of the investigation and shown on Figure 2. An additional scatter of material was identified a few hundred metres east of this, and comprised pottery, bone and oyster shell, also associated with a group of cropmarks (Fig. 2, No. 4). Both of these artefact scatters are within a much broader area of cropmarks, interpreted as a probable Roman settlement surrounded by field enclosures (Fig. 2, No. 7).

Further north, immediately east of Fifth Drove, are a number of Romano-British artefact scatters, also surrounded by cropmarks representing ditches (eg. Fig. 2, No. 8). It is believed that the quantity and distribution of these artefacts represent a 'village' group or larger settlement (*ibid.*, 54). A more discrete cluster of finds was identified north of the Twenty Foot Drain, isolated from any cropmark evidence (Fig.

2, No. 9).

Generally, the regular or rectilinear cropmarks represent ditches. These indicate settlement or field enclosures, and represent attempts at localised land drainage and demarcation. A large group of cropmarks at the southern limit of the proposed pipeline (Fig. 2, Nos. 2-7) possibly represent both prehistoric and Romano-British occupation. These features appear to define small sub-rectangular enclosures adjoining a droveway, with larger enclosures (most probably fields) to the south.

West of Gosberton Clough and either side of the Twenty Foot Drain, are several undated cropmarks (Fig. 2, Nos. 10 and 11). The southernmost of these appears to represent an ancient watercourse, connected by a possible drove and sub-rectangular enclosures (Fig. 2, No. 10). Those north of the Twenty Foot Drain form an east-west droveway, stopping at Pointon Lode, just west of Gosberton Clough (Fig. 2, No. 11).

Just north of Gosberton Clough are three sites adjacent to each other (Fig. 2, No. 12), situated on a roddon. As well as pottery, the remains of oyster shell, animal bone, quern fragments and fired clay were also identified. Together these sites are likely to represent a single settlement (*ibid.*).

Saxon sites are generally rare in the fens and are often restricted to the higher ground seaward (to the east) or the Fen-edge. However, the Fenland Survey identified and subsequently excavated a Middle Saxon site along Chopdike Drove, Gosberton. In all, three phases were identified including a possible industrial element followed by settlement (Crowson *et al.* 2005, 95). A Saxon site was also identified to the northwest of the pipeline route and may have had its origins in the Romano-British period (*ibid.* 124).

Within Gosberton, the course of the pipeline runs in close proximity to Risegate and Gosberton Clough, neither of which are mentioned in the Domesday Survey of 1086. However, place-name evidence may suggest that these hamlets originated during the Later Saxon period (AD 850-1066). Gosberton derives from the German personal name 'Gosbert', and the Old English 'tūn', meaning settlement (Cameron 1998, 51). Until the 15<sup>th</sup> century it was known as 'Gosberkirke' or 'Gosbert's church' (*ibid.*). Clough is a local dialect term for the gates of a sluice or a dam (Healey 1997, 7). Risegate takes its name from the family of Robert de Ry and the Old Norse 'gata' meaning a road and is first referred to in the early 13<sup>th</sup> century and probably relates to a medieval manorial holding (Cameron 1998, 102).

A small group of cropmarks representing rectilinear enclosures and linear features, is located west of St Gilbert and St Hugh's church, Gosberton Clough (Fig. 2, No. 13). These may define the positions of redundant boundaries associated with a possible medieval field system.

During the 13<sup>th</sup> and 14<sup>th</sup> centuries, a significant salt-producing industry emerged at Gosberton, centred on the then tidal Bicker Haven estuary. Early post-medieval laws also survive from Pinchbeck Fen, describing how the fen was to be regulated and maintained as an important economic resource (Hayes and Lane 1992, 118). The proximity of the sea is noted during the medieval period in documents compiled by the Commissioners of Sewers, who defined regulations describing actions to be taken as a consequence of either land accretion or erosion, caused by marine transgression (*ibid.* 63).

A succession of fen banks, designed to protect the land from the ravages of floods, was constructed from the medieval period and later, though most cannot be more accurately dated. These were designed to

protect settlements and arable areas on the silts from winter flooding from the fen. The banks were aligned north-south and extended for several kilometres. Old Fendyke, known as Chespool Fendyke in Gosberton, is the earliest and is first mentioned in the 13<sup>th</sup> century (Hallam 1965, 52). The New Fendyke may have 12<sup>th</sup> century origins, as it was later associated with Sempringham Priory's Rigbolt Grange and is the next bank in the sequence, followed by Beck Bank which enclosed an area known as the 'Newland of St. Laurence' (Roffe and Healey forthcoming).

Prior to this watching brief, a geophysical survey was undertaken at two locations along the pipeline route (Fields 1 and 5). A number of faint features were identified in both fields of which some were considered archaeological in nature (Appendix 1).

### 3. AIMS

The purpose of the watching brief was to record archaeological deposits exposed within the pipeline easement and to determine their date, function and origin.

The further detailed work was undertaken under the auspices of an enhanced watching brief which allowed for more detailed examination of the archaeological deposits encountered with broadly similar aims to those described above.

### 4. METHODS

#### Fieldwork

Under the watching brief (Code: RWP99) the mechanical stripping of topsoil from a c. 15m wide easement along the entire length of the pipeline was monitored. The exposed surface was inspected and archaeological features identified were recorded in plan, with limited excavation to determine their extent and date. Each field along the route of the easement was

allocated a number, Fields 1 to 22 (Fig. 2).

Enhanced watching briefs were undertaken at two locations along the easement, to the west side of Fifth Drove, Field 5 (Code: RWP199) and northwest of Surfleet Fen Bridge, Fields 15 and 16 (Code: RWP299). The remaining fields were covered under the overall watching brief.

These areas were subject to a more thorough investigation following stripping of the topsoil as the density and form of deposits and artefacts exposed were indicative of Romano-British settlement. The enhanced watching briefs entailed surface cleaning of features prior to a pre-excavation plan being made and detailed excavation to determine stratigraphic relationships with surrounding deposits, and the date of those deposits.

Once the overburden had been removed by machine, all deposits and features were then excavated by hand. Sections and the sides of the easement were cleaned and rendered vertical.

Environmental sampling was taken at the discretion of the site supervisor based on comments from the environmental archaeology consultant, James Rackham. Samples were taken using guidelines established by Murphy and Wiltshire (1994). The methodology for the subsequent processing of the samples is detailed in Appendix 8.

The depth and thickness of each deposit was measured in relation to heights OD and each archaeological deposit or feature revealed was allocated a unique reference number (context number) with an individual written description. A list of all contexts and interpretations appears as Appendix 2. A photographic record was compiled and sections and plans were compiled at scales of 1:10 and 1:20 respectively. Recording of deposits encountered during the watching brief and enhanced watching brief was undertaken

according to standard Archaeological Project Services, practice.

After these investigations were completed, monitoring of machine excavation of the pipe trench was carried out under the standard watching brief condition. However, the depth of the pipeline trench precluded thorough archaeological examination.

### **Post-excavation**

Following excavation, all records were checked and ordered to ensure that they constituted a complete Level II archive and a stratigraphic matrix of all identified deposits was produced. Artefacts recovered from excavated deposits were examined and a period date assigned where possible (Appendices 3 to 5). Phasing was based on artefact dating and the nature of the deposits and recognisable relationships between them.

## **5. RESULTS**

### **Geophysical survey**

The results of the geophysical survey are fully presented as Appendix 1.

Two areas were subjected to geophysical survey in advance of the pipeline works. The areas chosen had been identified as having higher potential during the desk-based assessment. Area 1 was located in Field 5, west of Fifth Drove, and Area 2 in Fields 1 to 3, at the western end of the corridor.

A few anomalies were located in Area 1 which may be of archaeological origin. In Area 2 (Fields 1 to 3) all features were probably of modern agricultural origin. Overall, the geophysical survey was not successful in identifying those features that were subsequently identified during the subsequent fieldwork.

## Excavation

Following post-excavation analysis, six phases were identified:

Phase 1	Natural deposits
Phase 2	2 <sup>nd</sup> -3 <sup>rd</sup> century deposits
Phase 3	3 <sup>rd</sup> -4 <sup>th</sup> century deposits
Phase 4	4 <sup>th</sup> century and post-Roman deposits
Phase 5	Undated deposits
Phase 6	Recent deposits

Archaeological contexts are described below. The numbers in brackets are the context numbers assigned in the field. Where contexts are listed within a single set of brackets, they appear in ascending stratigraphic order. Lists of contexts that describe the cut of a single feature denote separate excavated sections through that feature, and lists of contexts separated by a semi-colon denote separate stratigraphic sequences from separate excavated sections through the same feature. An equals sign between context numbers indicates that the numbers refer to the same deposit or cut feature.

### Phase 1 Natural deposits

#### *All areas:*

Natural deposits comprised sands, clays, and sandy and clayey silts (103), (108), (145) and (155), towards the southern extent of the pipeline. The eastern half of the pipeline comprised sandy and silty clays (283) and (308), with lenses of sand and clayey silt (250) and (248).

Located in Field 5 was a natural creek (088), aligned northwest-southeast. The creek was filled by greyish brown silty clay (007).

Situated *c.* 20m north of this creek, was an east-west oriented linear feature (004). Filled by greyish brown silty clay (003), the form of this feature suggests it may also represent a natural creek (Fig. 7, Section 2; Plate 2).

In Field 13 another creek (054) was identified that contained laminated clays, silts and fine sands (053).

None of the natural creeks were examined archaeologically.

### Phase 2 2<sup>nd</sup>-3<sup>rd</sup> Century deposits

#### *Field 5 (Figs. 3 to 6)*

During the initial watching brief, a layer of grey clayey silt (016) was identified in the northern part of this field (Fig. 5) dated to the mid 2<sup>nd</sup>-3<sup>rd</sup> century. Immediately south of this was a layer (011) of yellowish grey silt that was dated to the early middle 3<sup>rd</sup> century. Also identified was an east-west aligned ditch (099). These deposits were further examined during the enhanced watching brief phase where it was determined that they belonged to a more extensive sequence of deposits, covering an area 41m north-south by the full width of the easement.

The southern extent of the sequence (Fig. 5) comprised a layer of brown clayey silt (225) that overlay a deposit of yellow sand (222). Immediately north of these was a layer of grey clay (224), dated to the mid 2<sup>nd</sup>-3<sup>rd</sup> century. Just north of (224) was a brown sand deposit (227), also dated to the 2<sup>nd</sup>-3<sup>rd</sup> century. Deposits (222), (224) and (227) sealed a layer of brown clay (223=226).

To the north of (227) was a deposit of grey clay (229=48). Both (229) and (227) overlay another layer of brown clay (228), dated to the mid 3<sup>rd</sup> century, located north of (223).

At the northern extent of the sequence, layer (229) also sealed a deposit of brown clayey silt (230) that lay above deposit (231), which in turn sealed (232). Both comprised grey clay. Deposit (232) overlay two layers of brown silt and grey silty clay (239) and (240). Situated to the north of these was a deposit consisting of lenses of grey and brown clays, silts and

sands (237). Both (237) and (239) overlay a layer of reddish clay (238).

Together these deposits represent silts and clays deposited along the north edge of a roddon (an infilled tidal creek). Roddons can normally be identified in the modern landscape as a meandering higher ridge. The north edge of the silt ridge is higher than the silts and clays forming the ground to the north. The southern extent of the roddon is likely to be located close to the southern edge of Field 5, approximately 370m away, where the ground level drops slightly over a short distance. It is notable that the archaeological deposits identified in Field 5 are located on the higher ground formed by the roddon.

Immediately adjacent to the north side of feature (099) was a probable dumped deposit (010) measuring 3m by up to 1.5m and containing 76g of burnt clay.

Located south of the roddon sequence was an indeterminate, irregularly shaped feature (134), measuring 1.8m long by 0.78m wide and 90mm deep (Fig. 7, Section 8). This was filled by a greyish yellow sandy silt (112) that contained pottery dated to the 3<sup>rd</sup> century.

Pottery dated to the 2<sup>nd</sup> - mid 3<sup>rd</sup> century was also retrieved from the subsoil (015=022=030) in Field 5.

#### *Field 15*

Situated in Field 15 was an indeterminate pit/ditch (098=433), aligned northeast to southwest. Pottery retrieved during the removal of topsoil over this feature has been dated to the 2<sup>nd</sup> century or later. Feature (098=433) was over 2.79m wide and 0.89m deep (Fig. 13, Section 47) and was filled by brown and grey silty clays and grey and brown silts (438, 437, 444, 436 and 435). Two of the deposits from the ditch (436 and 437) contained significant quantities of ash, charcoal and pottery, dating to the 3<sup>rd</sup> century, representing domestic and/or industrial

activity in the vicinity, presumably deriving from the settlement located just north of Fields 15 and 16. A fragment of a copper alloy brooch was retrieved from (436).

### **Phase 3 3<sup>rd</sup>-4<sup>th</sup> Century deposits**

#### *Field 4*

Situated in Field 4 was a gully (029), orientated east-west, 0.68m wide by 0.11m deep. The gully contained brown clayey silt (028) with pottery dating to the 3<sup>rd</sup>-4<sup>th</sup> century.

#### *Field 5 (Figs. 3 to 6)*

Located in Field 5, south of the 2<sup>nd</sup> to 3<sup>rd</sup> century layer (011), was an indeterminate layer of brown silt (014) dated to the late 3<sup>rd</sup> to 4<sup>th</sup> century. Located south of this was an east-west aligned linear ditch (093). Measuring 3m wide by c. 24m long it was filled by a deposit of brown silt (017) that produced pottery of late 3<sup>rd</sup>-4<sup>th</sup> century date.

Located towards the south of the field (Fig. 4) were two ditches, recorded as (087) during the initial watching brief phase. The first (104) was aligned northeast-southwest measuring 2.5m wide by 1.5m deep (Fig. 7, Section 2). The second ditch (109) was oriented east-west and measured 1.85m wide by 0.6m deep (Fig. 7, Section 3; Plate 3). Pottery from the fills of these features (114, 107, 106, 105; 204, 203, 135; 471, 110, and 111) was dated to the late 3<sup>rd</sup>-4<sup>th</sup> century. Residual pottery of the Late Iron Age-Early Roman period was also retrieved from the surface of this feature during the initial watching brief phase.

Approximately 20m north of ditch (109) was a right-angled ditch (147), that was over 14m long by 2.6m wide and 0.37m deep (Fig. 8, Section 9). This had been re-cut or maintained on at least two separate occasions (160 and 159). The ditch was aligned east-west, turning north at its western end. Filling the ditch and the re-

cuts were deposits comprising silty sands and sandy silts (157; 153, 152, 151, 150, 158, 149; 148). Pottery from the fill of the latest re-cut (148) was dated to the 3<sup>rd</sup>-4<sup>th</sup> century. At the northern end the ditch was recorded as (475), though it is unknown if this represents the original feature or one of the later re-cuts.

Ditch (475) joined an east-west ditch (180 and 120) at its northern end. Ditch (180/120) measured 14m long by 2.1m wide and was 0.95m deep (Fig. 4; Fig. 7, Section 4; Fig. 8, Section 13; Plates 4 and 7), filled with deposits of sand and silt (177, 182, 176 and 175 ((475, 180)); 119, 118) ((120)). The secondary fill (182) comprised reddish yellow laminated sand, suggestive of water deposition. The eastern extent of the ditch (120) had fills comprising greyish brown clayey silt (115, and 116), grey clayey sand (117), reddish grey clay (118) and grey clay (119).

Probably contemporary with this ditch, and extending north from it for *c.* 17m (Fig. 5) was ditch (126 and 162). The dimensions varied between 2.7m wide by 0.95m deep (Fig. 7, Section 5) at the southern extent (126) and 4m wide by 0.95m deep at the northern end (162). The ditch was filled by deposits of clay and silt (125, 124, 123; 164). The ditch had been partially re-cut near its southern end (122), where it contained a single fill of brown silt (121).

A ditch (161) joined (126/162) at its northern end. Ditch (161) was visible for a length of 14m long and was *c.* 2.5m wide and 0.5m deep. This ditch contained two fills comprising yellow and brown silt (165 and 163).

Extending north from ditch (161) for a length of 8m (Fig. 5) was a ditch (208). Measuring 1.5m wide by 1m deep (Fig. 9, Section 19) this was filled with deposits of clay and silt (210, 211, 212, 214, 213, 215 and 216). A slag hearth bottom was retrieved from (213).

Located 30m to the north of ditch (208) was an elongated pit (202), measuring 14m long by 3.5m wide (Fig. 5) and 0.57m deep (Fig. 8, Section 18). The pit contained a single fill of greyish brown silt (201), and contained pottery dated to the 3<sup>rd</sup>-4<sup>th</sup> century.

#### *Field 15*

Located in Field 15 was a north-south aligned ditch (434). This measured 2.98m wide and 0.7m deep and was filled with deposits of sand and silt, ash and silt, and clay (450, 455, 449, 448 and 456). The secondary fill (448) also contained quantities of charcoal and burnt clay. This refuse material suggests settlement in the vicinity and is possibly Roman in date.

Cut into ditch (434) was a shallower ditch (453) that contained two fills of brown silt (452 and 451). Roman pottery was recorded from the environmental samples taken of these fills. The ditch was further sealed by two alluvial deposits comprising sandy silt and sand (447) and (446). These may have derived from a widespread flooding episode.

#### *Field 16 (Fig. 10)*

Situated towards the centre of this field (Fig. 10) was a 13m long north-south aligned ditch (078, 312, and 393) measuring 3.35m wide and 0.75m deep (Fig. 13, Section 44; Plate 15). This was filled by clays and a thick layer of laminated sand (311, 310, 309, 394, 401, 402, 400, 397, 396, 395, 399 and 398). This ditch was in the final stages of silting up during the mid 3<sup>rd</sup>-4<sup>th</sup> century, and had completely silted up before the settlement was abandoned, as evidenced by the presence of pottery within its uppermost fill. No archaeological features were located to the east of this creek, and it may be that it functioned as a boundary, limiting the eastern extent of the settlement.

Situated 10m west of ditch (312) was a north-south ditch (280), (338), (342) and

(407), recorded as (084) during the watching brief phase. The ditch varied between 4m and 5.8m wide and averaged 1m deep along the 13.5m length exposed (Fig. 11, Section 29; Fig. 12, Sections 40 and 41). Filling the ditch were several deposits comprising silt and silty clays (337=044, 336, 335, 334, 333, 339, 340; 461, 279, 278, 277, 297, 276, 275; 325; 406, 405, 404, 408; 428 and 427). Many of these deposits contained pottery dated to the 3<sup>rd</sup>-4<sup>th</sup> century. Included within the pottery assemblage from this feature was a near complete mortarium (Fig. 15). A bone hair pin was also retrieved from (335) of a type familiar in the 3<sup>rd</sup> to 4<sup>th</sup> century (Fig. 17).

Adjacent to ditch (338) to the east was a circular pit (356). This had a diameter of 1.66m and measured 0.67m deep (Fig. 12, Section 40). Five fills were recorded, comprising grey clayey silt (355), greenish grey clayey silt (367), brownish grey silty clay (368), brownish red clay (369) and bluish grey clay (371). Pottery of late 3<sup>rd</sup> to 4<sup>th</sup> century was retrieved from a number of the fills.

Cut into the north end of ditch (280) was the terminus of a shallow north-south aligned gully (317), c. 2m long by 0.58m wide and 80mm deep (Fig. 11, Section 34). The gully contained grey clayey silt (316) from which pottery of mid 3<sup>rd</sup>-4<sup>th</sup> century date was retrieved.

Contemporary with ditch (280) and located to the west of it was an east-west aligned ditch (290), (326), (350) and (411) and (429). This ditch measured 9m long by 1.3m wide and 0.4m deep (Fig. 11, Section 28; Fig. 13, Section 43), terminating at its western extent and draining into the west side of north-south linear (280). This was filled with alternating deposits of grey and brown clays and silts (289, 288, 287; 327; 386, 349, 387; 410 and 409).

A north-south aligned linear ditch (091), measuring c. 6m wide, identified during

the initial watching brief, contained a fill of greyish brown silt (031). Pottery retrieved from the surface of the ditch was dated to the late 3<sup>rd</sup>-4<sup>th</sup> century and a small quantity of fired clay was also recovered. Subsequent examinations of this ditch (Fig. 10) recorded cuts (298), (344) and (351). This was placed c. 9m west of (280), which by this time must have nearly silted up. This latter ditch cut through the terminus of the east-west ditch (290). Measuring 3m wide and 1.15m deep (Fig. 12, Section 37; Fig. 13, Section 43; Plate 12) this was filled with deposits of brown and grey clay and sand (303, 304, 302, 301, 300, 299; 348, 373, 372, 347, 346, 345; 352, 383, 384, 353 and 385). Deposit (300), within (298), comprised very fine laminated brown aeolian sand (Rackham, *pers. comm.*) and indicates erosion of local surface deposits exposed during the Roman period. Such erosion is likely to have affected ploughed soils which would not have had a protective vegetative cover.

Probably contemporary with (298) and located between 1.5m and 2m south of ditch (290), was a curvilinear feature (274), (318), (341) and (370). Identified as a ditch, it extended east from the southern extent of (298), and turned north, following the western edge of ditch (280). Measuring approximately 13m long, the ditch was 1.5m wide and 0.4m deep (Fig. 11, Sections 26 and 36; Fig. 12, Sections 37 and 42; Plates 11 and 14). Fills comprised grey silty clay, brown clays and silt (273, 272, 271; 322, 321; 324, 343; 382, 381 and 380). One of the secondary deposits (274) contained inclusions of fired clay and ash, indicating domestic and/or industrial activity in close proximity. Many deposits filling the ditch contained pottery dating to the 3<sup>rd</sup>-4<sup>th</sup> century.

Further modification to this field boundary layout occurred after the ditch had silted up. The ditch was re-cut along its southern side (258), (358), (366), (388), (470) and (473), and extended south, ignoring the

original continuation north. The ditch deepened towards the west and drained into (298). It was filled predominantly by deposits of grey and brown silty clay (465, 464, 259, 260, 261, 262; 359, 357; 365, 364, 363, 374; 389, 379, 378, 377; 348, 373, 372, 347, 346, 345; 320, and 319). These deposits have been dated to the 3<sup>rd</sup>-4<sup>th</sup> century by pottery and context (378) also contained a fragment of a bone pin. The sequence of deposits filling (470), contexts (348-345), are the same as that filling the north-south aligned ditch (344), suggesting contemporaneity of these boundaries.

Cutting ditch (258), and forming a terminus at the junction between (258) and (274), was ditch (362). The function of this feature is unclear in that it could not be confidently traced through the entire length of (258), though it may represent a realignment of the latter, abandoning the original route to the south as represented by (358 and 366).

Situated close to the western edge of the field, east of the north-south ditch (298), were two post holes (305) and (313) located 0.5m apart (Fig. 11, Section 35). The fills of each are identical and comprise two deposits of grey silty clay and brown silty sand (307 and 306) and (315 and 314) respectively. Pottery from the fills was dated to the late 3<sup>rd</sup>-4<sup>th</sup> century.

Located 11m east of these post holes and located in the southeast corner created by the junction of ditches (280) and (290), was an east-west linear arrangement of four postholes (295), (293), (255) and (251), approximately 0.4m apart. The post holes varied between 0.42m and 0.28m wide by 0.2m and 0.11m deep (Fig. 11, Sections 31 and 33), and were filled by deposits of grey and brown silty and sandy clay and grey and brown clayey and silty sand (296), (294), (256), (257), (252), (253), (254) and (282). All contained pottery of the 3<sup>rd</sup>-4<sup>th</sup> century. The lack of inter-cutting, along with the spatial

arrangement and similarity in date may indicate that these features represent a single structural entity, possibly a former fence line.

On either side of the postholes were two east-west aligned features. To the north was gully (263), 3.5m long by 0.6m wide and 0.1m deep, and filled by greenish grey silty clay (264), was dated to the 3<sup>rd</sup>-4<sup>th</sup> century. A shorter indeterminate feature (265), 1.4m long by 0.8m wide and 0.2m deep (Fig. 11, Section 27), located south of the post holes, was dated to the same period and contained two fills of grey clay and greyish green silty clay (291 and 266). The function of these features, though unknown, is clearly related to the likely posthole arrangement, as both are within 0.5m of it north and south, and do not extend more than 0.5m beyond its length east and west.

To the east of the post holes and the gully, and cutting into the indeterminate feature (426), keeping within the limit defined by ditch (280) was pit (328) and (420). Measuring 3.9m wide by 1.12m deep (Fig. 13, Section 45), the pit was characterised by fills of predominantly grey clayey silt (331, 330, 329; 419, 418, 417, 416, 415 and 414). The majority of the fills contained pottery dated to the 3<sup>rd</sup>-4<sup>th</sup> century, and half of these also contained burnt debris comprising ash, burnt soil and charcoal. The head of a decorated bone pin (Fig. 17) was retrieved along with small fragments of Roman vessel glass from an environmental sample taken of (416).

#### **Phase 4      4<sup>th</sup> century and post-Roman deposits**

##### *Field 5*

An east-west aligned ditch (187), measuring at least 13m long, 3.3m wide (Fig. 5) and 0.4m deep (Fig. 8, Section 12; Plate 6), was filled with deposits of brown and yellow clay and yellow sand (190, 188 and 189). Pottery from this feature was dated to the 4<sup>th</sup> century or later.



Probably contemporary with this ditch, and extending northeast from it, was a 3m wide by 1m deep (Fig. 7, Section 6) north-south aligned ditch, turning east at its northern end (127). Recorded as (087) during the initial watching brief, it was 4<sup>th</sup> century or post-Roman in date. The gully/creek was filled by deposits of grey and brown sandy silt and brown clayey silt (140, 133, 132, 141, 138, 137, 146, 136, 139 and 131).

## Phase 5 Undated deposits

### *Field 1*

Located in Field 1 was a linear east-west aligned ditch (089), 1m wide, and filled by brownish black clayey silt (008) that contained a single fragment of fired clay.

### *Field 5*

A pit or post hole (006) measuring 0.46m in diameter and 0.18m deep and filled with brown silt (005), was situated approximately 1m south of the natural creek (004). As it was an isolated feature, the function of the pit or posthole could not be determined.

Situated at the southern end of the field (Fig. 4) was an east-west aligned linear ditch (130). This was recorded as being over 14m long by 3.7m wide and 0.61m deep (Fig. 7, Section 7). The ditch was filled with two deposits of brown silt (129 and 128).

Approximately 5m north of ditch (130) was a second parallel ditch (102), over 14m long by 1.34m wide and 0.11m deep (Fig. 7, Section 1), it was filled with a single deposit of dark brown clayey silt (101).

Located in the centre of Field 5 (Fig. 5) was a north-south ditch (166=200) measuring 1.29m wide and 0.11m deep (Fig. 8, Sections 11 and 17). The route of (166) could not be clearly traced. Identified in the base of (200) were short linear grooves (Plate 8), perhaps evidence

for former ploughing. These grooves were filled by greyish brown sandy silt (199) that also filled the rest of the feature.

Towards the north end of this ditch, although the relationship with it was not established, was a poorly defined east-west orientated ditch (172=207). This was 2.55m wide and 0.28m deep and contained fills of sand and clay (206, 205 and 174). This ditch has subsequently been re-cut (181), although was narrower at 1.4m wide (Fig. 8, Section 15). The re-cut contained two fills, a greyish brown silty sand (195) and a grey sandy clay (196).

Paralleling ditch (172) just to the north (Fig. 5) was the eastern terminus of a ditch (244). This was 1.68m wide and 0.6m deep (Fig. 8, Section 15; Fig. 9, Sections 20 and 21). A relationship between (166) and (244) was not determined. Located c. 1m south was a single 0.15m diameter post hole (246) containing brown silt and sand (245).

### *Field 16* (Fig. 10)

Located to the north of the Phase 3 gully (317) and cutting ditch (280) was an indeterminate feature (426). This was filled with pinkish brown silt (425). Identification of this feature was not certain and it is possible that it merely represents the effects of a post-depositional soil process.

### *Field 21* (Fig. 14)

Situated within this field (Fig. 14) was a shallow northwest-southeast aligned linear feature (094), 2m wide by 0.11m deep and filled by brown silt (033). The form of the feature is similar to medieval agricultural furrows and two parallel, (spaced 3m and 2.5m apart) though not recorded, features were identified to the southwest.

Cutting through the southeast end of (094) was a north-south aligned ditch (090), 1.8m wide, containing greyish brown silt (026) from which two pieces of fired clay were retrieved. The possible furrow (094)

did not extend beyond the southeast side of (090) and it may be that this ditch marked a former field boundary (Fig. 14).

#### *Field 22*

Within Field 22 was an indeterminate east-west aligned ditch (095). This measured 1.2m wide by c. 11m long and contained a single fill of yellowish brown silt (019).

### **Phase 6 Recent Deposits**

Topsoil was evident throughout the route of the pipeline, though had largely been removed and was not recorded apart from in Fields 5, 16, 21 and 22 where it comprised largely silts, clayey silts or mixed clay and silt (001, 013, 027, 032, 059, 067, 070, 074, 123 and 233). In addition, several field drains were recorded, particularly in Fields 5 and 16.

## **6. DISCUSSION**

Natural deposits (Phase 1) comprise sands, silts and clays and also include two creeks. These deposits can be identified as the underlying drift geology of younger marine alluvium (perhaps deposited during the Late Iron Age), though older alluvial deposits are encountered at the western end of the pipeline route, where they form an 'island'. The creeks were probably most active during the later prehistoric period, although some creeks were still silting up and, therefore, open during the Romano-British period.

No evidence was found for the Mesolithic to Bronze Age periods, despite the pipeline lying in close proximity to where this material has previously been retrieved. This may indicate that the 'sand island' is limited in extent and that the prehistoric land surface lies at depth.

Though no features could clearly be assigned an Iron Age date, pottery of a typically native tradition was identified during the investigation and derived from

upper fills of later, Romano-British, ditches and could indicate that the ditch was deliberately backfilled. The presence of this material suggests that a settlement location of this period, perhaps re-used during the following centuries, lies in close proximity to the site.

Iron Age settlement in this area of the fens tends to have no discernable foci and generally comprises small dispersed settlements (Fincham 2002, 41). All Iron Age or early Romano-British finds were retrieved from Field 5 at the western end of the pipeline route where natural deposits of older marine alluvium are present. Iron Age material was found in this general locality during the Fenland Survey (Hayes and Lane 1992, 112).

Deposits and features of 2<sup>nd</sup> to 3<sup>rd</sup> century date (Phase 2) were only recorded in Field 5 and Fields 15 to 16. In Field 5 (RWP199), these deposits comprised layers associated with the infilling of a roddon, a dumped deposit, a pit or ditch and an east-west aligned ditch. None of these appear directly to be associated with settlement, although this site lies on the periphery or close to habitation. Only a single ditch was identified in Fields 15/16 (RWP299) and this contained domestic or industrial waste and is also likely to be close to a settlement site.

In Field 5, there is continuation of activity in to the 3<sup>rd</sup> to 4<sup>th</sup> centuries (Phase 3) which also extends south into Field 4 where a gully was identified. Ditches typified the dated features in this area and are likely to be boundary and drainage features of agricultural land. Further ditches were identified in Fields 15/16, albeit in more quantity. Here was a complex system of boundary ditches of which some had been re-cut or maintained to preserve the pattern of fields. Additionally, pits and postholes (probably indicating fence lines or stock control measures) were also apparent which suggests settlement in close proximity.

The pattern of the remains revealed during the watching brief indicates that the likely settlement near to Field 5 was occupied in the earlier Roman phase, with perhaps Iron Age origins (see above), with Field 15/16 becoming the dominant site in the later phase. Such north and east expansion/movement during the Roman period in the fens has been commented upon before (Hayes 1988, 322; Fincham 2002, 41), though applying this model to these sites is unsuitable due to the scale and distance involved.

Furthermore, the latest phase, of 4<sup>th</sup> century or later deposits, was found only in Field 5. This may suggest a return to this vicinity, thus reversing this trend, though there is an overall paucity of deposits of this phase encountered during the investigation. The Fenland was a prominent area of wealth during the 4<sup>th</sup> century (Malim 2005, 205), though was also suffering declining environmental conditions and political instability (*ibid.* 206).

No firm evidence for Romano-British salt-production was identified. This was one of the chief economic activities in the fens during this period. Some of the fired clay fragments retrieved may be remnants of briquetage, the clay pans used to evaporate brine to make silt. However, none had the distinctive salt-colouring and no forms typically identified as briquetage were visible in the assemblage.

Salt-production is thought to have existed alongside stock rearing for which the types of small irregular fields in the vicinity of the pipeline route would be better adapted. Indeed, the animal bone assemblage shows that cattle dominate with sheep/goat also found.

A number of features and deposits remain undated due to a lack of artefactual material (Phase 5). It is likely that these are components of the field systems described in dated phases. However,

isolated features were also recorded in Field 1 and Fields 21 and 22. Those features identified in Field 21 appear to resemble ridge and furrow or ditches related to dyings and may, therefore, be components of the medieval field system.

Recent deposits (Phase 6) comprise topsoil and field drains and are related to modern agricultural practises undertaken along the pipeline route.

The pipeline also traversed two medieval fen banks marked by Beck Bank, a continuation of Chopdike Drove, and Beach Lane. No deposits associated with the construction of these banks or any associated ditches were observed during the watching brief.

Pottery was the chief artefact type retrieved during the investigation of which most is Romano-British in date. A wide range of forms are present and date from the 2<sup>nd</sup> to the 4<sup>th</sup> century. Overall, the assemblage suggests relatively high status or that the occupants had a degree of sophistication (B, Precious, Appendix 3) which supports Malim's assertion that the fens were a prominent area of wealth by this time (Malim 2005, 205).

Finds recovered from the environmental sampling included three bone pins, one of which was decorated with either a cat or lion (Fig. 17), a fragment of a brooch, an iron hobnail and small fragments of vessel glass (Appendix 6).

Other finds include brick, tile, a stone hone, ironwork, several fragments of fired clay and industrial residues. Apart from the fired clay, this material is likely to be post-medieval in date.

Analysis of the environmental samples has provided evidence for crop processing activities particularly in Fields 15 and 16 during the 3<sup>rd</sup> and 4<sup>th</sup> centuries. Wheat was the principle cereal grown with evidence for barley and some oats, although it is

uncertain if the cereals grown were a local product or imported from elsewhere. The waste of the crop processing was thrown into ditches along with other domestic waste. There is some evidence for arable land and fields may have been hedged by hawthorn or blackthorn. Craft activities, such as basket making, may be suggested by the retrieved evidence for rushes.

A small assemblage of animal bone was recovered from the site and, though limited, indicates that cattle was the principal livestock utilised. A number of immature cattle were identified in the assemblage suggesting that meat production, breeding, draught and possibly dairying were occurring at the site. Sheep and pig were also retrieved and fish and shellfish also contributed to the diet. Other animals identified include horse, cat, dog and voles.

## 7. CONCLUSION

An archaeological watching brief was undertaken along the route of a new pipeline between Risegate and West Pinchbeck as the groundworks affected known archaeological deposits of prehistoric to medieval date. Two areas were subjected to further intensive examination due to the density and nature of the identified archaeological remains.

The earliest features encountered were securely dated to the 2<sup>nd</sup> to 3<sup>rd</sup> centuries AD, although residual pottery retrieved from a ditch also indicated Late Iron Age undertakings towards the western part of the pipeline route. The nature of these remains consists of field boundaries or drainage features with occasional pits and postholes. None of the remains are indicative of actual settlement, although it is known in close proximity to the site.

Later in the Romano-British period, the focus of occupation appears to have moved to the northeast. Again no

settlement was identified and the nature of the remains reflect agricultural activities, albeit in close proximity to settlement. By the 4<sup>th</sup> century, the focus of settlement returns to the southwest, west of Fifth Drove.

Finds retrieved from the investigation include a range of pottery of 2<sup>nd</sup> to 4<sup>th</sup> century date with a few sherds of 1<sup>st</sup> century date, suggesting Late Iron Age/early Romano-British activity in the vicinity. The range of pottery includes bowls, flagons, beakers, jars, cooking pots and mortaria. Much of the pottery is locally produced shell-tempered ware with examples from the Nene Valley with a number of imported wares including samian. There is a suggestion of moderate status of the Romano-British inhabitants as reflected by the types and range of the pottery recovered. Fired clay, tile, metalwork and worked bone were also recovered along with industrial residues.

## 8. ACKNOWLEDGEMENTS

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## 9. PERSONNEL

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Wilson  
 Surveying: Mark Dymond  
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 Photographic reproduction: Sue Unsworth  
 Illustration: Paul Cope-Faulkner, Mark Dymond  
 Finds Illustration: David Hopkins  
 Post-excavation analysis: Paul Cope-Faulkner, Mark Dymond

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## 11. ABBREVIATIONS

APS Archaeological Project Services

BAR British Archaeological Reports

BGS British Geological Survey

IFA Institute of Field Archaeologists

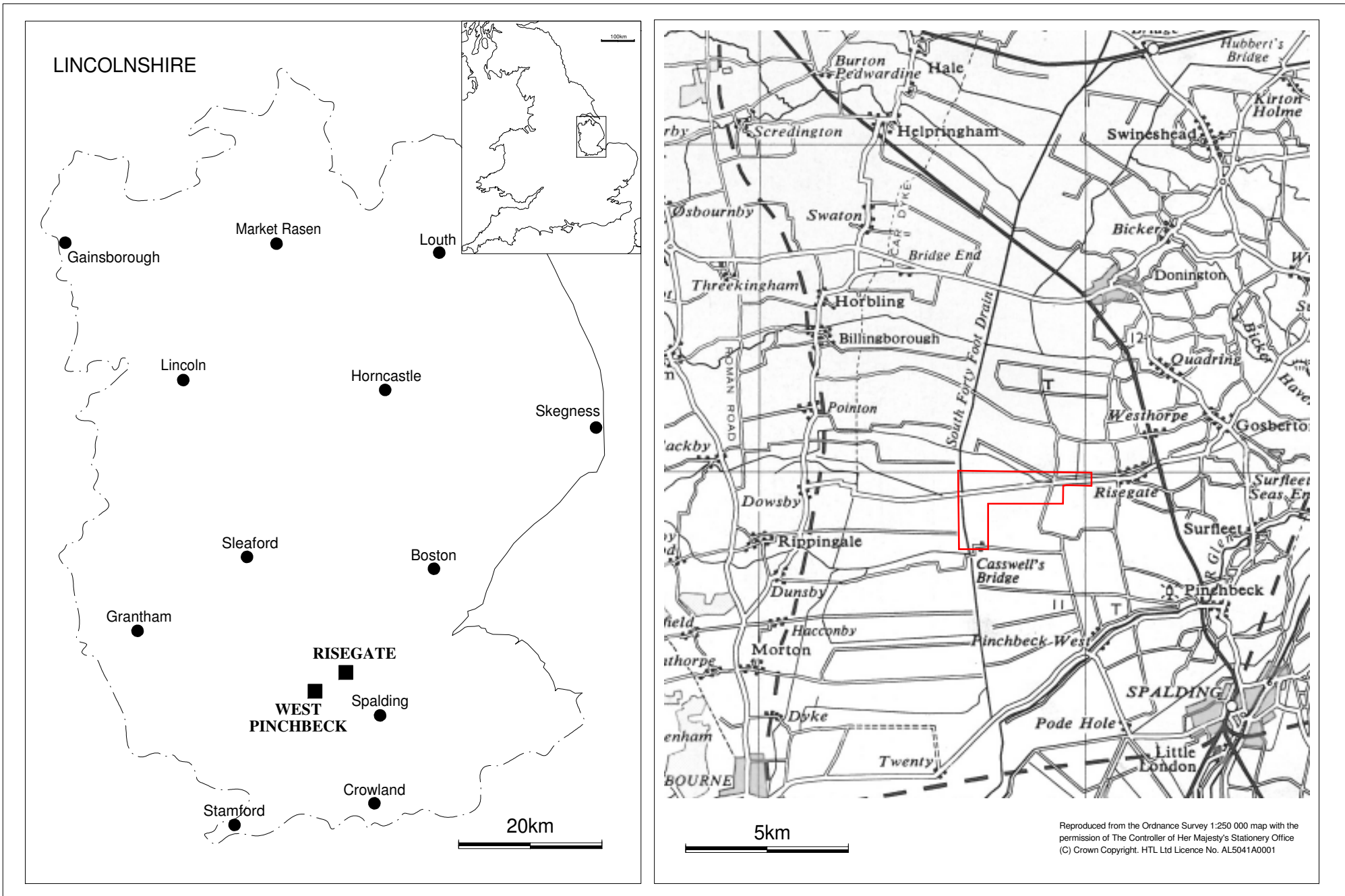

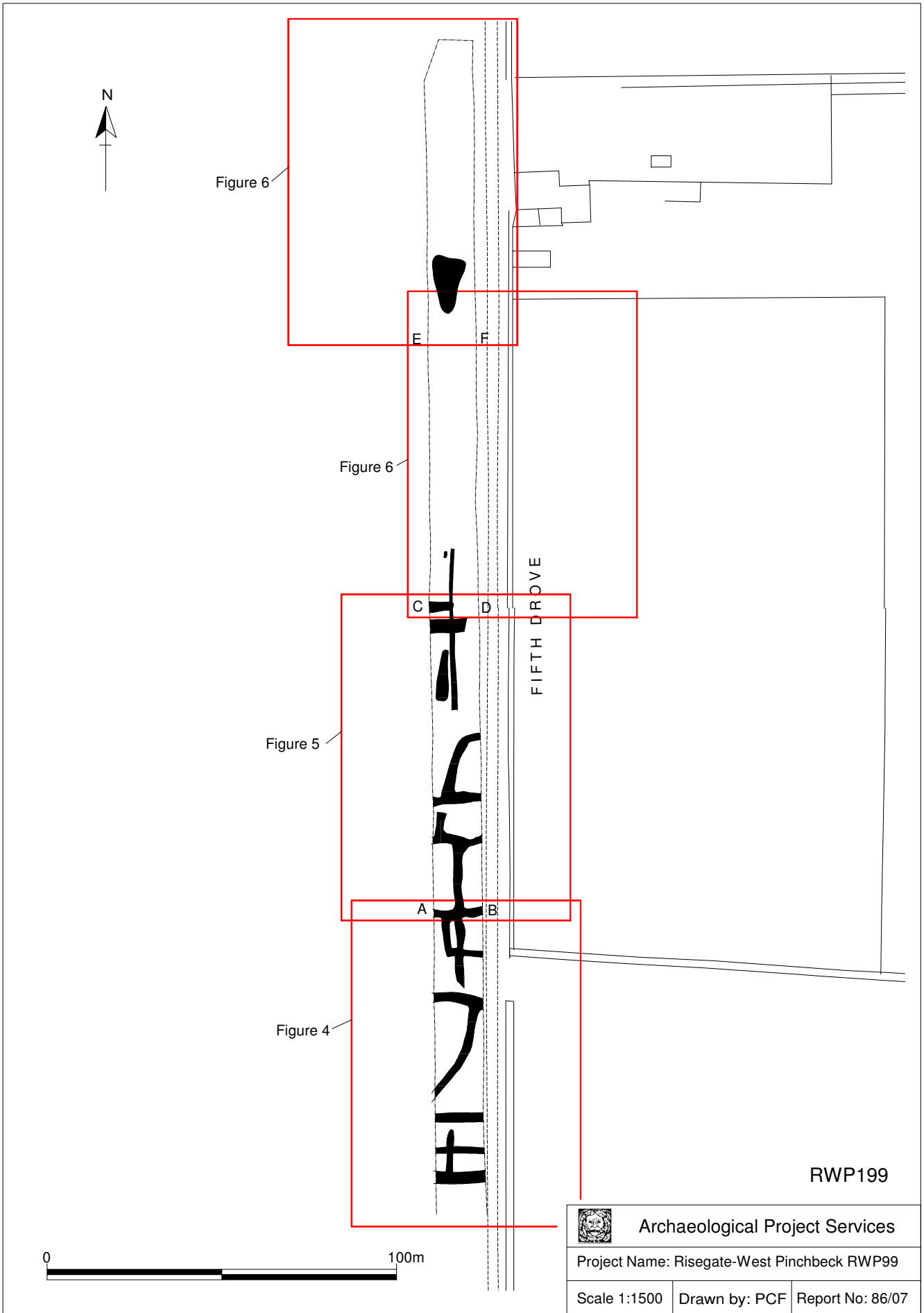


Figure 1 - General Location Plan



Figure 2 - Site location plan

 <b>Archaeological Project Services</b>		
Project Name: Risegate-West Pinchbeck RWP99		
Scale: 1:10,000	Drawn by: PCF	Report No: .../03



RWP199


 <b>Archaeological Project Services</b>		
Project Name: Risegate-West Pinchbeck RWP99		
Scale 1:1500	Drawn by: PCF	Report No: 86/07

Figure 3 - Field 5 showing figure locations



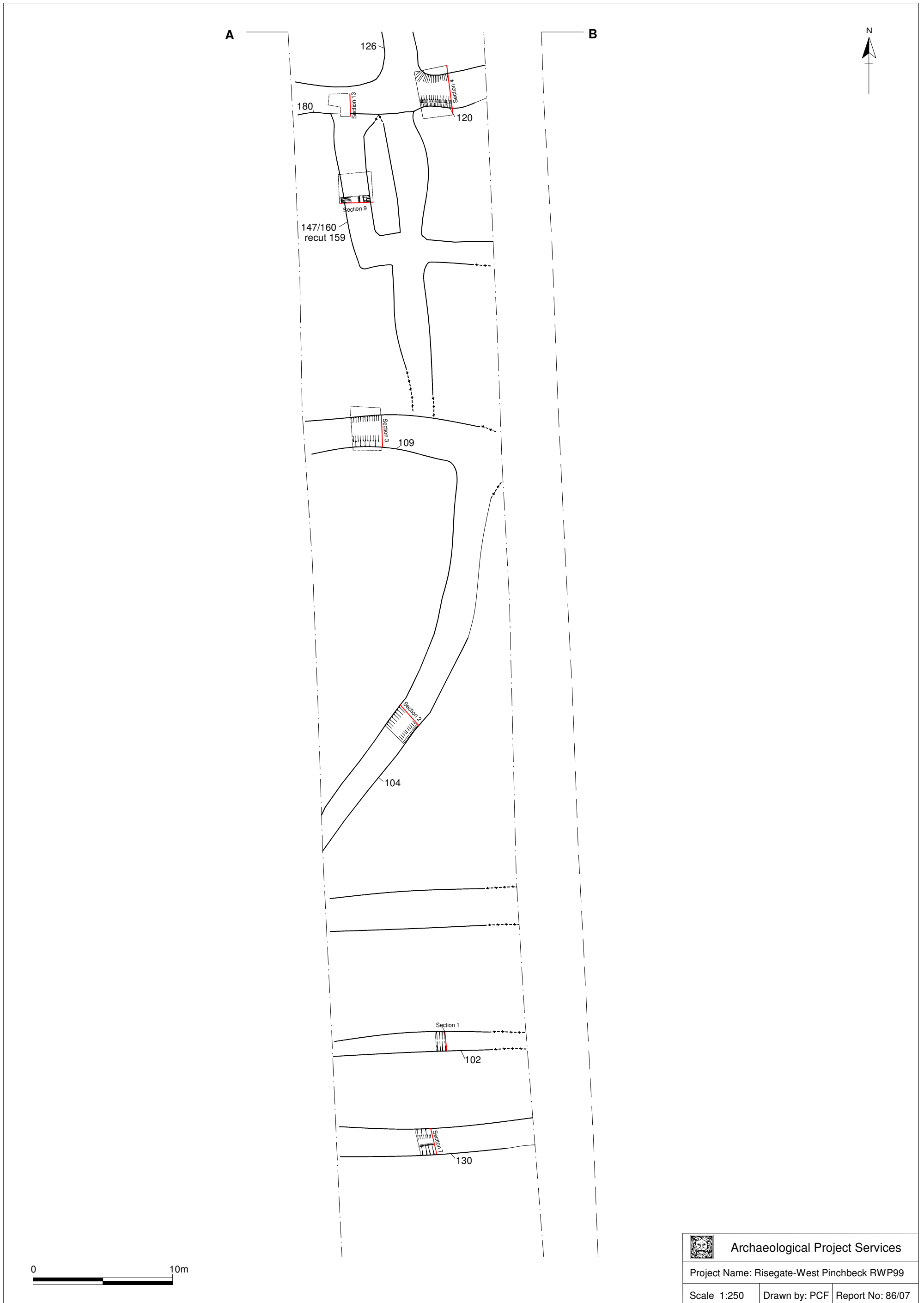


Figure 4 - Field 5: Plan of Southern part of examined area

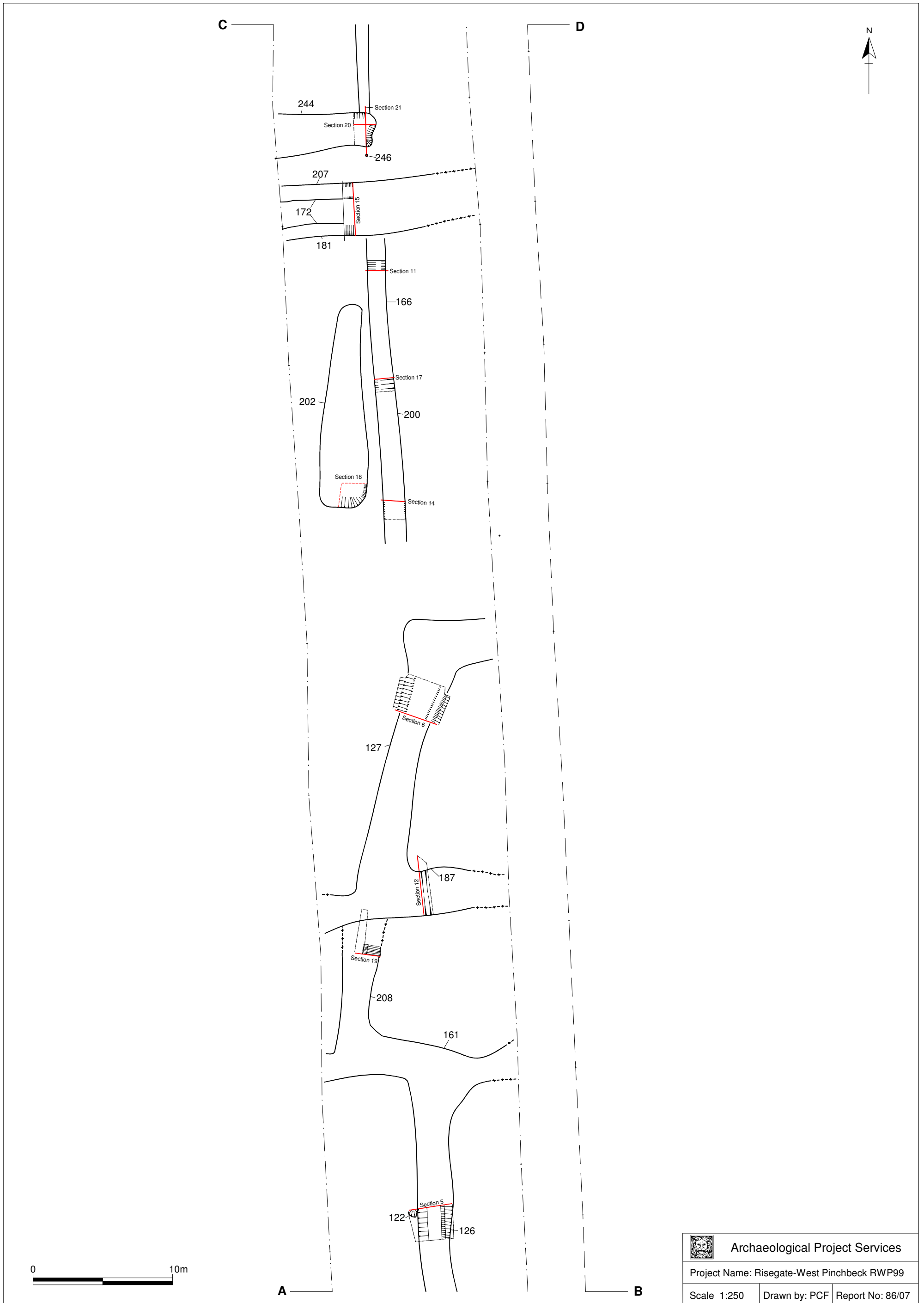



Figure 5 - Field 5: Plan of central part of examined area

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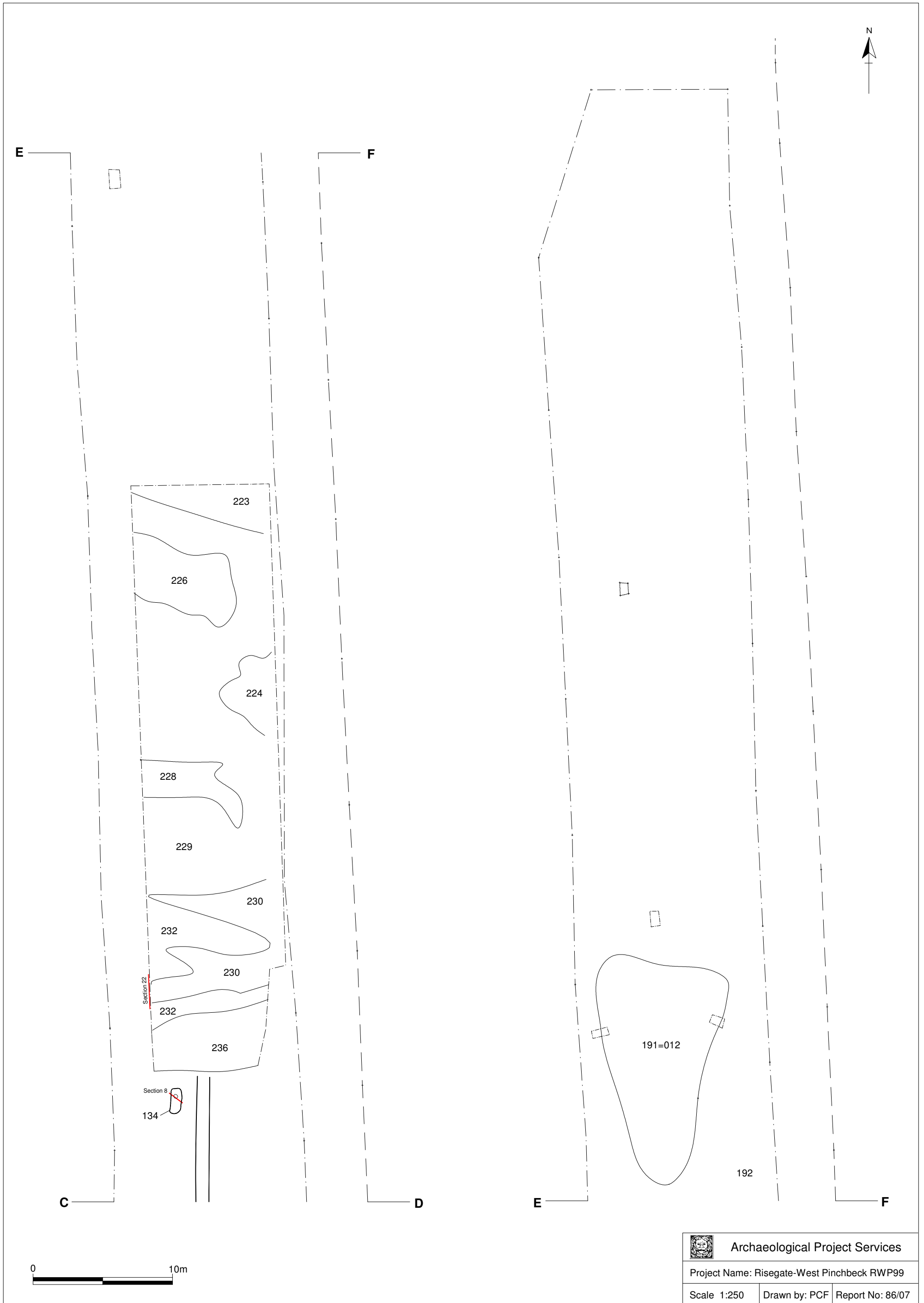


Figure 6 - Field 5: Plan of Northern part of examined area

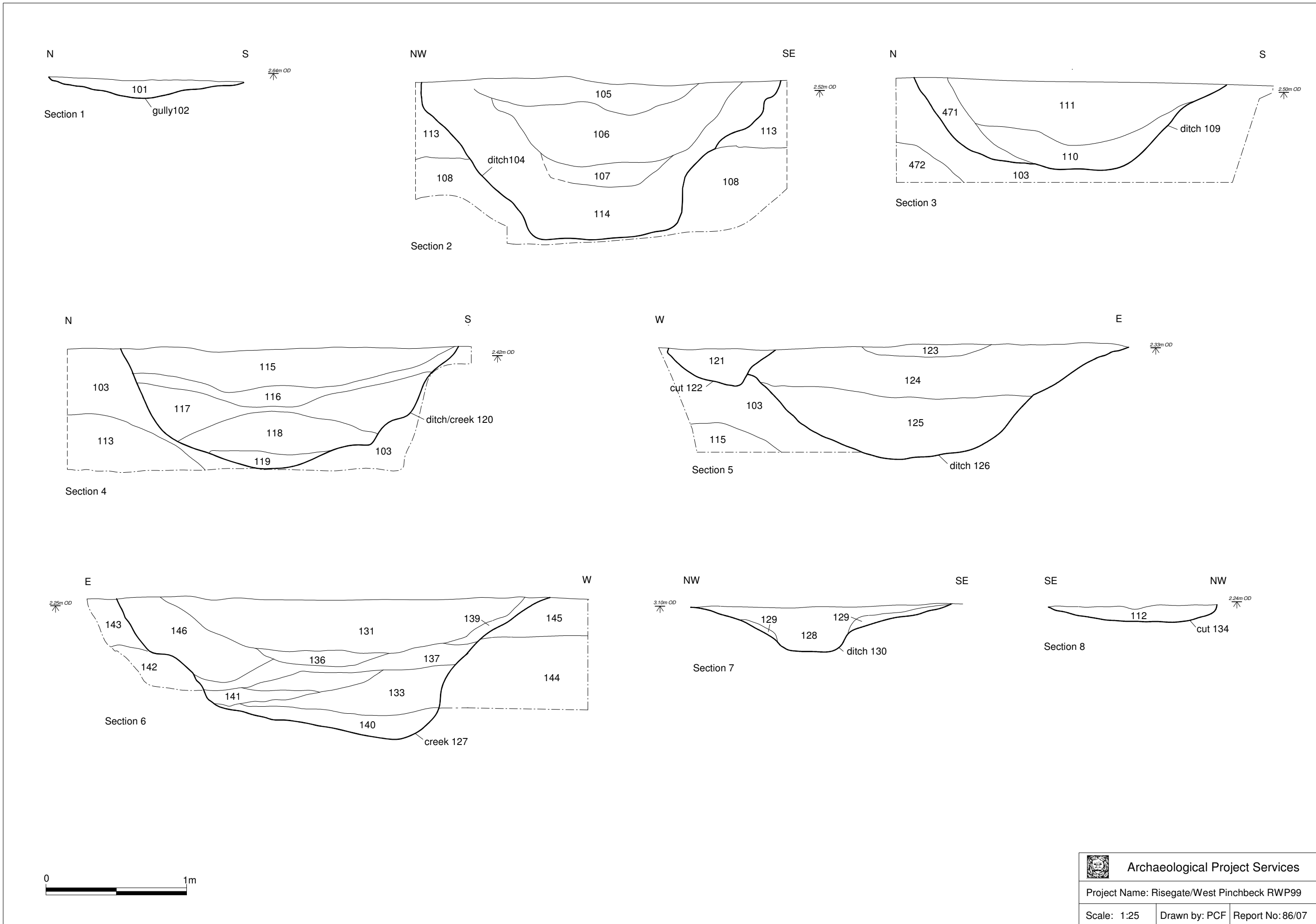


Figure 7 - Field 5: Sections 1 to 8

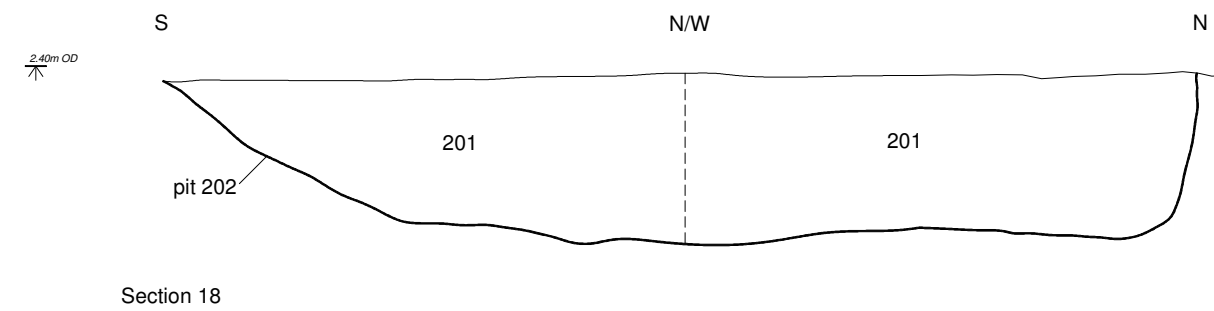
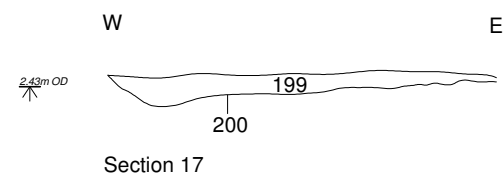
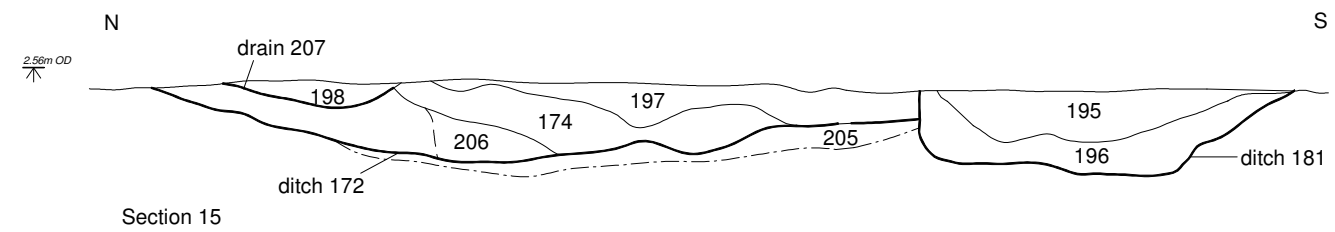
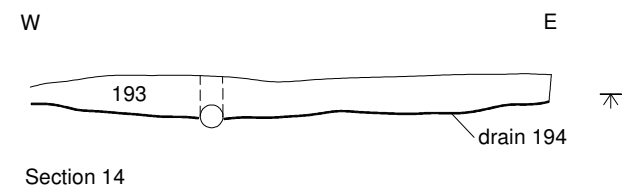
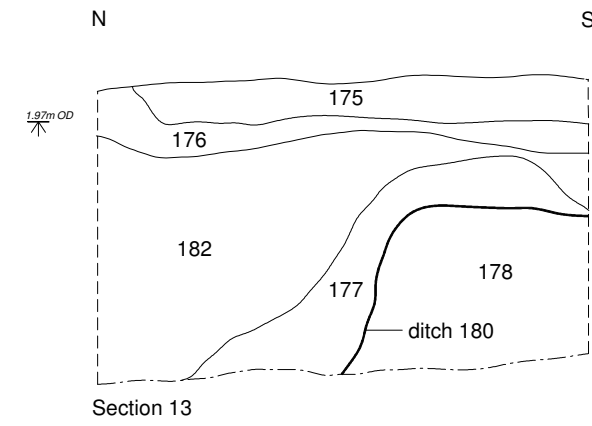
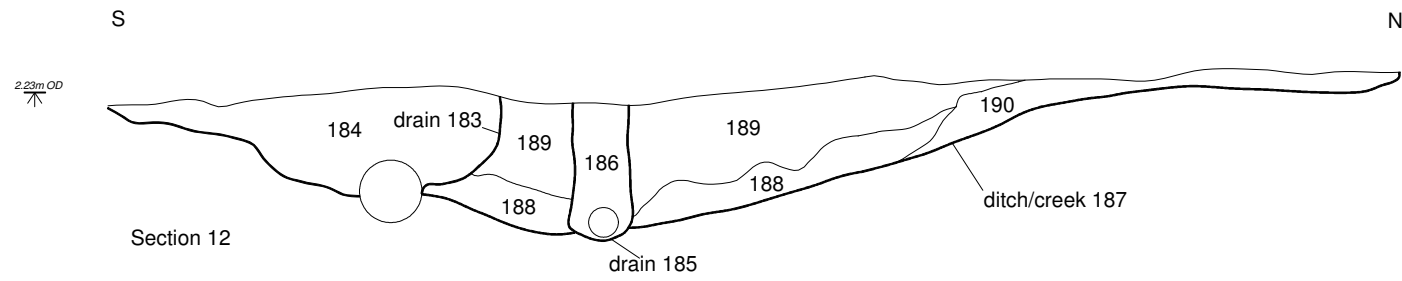
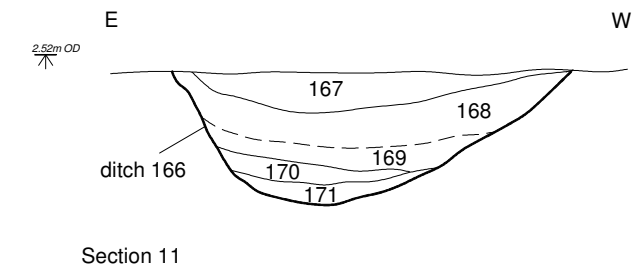
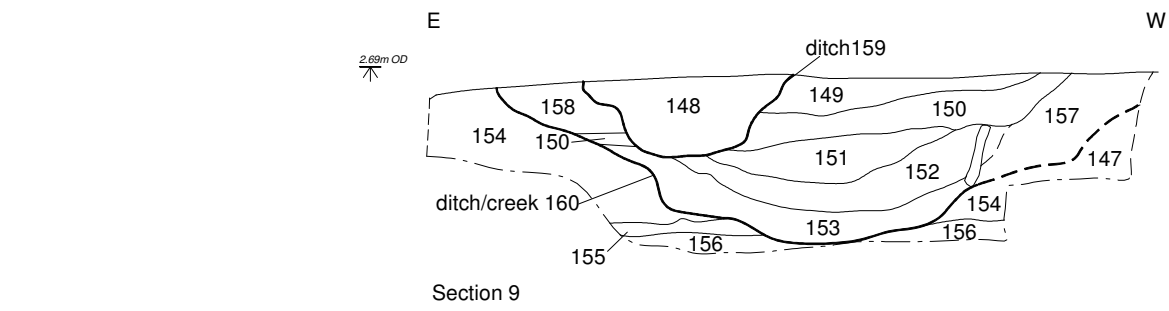
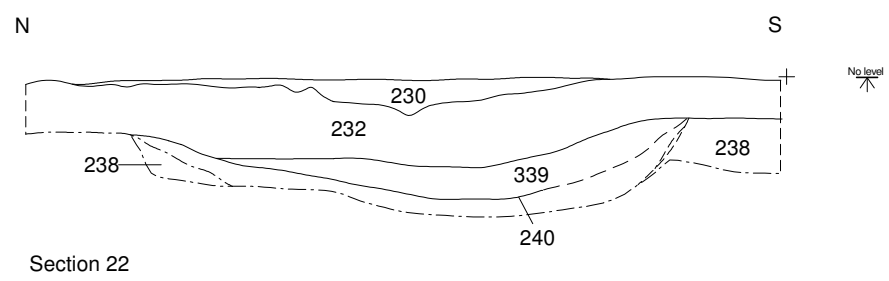
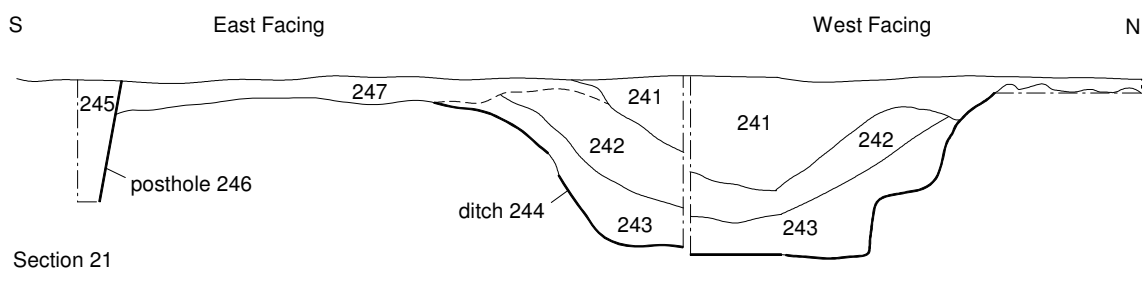
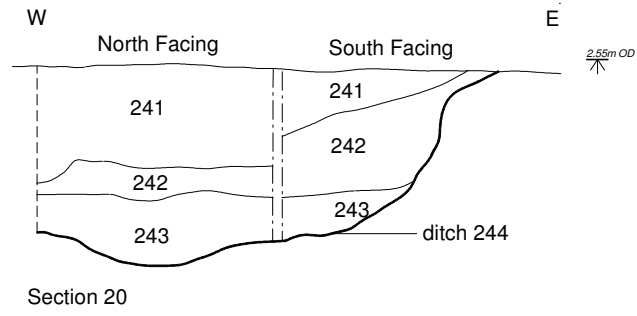
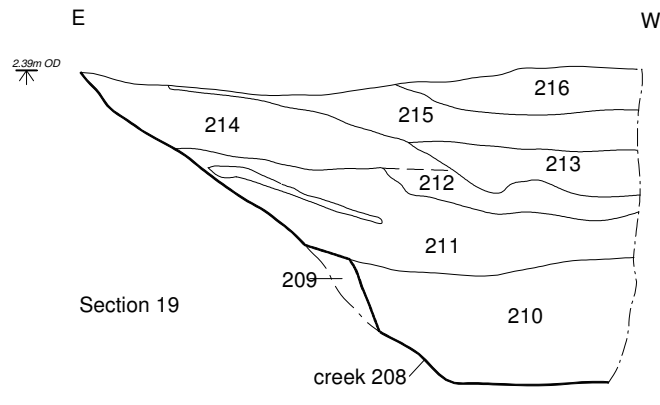


Figure 8 - Field 5: Sections 9, 11 to 15, 17 and 18




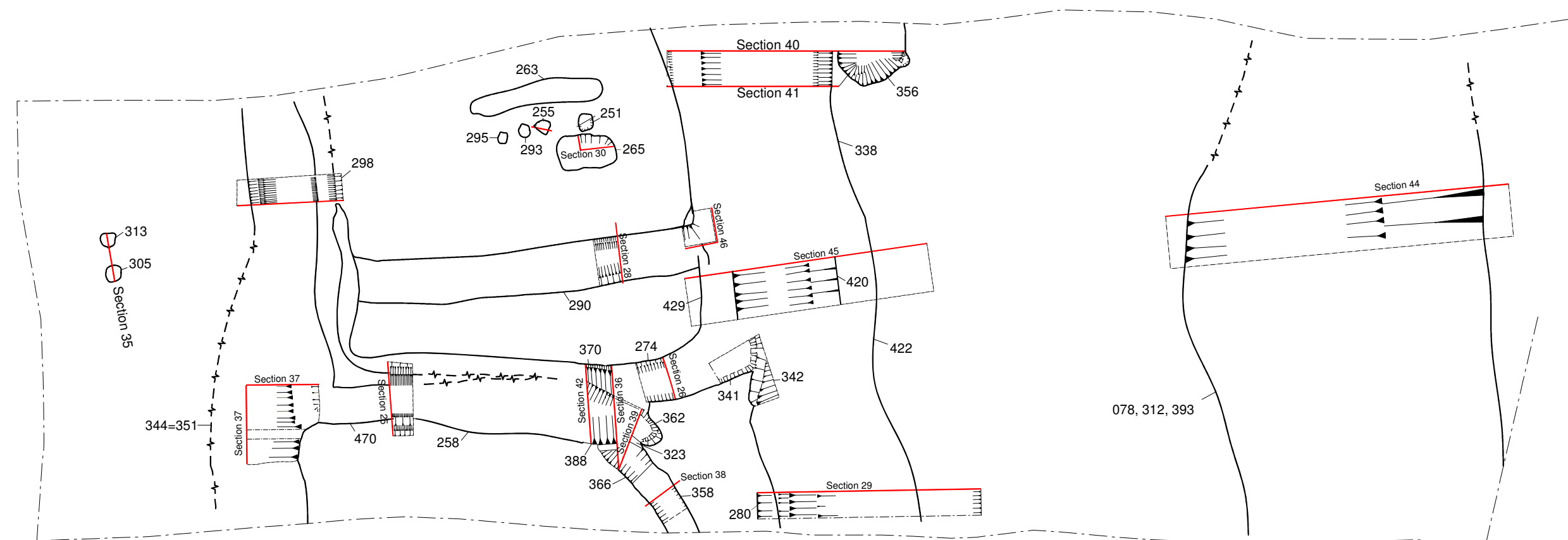
 <b>Archaeological Project Services</b>		
Project Name: Risegate/West Pinchbeck RWP99		
Scale 1:25	Drawn by: PCF	Report No: 86/07

Figure 9 - Field 5: Sections 19 to 22



RWP299




	Archaeological Project Services	
Project Name: Risegate/West Pinchbeck RWP99		
Scale: 1:125	Drawn by: PCF	Report No: 86/07

Figure 10 - Field 16: Plan

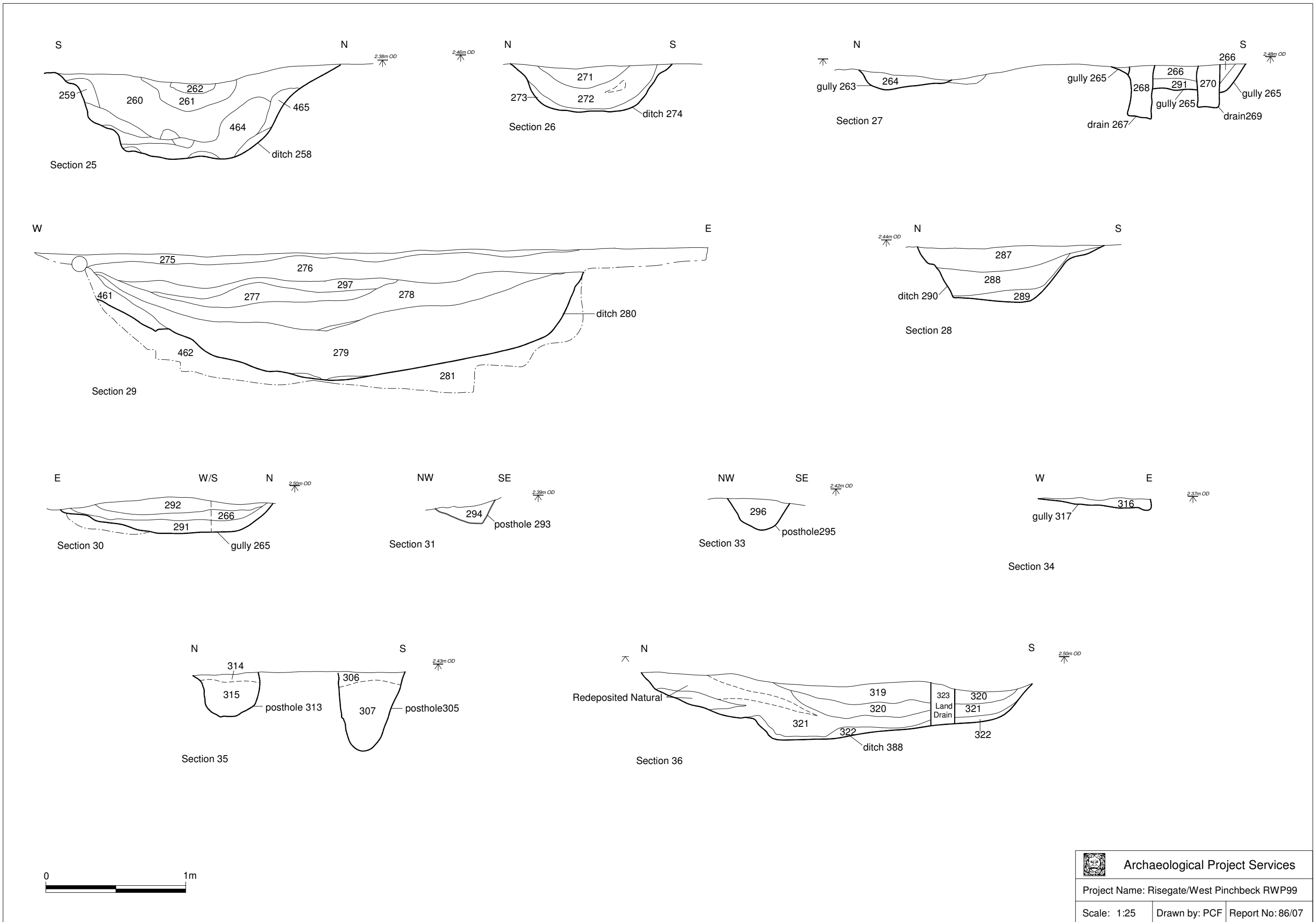


Figure 11 - Field 16: Sections 25 to 31 and 33 to 36



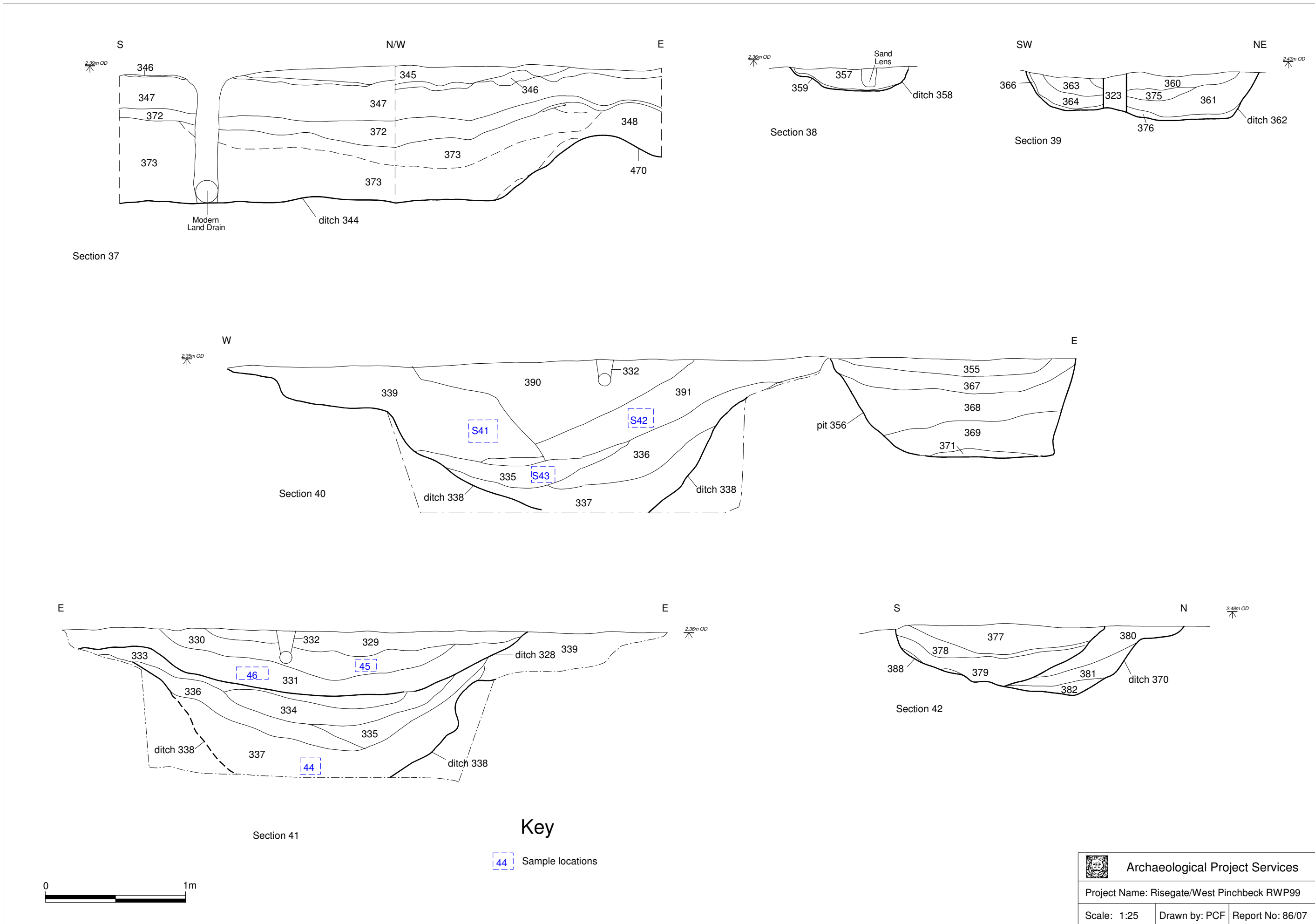
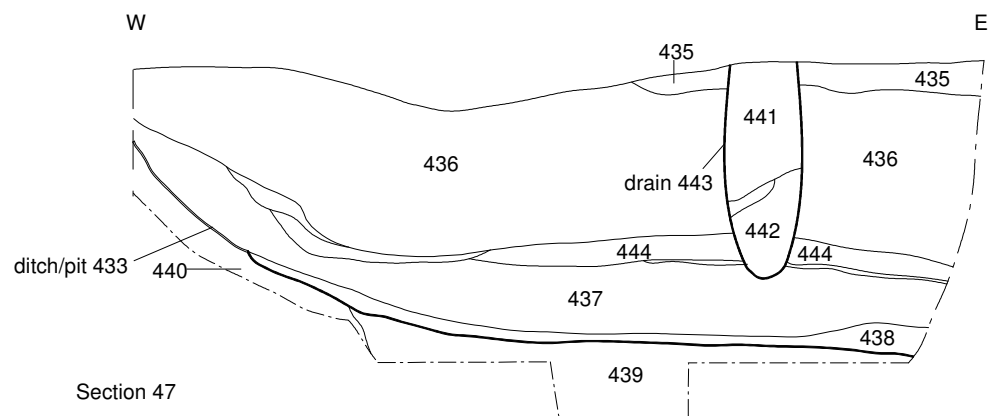
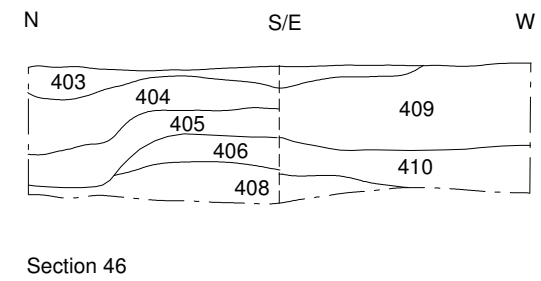
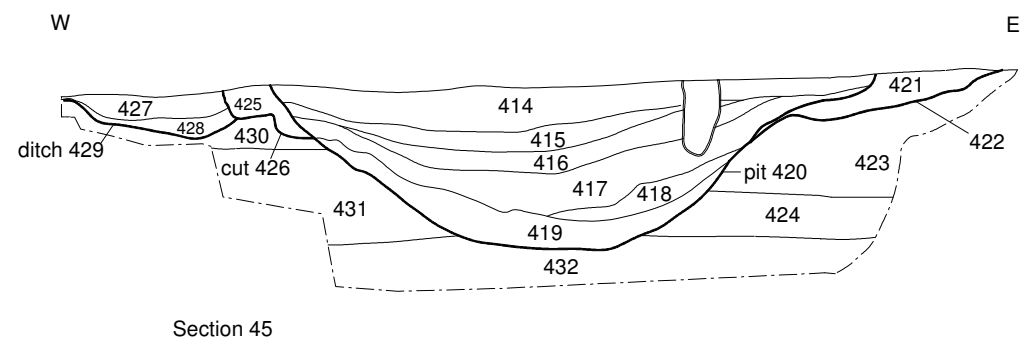
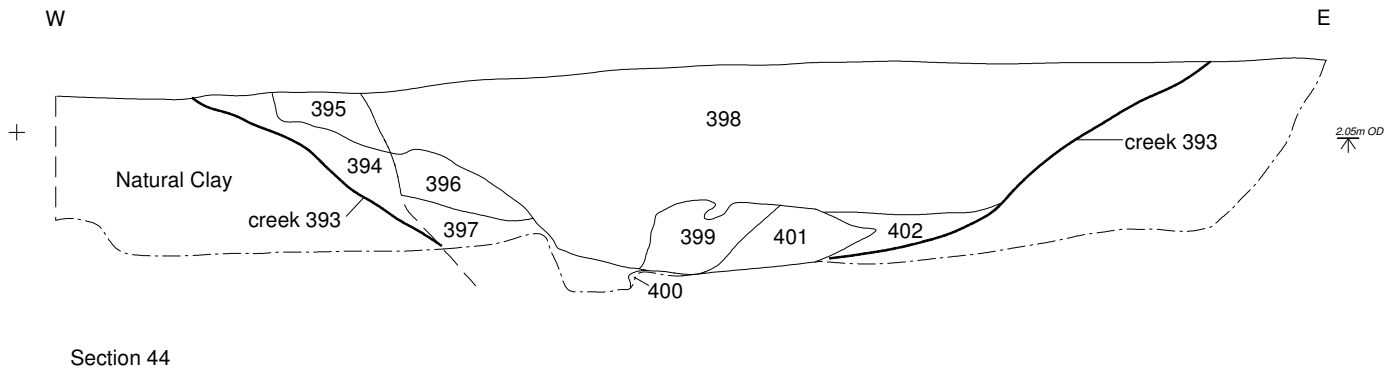
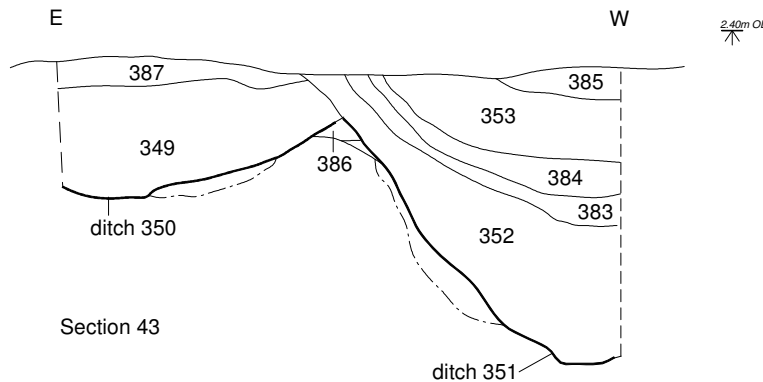


Figure 12 - Field 16: Sections 37 to 42




 <b>Archaeological Project Services</b>		
Project Name: Risegate/West Pinchbeck RWP99		
Scale: 1:25	Drawn by: PCF	Report No: 86/07

Figure 13 - Field 16: Sections 43 to 47

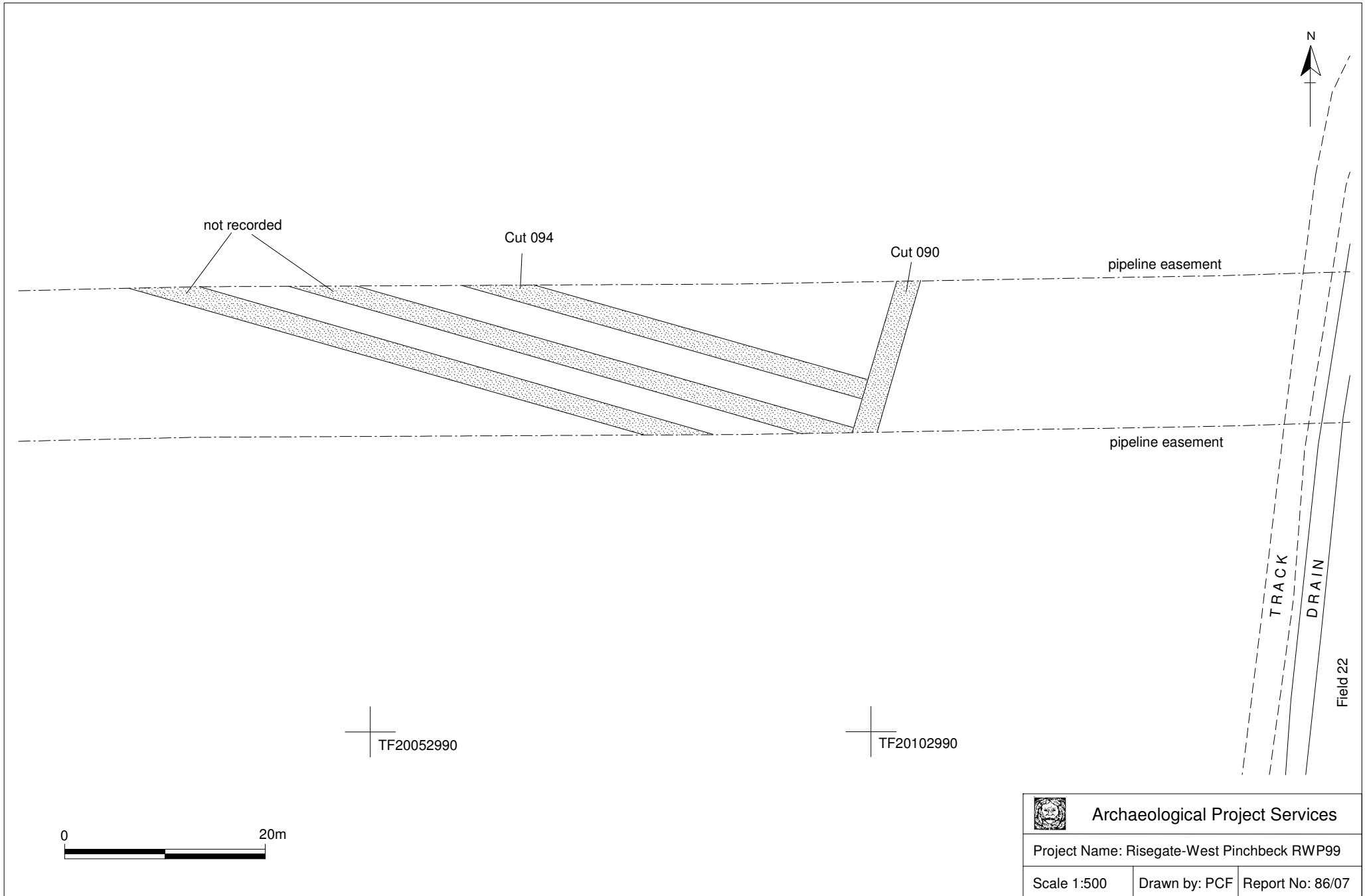
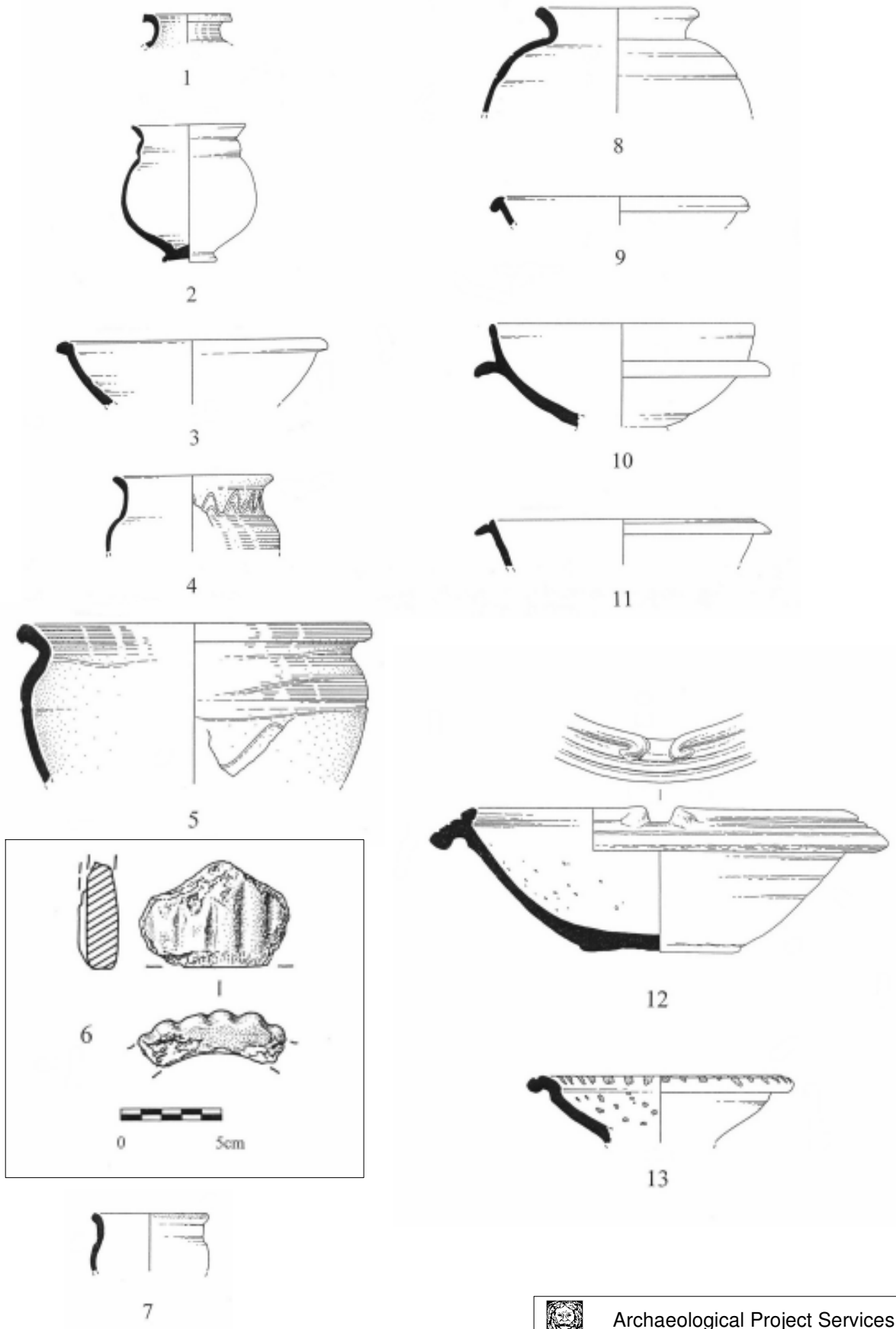



Figure 14 - Plan of Field 21 showing possible ridge and furrow



 <b>Archaeological Project Services</b>		
Project Name: Risegate-West Pinchbeck RWP99		
Scale 1:4	Drawn by: DWH	Report No: 86/07

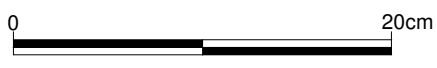
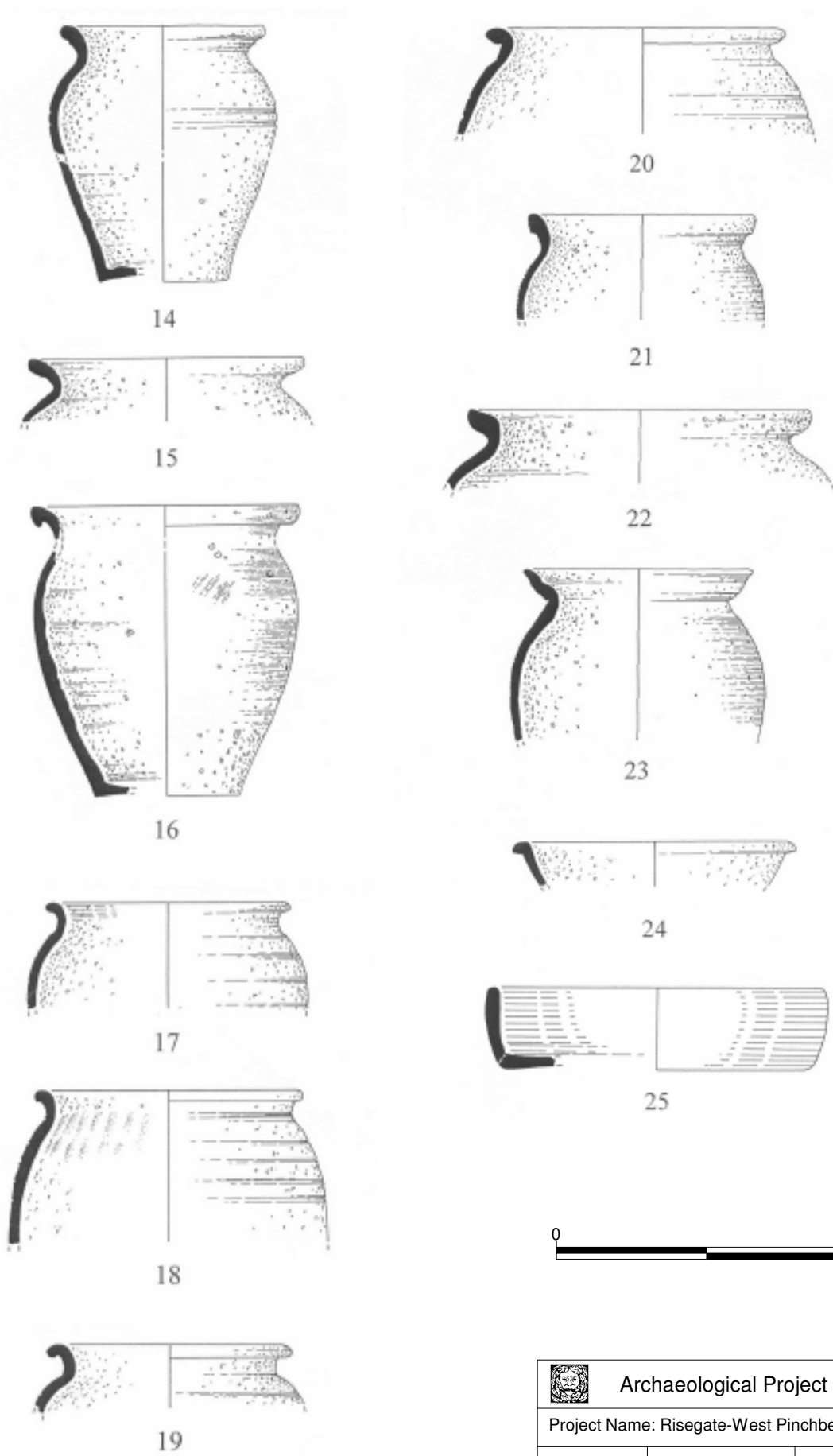


Figure 15 - Pottery




 Archaeological Project Services		
Project Name: Risegate-West Pinchbeck RWP99		
Scale 1:4	Drawn by: DWH	Report No: 86/07

Figure 16 - Pottery

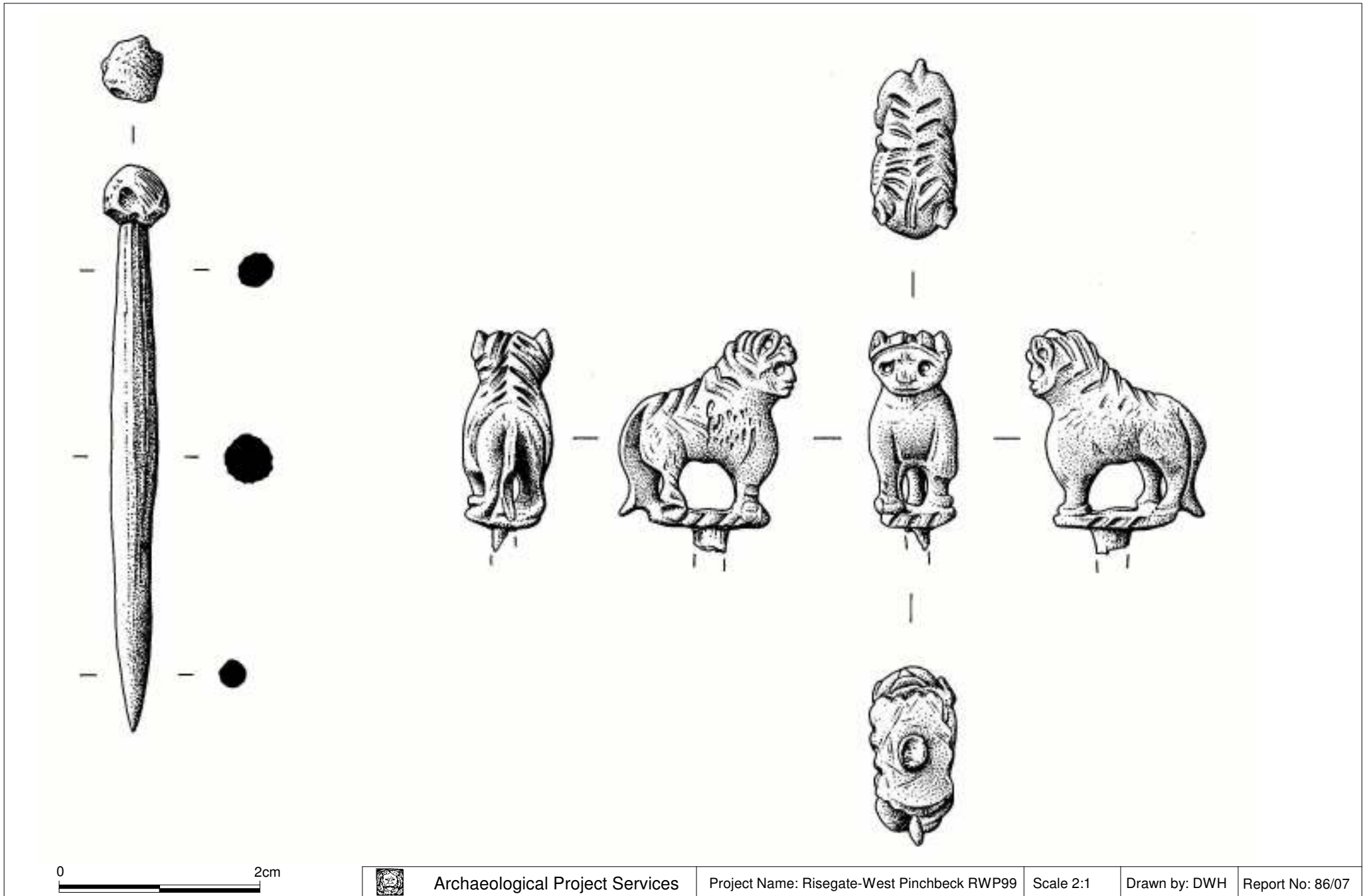


Figure 17 - Bone objects



Plate 1 - RWP199: View of the site after cleaning, looking southeast

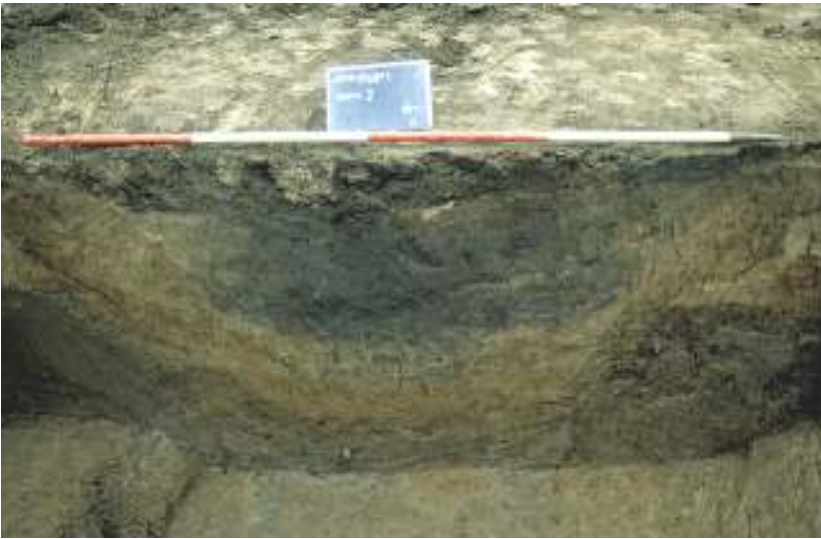


Plate 2 - RWP199: Section 2 showing ditch (004), looking northeast



Plate 3 - RWP199: Section 3 showing ditch (109), looking northeast



Plate 4 - RWP199: Section 4 showing ditch/creek (120), looking east



Plate 5 - RWP199: General shot during excavation, looking north-east



Plate 6 - RWP199: Section 12 showing ditch/creek (187) and recent land drains, looking west





Plate 7 - RWP199: Junction of ditch (120) and ditch/creek (147), looking east



Plate 8 - RWP199: Section 17 showing ditch (200) with possible plough marks in base, looking west



Plate 9 - RWP299: View across the site after excavation, looking south



Plate 10 - RWP299: Gully (265) and posthole (251), looking east



Plate 11 - RWP299: Section 26 showing ditch (274), looking east



Plate 12 - RWP299: Section 32 showing ditch (298), looking south



Plate 13 - RWP299: Section 42 showing gullies (318) and (370), looking west



Plate 14 - RWP299: Section 37 showing ditch(344), looking north



Plate 15 - RWP299: Section 44 showing ditch/creek (393), looking northeast

## **Appendix 1**

### **RISEGATE TO GOSBERTON PIPELINE GEOPHYSICAL SURVEY**

*by I.P. Brookes, Engineering Archaeological Services Ltd*

#### **Introduction**

**NGR Centred on TF 16782890 and TF 16602810**

#### **Location and Topography**

Two areas were surveyed along the line of the Risegate to Gosberton Pipeline. Both were on flat fields. Area 1 was adjacent to the Fifth Drove on Gosberton High Fen. Area 2 ran north east from the Risegate Water Works

#### **Archaeological Background**

The areas were located as of potential archaeological interest in a Desk-Top Study carried out by Archaeological Project Services based on existing archaeological records and aerial photographs.

#### **Aims of Survey**

It was hoped detailed magnetometry would detect any archaeological features and help to clarify their nature and extent.

#### **SUMMARY OF RESULTS**

A few possible linear features were located, although these are rather vague. Areas of probable modern disturbance were also located.

#### **Survey Results:**

##### **Area**

A total of 1.92 ha were investigated consisting of two areas. Area 1 being 0.6 ha (Figure 1) and Area 2 being 1.32 ha (Figure 2).

##### **Display**

The results are displayed as Grey Scale Image and as X-Y Trace Plots.

##### **Results:**

##### **Detailed survey:**

Forty eight 20 x 20 m grids were investigated with Area 1 being fifteen 20 x 20 m grids (Figure 1) and Area 2, thirty three grids (Figure 2)

##### **Area 1**

A number of faint, possible, archaeological features can be seen in the data (Figures 3 and 4), These are illustrated in red on the interpretation (Figure 5). Some areas of magnetic disturbance were also located. Those along the eastern side of the survey are probably related to modern disturbance associated with the Fifth Drove.

However the remainder may relate to archaeological features.

Areas of ferromagnetic disturbance are shown in blue

##### **Area 2**

A number of faint features were recorded in the data (Figures 6-9) These would appear to relate to the modern field boundaries and are therefore probably related to the modern drainage in the fields. The magnetically disturbed areas shown are all adjacent to modern drainage channels and probably relate to the cleaning of these features. The major ferromagnetic disturbance would appear to be a pipe crossing the easement, possibly a piped and back filled drainage channel.

## Magnetic Susceptibility

Soil samples were taken from the area of detailed survey in order to assess the magnetic susceptibility of the soils. It was not possible to obtain a subsoil sample for comparison.

Sample	Volume susceptibility $\chi_v$	Mass susceptibility $\chi_m$
Grid 1	10	8.85
Grid 3	13	12.26
Grid 5	13	12.04
Grid 7	18	14.29
Grid 9	12	11.21
Grid 11	11	9.24
Grid 13	11	10.68
Grid 15	10	8.62
Grid 16	11	10.28
Grid 18	9	8.33
Grid 20	14	13.33
Grid 22	13	12.62
Grid 24	15	13.39
Grid 26	13	11.30
Grid 28	14	13.46
Grid 30	15	11.63
Grid 32	20	18.02
Grid 34	9	8.41
Grid 36	9	7.56
Grid 37	9	7.76
Grid 39	14	12.96
Grid 41	11	11.22
Grid 43	16	16.00
Grid 45	17	16.50
Grid 47	26	25.74

### Risegate to Gosberton Pipeline Geophysical Survey - Conclusions:

The susceptibilities as measured are generally low and vary little across the survey areas. The two higher readings in Grids 32 and 47 may relate to the cleaning or filling of modern drainage channels. In general the results demonstrate conditions were less suitable for magnetic survey.

### Conclusions

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

A few features were located in Area 1 which may relate to archaeological activity.

In Area 2 few features which cannot be related to modern farming practice were located. However, a number of humanly struck flint artefacts, including at least one scraper, were noted whilst carrying out the survey.

### Risegate to Gosberton Pipeline Geophysical Survey – Technical Information:

#### Techniques of Geophysical Survey:

##### Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remanence which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

**Resistivity:**

This relies on variations in the electrical conductivity of the soil and subsoil -which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than Magnetometry this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

**Resistance Tomography**

Builds up a vertical profile or pseudosection through deposits by taking resistivity readings along a transect using a range of different probe spacings

**Magnetic Susceptibility:**

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

**Instrumentation:**

- 1. Fluxgate Gradiometer - Geoscan FM36**
- 2. Resistance Meter - Geoscan RM4/DL10**
- 3. Magnetic Susceptibility Meter – Bartington MS2**
- 4. Geopulse Imager 25 - Campus**

**Methodology:**

For Gradiometer and Resistivity Survey 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at either 0.5m or 1m intervals along traverses 1m apart. Resistance meter readings are logged at 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. Final analysis is carried out back at base.

For scanning transects are laid out at 10m intervals. Any anomalies noticed are where possible traced and recorded on the location plan.

For Magnetic Susceptibility survey a large grid is laid out and readings logged at 20m intervals along traverses 20m apart, data is again configured and analysed on a laptop computer.

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## Appendix 2

### CONTEXT DESCRIPTIONS

No.	Site Code	Field No.	Description	Interpretation
001	RWP99	5	Mid brown silt	Topsoil
002	RWP99	5	Yellow silt and fine sand	Natural deposit
003	RWP99	5	Greyish brown silty clay	Fill of (004)
004	RWP99	5	Linear feature, aligned east-west, 3m wide	Ditch
005	RWP99	5	Mid brown silt	Fill of (006)
006	RWP99	5	Circular feature, 0.46m diameter by 0.18m deep	Pit/posthole
007	RWP99	5	Greyish brown clayey silt	Fill of (088)
008	RWP99	1	Dark brown clayey silt	Fill of (089)
009	RWP99	5	Dark brown silt	Fill of (099)
010	RWP99	5	Greyish brown silt	Dumped deposit
011	RWP99	5	Light yellowish grey silt	Fill of roddon
012	RWP99	5	Greyish brown clayey silt	Fill of roddon
013	RWP99	22	Yellowish brown silt	Topsoil
014	RWP99	5	Dark brown silt	Buried soil
015	RWP99	5	Mid brown silt	Subsoil
016	RWP99	5	Mottled grey clayey silt	?Buried soil
017	RWP99	5	Mid brown silt	Fill of (093)
018	RWP99	5	Mid brown silt	Fill of (100)
019	RWP99	22	Mid yellowish brown silt	Fill of (095)
020	RWP99	2/3	Dark grey and brown organic clayey silt	Fill of (096)
021	RWP99	2/3	Dark grey and brown organic clayey silt	Fill of (096)
022	RWP99	5	Grey clayey silt with ash lenses	Fill of roddon
023	RWP99	5	Dark mottled brown organic silt	Fill of (087)
024	RWP99	5	Unstratified find retrieval	
025	RWP99	5	Dark brown mottled silt	Subsoil
026	RWP99	21	Grey yellowish brown silt	Fill of (090)
027	RWP99	21	Dark brown silt	Topsoil
028	RWP99	4	Brown clayey silt	Fill of (029)
029	RWP99	4	Linear feature, aligned east-west, 0.68m wide x 0.11m deep	Gully
030	RWP99	15	Light to mid grey silt	Subsoil
031	RWP99	16	Greyish brown silt	Fill of (091)
032	RWP99	16	Dark brown silt	Topsoil
033	RWP99	21	Brown silt	Fill of (094)
034	RWP99	16	Finds retrieved during topsoil stripping in area of (258) + (298)	
035	RWP99	16	Finds retrieved during topsoil stripping in area of (280)	
036	RWP99	15	Finds retrieved during topsoil stripping in area of (433)	
037	RWP99	16	Finds retrieved during topsoil stripping in area of (280)	
038	RWP99	16	Unstratified finds retrieval	
039	RWP99	15	Unstratified finds retrieval	
040	RWP99	18	Unstratified finds retrieval	
041	RWP99	19	Unstratified finds retrieval	

No.	Site Code	Field No.	Description	Interpretation
042	RWP99	8	Unstratified finds retrieval	
043	RWP99	16	Finds retrieved during topsoil stripping in area of (338)	
044	RWP99	16	Light bluish grey clay	Fill of (338)
045	RWP99	16	Light bluish grey silty clay	Fill of (298)
046	RWP99	15	Finds retrieved during topsoil stripping in area of (433)	
047	RWP99	1	Unstratified finds retrieval	
048	RWP99	5	Finds retrieved during topsoil stripping in area of (011) + (016)	
049	RWP99	3	Unstratified finds retrieval	
050	RWP99	22	Unstratified finds retrieval	
051	RWP99	4	Unstratified finds retrieval	
052	RWP99	13	Mid yellow and brown fine sandy clay	Natural deposit
053	RWP99	13	Brown laminated clay silt and fine sand	Natural deposit
054	RWP99	13	Dark grey clayey silt	Natural deposit
055	RWP99	Unused context		
056	RWP99	5	Greyish yellow silt	Natural deposit
057	RWP99	5	Yellow sand	Natural deposit
058	RWP99	5	Yellowish brown silty clay	Natural deposit
059	RWP99	5	Dark grey clayey silt	Topsoil
060	RWP99	5	Reddish grey clayey silt	Subsoil
061	RWP99	5	Brownish grey clay	Natural deposit
062	RWP99	5	Bluish grey clay	Natural deposit
063	RWP99	5	Bluish grey clay	Natural deposit
064	RWP99	5	Bluish grey clay	Natural deposit
065	RWP99	5	Bluish grey clay	Natural deposit
066	RWP99	5	Brownish grey clay	Natural deposit
067	RWP99	16	Greyish brown clayey silt	Topsoil
068	RWP99	16	Dark yellowish brown silt and clay	Subsoil
069	RWP99	16	Dark brownish grey silt and clay	Natural deposit
070	RWP99	16	Light grey clay and silt	Topsoil
071	RWP99	16	Yellowish brown sandy silt	Subsoil
072	RWP99	16	Brownish grey silty clay	Natural deposit
073	RWP99	16	Mid grey silt	Natural deposit
074	RWP99	16	Reddish brown clayey silt	Topsoil
075	RWP99	16	Greyish brown silty clay	Subsoil
076	RWP99	16	Light yellowish brown silt and fine sand	Natural deposit
077	RWP99	16	Yellow sand and silt	Fill of (078)
078	RWP99	16	N-S Linear? Feature, 1m wide x 0.5m deep	Ditch
079	RWP99	16	Dark greyish brown silt	Natural deposit
080	RWP99	16	Light grey silt	Natural deposit
081	RWP99	16	Light yellowish brown silt and sand	Natural deposit
082	RWP99	16	Grey sandy silt	Fill of (084)
083	RWP99	16	No description	Fill of (338)
084	RWP99	16	Linear? Feature, aligned north-south, 2.6m wide x 0.58m deep	Ditch
085	RWP99	16	Light brownish grey clay	Natural deposit
086	RWP99	Unused context		
087	RWP99	5	Linear feature, aligned northeast-southwest, 4m wide	Ditch



No.	Site Code	Field No.	Description	Interpretation
088	RWP99	5	Curvilinear feature	Creek
089	RWP99	1	Linear feature, aligned east-west, 1m wide	Ditch
090	RWP99	21	Linear feature, aligned north-south, 1.8m wide	Ditch
091	RWP99	16	Linear feature, 6m wide	Ditch
092	RWP99	16	Linear feature, aligned north-south,	Ditch
093	RWP99	5	Linear feature, aligned east-west, 3m wide	Ditch
094	RWP99	21	Linear feature, aligned northwest-southeast, 2m wide x 0.11m deep	Ditch
095	RWP99	22	Linear feature, aligned east-west, 2m wide	Indeterminate
096	RWP99	2/3	Curvilinear feature, 1.4m wide	Ditch
097	RWP99	2/3	Curvilinear feature, 1.8m wide	Ditch
098	RWP99	15	Linear? Feature, aligned east-west, <i>same as (433)</i>	Ditch/pit
099	RWP99	5	Linear feature, aligned east-west, 0.9m wide <i>same as (224)</i>	Ditch
100	RWP99	5	Linear feature, aligned east-west, 3m wide	Ditch
101	RWP199	5	Dark greyish brown clayey silt	Fill of (102)
102	RWP199	5	Linear feature, aligned northeast-southwest, 1.34m wide x 0.11m deep	Gully
103	RWP199	5	Reddish yellow sand	Natural deposit
104	RWP199	5	Linear feature, aligned northeast-southwest, 2.5m wide x 1.5m deep	Ditch
105	RWP199	5	Brown fine silt	Subsoil
106	RWP199	5	Bluish grey silty clay	Fill of (104)
107	RWP199	5	Greyish yellow silty sandy clay	Fill of (104)
108	RWP199	5	Brown clay	Natural deposit
109	RWP199	5	Linear feature, aligned northeast-southwest, 1.85m wide x 0.6m deep	Ditch
110	RWP199	5	Grey silty sand	Fill of (109)
111	RWP199	5	Bluish grey silty clay	Fill of (109)
112	RWP199	5	Greyish yellow sandy silt	Fill of (134)
113	RWP199	5	Orange fine sand	Natural deposit
114	RWP199	5	Greyish yellow fine sandy silt	Fill of (104)
115	RWP199	5	Light greyish brown clayey silt	Fill of (120)
116	RWP199	5	Greyish brown clayey silt	Fill of (120)
117	RWP199	5	Light grey clayey sand	Fill of (120)
118	RWP199	5	Reddish grey clay	Fill of (120)
119	RWP199	5	Grey clay	Fill of (120)
120	RWP199	5	Linear feature, aligned northeast-southwest, >14m long by 2.4m wide x 0.84m deep	Ditch
121	RWP199	5	Brown silt	Fill of (122)
122	RWP199	5	Irregular feature	Natural hollow
123	RWP199	5	Brown silt	Topsoil
124	RWP199	5	Hard dark brown clayey silt	Fill of (126)
125	RWP199	5	Hard reddish grey clay	Fill of (126)
126	RWP199	5	Linear feature, aligned north-south, 2.7m wide x 0.9m deep	Ditch
127	RWP199	5	Curvilinear feature, 3m wide x 1m deep	Ditch
128	RWP199	5	Greyish brown silt	Fill of (130)
129	RWP199	5	Brown and yellow mottled silt	Fill of (130)
130	RWP199	5	Linear feature, aligned east-west, 3.7m wide x 0.61m deep	Ditch

No.	Site Code	Field No.	Description	Interpretation
131	RWP199	5	Grey sandy silt	Fill of (127)
132	RWP199	Unused context		
133	RWP199	5	Light grey and light brown silt	Fill of (127)
134	RWP199	5	Irregular feature, 1.8m long by 0.78m wide and 90mm deep	Indeterminate feature
135	RWP199	5	Black silt	Fill of (104) + (109)
136	RWP199	5	Brown sandy silt	Fill of (127)
137	RWP199	5	Brown silt with light and dark grey lenses	Fill of (127)
138	RWP199	5	Brown clayey silt	Fill of (127)
139	RWP199	5	Brown sandy silt	Fill of (127)
140	RWP199	5	Light grey sandy silt with yellow brown lenses	Fill of (127)
141	RWP199	5	Grey sandy silt with yellowish brown lenses	Fill of (127)
142	RWP199	5	Brown sandy clay	Natural deposit
143	RWP199	5	Light grey sandy silt	Natural deposit
144	RWP199	5	Brown sandy clay	Natural deposit
145	RWP199	5	Light grey sandy silt	Natural deposit
146	RWP199	5	Light grey sandy silt with Light brown lenses	Fill of (127)
147	RWP199	5	Curvilinear feature, 2.6m wide x 0.37m deep	Ditch
148	RWP199	5	Dark brownish grey sandy silt with light brown lenses	Fill of (159)
149	RWP199	5	Dark grey sandy silt	Fill of (160)
150	RWP199	5	Light grey silty sand	Fill of (160)
151	RWP199	5	Light brown silty sand	Fill of (147) + (160)
152	RWP199	5	Light grey silt and sand	Fill of (160)
153	RWP199	5	Light grey silty sand	Fill of (160)
154	RWP199	5	Light brown silty sand	Natural deposit
155	RWP199	5	Light brown clay and silt	Natural deposit
156	RWP199	5	Brown clay and silt	Natural deposit
157	RWP199	5	Light greyish brown fine sand	Fill of (147)
158	RWP199	5	Light greyish brown fine sand	Fill of (160)
159	RWP199	5	Linear feature, aligned north-south, 0.68m wide x 0.27m deep	Ditch
160	RWP199	5	Linear feature, aligned north-south, 1.86m wide x 0.55m deep	Ditch
161	RWP199	5	Linear feature, aligned east-west, 2.5m wide x 0.5m deep	Ditch
162	RWP199	5	Linear feature, aligned north-south, 4m wide x 0.5m deep	Ditch
163	RWP199	5	Dark brown silt	Fill of (161)
164	RWP199	5	Dark brown silt	Fill of (161)
165	RWP199	5	Brown and yellow sandy silt	Fill of (161)
166	RWP199	5	Linear feature, aligned north-south, 1.82m wide x 0.44m deep	Ditch
167	RWP199	5	Dark grey silty sand with reddish yellow lenses	Fill of (166)
168	RWP199	5	Grey silty sand with reddish yellow lenses	Fill of (166)
169	RWP199	5	Reddish yellow silty sand with grey lenses	Fill of (166)
170	RWP199	5	Grey and light grey laminated clayey sand	Fill of (166)
171	RWP199	5	Light grey and reddish yellow silty sand	Fill of (166)
172	RWP199	5	Linear feature, aligned east-west, 2.55m wide x 0.28m deep	Ditch
173	RWP199	Unused context		
174	RWP199	5	Brown and light grey sandy clay	Fill of (172)

No.	Site Code	Field No.	Description	Interpretation
175	RWP199	5	Dark grey clayey silt	Fill of (180)
176	RWP199	5	Light yellowish grey sand	Fill of (180)
177	RWP199	5	Light yellow sand	Fill of (180)
178	RWP199	5	Reddish brown clay	Natural deposit
179	RWP199	Unused context		
180	RWP199	5	Linear feature, aligned east-west, 2.1m wide x 0.95m deep	Ditch
181	RWP199	5	Linear feature, aligned east-west, 1.4m wide x 0.3m deep	Ditch
182	RWP199	5	Light reddish yellow sand	Fill of (180)
183	RWP199	5	Linear feature, aligned east-west,	Land drain
184	RWP199	5	Yellowish brown fine sandy silt	Fill of (183)
185	RWP199	5	Linear feature, aligned east-west	Land drain
186	RWP199	5	Brown silt	Fill of (185)
187	RWP199	5	Linear feature, aligned east-west, 3.22m wide x 0.5m deep	Ditch
188	RWP199	5	Hard yellowish red clay	Fill of (187)
189	RWP199	5	Dark brown and black silty clay	Fill of (187)
190	RWP199	5	Reddish yellow sand	Fill of (187)
191	RWP199	5	Grey clay	Natural deposit
192	RWP199	5	Yellow sand	Natural deposit
193	RWP199	5	Reddish light brown silty sand	Fill of (194)
194	RWP199	5	Linear feature, aligned north-south	Land drain
195	RWP199	5	Greyish brown silty sand	Fill of (181)
196	RWP199	5	Dark grey sandy clay	Fill of (181)
197	RWP199	5	Greenish grey and brown sandy clay	Fill of (172)
198	RWP199	5	Brown and grey sandy clay	Fill of (207)
199	RWP199	5	Greyish brown sandy silt	Fill of (200)
200	RWP199	5	Linear feature, aligned east-west, 1.29m wide x 0.11m deep, with possible plough marks	Ditch
201	RWP199	5	Dark greyish brown silt	Fill of (202)
202	RWP199	5	Rectangular feature, 14m long x 3.5m wide	Pit
203	RWP199	5	Black silt	Fill of (104) + (109)
204	RWP199	5	Dark brown silt	Fill of (104) + (109)
205	RWP199	5	Soft light grey and reddish yellow silty sand	Natural deposit
206	RWP199	5	Soft greyish reddish brown silty sand	Fill of (172)
207	RWP199	5	Linear feature, aligned east-west	Land drain
208	RWP199	5	Linear feature, aligned north-south, 1.5m wide x 1m deep	Creek
209	RWP199	5	Pinkish brown clay	Natural deposit
210	RWP199	5	Pinkish grey laminated sand and clay	Fill of (208)
211	RWP199	5	Light brownish grey fine sand and silt	Fill of (208)
212	RWP199	5	Light brownish grey clayey silt	Fill of (208)
213	RWP199	5	Red and silt and clay	Fill of (208)
214	RWP199	5	Light grey sandy silt with reddish yellow mottles	Fill of (208)
215	RWP199	5	Greyish reddish brown silty clay	Fill of (208)
216	RWP199	5	Dark brown silt	Fill of (208)
217	RWP199	Unused context		
218	RWP199	5	Yellowish brown silty sand	Fill of roddon

No.	Site Code	Field No.	Description	Interpretation
219	RWP199	5	Reddish brown silty clay	Fill of roddon
220	RWP199	5	Reddish grey clay	Fill of roddon
221	RWP199	5	Reddish brown clay with silt	Fill of roddon
222	RWP199	5	Light brownish yellow sand	Fill of roddon
223	RWP199	5	Reddish brown clay	Fill of roddon
224	RWP199	5	Brownish grey clay	Fill of roddon
225	RWP199	5	Dark brown clayey silt	Fill of roddon
226	RWP199	5	Reddish brown clay	Fill of roddon
227	RWP199	5	Light yellowish brown sand	Fill of roddon
228	RWP199	5	Reddish brown clay	Fill of roddon
229	RWP199	5	Grey silty clay	Fill of roddon
230	RWP199	5	Dark brown clay and silt	Fill of roddon
231	RWP199	5	Grey silty clay	Fill of roddon
232	RWP199	5	Grey silty clay	Fill of roddon
233	RWP199	5	Dark brown silt	Topsoil
234	RWP199	5	Light yellowish brown silty clay	Fill of roddon
235	RWP199	5	Dark brown silt	Fill of roddon
236	RWP199	5	Light yellowish brown sand	Natural deposit
237	RWP199	5	Brown silt, sand and clay	Fill of roddon
238	RWP199	5	Yellowish brown clay	Fill of roddon
239	RWP199	5	Reddish grey clay	Fill of roddon
240	RWP199	5	Dark grey silt	Fill of roddon
241	RWP199	5	Mottled brownish yellow fine sand and silt	Fill of (244)
242	RWP199	5	Light greyish brown silt and sand	Fill of (244)
243	RWP199	5	Mottled brownish yellow fine sand and silt	Fill of (244)
244	RWP199	5	Linear feature, aligned east-west, 1.68m wide x 0.6m deep	Ditch
245	RWP199	5	Mottled dark greyish brown silt and sand	Fill of (246)
246	RWP199	5	Sub-circular feature, 0.15m diameter x 0.42m deep	Post hole
247	RWP199	5	Mottled brown silt and sand	Subsoil
248	RWP299	15	Bluish grey clayey silt	Natural deposit
249	RWP299	15	Reddish grey clayey silt	Natural deposit
250	RWP299	15	Greyish yellow fine sand	Natural deposit
251	RWP299	16	Square feature, 0.42m wide x 0.11m deep	Posthole
252	RWP299	16	Dark grey clayey sand	Fill of (251)
253	RWP299	16	Brown sandy clay	Fill of (251)
254	RWP299	16	Dark grey sandy clay	Fill of (251)
255	RWP299	16	Sub-rounded feature, 0.3m diameter x 0.18m deep	Posthole
256	RWP299	16	Dark grey clayey sand	Fill of (255)
257	RWP299	16	Dark greyish brown sandy clay	Fill of (255)
258	RWP299	16	Linear feature, aligned east-west, 2.35m wide x 0.55m deep	Ditch
259	RWP299	16	Dark pinkish brown silty clay	Fill of (258)
260	RWP299	16	Grey silty clay with pinkish and greenish grey lenses	Fill of (258)
261	RWP299	16	Pinkish brown silty sand	Fill of (258)
262	RWP299	16	Grey silt	Fill of (258)
263	RWP299	16	Linear feature, aligned east-west, 3.52m long x 0.6m wide x 0.1m deep	Gully

No.	Site Code	Field No.	Description	Interpretation
264	RWP299	16	Dark greenish grey silty clay	Fill of (263)
265	RWP299	16	Linear feature, aligned east-west, 1.43m long x 0.8m wide x 0.2m deep	Gully
266	RWP299	16	Dark greyish green silty clay	Fill of (265)
267	RWP299	16	Linear feature, aligned northwest-southeast	Land drain
268	RWP299	16	Dark reddish brown silty clay	Fill of (267)
269	RWP299	16	Linear feature, aligned east-west	Land drain
270	RWP299	16	Dark reddish brown silty clay	Fill of (269)
271	RWP299	16	Dark yellowish brown clayey silt	Fill of (274)
272	RWP299	16	Dark grey brown silty clay	Fill of (274)
273	RWP299	16	Dark yellowish brown clay	Fill of (274)
274	RWP299	16	Curvilinear feature, 1.15m wide x 0.31m deep	Ditch
275	RWP299	16	Greyish brown silt	Fill of (280)
276	RWP299	16	Brownish grey clayey silt	Fill of (280)
277	RWP299	16	Compact brownish grey silty clay	Fill of (280)
278	RWP299	16	Hard reddish brown clay	Fill of (280)
279	RWP299	16	Compact bluish grey clay	Fill of (280)
280	RWP299	16	Linear feature, aligned north-south, 5.8m wide x 1.15m deep	Ditch
281	RWP299	16	Brownish red clay	Natural deposit
282	RWP299	16	Light brown silty sand	Fill of (251)
283	RWP299	16	Brown sandy clay	Natural deposit
284	RWP299	16	Linear feature	Land drain
285	RWP299	16	Dark grey sandy clay	Fill of (284)
286	RWP299	16	Reddish brown sandy clay	Natural deposit
287	RWP299	16	Brownish grey silty clay with green mottles	Fill of (290)
288	RWP299	16	Dark brownish grey clay with yellowish green mottles	Fill of (290)
289	RWP299	16	Yellowish grey clay	Fill of (290)
290	RWP299	16	Linear feature, aligned east-west, 1.34m wide x 0.4m deep	Ditch
291	RWP299	16	Light grey clay	Fill of (265)
292	RWP299	16	Dark brownish grey silty clay	Fill of (266)
293	RWP299	16	Circular feature, 0.37m diameter x 0.14m deep	Posthole
294	RWP299	16	Greyish red silty clay	Fill of (293)
295	RWP299	16	Sub-circular feature, 0.35m long x 0.28m wide x 0.2m deep	Posthole
296	RWP299	16	Light greyish yellow clayey silt	Fill of (295)
297	RWP299	16	Concreted greenish grey clayey silt	Fill of (280)
298	RWP299	16	Linear feature, aligned north-south, 2.95m wide x 1.15m deep	Ditch
299	RWP299	16	Dark grey-black silt	Fill of (298)
300	RWP299	16	Light yellowish brown fine sand	Fill of (298)
301	RWP299	16	Pinkish brown clayey silt	Fill of (298)
302	RWP299	16	Bluish grey clay	Fill of (298)
303	RWP299	16	Greyish pink silty clay	Fill of (298)
304	RWP299	16	Yellow and pink laminated sand and clay	Fill of (298)
305	RWP299	16	Circular feature, 0.4m diameter x 0.47m deep	Posthole
306	RWP299	16	Dark grey silty clay	Fill of (305)
307	RWP299	16	Pinkish grey brown clayey silty sand	Fill of (305)
308	RWP299	16	Brownish red silty clay with green mottles	Natural deposit

No.	Site Code	Field No.	Description	Interpretation
309	RWP299	16	Greyish red sand	Fill of (312)
310	RWP299	16	Greenish brown silty clay	Fill of (312)
311	RWP299	16	Dark grey clay	Fill of (312)
312	RWP299	16	Linear feature, aligned northwest-southeast, 7m wide	Creek
313	RWP299	16	Circular feature, 0.4m diameter x 0.25m deep	Posthole
314	RWP299	16	Dark grey silty clay	Fill of (313)
315	RWP299	16	Pinkish grey-brown clayey silty sand	Fill of (313)
316	RWP299	16	Dark greenish grey clayey silt	Fill of (317)
317	RWP299	16	Linear feature, aligned north-south, 0.58m wide x 80mm deep	Gully
318	RWP299	16	Linear feature, aligned northwest-southeast, 2.8m wide by 0.4m deep	Ditch
319	RWP299	16	Greyish brown silty clay	Fill of (318)
320	RWP299	16	Light grey silty clay	Fill of (318)
321	RWP299	16	Grey silty clay with reddish yellow mottling	Fill of (318)
322	RWP299	16	Greenish grey clay	Fill of (318)
323	RWP299	16	Linear feature	Land drain
324	RWP299	16	Dark greyish brown silty clay	Fill of (341)
325	RWP299	16	Greyish brown silty clay	Fill of (342)
326	RWP299	16	Linear feature, aligned east-west, 1.15m wide	Ditch
327	RWP299	16	Greyish brown silty clay	Fill of (326)
328	RWP299	16	Linear feature, aligned north-south, 3.3m wide by 0.41m deep	Ditch
329	RWP299	16	Dark grey clayey silt	Fill of (328)
330	RWP299	16	Greenish grey clayey silt	Fill of (328)
331	RWP299	16	Dark grey clayey silt	Fill of (328)
332	RWP299	16	Linear feature, aligned north-south	Land drain
333	RWP299	16	Light reddish yellow brown clayey silt	Fill of (338)
334	RWP299	16	Light pinkish grey silty clay	Fill of (338)
335	RWP299	16	Dark grey silty clay with light grey and brown mottling	Fill of (338)
336	RWP299	16	Reddish yellow brown silty clay	Fill of (338)
337	RWP299	16	Grey silty clay with reddish yellow mottling	Fill of (338)
338	RWP299	16	Linear feature, aligned north-south, 4.27m wide x 1.05m deep	Ditch
339	RWP299	16	Light pinkish grey clayey silt	Fill of (338)
340	RWP299	16	Yellowish brown clayey silt	Fill of (338)
341	RWP299	16	Curvilinear feature, 1.52m wide	Ditch
342	RWP299	16	Linear feature, aligned north-south, 3.4 m wide	Ditch
343	RWP299	16	Dark yellowish brown clayey silt	Fill of (341)
344	RWP299	16	Linear feature, aligned north-south, 1.34m wide x 0.96m deep	Ditch
345	RWP299	16	Dark grey silty clay	Fill of (344) + (370)
346	RWP299	16	Light greenish grey fine sand and silty clay	Fill of (344) + (370)
347	RWP299	16	Light reddish yellow fine sand	Fill of (344) + (370)
348	RWP299	16	Bluish grey silty clay	Fill of (344) + (370)
349	RWP299	16	Brownish grey sandy clay	Ditch
350	RWP299	16	Linear feature, aligned east-west, 0.8m wide x 0.43m deep	Ditch
351	RWP299	16	Linear feature, aligned north-south, 2.2m wide x 1m deep	Ditch

No.	Site Code	Field No.	Description	Interpretation
352	RWP299	16	Dark grey clay	Fill of (351)
353	RWP299	16	Reddish brown sand with light brownish white lenses	Fill of (351)
354	RWP299	Unused context		
355	RWP299	16	Dark grey clayey silt	Fill of (356)
356	RWP299	16	Circular feature, 1.66m diameter x 0.67m deep	Pit
357	RWP299	16	Dark grey silty clay	Fill of (358)
358	RWP299	16	Curvilinear feature, 0.82m wide by 0.16m deep	Ditch
359	RWP299	16	Greenish grey clay	Fill of (358)
360	RWP299	16	Greyish brown silty clay	Fill of (362)
361	RWP299	16	Grey silty clay with reddish yellow and brown mottling	Fill of (362)
362	RWP299	16	Linear feature, aligned east-west, 0.94m wide x 0.31m deep	Ditch
363	RWP299	16	Yellowish grey silty clay	Fill of (366)
364	RWP299	16	Grey silty clay	Fill of (366)
365	RWP299	16	Mottled greenish grey silty clay	Fill of (366)
366	RWP299	16	Linear feature, 0.56m wide x 0.24m deep	Ditch
367	RWP299	16	Greenish grey clayey silt	Fill of (356)
368	RWP299	16	Brownish grey silty clay	Fill of (356)
369	RWP299	16	Brownish red clay	Fill of (356)
370	RWP299	16	Linear feature, aligned east-west, 0.57m wide x 0.23m deep	Ditch
371	RWP299	16	Light bluish grey clay	Fill of (356)
372	RWP299	16	Pinkish brown sandy clay	Fill of (344) + (370)
373	RWP299	16	Grey silty clay	Fill of (344)
374	RWP299	16	Grey brown silty clay	Fill of (366)
375	RWP299	16	Reddish yellow grey silty clay	Fill of (362)
376	RWP299	16	Mottled greenish grey silty clay	Fill of (362)
377	RWP299	16	Dark grey silty clay	Fill of (388)
378	RWP299	16	Light brown clayey silt	Fill of (388)
379	RWP299	16	Hard mid grey silty clay	Fill of (388)
380	RWP299	16	Light brown and grey silty clay	Fill of (370)
381	RWP299	16	Dark grey silty clay	Fill of (370)
382	RWP299	16	Dark grey silty clay	Fill of (370)
383	RWP299	16	White sand	Fill of (351)
384	RWP299	16	Reddish brown sand	Fill of (351)
385	RWP299	16	Dark grey clay	Fill of (351)
386	RWP299	16	Reddish grey clayey sand	Fill of (350)
387	RWP299	16	Light brownish grey sandy clay	Fill of (350)
388	RWP299	16	Linear feature, aligned east-west, 1.47m wide x 0.44m deep	Ditch
389	RWP299	16	Greyish green clay	Fill of (388)
390	RWP299	16	Light reddish yellow brown silty clay	Fill of (338)
391	RWP299	16	Light pinkish grey silty clay	Fill of (338)
392	RWP299	16	Greyish brown clayey silt	Lens within (373)
393	RWP299	16	Linear feature, aligned north-south, 6.7m wide x 1.5m deep	Creek
394	RWP299	16	Greyish brown silty clay	Fill of (393)
395	RWP299	16	Dark greyish brown silty clay	Fill of (393)
396	RWP299	16	Dark bluish grey clay	Fill of (393)

No.	Site Code	Field No.	Description	Interpretation
397	RWP299	16	Dark grey silty clay	Fill of (393)
398	RWP299	16	Laminated light yellow sand	Fill of (393)
399	RWP299	16	Dark bluish grey clay	Fill of (393)
400	RWP299	16	Light grey sand	Fill of (393)
401	RWP299	16	Light greyish brown clay	Fill of (393)
402	RWP299	16	Light grey sand	Fill of (393)
403	RWP299	16	Dark blackish grey clayey silt	Fill of (407)
404	RWP299	16	Light greyish pinkish brown silt	Fill of (407)
405	RWP299	16	Mottled reddish brown silt and clay	Fill of (407)
406	RWP299	16	Light pinkish brown clayey silt	Fill of (407)
407	RWP299	16	Linear feature, aligned north-south, 0.48m wide x 0.4m deep	Ditch
408	RWP299	16	Light yellowish brown clay	Natural deposit
409	RWP299	16	Light grey silty clay	Fill of (411)
410	RWP299	16	Greyish reddish brown clayey silt	Fill of (411)
411	RWP299	16	Linear feature, aligned east-west, 1.1m wide x 0.4m deep	Ditch
412	RWP299	16	Finds retrieved during topsoil stripping in area of 393	
413	RWP299	16	Finds retrieved during JCB excavation of 420, 422 and 429	
414	RWP299	16	Brownish grey clayey silt	Fill of (420)
415	RWP299	16	Greenish grey clayey silt	Fill of (420)
416	RWP299	16	Grey silt and clay	Fill of (420)
417	RWP299	16	Dark grey ash and silt	Fill of (420)
418	RWP299	16	Light reddish brown silt	Fill of (420)
419	RWP299	16	Light grey clayey silt	Fill of (420)
420	RWP299	16	Feature, aligned north-south, 3.94m wide x 1.12m deep	Pit
421	RWP299	16	Pinkish brown silt	Fill of (422)
422	RWP299	16	Discoloration around 420	Natural deposit post-depositional soil process
423	RWP299	16	Light yellowish brown silty clay	Natural deposit
424	RWP299	16	Brownish grey clay	Natural deposit
425	RWP299	16	Light pinkish brown silt	Fill of (426)
426	RWP299	16	Feature, aligned north-south, 0.58m wide x 0.34m deep	Indeterminate feature
427	RWP299	16	Dark blackish grey silt	Fill of (429)
428	RWP299	16	Light yellowish brown silty clay	Fill of (429)
429	RWP299	16	Linear feature, aligned north-south, 1.14m wide x 0.32m deep	Ditch
430	RWP299	16	Light pinkish brown silty clay	Natural deposit
431	RWP299	16	Greyish yellowish brown clay	Natural deposit
432	RWP299	16	Yellow and brown sand and clay	Natural deposit
433	RWP299	15	Linear feature, >2.79m wide by 0.89m deep, aligned east-west	Ditch
434	RWP299	15	Linear feature, aligned north-south, 2.98m wide x 0.7m deep	Ditch
435	RWP299	15	Whitish grey clayey silt	Fill of (433)
436	RWP299	15	Dark brown silt	Fill of (433)
437	RWP299	15	Grey silty clay	Fill of (433)
438	RWP299	15	Light greyish blue clay	Fill of (433)
439	RWP299	15	Reddish grey fine sand	Natural deposit
440	RWP299	15	Brownish red silty clay	Natural deposit



No.	Site Code	Field No.	Description	Interpretation
441	RWP299	15	Brown clayey silt	Fill of (443)
442	RWP299	15	Reddish brown clayey silt	Fill of (443)
443	RWP299	15	Linear feature, aligned north-south	Land drain
444	RWP299	15	Greenish brown silty clay	Fill of (433)
445	RWP299	15	Finds retrieved during JCB excavation of (434)	
446	RWP299	15	Light greyish brown sand	Layer
447	RWP299	15	Light grey sandy silt	Layer
448	RWP299	15	Greyish brown clayey silt	Fill of (434)
449	RWP299	15	Dark grey clayey silt	Fill of (434)
450	RWP299	15	Light bluish grey clayey sand and silt	Fill of (434)
451	RWP299	15	Light grey brown silt	Fill of (453)
452	RWP299	15	Dark brown mottled sandy silt	Fill of (453)
453	RWP299	15	Linear feature, aligned north-south, 2.6m wide x 0.4m deep	Ditch
454	RWP299	15	Yellow and brown lenses of sand and silt	Natural deposit
455	RWP299	15	Dark blackish brown ash and silt	Fill of (434)
456	RWP299	15	Greyish brown silty clay	Fill of (434)
457	RWP299	15	Finds retrieved during JCB excavation of 433	
458	RWP299	16	Finds retrieved during JCB excavation of 280	
459	RWP299	16	Reddish brown clayey silt	Fill of (332)
460	RWP299	16	Irregular feature, 2.96m wide x 0.72m deep	Pit/ditch
461	RWP299	16	Yellowish brown mottled silty clay	Fill of (280)
462	RWP299	16	Brown silty clay	Natural deposit
463	RWP299	16	Yellow sand	Natural deposit
464	RWP299	16	Light green and grey clay with silt lenses	Fill of (258)
465	RWP299	16	Dark pinkish brown silty clay	Fill of (258)
466	RWP299	16	Unstratified finds retrieval	
467	RWP299	16	Finds retrieved during manual cleaning of 280	
468	RWP299	16	Finds retrieved during manual cleaning of 280	
469	RWP299	15	Unstratified finds retrieval	
470	RWP299	16	Linear feature, aligned east-west, 0.63m deep	Ditch
471	RWP199	5	Grey silty clay	Fill of (109)
472	RWP199	5	Brown clay	Natural deposit
473	RWP299	15	Linear feature, aligned east-west, 1.26m wide x 0.24m deep	Ditch
474	RWP299	16	No description.	Fill of (338)
475	RWP199	5	Curvilinear feature	Ditch
476	RWP199	5	?Linear feature, 1.8m wide x 0.4m deep	Ditch

## Appendix 3

### THE ROMAN POTTERY

by *B J Precious*

#### Introduction

*The Roman assemblage has been recorded according to the guidelines recommended by the Study Group for Roman Pottery (SGRP). Standard computer codes developed by the City of Lincoln Archaeology Unit have been used to analyse the fabrics, forms, decoration, number of vessels, alteration, illustration, and sherd joins, using the number of sherds as a measure for numerical statistics (see rwp99.xls; rwp199.xls and rwp299.xls for the archive databases).*

*Sherd count was the measure used for recording the basic ceramic archive in 2000 when original analysis of this material was undertaken. Further pottery was received periodically. There was no stratigraphic information available for this initial analysis. Although site matrices and plans were received, there was no site narrative, phasing or context information at the time of writing this report. Given the complexity of the archaeology of this pipeline, this lack of information restricts the interpretation and analysis of the Roman pottery.*

The Roman assemblage consisting of 1044 sherds was recovered from three separate interventions: **RWP99** - a general watching brief that covered the length of the pipeline (105 sherds); **RWP199** – an enhanced watching brief in Field 5, adjacent to Fifth Drove, Gosberton (178 sherds); **RWP299** – an enhanced watching brief in Fields 15 and 16 (761 sherds). Each intervention is discussed separately with a summary of the dating, condition and potential of the area. The illustrations are presented as a type series by fabric and form (Figures 15 and 16).

#### RWP99

Dating (see Table 1, below)

This area produced the smallest assemblage of the three interventions and consisted of 22 contexts, only three of which produced more than 10 sherds – **001**, **011**, and **012**. Nevertheless there is sufficient diagnostic material to provide relatively broad date-ranges for the groups.

The earliest material came from contexts **023** and **024**, consisting of two very abraded sherds in a hand made, coarse fabric containing quartzite pellets, and a ribbed vessel, either a plain-rimmed bowl or handle in a grog-tempered fabric (Fig. 15, Illustration 6) of probable late Iron Age to early Roman date.

Apart from the above, early Roman pottery is absent from this assemblage, which dates from at least the mid- 2<sup>nd</sup> century, with the bulk dating from the later 3<sup>rd</sup> to the 4<sup>th</sup> century. The mid- 2<sup>nd</sup> century date is provided by a sherd of roughcast beaker in Nene Valley colour-coated ware (NVCC) and bowl in Central Gaulish samian ware (SAMCG), whilst the later 3<sup>rd</sup> to 4<sup>th</sup> is indicated by several examples of plain rimmed dishes (DPR) in a variety of fabrics as well as open types in Nene Valley colour-coated ware. There are no very late Roman types post-dating the mid-4<sup>th</sup> century, although context **032** produced only post-Roman pottery.

#### Condition

There is a high degree of abrasion on the assemblage with one or two fresh sherds, including a samian dish from **011**. Several of the vessels are burnt or sooted some of which is due to use a cooking vessels, but there are instances of burning on finer vessels such as a probable flagon in Nene Valley Cream ware (NVCR), a bowl in Nene Valley colour-coated ware (NVCC), and Nene Valley Grey ware (NVGW). The latter are in a fine white fabric with a thin grey slip that is not generally suitable for cooking use. This could indicate destruction rather than use.

One vessel is particularly sooted on the interior, a Nene Valley, reeded-rim mortarium from **044** (Fig. 15, Illustration 12). This is an unusual occurrence as such vessels were used for grinding ingredients for food. There is a remote possibility that it had been used to grind the remains of a cremation to fit into a cremation pot, or

possibly a hearth.

There are several instances of sherd families occurring between contexts: Contexts **001** and **016**; **035** and **045**; and **043** and **048**. This indicates redistribution of the material.

*Table 1: The date range of the Roman pottery from RWP99 by sherd count*

Context	Sherds	Date range	Join	Pub no
001	16	L3-4C	16	
009	1	M2-3C		
011	12	EM3C		
014	1	L3-4C		
015	1	2-M3C		
016	6	M2-3C	1	
017	2	L3-4C		
022	1	2-3C		
023	2	LIA-EROM?		
024	1	RO?		6
025	3	M2-4C		
030	1	3C+		
031	12	L3-4C		
032	0	POSTRO		
034	8	M2-3C		
035	8	L3-4C	45	
039	3	M2-3C		
043	5	EM3	48	
044	1	L3-4C		12
045	10	L3-4C	35	10;25
046	8	2C+		5;18
048	3	3C+	43	
	105	TOTAL		

Statement of Potential (see Tables 2 and 3, below)

The range of fabrics present reflect the late Roman date for occupation in this area, with examples of Dales ware (DWSH) providing evidence for dating of at least the mid-3<sup>rd</sup> century. These and other shell-tempered wares provide the bulk of the cooking wares, including a curve-rimmed jar with horizontal grooves similar to products of the Bourne kilns (Illustration 18) and a plain-rimmed dish (Illustration 25). Two sherds with vesicular surfaces may have been originally shell-tempered, but the shell has leached out.

Over 40% of the fabrics were manufactured in kilns in the Nene Valley area (NVCC, NVGW, NVGWC, NVCR). These are mostly finer tablewares and serving vessels, including a bowl copy samian form 38 (Illustration 10). An almost complete reed-rim mortarium (Illustration 12) was also made in these kilns, and less certainly so is a sherd of Parisian-type ware (PART).

Grey wares (GREY) and fine, silty variants (SLGY) form the second largest group. This group is mainly comprised of vessels used from the oven to the table where the ingredients are served. Illustration 5 is a good example of a wide mouthed bowl that may have been used to cook a one -pot meal.

*Table 2: The Roman fabrics from RWP99 by sherd count*

Fabric	Code	Sherds	%
Coarse-tempered	COAR	2	1.90%
Dales ware	DWSH	2	1.90%

Fabric	Code	Sherds	%
Fine ware	FINE	5	4.76%
Grey ware	GREY	24	22.86%
Grog-tempered	GROG	2	1.90%
Grey with brown surfaces	GYBN	1	0.95%
Nene Valley mortaria	MONV	1	0.95%
Nene Valley colour-coat	NVCC	26	24.76%
Nene Valley cream ware	NVCR	2	1.90%
Nene Valley grey ware	NVGW	13	12.38%
Nene Valley grey ware coarse variant	NVGWC	3	2.86%
Oxidised ware	OX	1	0.95%
Parisian-type ware	PART?	1	0.95%
Central Gaulish samian	SAMCG	1	0.95%
Shell-tempered ware	SHEL	18	17.14%
South Lincs grey ware	SLGY	1	0.95%
Vesicular ware	VESIC	2	1.90%
	TOTAL	105	100.00%

Imported wares are rare consisting of a footring of samian form 31, from the Lezoux kilns of Central Gaul (SAMCG). This together with the Nene Valley colour-coated wares (NVCC) and other probable fine wares (FINE) are indicative of moderately high status occupation.

*Table 3: The Roman forms from RWP99 by sherd count*

Form	Code	Sherds	%
Undiagnostic		16	15.24%
Samian form Dr 31R	31R	1	0.95%
Open forms	OPEN	7	6.67%
Bowl	B	2	1.90%
Bowl as samian type Dr31	B31	1	0.95%
Bowl as samian type Dr31?	B31?	2	1.90%
Bowl as samian type Dr38	B38	1	0.95%
Flanged bowl	BFL	1	0.95%
Triangular -rim bowl?	BTR?	1	0.95%
Wide mouth bowl	BWM	3	2.86%
Plain rim dish	DPR	6	5.71%
Closed forms	CLSD	16	15.24%
Flagon	F	5	4.76%
Flagon?	F?	2	1.90%
Beaker	BK	9	8.57%
Everted rim beaker	BKEV	2	1.90%
Rough cast beaker	BKRC	1	0.95%
Jar or beaker	JBK	1	0.95%
Curve rim jar or beaker	JBKCR	1	0.95%
Jar	J	14	13.33%
Jar or bowl	JB	1	0.95%
Curve rim jar	JCUR	5	4.76%
Dales ware jar	JDW	2	1.90%
Everted rim jar	JEV	1	0.95%
Native tradition jar	JNAT?	1	0.95%
Wide mouth jar	JWM	2	1.90%
Reed-rim mortaria	MRR	1	0.95%
	TOTAL	105	100.00%

### Further work

The vessel extracted for drawing have been illustrated as part of a fabric and form type series for the total assemblage of the pipeline, and the complete list is given in the attached catalogue.

Samples of the possible Late Iron Age fabrics from contexts **023** and **024** have been extracted for future research.

In the year 2000, the analysis of South Lincolnshire shell-tempered ware (SLSH) was still in progress and was not separated out from the rest of the shell-tempered wares. However, they are isolated in the comments by noting the presence of punctate brachiopods (PB) in the comments.

### **RWP199**

Dating (see Table 4, below)

This site produced the second largest assemblage (178 sherds), but in common with **RWP99** only four out of a total of 13 contexts produced more than 10 sherds; context **135** being the largest with 43 sherds. In addition to the prescribed contexts there is a series of 34 plots (prefixed P), most of which produced only one sherd; the highest amount being 4 sherds. Dating for such small groups is restricted to very broad date-ranges. The small amount of more diagnostic pottery provides evidence for late Roman occupation in the area as the bulk of this pottery is dated from the later 3<sup>rd</sup> to the 4<sup>th</sup> century (contexts **135**, **189** and **P11**). Contexts **137** and **138** produced 4<sup>th</sup> century wares, although **137** also contained post-Roman pottery. Context **139** also contained post-Roman wares alongside Roman pottery of early 2<sup>nd</sup> to mid- 3<sup>rd</sup> century date.

There is no evidence for early Roman occupation in this area, the earliest pottery being broadly 2<sup>nd</sup> to 3<sup>rd</sup> century in date. Context **106** may be an exception as a sherd in a black, coarse- tempered sandy fabric with sooting on the interior. This type of sooting is generally found on Iron Age and Saxon pottery but rarely on Roman wares. Thus this context could be of Iron Age date, however an undiagnostic sherd of Roman grey ware came from the same context, and, curiously, this is sooted on the exterior.

*Table 4: The date range of the Roman pottery from RWP199 by sherd count*

Context	Sherds	Date range	Join	Pub no
105	11	3C+		
106	2	RO		
107	1	M2-3C+		
112	18	3C		
114	8	3C+		
135	43	L3-4C		
136	5	E2-3C	139	
137	14	4C/POSTRO		
138	3	4C		
139	4	E2-M3/POSTRO	136	
173	1	3C+		
189	2	L3-4C		
220	1	RO		
P1	2	2C+		
P2	1	2-4C		
P10	1	RO		
P11	3	L3-4C		
P13	1	M2-3C		
P14	1	EM3+		

Context	Sherds	Date range	Join	Pub no
P15	4	3C+		
P16	4	3C+		
P17	1	2-E3		
P18	1	RO		
P19	4	3C	P45	
P20	1	2-E3		
P21	1	2-E3		
P22	1	RO		
P23	1	RO		
P26	1	2-3C+		
P27	1	2-3C+		
P28	1	M2-3C+		
P29	1	2-4C		
P30	1	2C		
P31	1	2-E3		
P32	3	L2-3C		
P33	2	3C?	P35	
P34	1	3C+		
P35	4	3C?	P33	
P38	1	RO		
P39	3	M2-3C		24
P40	3	RO		
P42	1	3C		
P44	3	2-3C+		
P45	3	2-E3	P19	
P46	3	3C+		
P47	1	3C+		
P48	4	2-E3		
	178	TOTAL		

### Condition

This site is far less abraded than **RWP99**, above, and sherds that are worn come mainly from the plot-features. There are few sherd families, but similar fabrics occur between **136** and **139**; **P19** and **P45**; and **P33** and **P35**.

### Statement of Potential (see Tables 5 and 6, below)

The fabrics present on this site are very similar to those from **RWP99**, with Nene Valley products being the most common (MONV, NVCC, NVCR, NVGCC, NVGW). This demonstrates the wide distribution of these wares, the main markets being in the fen areas that spread out from the Peterborough area.

Fine colour-coated wares (NVCC), including a variety of beakers, samian copies and bead and flanged bowls, form the bulk of these products, closely followed by the fine grey wares (NVGW). There are no imported or other finewares from this site, but the presence of NVCC in such quantities shows that the occupants of the site were relatively sophisticated.

*Table 5: The Roman fabrics from RWP199 by sherd count*

Fabric	Code	Sherds	%
Coarse tempered	COAR	3	1.69%
Grey ware	GREY	42	23.60%
Grog-tempered	GROG	1	0.56%

Fabric	Code	Sherds	%
Grog-tempered?	GROG?	1	0.56%
Grey with dark core	GRSAN	9	5.06%
Grey with brown surfaces	GYBN	2	1.12%
Native tempered ware?	NAT?	1	0.56%
Nene Valley mortaria	MONV	1	0.56%
Nene Valley colour-coat	NVCC	32	17.98%
Nene Valley cream ware	NVCR	2	1.12%
Nene Valley cream ware?	NVCR?	1	0.56%
Nene Valley fine grey colour-coat	NVGCC	1	0.56%
Nene Valley fine grey ware	NVGW	28	15.73%
South Lincs grey ware	SLGY	12	6.74%
South Lincs grey ware?	SLGY?	1	0.56%
Oxidised ware	OX	1	0.56%
Oxidised ware?	OX?	1	0.56%
Shell-tempered	SHEL	38	21.35%
Vesicular ware	VESIC	1	0.56%
	TOTAL	178	100.00%

Shell-tempered products (SHEL), are again the main cooking wares. This group includes a relatively rare triangular-rimmed bowl (Illustration 24) and, most unusual, the base of a cheese press. Grey wares (GREY) are present in larger quantities. This reflects the slightly later date range of **RWP199** and comparison to **RWP99**, as does the presence of later forms such as bead and flanged bowls (BFB), and the greater quantity of wide mouthed types (BWM).

*Table 6: The Roman forms from RWP199 by sherd count*

Form	Code	Sherds	%
Undiagnostic		28	15.73%
Open forms	OPEN	5	2.81%
Open form?	OPEN?	1	0.56%
Bowl	B	2	1.12%
Bowl as samian form Dr31	B31	2	1.12%
Bowl as samian form Dr36	B36	2	1.12%
Bead and flange bowl	BFB	3	1.69%
Segmental bowl	BSEG	1	0.56%
Triangular rim bowl	BTR	3	1.69%
Wide mouth bowl	BWM	21	11.80%
Wide mouth bowl?	BWM?	1	0.56%
Cheese press	CHP	4	2.25%
Plain rim dish	DPR	2	1.12%
Plain rim dish?	DPR?	4	2.25%
Closed forms	CLSD	23	12.92%
Closed forms?	CLSD?	2	1.12%
Flagon with prominent top ring?	FTR?	1	0.56%
Beaker	BK	10	5.62%
Folded beaker	BKFO	1	0.56%
Plain rim folded beaker	BKFPR	2	1.12%
Jar or beaker	JBK	2	1.12%
Cooking pot	CP	9	5.06%
Cooking pot?	CP?	1	0.56%

Form	Code	Sherds	%
Jar	J	30	16.85%
Jar?	J?	2	1.12%
Curve rim jar	JCUR	8	4.49%
Large jar	JL	1	0.56%
Wide mouth jar	JWM	2	1.12%
Wide mouth jar?	JWM?	1	0.56%
Lid?	L?	3	1.69%
Reed rim mortaria	MRR	1	0.56%
	TOTAL	178	100.00%

### Further Work

The coarse-tempered fabrics (COAR) from **114** and **P1** would benefit from analysis as the unusual quartzite inclusions may provide a source for these wares. The sherd from **P1** also contained large flakes of mica that is frequently noted on Anglo-Saxon pottery from this area.

Further analysis of the distribution of shell-tempered pottery with punctate brachiopods (PB) would help to refine the extent of the market for these wares.

### **RWP299**

The Roman pottery assemblage from **RWP299** is by far the most substantial assemblage of the three pipeline sites. There is a high amount of plot numbers (740) with rarely more than 4 sherds, and although the majority of the contexts (78 in total) produced less than 17 sherds, there are eight with over 23 sherds (**278**, **288**, **301-2**, **340**, **404** and **409**), the largest being **301** with 73 sherds. These groups are sufficiently large to provide good dating evidence for the site.

### Dating (see attached catalogue)

The assemblage from **RWP299** is of predominantly late Roman date with almost all of the largest groups (see above) dating to the 4<sup>th</sup> century. Context **278** is the exception, where there is an absence of securely dated 4<sup>th</sup> century wares, but those present date from the later 3<sup>rd</sup> to the 4<sup>th</sup> century. Although having a 4<sup>th</sup> century bias, this late Roman date is similar to the other two sites indicating that early Roman occupation is absent in the environs of this pipeline.

Contexts **299**, **P1**, and **P387** each produced single sherds of samian ware from the kilns at Central Gaul of probable Antonine date, and are the earliest pottery from the site. Indeed the vessel from **P1** is stamped REGINI.M, most likely to be the potter REGINVS IV of Lezoux in Central Gaul, who was operating from c AD 150-180, and provides a good *terminus post quem* for activity in this area of the site. It is well known that samian ware was still in use beyond the date of manufacture, especially in rural areas, but the presence of this stamp and at least four more samian vessels is indicative of occupation during the mid to late 2<sup>nd</sup> century. Other pottery that is certainly of this date is the base of a cooking dish or bowl in Black Burnished ware 2 (**P345**).

Two undiagnostic, fragments in a native-tempered fabric (NAT) may be earlier in date, but the sherds are too small and abraded to provide a reliable date.

Pottery broadly dating from the mid 2<sup>nd</sup> to the 3<sup>rd</sup> century is mainly based on the presence of Nene Valley Grey ware (NVGW) that, although produced into the 4<sup>th</sup> century, is most common during this period.

Very late Roman wares, such as Spirally Grooved ware (SPIR), Romano-Saxon types (ROSAX), and late products of the Swan Pool kilns of Lincoln – double lid-seated jars, are absent from this site as are post-Roman wares.



Condition (See attached catalogue)

There is a relatively high degree of abrasion on the pottery from the contexts and to a lesser degree on that from the Plot numbers. Burning, in some cases heavy, and sooting is apparent on a number of the vessels, but all are types that would have been used for cooking.

Definite sherd joins are noted between contexts **404**, **406**, and **409**. There is also a high number of instances where similar sherd families or fabrics are noted between contexts, indicating redistribution of the material.

Statement of Potential (see Tables 7 and 8, below)

The later bias for this assemblage can be seen in the decreasing amount of NVGW that has its *flourit* the later 2<sup>nd</sup> to the 3<sup>rd</sup> century, in comparison to the larger quantity of Nene Valley colour-coated ware (NVCC) that continues to be manufactured well into the 4<sup>th</sup> century. The increase in Dales ware, that is not common until the mid-3<sup>rd</sup> century, is another feature of later groups, as is the higher percentage of grey wares in comparison to products of the Nene Valley kilns.

A small amount of samian imported from Central Gaul (SAMCG) together with a high proportion of finewares from the Nene Valley kilns (NVCC and NVGCC), including an example of the rare mica-dusted ware (NVMIC), indicates a moderately high status settlement. Illustration 13 of a painted dish in Parchment ware (PARC) is a good example of the higher quality of this assemblage.

Table 7: The Roman fabrics from RWP299 by sherd count

Fabric	Code	Sherds	%
Black burnished ware 2	BB2	1	0.13%
Dales ware	DWSH	12	1.58%
Dales ware?	DWSH?	1	0.13%
Grey ware	GREY	182	23.95%
Grog tempered	GROG	1	0.13%
Grey with dark core	GRSAN	13	1.71%
Grey with brown surfaces	GYBN	8	1.05%
Mancetter Hartshill mortaria	MOMH?	1	0.13%
Nene Valley mortaria	MONV	4	0.53%
Native tempered	NAT	2	0.26%
Nene Valley colour-coat	NVCC	129	16.97%
Nene Valley colour-coat?	NVCC?	3	0.39%
Nene Valley cream	NVCR	2	0.26%
Nene Valley cream?	NVCR?	1	0.13%
Nene Valley fine grey colour-coat	NVGCC	9	1.18%
Nene Valley fine grey	NVGW	36	4.74%
Nene Valley fine grey coarse variant	NVGWC	9	1.18%
Nene Valley sandy grey	NVGY	4	0.39%
Nene Valley mica dusted	NVMIC	1	0.13%
Nene Valley oxidised	NVOX	3	0.39%
Nene Valley oxidised?	NVOX?	2	0.26%
Oxidised ware	OX	4	0.53%
Parchment ware	PARC	1	0.13%
Central Gaulish samian	SAMCG	7	0.92%
Shell tempered	SHEL	319	41.97%
Shell tempered?	SHEL?	2	0.26%
Vesicular ware	VESIC	4	0.53%
	TOTAL	761	100.00%

A notable contrast between **RWP299** and the previous sites is the very high quantity of shell-tempered wares, over 42%. Although this total includes three broken vessels: Figure 16, Illustration 16 – 41 sherds (**340**); Illustration 14 – 53 sherds (**404**, **406** and **409**) and one from **366** – 31 sherds, it is still a high proportion. There is a range of vessels, mainly curve and everted-rimmed jars used for cooking, as evidenced by the relatively high amount of burning and sooting on the exterior.

*Table8: The Roman forms from RWP299 by sherd count*

Form	Code	Sherds	%
Undiagnostic		84	10.92%
Samian bowl Dr 31-31R	31 ETC	3	0.39%
Samian bowl Dr 31R	31R	1	0.13%
Samian cup Dr 33	33	2	0.26%
Samian bowl Dr 36	36	1	0.13%
Open forms	OPEN	12	1.58%
Open forms?	OPEN?	5	0.66%
Bowl	B	1	0.13%
Bowl as samian form Dr31	B31	6	0.79%
Bowl as samian form Dr36	B36	3	0.39%
Bowl as samian form Dr38	B38	9	1.18%
Bowl as samian form Dr38?	B38?	2	0.26%
Bowl or dish	BD	4	0.53%
Bead and flange bowl	BFB	4	0.53%
Flanged bowl	BFL	4	0.53%
Groove rim bowl	BGR	2	0.26%
Hemispherical bowl	BHEM	1	0.13%
Lid seated bowl	BLS	1	0.13%
Necked bowl	BNK	3	0.39%
Segmental bowl	BSEG	1	0.13%
Triangular rim bowl	BTR	1	0.13%
Wide mouth bowl	BWM	43	5.65%
Wide mouth bowl?	BWM?	3	0.39%
Plain rim dish	DPR	8	1.05%
Closed forms	CLSD	151	19.87%
Flagon	F	2	0.26%
Flask	FS	1	0.13%
Beaker	BK	38	5.00%
Curve rim beaker	BKCR	3	0.39%
Everted rim beaker	BKEV	6	0.79%
Bead rim folded beaker?	BKFBR?	3	0.39%
Jar or beaker	JBK	16	2.11%
Curve rim jar or beaker	JBKCR	2	0.26%
Cooking pot	CP	8	1.05%
Jar	J	123	16.18%
Jar or bowl	JB	16	2.11%
Large jar or bowl	JBL	1	0.13%
Carinated jar	JCAR	1	0.13%
Cordoned jar	JCOR	1	0.13%
Curve rim jar	JCUR	27	3.55%
Dales ware jar	JDW	3	0.39%
Everted rim jar	JEV	63	8.28%
Large jar	JL	10	1.32%
Lid seated jar	JLS	4	0.53%

Form	Code	Sherds	%
Narrow neck jar	JNN	13	1.71%
Jar with undercut rim	JUR	52	6.83%
Wide mouth jar	JWM	9	1.18%
Mortaria	M	2	0.26%
Hook rim mortaria	MHK	1	0.13%
Reed rim mortaria	MRR	2	0.26%
	TOTAL	761	100.00%

The wide range of forms is also a feature of late Roman assemblages, some of which are likely to be residual Antonine to 3<sup>rd</sup> century wares. For example curved-rimmed jars in shell-tempered ware with scored grooving on the body that are similar to products of the Bourne kilns (Fig. 16, Illustrations 17, 18, 19 and 20).

4<sup>th</sup> century types include bead and flanged bowls, plain-rimmed dishes and jars with undercut rims. There is also a sharp increase in the amount of wide-mouthed bowls.

Fine wares are well represented, the most common being beakers in Nene Valley colour-coated wares, but also copies of samian forms (B31, B36, and B38) as well as segmental types, demonstrating the relatively high status of the assemblage.

Amphorae are absent, but this is likely to be due to the late date of the group. However, there is also a dearth of large and storage jars, which are frequently found in large assemblages of shell-tempered wares. Mortaria are present, but only in very small quantities.

#### Further work

The samian stamp from **P1** should be examined by a specialist and added to the National database.

This large assemblage of shell-tempered pottery with a wide range of forms would form a valuable addition to a definitive study of Lincolnshire shell-tempered ware.

Further analysis should be undertaken on fabrics that have been selected as fabric samples (FS).

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP99:300.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
1	NVGW	OPEN					BS		1
1	NVCC	F		1	ABR		BASE BSS CRFAB		5
1	GREY	CLSD		3			BSS		3
1	GYBN	BWM			ABR		RIM		1
1	SHEL	J	HM	1			BSS REDBN ABUN FINE SHEL;PB;FS		2
1	SHEL	CLSD	HM?	1	VABR		BSS W CLAY PELLETS RED BN PB;FS; AS IN	16	2
1	SHEL	J	WM	1			BSS PALE BN EXT DK GRY INT MIN SHEL; NOPB;FS		2
1	ZZZ						UNUS SHEL DATE ON NVCC		
1	ZDATE						L3-4C		
9	NVGW	OPEN			ABR		BS		1
9	ZZZ						NVGW ONLY		
9	ZDATE						M2-3C		
11	NVGW	OPEN			FRESH		BS		1
11	GREY	J			ABR		BS FAIRLY FINE		1
11	GREY	J			ABR		BS		1
11	NVCC	BK	ROUL	1			BSS SMALL VESS M2-M3		2
11	FINE	BK			ABR		BS LT BN ?ABR NVCC		1
11	FINE	CLSD		1	VABR		BSS THICKISH;LT BN ?ABR NVCC		4
11	GREY	JB			VABR		BS NECK SHLDR CF NVGY		1
11	SAMCG	31R			FRESHISH		FTRG		1
11	ZZZ						SOME VABR		
11	ZDATE						EM3C		
14	NVCC	OPEN					BS CR FAB		1
14	ZZZ						NVCC ONLY		
14	ZDATE						L3-4C		
15	GREY						BSS FAIRLY FINE CF NVGY		1
15	ZZZ						GREY ONLY		
15	ZDATE						2-M3C		
16	NVGW	BKEV		1			RIM SHLDR;BAG?;SMALL VESS 2C		2
16	SLGY	J			ABR		BS		1
16	NVGW	BFL					RIM UPPER WALL;M2-3C		1
16	SHEL		HM?		VABR		BS AS IN	1	1
16	VESIC		HM		VABR		BS SHEL LEACHED		1
16	ZZZ						DATE ON NVGW		
16	ZDATE						M2-3C		
17	NVCC	B31?	ROUL	1	VABR		BASE VABR INT CR FAB		2
17	ZZZ						NVCC ONLY		
17	ZDATE						L3-4C		
22	GREY	J		1	VABR		BSS WATER WORN? CF NVGY		1

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP99:300.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
22	ZZZ						GREY ONLY		
22	ZDATE						2-3C		
23	COAR	JNAT?	HM		VABR		BS DKGRY QZITE PELLETS;FS		1
23	COAR		HM		ABR		BS THIN WALL QZITE PELLETS;FS		1
23	ZZZ						UNUS FAB QZITE IA-EROM? ONLY		
23	ZDATE						LIA-EROM?		
24	GROG	B?	HM;RIB;B			DWG1	RIM GIRTH VERT RIBBING; POSS HANDLE; BURNT POST COCT		1
24	ZZZ						IAGE OR SAX?		
24	ZDATE						RO?		
25	GREY	JCUR		1	ABR		RIMS NECK J		2
25	OX	JBKCR			VABR		RIM NECK SMALL VESS		1
25	ZDATE						M2-4C		
30	GREY	BWM			ABR		RIM SHLDR SLIGHT NECK		1
30	ZZZ						BWM ONLY		
30	ZDATE						3C+		
31	GREY						BS		1
31	NVGW	OPEN			ABR		BS		1
31	NVGW	CLSD		1	BURNT		BS FLAKE PINK FAB		2
31	NVGWC	BK		1	ABR		RIMS FRAGS		3
31	NVCC	BK					BS WHT FAB		1
31	NVCC	BK					BS LTBN FAB FRESH		1
31	NVCC	CLSD					BASE THICK WHT FAB		1
31	NVCC	CLSD			ABR		BS WHT FAB		1
31	NVCC	B31			ABR		RIM BASE PROF ABR INT CR FAB		1
31	ZDATE						M3-4C		
32	PRO						BS STONEWARE 1 SH		
32	ZDATE						POST-ROMAN STONEWARE		
34	GREY			4	VABR		BSS		4
34	PART?				VABR		BS SANDWICH		1
34	NVCC	BKRC	RCC				BS CR FAB		1
34	NVCC	BK			ABR		BS WHT FAB		1
34	SHEL	JCUR	WM		BURNT		RIM;RDBN;FINE SHEL;PB		1
34	ZDATE						M2-3C		
35	GREY	J					BS		1
35	DWSH	JDW		1			RIM BS		2
35	SHEL	DPR					BASE DWSH?; AS IN	45	1
35	NVCC	B			VABR		BS CR FAB		1
35	NVCC	CLSD					BASE THICK CR FAB		1

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP99:300.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGN0	COMMENTS	JOIN	SHS
35	NVCC	JWM		1	ABR		RIM BS EVERTED		2
35	ZZZ						BAG MARKED 053/LABEL AND POT MARKED 035		
35	ZDATE						L3-4C		
39	GREY			2	ABR		BSS		2
39	NVGW	OPEN					BS BASAL		1
39	ZDATE						M2-3C		
43	NVGW	DPR			SOOT	DRAW?	RIM BASE PROF SOOT UNDER ABR INT		1
43	GREY	J	BVL				BS LGE SH		1
43	GREY	J	BHL				BS		1
43	NVCC	JBK					BS LGE SH LTBN FAB		1
43	SHEL		WM		VBURNT		BS;BLK;NO PB;FS; AS IN	48	1
43	ZDATE						EM3		
44	MONV	MRR			SOOTIN	DRAW?	RIM 100% EVE; NR COMP;DISP;2305G;34D		1
44	ZZZ						COMPLETE MONV ONLY;ASHY DEPOSIT ANALYSE		
44	ZZZ						POSS USED AS HEARTH; CRUSHING CREM?		
44	ZDATE						L3-4C		
45	SHEL	DPR	WM	1		DWG2	RIMS BASE PROF;DWSH?; AS IN	35	4
45	GROG	J					BS DKGRY BLK; FS		1
45	GREY	JEV			VABR		RIM FRAG		1
45	NVCC	BTR?			VABR		RIM CR FAB		1
45	NVCC	CLSD		1?			BSS GROOVED WHT FAB		2
45	NVCC	B38			BURNT	DRAW?	RIM LWR WALL WORN INT		1
45	ZZZ						SOME SMASH VESS		
45	ZDATE						L3-4C		
46	NVCR	F?		1	BURNT		BSS BURNT ON EDGE		2
46	GREY	BWM				DRAW?	RIM SHLDR FINE NEAT VESS;SKETCH		1
46	SHEL	JCUR	WM;HGR			DWG3	RIM GIRTH;MULT HGROOVES;V FINE MIN SHEL		1
46	VESIC	JCUR	WM				RIM FRAG SHEL LEACHED?		1
46	SHEL			1	VABR		BSS BURNT RDBN MIN PB		2
46	GREY						BS VESIC W CALCAREOUS VOIDS		1
46	ZDATE						2C+		
48	SHEL	OPEN					BS AS IN	43	1
48	NVGW	J			FRESH		BS		1
48	NVGW	J			ABR		BS BURNT WATER WORN?		1
48	ZDATE						3C+		
							TOTAL		105

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP199:265.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
105	NVCR				ABR		BS THIN		1
105	GREY	J					BS QZITE PELLETS LT GRY		1
105	SHEL	J	WM?				BS RDBN EXT DK GRY INT?DWSH		1
105	GREY	DPR?	B	1	FRIABLE		RIM FRAG BSS FLAKES COARSE Q		4
105	SHEL	JCUR	WM	1			RIM NECK BSS MIN SHELMD GRY; HIGH FIRED		4
105	ZDATE						3C+		
106	NAT?	CPN?	HM?		SOOTIN		BS COARSE SAND; BLK LIA?		1
106	GREY	J			SOOTEX		BS QZITE PELLETS; LTGRY;FS		1
106	ZDATE						RO		
107	GREY	J			ABR		BS WATER WORN? INT		1
107	ZZZ						GREY ONLY		
107	ZDATE						M2-3C+		
112	NVGW	BWM		1	SMASH	DRAW?	RIM BSS BASE MIX FAB		18
112	ZDATE						3C		
114	NVCC	J		1	FRESH		BSS CR FAB		4
114	GYBN	J?	HM?	1	VABR		BSS		2
114	COAR		HM?	1	VABR		BSS QZITE PELLETS BLK;FS		2
114	ZZZ						MIX?		
114	ZDATE						3C+		
135	NVCC	OPEN		3			BSS CR + WHT FAB		3
135	NVCC	CLSD?		1	VABR		BSS THICK CR FAB		2
135	NVCC	BK			VABR		BSS CR + WHT FAB		3
135	NVCC	BK					BS CR FAB		1
135	NVCC	BK					BS RD BN FAB		1
135	NVCC	BKFPR					RIM CR FAB		1
135	NVCC	B			VABR		RIM FLAKE WHT FAB		1
135	NVCC	B31			VABR		RIM WHT FAB		1
135	NVCC	B36			ABR		RIMS J UPPER WALL WHT FAB		2
135	NVCC	JWM			FRESH		RIM NECK BURNT EDGE		1
135	NVGCC	BK					BS		1
135	MONV	MRR					FLANGE FRAG		1
135	GRSAN	CLSD		1			BSS		3
135	GREY						BSS		6
135	GREY	BFB		1			RIM FLAKES		2
135	GREY	CLSD	B	3			BSS		3
135	GREY	BWM	BIWL				BS		1
135	GREY	JCUR					RIM FRAG		1
135	GREY	JCUR	B				RIM FRAG BURNISH INT		1
135	GREY	DPR					RIM FRAG		1

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP199:265.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
135	SHEL	L?		1			RIM FRAGS BLK BS MIN PB		3
135	SHEL	J					BS BLK NO PB		1
135	SHEL	CP		1	SOOT		BSS BURNT INT LT BN EXT DWSH?		3
135	ZZZ						MEDIUM GRP SOME VABR		
135	ZDATE						L3-4C		
136	SLGY?				VABR		BS		1
136	SHEL	CP	WM	1	FRIABLE		BSS SCRAPS;SCALE INT;BLK SHEL LEACHED AS IN	139	4
136	ZDATE						E2-3C		
137	NVCC	BFB			VABR		RIM ORANGE FAB		1
137	NVCC	JBK			VABR		BS WHT FAB		1
137	GREY	CLSD					BSS BASE		4
137	GREY	CP	B				BS		1
137	GRSAN	CLSD					BSS		4
137	GREY	BWM					RIM FLAKE		1
137	NVGW	JBK					BS		1
137	SHEL	OPEN?					BS		1
137	ZZZ						3SHS POSTRO		
137	ZDATE						4C/POSTRO		
138	NVCC	DPR					RIM LWR WALL CR FAB		1
138	NVCC	BKFPR			ABR		RIM CR FAB		1
138	NVCC	B31					RIM GIRTH LTBN FAB		1
138	ZDATE						4C		
139	OX	FTR?			VABR		RIM		1
139	SLGY	J			ABR		BS		1
139	SLGY	CLSD			VABR		BS		1
139	SHEL	CP	WM		FRESH		BS PB; BLK AS IN	136	1
139	ZZZ						1SH POST MED		
139	ZDATE						E2-M3/POSTRO		
173	GREY	J			ABR		BASE STRING		1
173	ZZZ						GREY ONLY		
173	ZDATE						3C+		
189	NVCC	BKFO			ABR		BS LTBN FAB		1
189	NVCC	OPEN			VABR		BS THIK VABR INT CR FAB		1
189	ZZZ						VABR NVCC ONLY		
189	ZDATE						L3-4C		
220	GREY	J			ABR		BS LIME CALCAREOUS INCS		1
220	ZZZ						GREY ONLY PROB 3C+		
220	ZDATE						RO		
P1	GREY	CLSD					BS		1



The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP199:265.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P1	COAR	CLSD					BS UNUS FABQZITE INCS LGE BN MICA		1
P1	ZDATE						2C+		
P1	ZZZ						ALL P NOS 3D RECORDED		
P10	SHEL	J			ABR		BS RDBN WATER WORN?		1
P10	ZDATE						RO		
P11	NVCC	B			VABR		BASE BURNT ON EDGE CC LOST		1
P11	NVGW	J					BS		1
P11	OX?	CLSD			VABR		BS RDBN OR GRY WATER WORN		1
P11	ZDATE						L3-4C		
P13	NVGW	CLSD			ABR		BS ABR INT		1
P13	ZDATE						M2-3C		
P14	NVCC	BK			ABR		BS EFAB		1
P14	ZDATE						EM3+		
P15	NVGW	CLSD			1 ABR		BSS WATER WORN?		3
P15	GREY				VABR		BS MIN SHELL		1
P15	ZDATE						3C+		
P16	NVCC	BK			1 VABR		BSS CR FAB		3
P16	NVGW	JWM			GOOD		RIM NECK		1
P16	ZDATE						3C+		
P17	SLGY						BS		1
P17	ZDATE						2-E3		
P18	SHEL				VABR		BS RD BN; MIN PB		1
P18	ZDATE						RO		
P19	NVGW	OPEN			ABR		BASE		1
P19	VESIC				VABR		BS GRY DECAYED SHELL		1
P19	SLGY	J					BS		1
P19	SHEL	J	WM?		1		BSS STAINED RED RD BN FEB AS IN	P45	1
P19	ZDATE						3C		
P2	GREY	J			VABR		BS WATER WORN?		1
P2	ZDATE						2-4C		
P20	SLGY				ABR		BS		1
P20	ZDATE						2-E3		
P21	SLGY				VABR		FLAKE		1
P21	ZDATE						2-E3		
P22	SHEL	J	WM?		ABR		BS SHEL LEACHED NO PB		1
P22	ZDATE						RO		
P23	SHEL		WM?				BS SHEL LEACHED RD BN		1
P23	ZDATE						RO		
P26	GREY	J					BS		1

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP199:265.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P26	ZDATE						2-3C+		
P27	GREY	J			VABR		BS		1
P27	ZDATE						2-3C+		
P28	GRSAN	JWM?					BS NECK SHLDR		1
P28	ZDATE						M2-3C+		
P29	GREY	J			ABR		BS		1
P29	ZDATE						2-4C		
P30	GREY	BSEG	B				BS FLANGE AS MARSH TYPE 37		1
P30	ZDATE						2C		
P31	SLGY	J			ABR		BS WATER WORN?		1
P31	ZDATE						2-E3		
P32	GRSAN	CLSD					BS		1
P32	SLGY	J			VABR		BS		1
P32	GREY	BWM					RIM FAIRLY UPRIGHT		1
P32	ZDATE						L2-3C		
P33	SHEL				ABR		FLAKE BLK AS IN	P35	1
P33	SHEL				ABR		BS RD BN		1
P33	ZDATE						3C?		
P34	GREY	BWM?	B				BS		1
P34	ZDATE						3C+		
P35	SHEL	CHP	WM	1			BASE BSS NO PB BLK AS IN	P33	4
P35	ZDATE						3C?		
P38	GROG	J					BS		1
P38	ZDATE						RO		
P39	SHEL	BTR	WM	1		DWG4	RIM GIRTH BS MIN SHEL DK GRY		2
P39	GREY	JL					BS ? CLAY PELLETS LEACHED		1
P39	ZDATE						M2-3C		
P40	SHEL		WM?	1			BSS FRAGS BLK SHEL LEACHED		3
P40	ZDATE						RO		
P42	NVGW	J	ROUZ				BS		1
P42	ZDATE						3C		
P44	SHEL				VABR		FLAKE		1
P44	NVCR				VABR		BS OR NVCC VABR		1
P44	SHEL				ABR		BS LT BN EXT GRY CORE		1
P44	ZDATE						2-3C+		
P45	SLGY				ABR		BS		1
P45	GROG?				VABR		BS		1
P45	SHEL	J					BS STAINED RED AS IN	P19	1
P45	ZDATE						2-E3		

The Roman Pottery from Risegate, West Pinchbeck pipeline (RWP199:265.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P46	NVGW	J			ABR		BS		1
P46	GREY	JCUR		1	BURNT	DRAW?	RIM BS LEACHED CALCAREOUS? SHEL?		2
P46	ZDATE						3C+		
P47	NVCR?	BTR			VABR		RIM GIRTH OR NVCC VABR		1
P47	ZDATE						3C+		
P48	SLGY	J		1	ABR		BSS		3
P48	SHEL				ABR		BS BURNT		1
P48	ZDATE						2-E3		
							<b>TOTAL</b>		<b>178</b>

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
252	GREY	BWM	BIWL				BS HIGH NECK SHLDR LGE SH RIM BKN OFF		1
252	ZDATE						L3-4C		
256	DWSH?	JDW					RIM V HIGH FIRED;FS		1
256	GREY	CLSD	CVL				BS COMBED VERTICAL LINE GRPS		1
256	NVCC	JBK					FTM COMP LFAB		1
256	ZDATE						M3-4		
257	GREY	JBK					BS THIN		1
257	NVCC	BK					BS LT BN FAB		1
257	NVCC	DPR					RIM LWR WALL LT BN FAB		1
257	SHEL	J	WM				BS LT BN EXT GRY INT LEACHED		1
257	ZDATE						4C		
259	GREY				VABR		SCRAP		1
259	ZDATE						RO		
260	GREY	BWM	BIWL				BS LGE		1
260	GREY	BWM		1			BSS J		2
260	GREY	CLSD	B				BS		1
260	GREY	CLSD					BSS		2
260	NVCC	JWM					BS LGE GROOVED EXT WHT FAB		1
260	NVCC	OPEN			VABR		BS BURNT WHT FAB		1
260	SHEL	J	WM	1	ABR		BASES BSS FLAKED BURNT;DK GRY;NO PB		7
260	ZDATE						4C		
264	GREY	J		1	VABR		BS WATER WORN?/SOIL		2
264	SHEL	J	WM;RIL				BS LEACHED; FINE RIL		1
264	ZDATE						3-4C		
266	GREY	BKEV					RIM HIGH SHLDR		1
266	GREY	JBK					BS THIN SMALL SH		1
266	OX						SCRAP ?POT		1
266	SHEL				VABR		BS ?FIRED CLAY		1
266	ZDATE						M2-3C		
270	NVCC	BK					BS BKFCR? WHT FAB		1
270	ZDATE						3-4C		
272	GREY	BWM			ABR		RIM SHLDR SMALL VESS		1
272	GREY	BWM					RIM HIGH NECK		1
272	GREY				VBURNT		BS OXIDISED		1
272	NVCC	BK					BS LFAB		1
272	NVGW	CLSD					BS		1
272	SHEL	CLSD	WM;RIL				BS FINE RIL DK GRY LEACHED		1
272	SHEL	JLS	WM		SOOT		RIM; DKGRY NO PB		1
272	ZDATE						L3-4		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
273	GREY	JNN					RIM FRAG		1
273	SHEL	CLSD	WM				BS RD BN EXT GRY INT NO PB		1
273	ZDATE						3-4C		
275	GREY	JBKCR					RIM SHLDR		1
275	GREY	JWM			SOOT		RIM		1
275	GREY	OPEN					BASE BURNT UNDER		1
275	GREY				BURNT		BS OXIDISED		1
275	NVCC	BK			ABR		BS LT BN FAB		1
275	SHEL	JCUR	WM;RIL?			DWG14	RIM SHLDR SLIGHT RIL;DK GRY NO PB		1
275	ZDATE						M3-4		
276	GREY	JB			VABR		BS LGE SH		1
276	GREY				BURNT		BS		1
276	GYBN	J					BS BURNT BROWN		1
276	NVCC	BK			1 ABR		BSS CR FAB		2
276	SHEL	CLSD	WM				BS MICACEOUS;RD BN		1
276	SHEL	J	WM		1		RIM FRAGS DK GRY NO PB		3
276	ZDATE						3-4C		
277	GREY	BWM					BS LGE SH GROOVE		1
277	GREY	CLSD			1		BSS		2
277	GREY	CLSD					BS		1
277	GREY	CLSD					BS W FLINT V LGE INC		1
277	GREY	JBK					BS THIN		1
277	NVCC	BK					BS ORANGE FAB		1
277	NVCC	BK					BS LT BN FAB		1
277	SHEL	CLSD	WM;RIL				BS DK GRY NO PB		1
277	SHEL	JCUR	WM		SOOT		RIM DK GRY NO PB		1
277	SHEL				ABR		BS DK GRY NO PB		1
277	ZDATE						L3-4		
278	GREY	CLSD	B		1		BSS BURNISHED EXT		3
278	GREY	CLSD	BIWL				BS PROB BWM		1
278	GRSAN	CLSD					BS ORANGE FAB DK GRY CORE		1
278	GRSAN	CLSD					BS DK GRY ORANGE CORE		1
278	NVCC	B36				VABR	RIM FRAG CR FAB		1
278	NVCC	BK					BS LT BN FAB		1
278	NVCC	CLSD					BS PINK FAB		1
278	NVCC	CLSD					BS ORANGE FAB BURNT ON EDGE		1
278	NVCC	J				ABR	BASE STRING V BURNT WHT FAB		1
278	NVGWC	BWM					BS SHLDR		1
278	SHEL	CLSD	WM		1?		BSS DK GRY FLAKES		9

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
278	SHEL	JLS	WM;RIL	1		DWG13	RIM GIRTH BSS LGE SH UNUS; DK GRY; NO PB		3
278	ZDATE						L3-4C		
278	ZZZ						BAG + POT MARKED 278; LABEL MARKED 287		
279	NVCC	BK		1			BASE 100% BS J BURNT ?BKPEN CR FAB		2
279	NVCC	DPR					BASE CR FAB		1
279	ZDATE						4C		
287	GREY	BWM	BIWL				BS		1
287	GREY	CLSD			VABR		BS		1
287	GREY						BSS SCRAPS		2
287	GREY				VABR		BS		1
287	NVCC	B31					RIM UPPER WALL LT BN FAB		1
287	NVCC	J		1			BSS GROOVED		3
287	NVGW	CLSD		1	VABR		BSS		3
287	NVGW	JBK			VABR		BS		1
287	SHEL	CLSD	WM				BSS DK GRY NO PB		2
287	ZDATE						L3-4		
288	DWSH	JDW			SOOT		RIM		1
288	GREY	BWM		2			BSS GROOVED		3
288	GREY			1			BSS		2
288	GYBN	CLSD		1	BURNT		BSS BURNT RDBN		5
288	NVCC	BFB				DRAW?	RIM GIRTH CR FAB		1
288	NVCC	BK		1			BSS WHT FAB		2
288	NVCC	DPR					RIM LWR WALL CR FAB		1
288	NVGCC	J		1	ABR		BSS 1WORN INT		2
288	NVGW	BWM					RIM NECK LGE VESS BURNT ON EDGE		1
288	SHEL	CLSD	WM	1	VABR		BSS DK GRY FLAKES		11
288	ZDATE						4C		
289	NVGCC	JBK					BS		1
289	SHEL	CLSD	WM;RIL				BS DK GRY FINE RIL NO PB		1
289	ZDATE						3-4C		
294	NVCC	DPR			VABR		RIM LWR WALL PINK FAB		1
294	ZDATE						4C		
296	NVCC?	JB		1	VABR		BASE THICK J; CC ? LOST; PINK FAB		3
296	ZDATE						3-4C		
299	SAMCG	31 ETC		1			RIM BS		2
299	ZDATE						ML2		
301	GREY	J					BSS		2
301	NVCC	BK		1			BSS WHT FAB		2
301	NVCC	CLSD			ABR		BS THICK WHT FAB		1

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
301	SHEL				ABR		FLAKES		2
301	ZDATE						3-4C		
302	GREY	J					BS		1
302	NVCC	BK					BS WHT FAB		1
302	NVCC	CLSD					BS THICK CR FAB		1
302	SHEL				ABR		FLAKES AS IN	303	2
302	ZDATE						3-4C		
303	SHEL				ABR		BS; AS IN	302	1
303	SHEL		WM		ABR		BSS BASE MIN SHEL		3
303	ZDATE						RO		
306	GREY				VABR		BS MIN SHEL		1
306	NVCC	BD					BASE WHT FAB		1
306	ZDATE						L3-4		
310	NVGW	CLSD			ABR		BS		1
310	ZDATE						3C+		
311	NVCC	CLSD					BASE THICK BN FAB		1
311	SHEL			2	ABR		BSS		2
311	ZDATE						M3-4		
315	GREY	BWM					BS		1
315	ZDATE						3-4C		
316	DWSH	J					BS		1
316	ZDATE						M3-4		
321	GREY	BFB			VABR		RIM BURNT		1
321	GREY	J			BURNT		BS		1
321	GREY	J		2			RIM FRAGS		2
321	GREY	JEV					RIM		1
321	NVCC	B38?		1			BSS WORN INT CR FAB AS IN	329	2
321	NVCC	BK		1			BS FLAKE CR FAB		2
321	NVCC	BK		1			BSS WHT FAB		2
321	NVGW	J					BS		1
321	SHEL	J					BSS BLK NO PB		1
321	SHEL	JCUR			VBURNT		RIM PALE GY EXT BLK INT LEACHED NO PB		1
321	SHEL	JL	WM		VBURNT		RIM BLK NO PB		1
321	ZDATE						L3-4		
324	DWSH	CLSD		1			BSS BASE NO PB		9
324	GREY	CLSD	2				BSS		2
324	NVGW						BS		1
324	NVOX?	BK			ABR		BS OR NVCC BURNT; AS IN	325	1
324	ZDATE						M3-4		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
325	NVCC	CLSD					BASE FRAG BURNT ON EDGE		2
325	NVGCC	BK			SOOT		BS SOOT EXT		1
325	NVGW	JWM			ABR		RIM NECK LGE SH		1
325	NVGW	JWM			VABR		BS VBURNT AS IN	329	1
325	NVOX?	BK			ABR		BS OR NVCC BURNT; AS IN	324	1
325	ZDATE						L3-4		
325	ZZZ						9 FRAGS FIRED CLAY/DAUB		
329	GREY				VABR		BSS		3
329	NVCC	B38					BS WORN INT CR FAB; AS IN	321	1
329	NVCC	JWM					RIM CR FAB		1
329	NVGW				VABR		BS V BURNT; AS IN	325	1
329	SHEL	J	WM?				RIM FRAG		1
329	SHEL	JEV	WM				RIM		1
329	SHEL?	J			1 VABR		BSS LEACHED		2
329	ZDATE						L3-4		
330	GREY				ABR		BS QZITE INC		1
330	NVGCC	B31			GOOD		RIM LWR WALL		1
330	NVGCC	BFB			GOOD		RM FLANGE AS RPNV21		1
330	SHEL	JCUR	WM		1	DWG10	RIMS BSS BLK NO PB; AS IN	333;334	10
330	SHEL	JL	WM		BURNT		BS THICK		1
330	SHEL	OPEN	WM				BS GRY INT NO PB		1
330	ZDATE						L3-E4		
333	GREY	BWM			ABR		RIM		1
333	GREY	BWM			1		RIM SHLDR FLAKE		2
333	GREY	J			1		BS BASAL BS J		2
333	GREY	J	BVL				BS		1
333	GREY				VABR		BS		1
333	NVCC	BHEM	PO				RIM GIRTH WHT FAB;RPNV85;WHT PA BIA		1
333	NVCC	BK					BS CR FAB		1
333	NVCC	BK					BS ORANGE FAB		1
333	NVGW	BD			1		BASES J BURNT ON EDGE		2
333	SHEL	J	WM				BS BLK NO PB; AS IN	330;334	1
333	SHEL	JL	WM				BS THICK BLK NO PB		1
333	SHEL		WM?		2		BSS RD BN NO PB		2
333	SHEL		WM				BS MIN SHEL SCALE INT; BLK; NO PB		1
333	ZDATE						4C		
334	MONV	M			2		BSS		2
334	NVGW						FLAKE		1
334	NVOX?	B					BASE;FS		1



The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
334	SHEL	J	WM	1			BSS BLK NO PB; AS IN	330;333	4
334	SHEL				ABR		BS BURNT		1
334	ZDATE						L3-4		
335	GREY	JCUR					RIM		1
335	GREY				BURNT		BS		1
335	NVCC	BKCR		1		DWG11	RI M UPPER WALL MINIATURE BCUR; LFAB		2
335	NVGW	CLSD					BS FIRED PINK BN CORE; LGE SH		1
335	SAMCG		36		ABR		BS LGE		1
335	SHEL	JUR	WM				RIM + FLAKES DK GRY MIN PB		1
335	SHEL	JUR	WM				RIM NECK DK GRY MIN PB		1
335	ZDATE						4C		
335	ZZZ						1 FRAG FIRED CLAY/DAUB		
340	GREY	J					BS		1
340	SHEL	JUR	WM	1	FRIABLE	DWG5	RIMS BSS BASE LTBN EXT DKGY INT;NO PB;FS		41
340	ZDATE						4C		
340	ZZZ						SMASH		
348	GREY	J			VABR		RIM		1
348	GREY						BSS		2
348	NVCC	BK					BS CR FAB		1
348	NVCC	BK					BS ORANGE FAB		1
348	NVCC	BKFBR?		1			RIM FRAGS BS WHT FAB		3
348	NVOX				ABR		BS		1
348	SHEL	JUR	WM	1			RIMS BSS DK GRY MIN UNDERCURT NO PB LEACH		8
348	ZDATE						4C		
349	GREY						BS PROB BWM		1
349	NVCC	BK			ABR		BASE LFAB		1
349	NVCC	OPEN			VABR		BASE CR FAB		1
349	ZDATE						M3-4		
352	GREY	BWM	BIA				BS		1
352	GREY	CLSD			ABR		BS		1
352	NVCC	BK					BS WHT FAB		1
352	SHEL	JCUR	WM		ABR		RIM FRAG FLAKE BLK LEACHED		1
352	ZDATE						M3-4		
354	GREY	CLSD					BS		1
354	NVCC	B31					RIM UPPER WALL GRY FAB		1
354	NVCC	JNN		1	VABR	DWG12	RIM SHLDR BSS FLAKES;GROOVES		8
354	NVCC	OPEN?			VABR		BS CR FAB		1
354	SHEL	J	WM	1	ABR		RIM FRAG BSS DK GRY MIN SHEL		6
354	ZDATE						4C		

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CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
355	GREY	CLSD	BVL				BS		1
355	GREY	CP	B				BS SHLDR		1
355	GREY	JBK			GOOD		BASE STRING MINIATURE?		1
355	GREY						BSS		3
355	NVCC	OPEN			ABR		BASE WORN INT B38?		1
355	NVGW	CLSD			ABR		BS LT BN CORE		1
355	NVGW	JCOR	B				BS BURNISH EXT		1
355	SHEL	J	WM	1	BURNT		BSS DK GRY NP PB		4
355	ZDATE						L3-4		
357	GREY	CLSD					BSS		5
357	NVMIC	B36			ABR		RIM FLANGE BIFURC CF RPNV81 SURF LOST		1
357	ZDATE						3C		
359	GREY				VABR		BS WORN		1
359	OX				VABR		BS ?CBM		1
359	ZDATE						RO		
360	GREY	CLSD					BS		1
360	NVGW	CLSD					BS		1
360	SHEL				VABR		BS LEACHED		1
360	ZDATE						3C+		
361	GREY	J		1			BASES J		2
361	NVCC	BGR		1	ABR		RIM GIRTH FLAKE CF B31 CR FAB		2
361	SHEL				VABR		BS LEACHED		1
361	ZDATE						L3-4		
363	GREY				VABR		FLAKE		1
363	ZDATE						RO		
363	ZZZ						FIRE CLAY		
364	GREY				VABR		BS		1
364	ZDATE						2-4C		
366	GREY				ABR		BSS BURNT		4
366	NVCC	BK	BAD/STA?				BS WHT FAB BARB AND STAMPED? LINES		1
366	NVCC	JBKCR			ABR		RIM CR FAB		1
366	NVGW	CLSD					BS GRY CORE		1
366	NVOX	CLSD					BS		1
366	SHEL	CLSD	WM	1	VABR		BSS BASES BURNT SOOT DK GRY NO PB		31
366	SHEL	JCUR	WM	1	SOOT		RIMS J DK GRY NO PB		3
366	SHEL	JUR	WM				RIM NECK DK GRY MIN PB		1
366	ZDATE						4C		
367	NVCC	JWM					RIM SHLDR WHT FAB		1
367	SHEL	CLSD	WM				BS FLAKES DK GRY NO PB		1

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
367	ZDATE						4C		
368	NVCC	JNN			GOOD		RIM NECK ORANGE FAB		1
368	SAMCG	31ETC			GOOD		BS		1
368	SAMCG	31R			ABR		FTRG		1
368	ZDATE						L3-4		
368	ZZZ						MIX 2C SAM		
371	GREY	BWM	BNK	1	FRESH	DRAW?	RIMS BSS LGE SHS; HIGH NECK		3
371	ZDATE						L3-4		
371	ZZZ						SMASH		
373	GREY	BWM?	B		GOOD		BS		1
373	GREY	JBL			GOOD		BS THICK		1
373	MONV	MRR		1			RIM UPPER WALL FLAKE		2
373	NVCC	BK			VABR		BS CR FAB		1
373	NVCC	CLSD			ABR		BS WHT FAB		1
373	NVCC	CLSD					BS ORANGE FAB		1
373	NVGW			1	VABR		BSS		2
373	SHEL	CLSD	WM				BSS DK GRY NO PB		3
373	SHEL	CLSD			VABR		BASE DK GRY NO PB		1
373	SHEL	CLSD	WM;RIL		ABR		BS FINE RIL LEACHED		1
373	SHEL	J	WM				RIMFRAG DK GRY NO PB		1
373	ZDATE						L3-4		
384	GREY	BWM	B				BS		1
384	GRSAN	J	BZZ	1			BASE BSS V HIGH FIRED		8
384	NVCC	OPEN			VABR		BS WORN INT B38?		1
384	SHEL				VABR		SCRAP DK GRY LEACHED		1
384	ZDATE						L3-4		
395	GREY	BWM?			ABR		BS GROOVED		1
395	GREY	CLSD					BS 3C TYPE		1
395	GREY	JBK					BS THIN WALL SCRAP		1
395	GREY				VABR		BS BURNT		1
395	NVCC	JBK			VABR		BS GROOVED		1
395	NVCC	JCUR			VABR		RIM BURNT		1
395	NVCC	OPEN?		1			BSS WHT FAB		2
395	NVGW	CLSD					BS		1
395	NVGW	OPEN					BASE		1
395	SHEL	J	WM				BS LT BN EXT DK GRY INT NO PB		1
395	SHEL			2			BS SCRAPS FLAKED DKGRY NO PB		4
395	ZDATE						L3-4		
399	OX				VABR		BS POSS FIRED CLAY		1

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
399	SHEL		WM				BS DK GRY LEACHED		1
399	ZDATE						RO		
402	GREY	BWM	BIWL	1			BSS		2
402	GREY	J					BS		1
402	ZDATE						M3-4		
403	GREY	CLSD					BS		1
403	NVCC	BK			VABR		BS CC LOST WHT FAB		1
403	NVCC	JBK					BS GROOVED WHT FAB		1
403	NVCC	JBK					BS GROOVED CR FAB		1
403	NVCC	JNN			ABR		RIM NECK CR FAB		1
403	SHEL	J	WM				BS DKGRY NO PB; AS IN	404;409	1
403	SHEL	OPEN	WM				BASE DK GRY NO PB		1
403	ZDATE						L3-4		
404	GREY	CLSD		2			BSS		3
404	GREY	CLSD		1	VABR		BS FLAKE BURNT		2
404	NVCC	BFB					FLANGE FRAG CR FAB		1
404	NVCC	BK			VABR		BS CR FAB		1
404	NVCC	BWM					RIM NECK CR FAB		1
404	SHEL	JEV	WM	1	SOOT	DWG15	RIMS BSS BASE DK GRY; NO PB SANDY MIN SHEL	409	20
404	SHEL	J	WM				BS LT GRY NO PB LEACHED		1
404	ZDATE						4C		
404	ZZZ						SHEL SMASH		
405	GREY	CLSD					BS		1
405	NVCC	BK					BS ORANGE FAB		1
405	NVCC	BK			VABR		BS WHT FAB BURNT		1
405	NVCC	CLSD			VABR		BS INT LOST WHT FAB		1
405	OX	J					BS WITH CLACAREOUS INC		1
405	SHEL	J	WM				BS		1
405	ZDATE						M3-4		
406	SHEL	JEV	WM			DWG15	BS DKGRY; AS IN	404;409	1
406	ZDATE						4C		
409	NVCC	CLSD			ABR		BASE STRING CR FAB		1
409	SHEL	JEV	WM	1		DWG15	RIMS BSS BASE; JOINS	404	32
409	ZDATE						4C		
409	ZZZ						SHEL SMASH		
410	DWSH	JDW			SOOT		RIM		1
410	GREY						BSS		2
410	ZDATE						M3-4		
413	GREY	BWM	B	1			RIM BSS HIGH NECK BURNISH EXT		3

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
413	GRSAN	BWM	B				BS RED BN CORE		1
413	NVCC	B38					RIM VWORN INT LT BNFAB	419	1
413	NVGW	BTR	BHL				RIM GIRTH B EXT + RIM		1
413	SHEL	J	WM	1	ABR		BSS FLAKES 2GROOVE;SANDY DK GRY MIN SHEL		12
413	ZDATE						L3-4		
415	NVCC	CLSD			VABR		BS PINK FAB		1
415	ZDATE						3-4C		
416	SHEL	JEV	WM	1			RIM FRAGS DK GRY NO PB		3
416	ZDATE						3C+		
417	GREY	BWM	B	1			BS PROB BWM BURNISH EXT		1
417	NVGW	CLSD	B				BS BURNISH EXT		1
417	ZDATE						3C+		
418	GREY	CLSD	B	1			BSS 1 V LGE BURNISH EXT PROB BWM		4
418	GREY	CLSD	B				BS BURNISH EXT		1
418	ZDATE						3-4C		
419	NVCC	B38		1			RIMS BSS VWORN INT LT BN FAB	413	4
419	SHEL	JEV	WM	1		DWG16	RIMS SHLDR BS DKGRY NO PB SLIGHT LS		3
419	ZDATE						L3-4		
427	NVCC	CLSD					BS LT BN FAB		1
427	ZDATE						3-4C		
433	GREY	BFL			ABR		FLANGE ONLY		1
433	GREY	BLS			ABR	DWG17	RIM LWR WALL UNSU		1
433	GREY	JBK	ROUZ				BS FINELY MADE VESSEL CORDONED		1
433	ZDATE						3C		
444	GREY	BKEV	B	1		DWG18	RIMS BSS BASE CORDONS PROF DISP METALLIC		5
444	ZDATE						3C?		
444	ZZZ						SMASH VESS FINELY MADE HIGH FIRED <67>		
445	MOMH?	MHK			VABR	DRAW?	RIM GIRTH TRITS VABR		1
445	NVGW	CLSD	B				BS LGE SH BURNISH EXT		1
445	ZZZ						MORT COULD BE ML2		
445	ZDATE						3C?		
457	GREY	BWM			VABR		BS GROOVE		1
457	GREY	FS				DRAW?	RIM NECK HIGH FIRED FAB AS DWG 18		1
457	NVCR	F					BS NECK CR FAB		1
457	NVCR	F					BS NECK COMP PINK FAB		1
457	NVGWC	J		1			FTM BSS SMASH		8
457	SHEL	JCUR	WM			DWG19	RIM GIRTH GROOVED AS BOURNE DK GRY LEACH		1
457	ZDATE						M2-3C		
457	ZZZ						SOME 2C FLAGONS		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
458	GREY	BWM	B				RIM SHLDR RIM BURNISHED		1
458	GREY	CLSD	BVL				BS		1
458	GREY	CLSD			VABR		BS		1
458	NVGCC	OPEN?			VABR		BS		1
458	SHEL	JL	WM				RIM DK GRY NO PB		1
458	ZDATE						M3-4		
467	GREY	BWM?	B				BS BURNISH EXT		1
467	NVCC	CLSD			ABR		BASE CR FAB		1
467	NVCC	J	WM				RIM NECK ORANGE FAB BURNT ON EDGE		1
467	NVCC	JNN					RIM NECK ORANGE FAB		1
467	NVCC	JWM					RIM NECK CR FAB		1
467	NVGCC	JBK			STRING		BASE COMP VH FIRED UNUS DK GRY ORANGE CORE		1
467	NVGW	J			1 ABR		BSS		2
467	SHEL	J	WM		1 STRING		BASE COMP HIGH FIRED MIN SHEL DK GRY LEACH		2
467	SHEL	JL					BS THICK RDBN EXT GRY INT NO PB		1
467	ZDATE						4C		
469	NVCR?	BFL			ABR		FLANGE FRAB GRY CORE		1
469	SHEL	CLSD			VABR		BS LEACHED		1
469	ZDATE						M2-3C		
P1	SAMCG		33 NAME				FTRG STAMP;REGINI.M;<1>		1
P1	ZDATE						ML2		
P1	ZZZ						?REGINUS IV LEZOUX; 150 -180		
P15	SHEL	JWM	WM			DWG6	RIM GIRTH;DK GRY;LEACHED; FS		1
P15	ZDATE						L2-3		
P15	ZZZ						ALL P NOS 3D RECORDED		
P302	NVCC	OPEN?			VABR		BASE CC ALMOST LOST CR FAB		1
P302	ZDATE						3C+		
P303	GREY						BS		1
P303	ZDATE						2-4C		
P304	NVCC	BSEG				DWG7	RIM GIRTH CR FAB		1
P304	ZDATE						EM3		
P305	GREY				VABR		BS		1
P305	ZDATE						2-4C		
P306	NVCC	OPEN			ABR		BS		1
P306	ZDATE						3-4C		
P307	SHEL						SHELLY SANDSTONE;MICRO FOSS;PB; FS		
P307	ZZZ						STONE NOT FIRED POT		
P312	GREY	BWM			VABR		RIM FRAG V HIGH FIRED		1
P312	ZDATE						3-4C		

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CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P313	GREY	CP	LML				BS		1
P313	GREY						BSS FRAGS		2
P313	NVCC	DPR		1			RIM BS CR FAB		2
P313	SHEL	BFL	WM				RIM FRAG		1
P313	ZDATE						4C		
P315	NAT				ABR		BS DK GRY ?SHEL LEACHED		1
P315	ZDATE						RO		
P318	GREY	J					BS PALE GRY		1
P318	SHEL				VABR		BS		1
P318	ZDATE						3C+		
P320	GREY	BWM		1			RIM FRAGS BSS J		5
P320	ZDATE						3-4C		
P321	GREY	JL					BS PROB JWM		1
P321	ZDATE						3-4C		
P323	GYBN	BWM					RIM BURNT DISCOLOURED		1
P323	ZDATE						3-4C		
P324	GREY				ABR		BS		1
P324	NVCC	BFL			ABR		RIM UPPER WALL CR FAB		1
P324	NVGW	OPEN		1			BSS		2
P324	SHEL	J	WM;RIL				BS VFINE RILL		1
P324	SHEL		WM				BS BLK		1
P324	ZDATE						3C		
P325	GREY	BWM					BS GROOVE		1
P325	ZDATE						3-4C		
P329	GREY	J					BS		1
P329	ZDATE						3-4C		
P330	NVCC	BK					BASE LFAB		1
P330	ZDATE						M3-4		
P331	NVCC	CLSD					BS CR FAB		1
P331	ZDATE						3C+		
P332	GREY				ABR		BS BASAL		1
P332	ZDATE						3-4C		
P333	SHEL		WM				BS BLK		1
P333	ZDATE						RO		
P334	SHEL			1	VAB		BSS RD BN LEACHED		2
P334	ZDATE						RO		
P335	NVGCC	JWM					BS		1
P335	ZDATE						3C+		
P335	ZZZ						1 FRAG CBM		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P338	GREY	JCUR					BS NECK		1
P338	SHEL				VABR		BS LEACHED		1
P338	ZDATE						3-4C		
P339	NVCC	OPEN			ABR		BS CR FAB BURNT ON EDGE		1
P339	ZDATE						L3-4		
P340	NVCC	DPR			ABR		RIM LWR WALL CR FAB		1
P340	NVCC	JCUR			ABR		RIM NECK CR FAB		1
P340	ZDATE						4C		
P342	NVCC	BKCR					RIM NECK CR FAB		1
P342	ZDATE						EM3		
P343	GRSAN	J					BS V HIGH FIRED		1
P343	NVCC	BK					BS CR FAB		1
P343	NVCC	JBK					BS WHT FAB		1
P343	ZDATE						3-4C		
P345	BB2	BD	B				BASE		1
P345	ZDATE						L2-3C		
P347	GREY	BWM		1	ABR		RIMS BS		3
P347	NVCC	B31					RIM GIRTH PALE GY FAB		1
P347	NVCC	B38					BS V WORN INT CR FAB		1
P347	SHEL	J	WM	1			BSS GRY FINE SHEL		2
P347	ZDATE						L3-4		
P348	SHEL	J	WM		VABR		BASE		1
P348	ZDATE						RO		
P351	SHEL	J	WM				BS NECK		1
P351	ZDATE						2C+		
P352	GREY	DPR			FRESH		RIM LWR WALL		1
P352	ZDATE						3-4C		
P353	GREY	JBK					BS		1
P353	ZDATE						3C+		
P355	PARC	B36	PAL			DWG8	RIM BASE SELF COL;LT BN FAB; DK BN PA		1
P355	ZDATE						L3-M4C		
P357	NVCC	CLSD					BASE FAIR CR FAB		1
P357	ZDATE						M3-4		
P359	SHEL	JL	WM				RIM FRAG PALE GY NUM MICROFOSSILS; FS		1
P359	ZDATE						3C+		
P363	GREY	BWM	BIWL				BS		1
P363	ZDATE						M3-4		
P364	GREY	BWM	BIA				BS		1
P364	SHEL	J	WM				BS FINE SHEL GRY		1



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CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P364	ZDATE						3-4C		
P364	ZZZ						POT + LABEL MARKED 364; BAG MARKED 362		
P367	GREY	JEV				DRAW?	RIM SHLDR		1
P367	SHEL	JL	WM		BURNT		RIM JOINS	P368	1
P367	ZDATE						M2-3C+		
P368	SHEL	JL	WM				RIM BURNT NO PB; JOIN	P367	1
P368	ZDATE						M2-3C+		
P369	GREY				BURNT		BS		1
P369	ZDATE						3-4C		
P370	GREY	J			GOOD		BS BASAL		1
P370	ZDATE						3C+		
P371	NVCC	JNN			GOOD		RIM NECK ORANGE FAB		1
P371	ZDATE						L3-4		
P372	NVCC	B31			ABR		RIM FRAG CR FAB		1
P372	NVCC	B38		1	GOOD		RIM BS GIRTH CR FAB		2
P372	ZDATE						L3-4		
P374	NVGW	J		1			BASE BS BURNT PINK FAB		2
P374	ZDATE						3C		
P376	GREY	BWM	B				BS GROOVED		1
P376	ZDATE						M2-3C+		
P377	SHEL	JL	WM;RIL				BS RD BN FAB NO PB; FINE RIL		1
P377	ZDATE						2-3C+		
P381	NVCC	B31			ABR		RIM CC EXT LOST CR FAB		1
P381	ZDATE						L3-4		
P385	GROG	CLSD					BS LT GY EXT DK GY INT		1
P385	ZDATE						RO		
P387	SAMCG		33		GOOD		RIM BASE		1
P387	ZDATE						E-L2		
P389	GREY	J			GOOD		BS		1
P389	ZDATE						M2-3C+		
P390	GREY	J			VABR		BS HIGH FIRED		1
P390	ZDATE						2-4C		
P391	NVGY				ABR		BS		1
P391	SHEL	CP	WF	1	SCALE		BS BLK		5
P391	ZDATE						2-3C		
P392	GREY	JB		1	VABR		BSS FLAKES 4 GROOVES BODY		4
P392	ZDATE						RO		
P393	GRSAN	J			VABR		BS WATER WORN?		1
P393	ZDATE						M2-3C+		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P394	NVGW	JCUR					RIM FRAG		1
P394	ZDATE						3C		
P395	GYBN	J			ABR		BS GROOVE		1
P395	NVGW	JBK					BS		1
P395	ZDATE						M2-3C		
P396	SHEL	J	WM				BS DKG Y FSHEL PB; AS IN	P401	1
P396	ZDATE						2-3C		
P397	NVGY				VBURNT		BS ABR		1
P397	ZDATE						2-3C+		
P398	VESIC	J		1	ABR		BSS RD BN LEACHED ?CLAY		3
P398	ZDATE						RO		
P399	GREY	CLSD					BS		1
P399	ZDATE						RO		
P400	VESIC				VABR		BS BLK LEAched		1
P400	ZDATE						RO		
P401	SHEL	J	WM				BS DKG Y FSHEL PB; AS IN	P396	1
P401	ZDATE						2-3C		
P402	NVCC	BK					BS CR FAB		1
P402	SHEL	J	WM				BS LEACHED		1
P402	ZDATE						3C+		
P403	SHEL	JCUR	WM				RIM BLK LEACHED		1
P403	ZDATE						2-3C		
P404	NVGW	JCAR			VABR		BS		1
P404	SHEL	JCUR	WM			DWG9	RIM SHLDR GROOVE CF BOURNE LEACHED		1
P404	SHEL				ABR		BS RDBN LEACHED		1
P404	SHEL		WM				BS BLK LEACHED		1
P404	ZDATE						M2-3C		
P405	SHEL	J	WM				BS BASAL BLK LEACHED		1
P405	ZDATE						2-3C		
P406	GREY	J			ABR		BS WATER WORN?		1
P406	ZDATE						M2-3C+		
P407	NVGY	J			ABR		BS WATER WORN? INT		1
P407	ZDATE						2-3C		
P408	NAT	CP					BS BLK		1
P408	ZDATE						RO		
P409	GREY	J			VABR		BS LEACHED		1
P409	ZDATE						M2-3C+		
P410	SHEL	JB	WM	1			BSS DKG Y AS IN	P411	8
P410	ZDATE						2-3C		

The Roman Pottery from Risegate, West Pinchbeck pipeline watching brief (RWP299:302.99) for APS

CONTEXT	FABRIC	FORM	DEC	VESSNO	ALTER	DWGNO	COMMENTS	JOIN	SHS
P411	GREY	J					BS		1
P411	NVGY	J					BS		1
P411	SHEL	JCUR		1	BURNT		RIMS J	P410	2
P411	ZDATE						M2-3C		

## Appendix 4

### THE CERAMIC BUILDING MATERIAL

*By Phil Mills BSc (Hons)*

#### Methodology

The fragments of ceramic building material recovered from the site were examined under a 20 x binocular microscope. Their fabrics were described and compared with the fabric type series retained at Archaeological Project Services.

#### Condition of the material

<b>Weight</b>	<b>Fragments.</b>
2910	21

#### Statement of Potential

It is recommended that the pieces be retained for future information about the spread of tile fabric types over the region, therefore helping to map out the changing development of the medieval brick and tile industry.

#### Fabrics

##### RWP1

A pinkish white (munsell: 5yr8/2) hard smooth feel conchoidal fracture, with inclusions of

##### RWP2

A light red 2.5yr6/8 hard sandy feel fine fracture, with inclusions of moderate poorly-sorted medium subangular black iron stone moderate poorly-sorted medium subangular limestone moderate poorly-sorted medium subangular quartz

##### RWP3

A red very hard smooth feel fine fracture, with inclusions of moderate moderately-sorted medium subangular grog moderate moderately-sorted medium subangular quartz

ID	Fabric	Wt (g)	No	Cnrs	Len(mm)	Wth(mm)	Tk (mm)	Mortar
<b>0</b>								
B/T	RWP1	5						No
<b>25</b>								
B/T	RWP2	5	1					No
<b>27</b>								
B/T	RWP2	30	3					No
<b>41</b>								
	RWP3	5	1					No
<b>47</b>								
	RWP2	20	1	10.3				No
<b>49</b>								
B/T	RWP2	25	1	No				
B/T	RWP3	15	1	No				
<b>105</b>								
Tile	RWP2	75	1	16.5				No
<b>128</b>								
Brick	RWP2	30	1	No				
Field drain	RWP1	90	4	12.6				No
<i>Diameter 95mm</i>								
<b>138</b>								
B/T	RWP1	5	1	No				
Tile	RWP2	5	1	14.5				No
<b>201</b>								
B/T	RWP1	200	1	No				
<i>Slightly burnt</i>								
Brick	RWP1	2375	1	4	160.4	101	69.14	Yes
TilePAN	RWP2	20	2	8.1				No
<b>241</b>								
B/T	RWP3	5	1	No				

*Wt = Weight, No = No of fragments, Cnrs = No of Corners, Len = Mean Length, Wth = Mean Width TK = Mean Thickness, Mortar = presence or absence, '+' indicates incomplete dimension.*

## Appendix 5

### CATALOGUE OF THE OTHER FINDS

*By Jane Cowgill*

*Finds and Metalworking Research*

#### Registered Finds

Context 019, Stone hone, Post-medieval?

Well worn but broken at one end. Maximum dimensions 80 x 29 x 15mm

Context 032, Iron bar, Post-medieval?

Slightly curved, probably cast. Maximum dimensions 65 x 28 x 18mm

Context 042, Iron object, Post-medieval?

Irregular piece, possibly cast. Maximum dimensions 75 x 42 x 9mm

#### Fired Clay

Context 008, 1 piece of fired clay, weight 1g.

Oxidised natural clay, no surfaces.

Context 010, 6 pieces of fired clay, weight 76g.

Oxidised natural clay burnt *in-situ*, one irregular flat surface.

Context 012, 5 pieces of fired clay, weight 53g.

Oxidised natural clay burnt *in-situ*, no surface. Some have a pinkish mauve colouration probably from salts within the clay.

Context 026, 2 pieces of fired clay, weight 4g.

Oxidised natural clay with large ironstone inclusions, no surfaces.

Context 031, 4 pieces of fired clay, weight 5g.

Oxidised natural clay with large ironstone inclusions, no surfaces.

#### Coal, Clinker and Slag

Context 013	1 piece of slag	weight 4g	Abraded blast furnace slag
Context 015	2 pieces of clinker	weight 4g	
Context 025	1 piece of coal	weight 30g	Partially burnt
Context 026	2 pieces of clinker	weight 4g	
Context 027	1 piece of coal	weight 1g	
Context 027	1 piece of clinker	weight 2g	
Context 040	1 piece of coal	weight 1g	
Context 041	1 piece of coal	weight 1g	Slightly glazed
Context 047	2 pieces of coal	weight 2g	
Context 138	1 iron smithing slag lump	weight 10g	Magnetic, encrusted
Context 174	1 fuel ash slag	weight 2g	
Context 201	1 piece of cinder	weight 27g	Most partially burnt coal
Context 213	1 hearth bottom	weight 78g	Coal fuel; dense; in fragments
P3	1 piece of slag	weight 13g	Cindery; iron slag?

#### Discussion

The finds are probably all post-medieval in date and most are probably associated with agricultural machinery or farming practice.

## Appendix 6

### THE FINDS FROM THE SAMPLES

by Gary Taylor

#### Provenance

The material was recovered from the fills of ditches (335, 378, 381, 436, and 448) and the fill of a pit (414 and 416).

#### Range

The range of material is detailed in the table.

Table 1: Artefacts from Samples

Context	Material	Description	No.	Wt (g)	Context Date
335	Bone	Pin, Colchester type 3	1	1	3 <sup>rd</sup> -4 <sup>th</sup> century?
378	Bone	Pin	1	1	Roman
381	Iron	Hobnail	1	1	Roman
414	Ceramic building material	Tile	1	8	
	Stone	Roofing slate	1	1	
416	Glass	Small chip of colourless glass, undated	1	<1	1 <sup>st</sup> -2 <sup>nd</sup> century
	Glass	Small chip of pale green glass, undated	1	<1	
	Bone	Pin, decorative head, 1 <sup>st</sup> -2 <sup>nd</sup> century	1	2	
436	Copper alloy	Brooch, Colchester-derivative?	1	2	
448	Glass	Small chip of colourless glass, undated – not Roman	1	<1	

Parts of three bone hairpins were recovered. That from (335) is complete, extremely polished and has a more-or-less spherical head and a swelling to the mid shaft (Fig. 17). This is a Colchester Type 3 hairpin and at that location they are unknown before 150 AD and scarce in the period *c.* 150-250. They are therefore considered to date from *c.* 200 AD to the end of the Roman period (Crummy 1995, 21-2). At Leicester, however, they first appear in the period 50-120 AD, but remain scarce before 200AD (Cooper 1999, 255). A second pin, from (378), lacks both the tip and head but bears polish and has a swelling to the mid shaft and cannot be dated other than to the Roman period. The third pin, from (416), survives only as the head, with the stub of the broken shaft beneath. Well-polished, this pin head is extremely ornate and is a 3-dimensional carving of an animal, probably a cat or perhaps a lion (Fig. 17). A literature search revealed no comparisons for this, though figural pins showing, for example, hands or female busts have been found at Exeter and Colchester respectively (Allason-Jones 1991, 269-70; Crummy 1995, 25-6). These figural pin types seem to date to the first and second centuries AD, although in this case was found in a 3<sup>rd</sup> to 4<sup>th</sup> century AD context.

The head and spring from a brooch was recovered from (436). Although very fragmentary and abraded, this appears to be a Colchester-derivative brooch and similar examples have been found at Baldock in Hertfordshire (Stead 1986, figs 43-44) and Bancroft near Milton Keynes, and they generally date from the mid-to-late 1<sup>st</sup> century (Mackreth 1994, 288-9).

#### Condition

All the material is in good condition and presents no long-term storage problems. Archive storage of the collection is by material class.

#### Documentation

Details of archaeological sites and discoveries in the area are maintained in the Lincolnshire County Council Sites and Monuments Record.

### **Potential**

The collection of Roman artefacts recovered from the samples is of moderate local potential and significance and provides some indications of personal decoration of the Romano-British inhabitants of the site.

The lack of any material earlier than the Roman period is informative and suggests that archaeological deposits dating from prior to this time are absent from the area, or were not revealed by the investigation, or were of a nature that did not involve artefact deposition. Similarly, the absence of any artefacts later than the Roman period would tend to suggest that the site was abandoned subsequent to that time.

### **References**

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## Appendix 7

### ENVIRONMENTAL ARCHAEOLOGY AND ANIMAL BONE REPORT

*By Gemma Martin and James Rackham*

#### Introduction

Excavations were conducted in 1999 by Archaeological Project Services along the route of a new water pipeline between Risegate and Gosberton being laid by Anglian Water. Excavations were conducted at two locations along the route, a trench along the side of the road in Gosberton Fen (Field 5) and near Westhorpe (Fields 15 and 16). The sites date to the Romano-British period. A total of sixty two bulk samples were collected (Table 1), a series of three column samples from Sections 2 (20 samples), 4 (17 samples) and 6 (18 samples), and two series of pollen samples from ditch profiles 420 and 434 (Table 1). The three column sample series and the two ditch pollen sample series were designed to establish the contemporary environment during the occupation of the site and the sequence of terrestrial, freshwater and marine episodes represented in the deposits in creek and ditch sections where the impact of a post-Roman marine transgression was visible. In one ditch section the incoming sea had undercut the banks of a Roman ditch with the result that the banks slipped and collapsed into the ditch. Unfortunately the project budget did not allow either the study of these column series or the pollen analysis of the ditch sequences. Of the sixty two bulk samples, fifty seven were washed and processed and assessed, but the budget only permitted the detailed analysis of twelve of the richest samples.

**Table 1.** Bulk and pollen samples collected for environmental study (an additional 55 samples were collected for palaeoenvironmental study from three sections in Field 5 but are not listed here, since no further work was undertaken on them)

Area	Field no.	Sample no.	Context		phase
			260	not processed (RWP2 99)	
			012	contents of pot - not processed (RWP1 99)	
Section 3	5	1	111	top fill of creek/ditch 109	3-4
Section 3	5	2		a fill of ditch/creek 109	3-4
Section 2	5	3	106	tertiary fill of creek 104	3-4
Section 22	5	4	232	fill of creek-taken from sondage	2-3
Section 22	5	5	239	fill of creek -taken from large sondage	2-3
Section 22	5	6	240	dark grey black silt with organics and charcoal-from sondage	2-3
Section 19	5	7	213	fill of roddon 208-taken from middle of roddon	3-4
Section 19	5	8	216	final silting fill of roddon 208	3-4
Field 16	16	20	252	fill of posthole 251	3-4
Field 16	16	21	253	fill of posthole 251	3-4
Field 16	16	22	254	fill of posthole 251	3-4
Field 16	16	23	256	fill of posthole 255	3-4
Field 16	16	24	257	fill of posthole 255	3-4
Field 16	16	25	300	fill of ditch 298	3-4
Field 16	16	26	301	fill of ditch 298	3-4
Field 16	16	27	302	fill of ditch 298	3-4
Field 16	16	28	294	fill of posthole 293 - not processed	3-4
Field 16	16	29	279	fill of large Roman ditch 280	3-4
Field 16	16	30	277	fill of large Roman ditch 280	3-4
Field 16	16	31	278	fill of large Roman ditch 280	3-4
Field 16	16	32	279	fill of large Roman ditch 280	3-4
Field 16	16	33	299	fill of ditch 298	3-4
Field 16	16	34	306	fill of posthole 305	3-4
Field 16	16	35	307	fill of posthole 305 - not processed	3-4
Field 16	16	36	311	fill of creek? 312	3-4
Field 16	16	37	314	fill of posthole 313 - not processed	3-4
Field 16	16	38	315	fill of posthole 313	3-4
Field 16	16	39	340	deposit within ditch 338, associated with smashed pot	3-4
Area	Field no.	Sample no.	Context		phase
Field 16		40	373	fill of ditch 344	
Field 16	16	41	339	fill of large Roman ditch 338	3-4
Field 16	16	42	391	fill of large Roman ditch 338	3-4



Area	Field no.	Sample no.	Context		phase
Field 16	16	43	335	fill of large Roman ditch 338	3-4
Field 16	16	44	337	fill of large Roman ditch 338, taken from base of 338	3-4
Field 16	16	45	330	fill of recut 328, of ditch 338	3-4
Field 16	16	46	331	fill of recut 328, of ditch 338, base of recut	3-4
Field 15	15	47	448	fill of ditch 434	undated
Field 15	15	48	449	fill of ditch 434	undated
Field 15	15	49	455	fill of ditch 434	undated
Field 15	15	50	450	fill of ditch 434	undated
1140/1000	16	51	414	fill of ditch 420	3-4
1140/1000	16	52	415	fill of ditch 420	3-4
1140/1000	16	53	416	fill of ditch 420	3-4
1140/1000	16	54	417	fill of ditch 420	3-4
1140/1000	16	55	418	fill of ditch 420	3-4
1140/1000	16	56	419	fill of ditch 420	3-4
1140/1000	16	57	423	pollen sample, natural clays *	natural
1140/1000	16	58	424	pollen sample, natural clays *	natural
1140/1000	16	59	419	pollen sample, lower ditch *	3-4
1140/1000	16	60	419	pollen sample, upper ditch *	3-4
1140/1000	16	61	418	pollen sample, upper ditch *	3-4
1140/1000	16	62	415	pollen sample, upper ditch *	3-4
1010/1005	15	63	456	pollen sample, upper ditch *	undated
1010/1005	15	64	448	pollen sample, middle ditch *	undated
1010/1005	15	65	449	pollen sample, lower fill *	undated
1010/1005	15	66	456	fill of 434	undated
1010/1005	15	67	435	fill of 433	3
1010/1005	15	68	436	fill of 433	3
1010/1005	15	69	444	fill of 433	3
1010/1005	15	70	437	fill of 433	3
1010/1005	15	71	438	fill of 433	3
1010/1005	15	72	439	natural deposit	natural
1010/1005	15	73	440	natural deposit	natural
1135/1000	16	74	379	primary fill of ditch 388	3-4
1135/1000	16	75	378	secondary fill of ditch 388	3-4
1135/1000	16	76	382	primary fill of ditch 370	3-4
1135/1000	16	77	381	secondary fill of ditch 370	3-4
1010/1005	15	78	436	lower more industrial material in 436	3

\* no pollen samples were processed owing to a lack of funding.

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet-sieve of 1mm mesh for the residue. Both the residues and flots were dried, and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured, and the volume and weight of the residues recorded.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammer scale and prill but none were found in any of the samples. The residue was then discarded. The flots of each sample were studied under a low power binocular microscope. For ease of sorting the flots were poured through a stack of sieves (>6.7mm, 2mm and 1mm). The presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. A selection of twelve of the samples with the richest charred plant assemblages was made and these have been fully identified and are reported below. The flots and finds from the sorted residue constitute the material archive of the samples.

The residues and flots that have been scanned and sorted are summarised in Tables 2 and 3, while the material identified from the twelve samples studied in greater detail is summarised in Table 4. Plant nomenclature follows Stace (1997).

## **Results**

### ***Field 5***

Eight samples were collected from the excavations in Field 5. These were recovered from ditch or creek fills dated to the 2-3rd and 3-4th century AD. Finds were relatively sparse with animal bone and a little fired earth occurring consistently, but pottery and marine shell being recovered from single samples only (Table 2). Environmental data was equally limited with only very small quantities of charcoal, charred cereal grain, chaff and weeds seeds being recovered and a few bones. Probable barley has been identified among the cereals, wheat chaff is present and occasional legume seeds. Cattle, sheep/goat, eel bones and cockle shells have been identified and suggest with the cereals probable food waste. In addition field vole, water vole, and small fishes are also present. Three sample column series were taken through the deposits in Sections 2, 4 and 6 to investigate the changing freshwater/marine environment in the creeks/ditches but no post-excavation work was undertaken on these.

These results permit no discussion concerning the archaeology in Field 5, except to indicate the presence of some human settlement activity in the area.

### ***Field 15***

Fourteen samples were collected from two ditches, 433 and 434, and two natural deposits in Field 15. Most of these deposits were assigned to the 3rd century AD (Table 2), one to the 3-4th century and five have been classified as undated. These two ditches produced a generally higher density of archaeological debris than any of the other sampled features except perhaps ditch 420 in Field 16. Pottery sherds were frequent in the samples, and animal bone and fired earth densities higher than elsewhere on the site. Several of the samples also contained a significant amount of fuel ash slag, while a copper alloy fibula head and a piece of glass were also recovered. The environmental assemblages were also generally richer. Finds of wheat, barley, possible pea, eel, other small fish, chicken eggshell, pig, cattle and sheep/goat clearly indicate an input for food waste, while some of the samples include a little charred chaff (see below).

### ***Field 16***

Thirty four samples from Field 16 were processed and assessed. Several of these were separate fills of the same feature (see Table 3). These have all been dated to the 3-4th century AD. Although this was the busiest area archaeologically in terms of features the results from the samples show that apart from ditch 420 the deposits are less rich than those from the adjacent Field 15 ditches. Pottery, animal bone and fired earth comprised the bulk of the finds from these samples with some marine shell, a little coal and a few small finds including bone pins, a small carved bone lion, fragments of glass and brick/tile, an iron stud and a worn cobble stone. A lot of fuel ash slag was present in the flots of context 373, and three samples produced concreted material rich in mineralised plant matter which may indicate the presence of cess.

**Table 2.** Archaeological finds from all the processed samples.

Phase	Sample	Feature	Context	sample vol. l.	sample wt. kg	Res vol. ml	pot no/wt	magnetic wt	bone wt g.	coal wt g.	fired earth wt g.	marine shell wt g	
<b>Field 5</b>													
2-3	4		232	8	7	20			6		+		
2-3	5		239	15	13	150			<1		1		
2-3	6		240	2	2	20			1				
3-4	1	109	111	18	19	10			22		+		
3-4	2	109		7	7	5			1	<1	+		
3-4	3	104	106	17	17	100	14/88		14	<1	+		
3-4	7	208	213	8	7	200						20	
3-4	8	208	216	5.5	6	<5							
<b>Field 15</b>													
natural	72	nat	439	15	16	50			2		<1		
natural	73	nat	440	9	10	50			23		<1		
3	67	433	435	12	16	5		<1	<1				
3	68	433	436	19	19	280	3/12	<1	11		24		
3	69	433	444	12.5	13	900	13/84	<1	34		10		fuel ash slag
3	70	433	437	19	16	900	2/10		83		158		fuel ash slag
3	71	433	438	11	14	120	2/53		2			1	
3	78	433	436	9	8.5	950	8/65	<1	7		7		Cu - fibula head, fuel ash slag
3-4	50	434	450	9	11.5	80	17/59		<1		15		
undated	47	434	448	19.5	18	300	15/175	<1	9		20		glassx1
undated	48	434	449	16	18	350	19/168		103		27		fuel ash slag
undated	49	434	465	8	6.5	-							fuel ash slag
undated	49	434	455	10	8	1200	17/197	1	23		112	+	high fired clayx5
undated	66	434	456	15	13	50	7/23	<1	3		4		
<b>Field 16</b>													
3-4	20	251	252	1.5	2	50			<1	<1		2	
3-4	21	251	253	1.5	2	200	2/1		<1	+	+	65	
3-4	22	251	254	1	1	20					+	2	
3-4	23	255	256	1.5	2	220	5/8		<1		2		
3-4	24	255	257	7	7	800	2/2	<1	<1				
3-4	25	298	300	3	4.5	20							
3-4	26	298	301	3.5	4	20				+			
3-4	27	298	302	5	8	250			234			3	
3-4	33	298	299	3	5	5			<1				
3-4	29	280	279	4	4.5	100	2/9	<1	2		5	6	
3-4	30	280	277	4.5	4.5	30	1/6		2			<1	
3-4	31	280	278	3	2.5	30			4			+	

Phase	Sample	Feature	Context	sample vol. l.	sample wt. kg	Res vol. ml	pot no/wt	magnetic wt	bone wt g.	coal wt g.	fired earth wt g.	marine shell wt g	
3-4	32	280	279	5	5	30							
3-4	34	305	306	3	4	30			5			1	
3-4	36	312	311	6.5	6.5	250			2		5	<1	
3-4	38	313	315	2	3.5	5			<1		<1		
?	40	344	373	7	7	400	2/1		8	<1	1		flot full of fuel ash slag, possible mineralised cess material-iron rich
3-4	39	338	340	5	5	150	26/34		15		3	14	
3-4	41	338	339	5	5	50	1/2		1		3	26	
3-4	42	338	391	5	5	25	3/1		1		5	11	
3-4	43	338	335	4	3.5	200	1/3		39		?		bone pin, possible mineralised cess material
3-4	44	338	337	4	3.5	10			<1				
3-4	45	338	330	4	4	50	1/<1		12		3		
3-4	46	338	331	3	3	80	3/11		3		2		
3-4	51	420	414	13	18.5	950	7/15		7		17		slate?
3-4	52	420	415	15	19.5	1500	11/60		9		52	16	brick/tile-10g
3-4	53	420	416	18	19.5	1000	10/44	<1	42		26	6	glass x 2; carved bone x 1; piece bone pin x 1
3-4	54	420	417	21	22	900	9/37		17		44	<1	
3-4	55	420	418	17	17	126			500				
3-4	56	420	419	17	18	10							
3-4	74	388	379	18	19	150	5/48		28				possible mineralised cess material
3-4	75	388	378	17	20	400	5/65		5		3		large worn cobble
3-4	76	370	382	17	19	200	2/2		7		25		
3-4	77	370	381	19	20	90	6/21	<1	22		2		Fe stud

+ present in small quantities in flot or residue and not weighed

**Table 3.** Risegate-West Pinchbeck – RWP2 99. Environmental finds from the processed samples (excepting those studied in detail)

Phase	Sample no.	Context no.	Samp vol. in L.	Feature	Flot vol. (ml)	Char-coal */<2*	Charr'd grain *	Chaff *	Charr'd seed *	Mineralised seed *	Fish bone wt. g.	Egg-shell wt g.	Snails *	Comment
<b>Field 5</b>														
2-3	4	232	8		3.5	0/3	1	1	1		1			Barley?, wheat glume, legumes, eel, field vole, sheep/goat
2-3	5	239	15		<1	0/1	-	-	1		1			Legume, stickleback, small fish
2-3	6	240	2		<1	0/1	1	-	-					cf barley, field vole
3-4	1	111	18	109	<1	0/0	-	-	1				1/1	<i>Cecilioides acicula</i> , water vole, cattle
3-4	2		7	109	<1	0/0	-	-	-					
3-4	3	106	17	104	1	2/3	-	-	-					water vole, sheep/goat, cattle
3-4	7	213	8	208	<1	0/1	-	-	-				1/1	cockle
3-4	8	216	5.5	208	<1	0/1	-	-	-					
<b>Field 15</b>														
natural	72	439	15	nat	<1	?	??	?	1		<1			<i>Carex</i> sp, Cyperaceae, small fish
natural	73	440	9	nat	1	1/2	1	1	1					Indet grain and glume base, Graminae, <i>Rumex</i> sp., cattle
3	67	435	12	433	<1	0/1	1	-						Indet grain
3	68	436	19	433	7.5	3/5	1	1	2		<1	<1		Wheat, barley, wheat glume bases, Graminae, <i>Rumex</i> sp., <i>Brassica?</i> sp., small legumes, eel, cf chicken eggshell, pig, water vole, bank vole
3	69	444	12.5	433	10	3/4	1	1	2		<1	<1		Wheat, barley, wheat glume bases, legumes, <i>Carex</i> sp., Graminae, eel, cf chicken eggshell, cattle, pig, sheep/goat
3	71	438	11	433	5.5	2/3	-	1	1		1			Barley rachis, <i>Rumex</i> sp., Graminae, legume, small-medium fish, mussel
3	78	436	9	433	15	2/5	1	1	2					Barley, wheat glume bases, Cyperaceae, cf <i>Scirpus</i> , <i>Carex</i> sp., legumes, Graminae, cf <i>Bromus</i> , ?pea, sheep/goat
3-4	74	379	18	433	1.5	2/3	2	-	1		1			Barley, small legumes, small & larger fish, cattle, sheep/goat, field vole, water vole
3-4	75	378	17	434	1.5	1/3	1	1	1		<1			Barley, wheat glume base, legumes, eel, vole
3-4	76	382	17	434	1	2/3	1	-	1		<1			Wheat/barley, oat?, Graminae, small legume, sheep/goat, small-medium fish
undated	47	448	19.5	434	25	3/5	2	1	2		<1			Barley (6 row), glume base, <i>Rumex</i> sp., <i>Plantago</i> sp., Cyperaceae, legume, Chenopodiaceae, small fish, stickleback, sheep/goat, vole
undated	49	465	8	434	2.5	1/5	1	-	2		<1		1/1	Cf barley, indet grain, <i>Galium</i> sp., Cyperaceae, Graminae, cf <i>Bromus</i> , Chenopodiaceae, Compositae
undated	50	450	9	434	1.5	1/3	1	1	2		<1			Wheat?, wheat glume bases, Graminae, legume (>2mm), cf <i>Carex</i> sp.
undated	66	456	15	434	3	2/4	1	1	1					Wheat, wheat glume base, Graminae, legumes
<b>Field 16</b>														
3-4	20	252	1.5	251	<1	0/1	-	-	-	-				oyster
3-4	21	253	1.5	251	<1	0/1	1	-	1					Cyperaceae, indet grain, oyster
3-4	22	254	1	251	<1	0/1			1					Indet Graminae, oyster

Phase	Sample no.	Context no.	Samp vol. in L.	Feature	Flot vol. (ml)	Char-coal */<2*	Charr'd grain *	Chaff *	Charr'd seed *	Mineralised seed *	Fish bone wt. g.	Egg-shell wt g.	Snails *	Comment
3-4	23	256	1.5	255	<1	0/1	1	1	1					Glume wheat chaff
3-4	24	257	7	255	<1	0/1	1	-	1					Barley?
3-4	25	300	3	298	<1	0/1	-	-	-				1/1	<i>C. acicula</i>
3-4	26	301	3.5	298	<1	0/1	-	-	-				1/1	<i>C. acicula</i>
3-4	29	279	4	280	3.5	2/4	2	2	2		<1	<1	1/1	Wheat, oat?, glume bases, Graminae, cf <i>Scirpus</i> , legume, <i>C. acicula</i> , <i>Hydrobia ulva</i> , cf chicken eggshell, oyster, mussel
3-4	31	278	3	280	1	1/2	1	2	1				2/1	Grain frags, glume bases, <i>H. ulva</i> , <i>Hydrobia ventrosa</i>
3-4	32	279	5	280	<1	0/1	1	1	1					Wheat glume base, <i>Stellaria</i>
3-4	33	299	3	298	<1	0/1	-	-	-				1/1	<i>H. ulva</i> , <i>H. ventrosa</i>
3-4	34	306	3	305	<1	0/1	1	1	1					Glume base, legume, oyster, shrew
3-4	38	315	2	313	<1	0/1	1	1	1					Indet grain and chaff, small legume
3-4	41	339	5	338	7.5	2/5	1	1	2		<1			Wheat, oat?, glume bases, legume, <i>Scirpus</i> , <i>Rumex</i> , <i>Anthemis cotula</i> , Graminae, <i>H. ulva</i> , oyster, field vole, frog/toad, stickleback
3-4	42	391	5	338	3.5	3/4	1	1	2			<1	2/1	Wheat, glume bases, legume, <i>Rumex</i> , <i>Scirpus</i> , small legume, Cyperaceae, <i>Anthemis cotula</i> , <i>H. ulva</i> , <i>H. ventrosa</i> , <i>Pupilla muscorum</i> , <i>Vallonia excentrica</i> , cf chicken eggshell, oyster, cockle, mussel, house mouse
3-4	44	337	4	338	<1	0/1	-	1	1		<1			Glume base, Graminae, stickleback
3-4	45	330	4	338	3	2/3	1	1	2					Wheat, oat, glume bases, <i>Rumex</i> , <i>Carex</i> , legume, ? <i>Scirpus</i> sp.
3-4	46	331	3	338	1.5	2/3	1	1	1				1/1	Wheat, oat?, wheat chaff, legume, <i>Polygonum</i> sp., Cyperaceae, ? <i>Scirpus</i> , vetch/pea
3-4	51	414	13	420	10	3/5	1	1	2		<1		1/1	<i>C. acicula</i> , wheat, wheat glume bases, <i>Polygonum</i> sp., <i>Rumex</i> sp., legumes, Graminae, <i>Brassica</i> sp., frog/toad, bird
3-4	52	415	15	420	10	3/5	1	1	2		<1		1/1	<i>C. acicula</i> , wheat, barley, wheat glume bases, <i>A. cotula</i> , Compositae, legumes, large legume, Cyperaceae, Graminae, small fish, oyster, mussel, sheep/goat, rodent, bird
3-4	55	418	17	420	1	0/2	1	1	1		<1		1/1	Wheat, barley, wheat glume base, <i>Stellaria</i> sp., small legumes, <i>P. muscorum</i> , <i>H. ulva</i> , small fish, stickleback, cattle, frog/toad
3-4	56	419	17	420	1	1/2	1	1	-		<1			Barley?, wheat glume base and spikelet base, stickleback

\*=abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+; \*/<2\*=abundance/abundance <2mm

**Table 4:** Risegate-West Pinchbeck – RWP2 99. Environmental finds from the processed samples selected for detailed botanical analysis

Field No.	Phase	Sample no.	Context no.	Samp vol. in L.	Feature	Flot vol. (ml)	Char-coal */<2*	Charr'd grain *	Chaff *	Charr'd seed *	Mineralised seed *	Fish bone wt. g.	Egg-shell wt g.	Snails *	Comment
15	3 <sup>rd</sup> -4 <sup>th</sup> C AD	70	437	19	Pit/ditch fill? of feature [433]	20	3/5	5	4	4		<1			Wheat, barley, oat, cereal/grass, wheat & barley chaff, hairy buttercup, vetch/pea, vetch/vetchling, small leguminous seeds, buttercup type, goosefoot, goosefoot family, dock, mayweed, daisy family, crested dog's-tail, grasses, brome?, club-rush, sedges, small-medium fish (some burnt), cattle, small bird
15	Undated	48	449	16	Fill of ditch [434]	7.5	3/5	5	4	5	1	<1			Wheat, barley, oat/grass, wheat & barley chaff, vetch/pea, vetch/vetchling, medick/trefoil, small leguminous seed, meadow/creeping/ bulbous creeping buttercup, cleavers, knotgrass, dock, ribwort plantain, mayweed, daisy family, fathen, goosefoot, orache, stitchwort, sedge, grasses; mineralised field gromwell; charred morphous organic material, small fish, stickle-back, cattle, sheep/goat, small bird
15	Undated	49	455	10	Fill of ditch [434]	35	5/5	2	2	4	1	<1		1/1	Wheat, barley, oat?, wheat & barley chaff, vetch/vetchling, medick/trefoil, small leguminous seeds, dock, ribwort plantain, goosefoot, orache, goosefoot family, sedge, primula, grasses; mineralised spike-rush, eel (squashed vert), sheep/goat
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	27	302	5	Fill of ditch [298]	3	2/4	3	2	2		<1		1/1	Wheat, barley?, wheat chaff, vetch/vetchling, medick/trefoil, goosefoot family, cleavers?, club-rush, sedge, large grass, oyster, cattle, <i>C. acicula</i>
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	30	277	4.5	Fill of ditch [280]	3	2/5	3	4	3		<1	<1	2/1	Wheat, barley?, wheat chaff, vetch/vetchling, cleavers, knotgrass, dock, chickweed, stinking chamomile, daisy family, goosefoot, goosefoot family, medick/trefoil, small leguminous seed, sedge family, grasses, <i>Hydrobia ulva</i> , <i>Hydrobia ventrosa</i> , cf chicken eggshell, cockle, oyster, mussel
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	39	340	5	Fill of ditch [338]	5	2/5	3	3	3	1	9	<1	2/1	Wheat, barley?, wheat chaff, vetch/vetchling, chickweed?, medick/trefoil, small leguminous seeds, orache, goosefoot family, dock, stinking chamomile, mayweed, sedges, club-rush?, oat/brome?, grasses, daisy family; mineralised field gromwell, oyster, <i>H. ulva</i> , <i>H. ventrosa</i> , medium fish, cf chicken eggshell, oyster, mussel, sheep/goat, bird

Field No.	Phase	Sample no.	Context no.	Samp vol. in L.	Feature	Flot vol. (ml)	Char-coal */<2*	Charr'd grain *	Chaff *	Charr'd seed *	Mineralised seed *	Fish bone wt. g.	Egg-shell wt g.	Snails *	Comment
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	43	335	4	Fill of ditch [338] = [280]	6	3/5	3	3	5	2	<1			Wheat, barley, oat, wheat chaff, vetch/pea, vetch/vetchling, cabbage/mustard type?, medick/trefoil, small leguminous seeds, dock, black bindweed, cleavers, orache, stinking chamomile, mayweed, daisy family, club-rush, crested-dog's tail?, grasses, orache?, goosefoot family, ribwort plantain?, white-beam?; mineralised field gromwell, goosefoot family, cattle
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	36	311	6.5	Fill of creek? [312] = [393]	2	2/3	2	3	3			<1	2/1	Wheat, barley?, oat/grass, wheat chaff, stinking chamomile, dock, knotgrass, cleavers, vetch/vetchling, medick/trefoil, orache, goosefoot family, club-rush, sedge, grass, <i>H. ulva</i> , <i>H. ventrosa</i> , <i>Vallonia excentrica</i> , cf chicken eggshell, cockle, tellen, oyster, field vole
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	40	373	7	Fill of ditch [344]	22.5	1/3	2	2	3				1/1	Wheat, barley?, wheat chaff, ribwort plantain, dock, medick/trefoil, goosefoot, orache, club-rush, vetch/vetchling, stinking chamomile, sea mayweed, grasses, pig, frog/toad, stickleback
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	53	416	18	Fill of ditch [420]	17.5	3/5	5	5	5	2	<1	<1	3/2	Wheat, barley, oat, wheat chaff, vetch/pea, vetch/vetchling, medick/trefoil, small leguminous seed, cabbage/mustard type, cleavers, knotgrass, dock, orache, goosefoot family, carrot family, stinking chamomile, mayweed, daisy family, crested dog's-tail?, grasses, sea club-rush?, club-rush, sedges; mineralised field gromwell, <i>C. acicula</i> , <i>Vertigo pygmaea</i> , <i>H. ulva</i> (some burnt), <i>Bithynia tentaculata</i> (operculum), small fish, cf chicken & ? goose eggshell, oyster, mussel, cockle, cattle, sheep/goat, rodent, frog/toad
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	54	417	21	Fill of ditch [420]	10	3/5	3	4	5	2	1	<1	2/1	Wheat, barley, wheat chaff, vetch/pea, vetch/vetchling, small leguminous seeds, dock, knotgrass, cleavers, club-rush?, stinking chamomile, mayweed?, daisy family, dock?, brome?, grasses, cabbage/mustard type?, buttercup type, sedge, mallow, goosefoot, orache, medick/trefoil, chickweed?, charred hawthorne/blackthorn thorns, amorphous organic material; mineralised field gromwell, stinging nettle, <i>C. acicula</i> , <i>H. ulva</i> (some burnt), eel, small and medium fish, cf chicken and ?goose eggshell, mussel, cattle, pig, sheep/goat, frog/toad, chicken
16	3 <sup>rd</sup> -4 <sup>th</sup> C AD	77	381	19	Fill of ditch [370]	7.5	2/5	4	2	3	1	1			Wheat, wheat chaff, dock, bedstraw, club-rush, vetch/pea, vetch/vetchling, medick/trefoil, grasses; mineralised field gromwell, eel, small fish, stickleback, cattle, frog/toad, house mouse, bird

\*=abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+; \*/<2\*=abundance/abundance <2mm



## **Charred plant remains**

### *Methodology*

A small sample group consisting of twelve flots only were selected for full archaeobotanical analysis. All the processed samples were briefly scanned to assess their palaeoeconomic potential and the twelve flots were then chiefly chosen on the basis of the richness of the charred botanical assemblages. This scan demonstrated that the majority of the flots contain very small botanical assemblages, which alone provide limited economic or ecological information. The twelve rich flots are chiefly derived from features identified in Field 16 (RWP2 99) and phased to the 3-4th century AD but include three samples from ditches within Field 15 which were located to the west of the principal focus of features. One of these, from ditch 433, is dated to the 3-4th century, and the other two were taken from deposits in ditch 434. The findings of the initial assessment of the entire sample group are summarised in Table 3. It should be noted that the nature of this assessment was incomplete and the species list is not exhaustive, and no efforts were made to identify the seed remains to species level.

The botanical remains from the twelve samples selected for detailed post-excavation analysis were examined using a binocular microscope with up to 40x magnification. For ease of sorting, the flots were poured through a stack of sieves (6.7mm, 2mm and 1mm). Aid in identifications comprised of modern reference material together with reference literature Cappers *et. al.* (2006) and Beijerinck (1947), whilst cereal grain and chaff identification criteria follows Van der Veen (1992). Nomenclature and taxonomy follows Stace (1997). Absolute counts were made of the individual charred components of the flots with only the embryo ends of the cereals and grasses being scored. Absolute counts were also made of the cereal fragments >2 mm in order to gage the potential size of the preserved assemblage.

Where cereal components and weed seeds were present in sufficient quantity simple ratios were applied, (following Van der Veen, 1992 Chapter 7) in order to characterise the assemblages. The applied ratios include the ratios of weed seed to cereal grains, glume wheat chaff to glume wheat grains (spelt and emmer wheat component counts combined), free-threshing chaff to free-threshing grains (in this instance barley), which together aid in identifying crop processing activities.

### *Results*

The overall state of preservation of the remains is variable with some cereal grains and weed seeds, particularly the majority of the legumes, being very abraded and distorted preventing identification beyond genus, whilst the presence of fragile chaff components such as awns and free-threshing rachis of barley indicates instances of good preservation. Identifying wheat grains to species proved to be particularly difficult due to the poor state of preservation of the remains and those grains displaying similar morphological characteristics to spelt wheat were cautiously identified as spelt type wheat and similarly those akin to emmer wheat grains were identified as emmer type wheat. The cereal grains sharing morphological characteristics of both spelt and emmer wheat have been assigned to emmer/spelt wheat.

The majority of the chaff assemblages consist of glume bases together with small numbers of rachis and spikelet bases of a glume wheat species, such as emmer or spelt, and positive identifications to species were again generally not possible due to the fragmented state of the remains.

The results of the detailed analyses species identified are presented in Table 4 and Figures 1,2 and 3.

**Table 4.** Risegate-West Pinchbeck – RWP2 99. Botanical remains from the selected processed samples

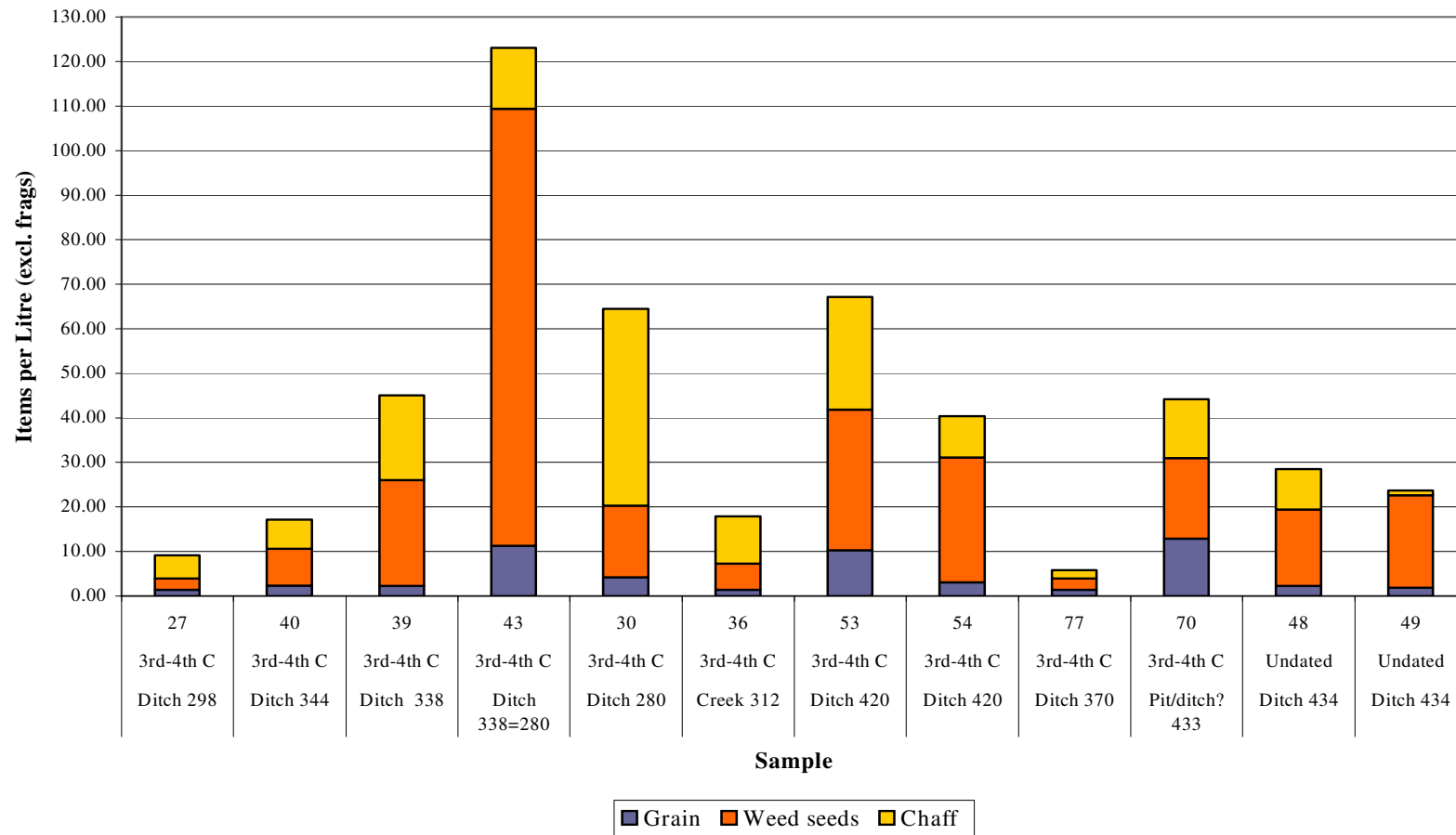
	Phase	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	3rd-4th C	Undated	Undated
	<b>Sample</b>	27	40	39	43	30	36	53	54	77	70	48	49
	<b>Context</b>	302	373	340	335	277	311	416	417	381	437	449	445
	<b>Sample vol. (L)</b>	5	7	5	4	4.5	6.5	18	21	19	19	16	10
	<b>Flot vol. (ml)</b>	3	22.5	5	6	3	2	17.5	10	7.5	20	7.5	35
<b>Cereal</b>	Common Name												
<i>Triticum spelta</i> L.	spelt wheat		5				2						1
<i>T. cf. spelta</i> L.	spelt type wheat			4	7	3	3	29	14	4	9	7	
<i>T. dicoccum/spelta</i>	emmer/spelt wheat			2	10			17	6		4		
<i>T. cf. dicoccum</i> (Shrank) Schübl.	?emmer	1			1			8	3				
<i>T. aestivum</i> sl.	bread wheat						1						
<i>T. cf. aestivum</i> sl.	bread wheat type				2								3
<i>Triticum</i> sp(p).	wheat	1	3	2	20	10		108	21	13	56	10	1
<i>Hordeum vulgare</i> L.	six-rowed barley (hulled)										4		
<i>Hordeum</i> sp(p).	barley (hulled)								1		46	7	
<i>Hordeum</i> sp(p).	barley				4	1		5	9		44		5
cf <i>Hordeum</i> sp(p).	barley?	1	2	1		2	3	6			7		2
<i>Cerealia</i> indet.	indet. grain	4	3	2	1	3		11	10	8	57	9	9
<i>Cerealia</i> /Poaceae	cereal/grass		3								17		
detached coleoptiles						3	1		1				1
indet. frags >2mm		4	6	19	27	26	12	125	33	19	57	29	2
indet. frags <2mm*		***		***	**	***	**	*****	***	****	***	****	
<b>Chaff</b>													
Rachis segment <i>Triticum</i> cf. <i>spelta</i> L.			1		2	9	3	5		1	6	3	
Glume bases <i>T. spelta</i> L.			7				18						3
Glume bases <i>T. cf. spelta</i> L.				8	21	36		63	44	5	77	35	
Spikelet bases <i>T. cf. spelta</i> L.				1		2		3	1		11		
Glume bases <i>T. dicoccum</i> (Shrank.) Schübl.		1									18		
Glume bases <i>T. cf. dicoccum</i> (Shrank.) Schübl.						10		5					
Glume bases <i>Triticum</i> spp.	glume wheat	20	38	82	28	119	48	354	130	28	65	83	5
Spikelet base <i>Triticum</i> sp(p).	glume wheat	1		4	4	15		25	16	1	63	3	1
Rachis segment <i>Triticum</i> sp(p).		4				8			4				
Free-threshing rachis <i>Triticum</i> sp(p).													3
Rachis segments <i>Hordeum vulgare</i>	six-rowed barley												15
Rachis segments <i>Hordeum</i> sp(p).	lax-eared barley										3		
Rachis segments <i>Hordeum</i> sp(p).											3	4	1
first rachis segments (cereal)											4		
Awns fragments (wheat?)*		*					*						
Indet.											2		1
chaff frags.*		*		**	*	**	*	**	*		*	***	*

	Sample	27	40	39	43	30	36	53	54	77	70	48	49
	Context	302	373	340	335	277	311	416	417	381	437	449	445
<b>Weeds</b>													
<i>Ranunculus</i> Subgenus <i>Ranunculus</i>	meadow/creeping/bulbous buttercup											1	
<i>R. sardous</i> Crantz.	hairy buttercup										3		
<i>Ranunculus</i> sp.	buttercup type								1		2		
<i>Urtica dioica</i> L.	common nettle								1 (m)				
<i>Chenopodium album</i> L.	fat-hen											11	
<i>Chenopodium</i> sp(p).	goosefoot		1			3			13		1	7	2
<i>Atriplex</i> sp(p).	orache		1	5	30		1	24	36			7	10
cf. <i>Atriplex</i> sp(p).	?orache				15			15					
Chenopodiaceae	goosefoot family	1		4	22 (+2m)	5	1	18	47		12		9
<i>Stellaria</i> cf. <i>media</i> (L.) Vill.	common chickweed?			2		1			1				
<i>Stellaria</i> sp(p).	stitchworts											1	
<i>Polygonum aviculare</i> agg.	knotgrass					1	1	5	1			2	
<i>Fallopia convolvulus</i> (L.) Á. Löve	black bindweed				1								
<i>Rumex</i> sp(p.)	docks		1	3	3	2	3	9	5	3	1	14	1
cf. <i>Rumex</i> sp.	dock?								2				
<i>Malva</i> sp(p).	mallow								1				
Brassicaceae	cabbage/mustard etc.				4			5.5	1				
Primulaceae	primrose family (seeds)												17
Primulaceae	primrose family (capsules)												2
cf. <i>Sorbus</i> sp.	whitebeam?				2								
<i>Vicia/Lathyrus/Pisum</i> sp(p). >4mm	vetches/pea			0.5	2.5			4	2.5	1.5	1	3	
<i>Vicia/Lathyrus/Pisum</i> sp(p). 2-4mm	vetches/pea		3	2	13			11.5	12			16	2.5
<i>Vicia/Lathyrus/Pisum</i> sp(p). <2mm		3.5	2		4		3		18	7	12	21	
Trifolieae	melilot/medick/trefoil	2	20	16	55	3	10	136	15	18		35	7
Fabaceae indet.	small indet. leguminous seeds			18	107	12		73	144		8	21	5
Apiaceae	carrot family							1					
<i>Lithospermum arvense</i> L.	field gromwell			1 (m)	17 (m)			15 (m)	24 (m)	3 (m)		1 (m)	
<i>Plantago lanceolata</i> L.	ribwort plantain		1		1							1	1
<i>Galium aparine</i> L.	cleavers				3	1	1	18				2	
<i>Galium</i> cf. <i>aparine</i> L.	cleavers?	1											
<i>Galium</i> sp.	bedstraw								3	1			
<i>Anthemis cotula</i> L.	stinking chamomile		3	3	37	1	3	5	10				
<i>Tripleurospermum maritimum</i> (L.) W.D.J. Koch.	sea mayweed		4										
<i>Tripleurospermum</i> sp.	mayweed			2	4			1			3	2	
Asteraceae indet.	indet. daisy family			1	7	1		3	11		3	1	
<i>Eleocharis</i> sp.	spike-rush												1 (m)
cf. <i>Bolboschoenus maritimus</i>	sea club-rush?							13					
<i>Schoenoplectus</i> spp.	club-rush	1	6		10		1	91		2	16		
cf. <i>Schoenoplectus</i> spp.	club-rush?	1		10					19				
<i>Carex</i> sp.	sedge	2		1			1	1					
<i>Carex</i> spp.	sedges							1	3		37	6	63
Cyperaceae	sedge family			1		7					4		17

	Sample	27	40	39	43	30	36	53	54	77	70	48	49
	<b>Context</b>	302	373	340	335	277	311	416	417	381	437	449	445
cf. <i>Cynosurus cristatus</i> L.	crested dog's-tail?				5			2			5		
<i>Avena</i> sp(p).	oat				2			3			11		
<i>Avena</i> /Poaceae sp(p).	oat/grass			1			3						4
cf. <i>Avena</i> sp.	oat?				2								1
cf. <i>Bromus</i> sp.	brome?								2		1		
Poaceae indet.	grasses	1	5				3				54	18	50
Poaceae <2mm	small indet. grasses		3	28	6	9		67	15	7	18	22	20
Indet. seed(s)			8	21	38	26	7	48	201	8	152	79	
fragments*			**	**	****	*	**	*****	***	**	***	***	*
<b>Other</b>													
charred amorphous organic material								+	+			+	
large culm nodes (incl. frags.)**					+		+						
small 'grass-type' culm bases and internodes**												+	
other charred herbaceous material**											++	++	++
charred <i>Prunus spinosa</i> L/Crataegus monogyna Jacq.**	hawthorn/blackthorn thorns								+				
<b>Total (charred items)</b>		45.5	120	224.5	473.5	293	117	1194	823.5	107.5	840	457	236.5
<b>Total (mineralised items)</b>		0	0	1	19	0	0	15	25	3	0	1	1
grain (excluding fragments & detached coleoptiles)		7	16	11	45	19	9	184	64	25	244	36	18
Weeds		12.5	58	119.5	392.5	72	38	570	588.5	47.5	344	275	208.5
Chaff		26	46	95	55	199	69	455	195	38	252	147	11
Wheat grains		2	8	8	40	13	6	162	44	17	69	20	2
Barley grains		1	2	1	4	3	3	11	10	0	101	7	7
oat grains		0	0	0	4	0	0	3	0	0	11	4	1
free-threshing rachis internodes:grains <i>Hordeum</i> sp(p).		-	-	-	-	-	-	-	-	-	0.06	-	-
Glume wheat glume bases: grains <i>Triticum spelta</i> & <i>T. dicoccum</i>		23.00	9.00	15.83	3.17	65.67	13.20	8.85	9.13	8.75	23.69	17.71	-
weed: cereal grain (excluding fragments)		1.79	3.63	10.86	8.72	3.79	4.22	3.10	9.20	1.90	1.41	7.64	11.58
<b>Total quantified items per litre (excluding fragments)</b>		9.10	17.14	45.10	123.13	65.11	18.00	67.17	40.40	5.82	44.21	28.63	23.75

\*Abundance \* = 1-10, \*\* = 11-50, \*\*\* = 51-150, \*\*\*\* - 151-250, \*\*\*\*\* = >250; \*\*Frequency + = present, ++ = common, +++ = abundant; (m) = mineralised.

**Proportions of the major botanical constituents from the twelve samples taken from Fields 15 & 16**



**Figure 1.** Proportion and densities of cereal grain, cereal chaff and weed seeds in each sample.

### Proportions of the cereals from the twelve samples from Fields 15 &16

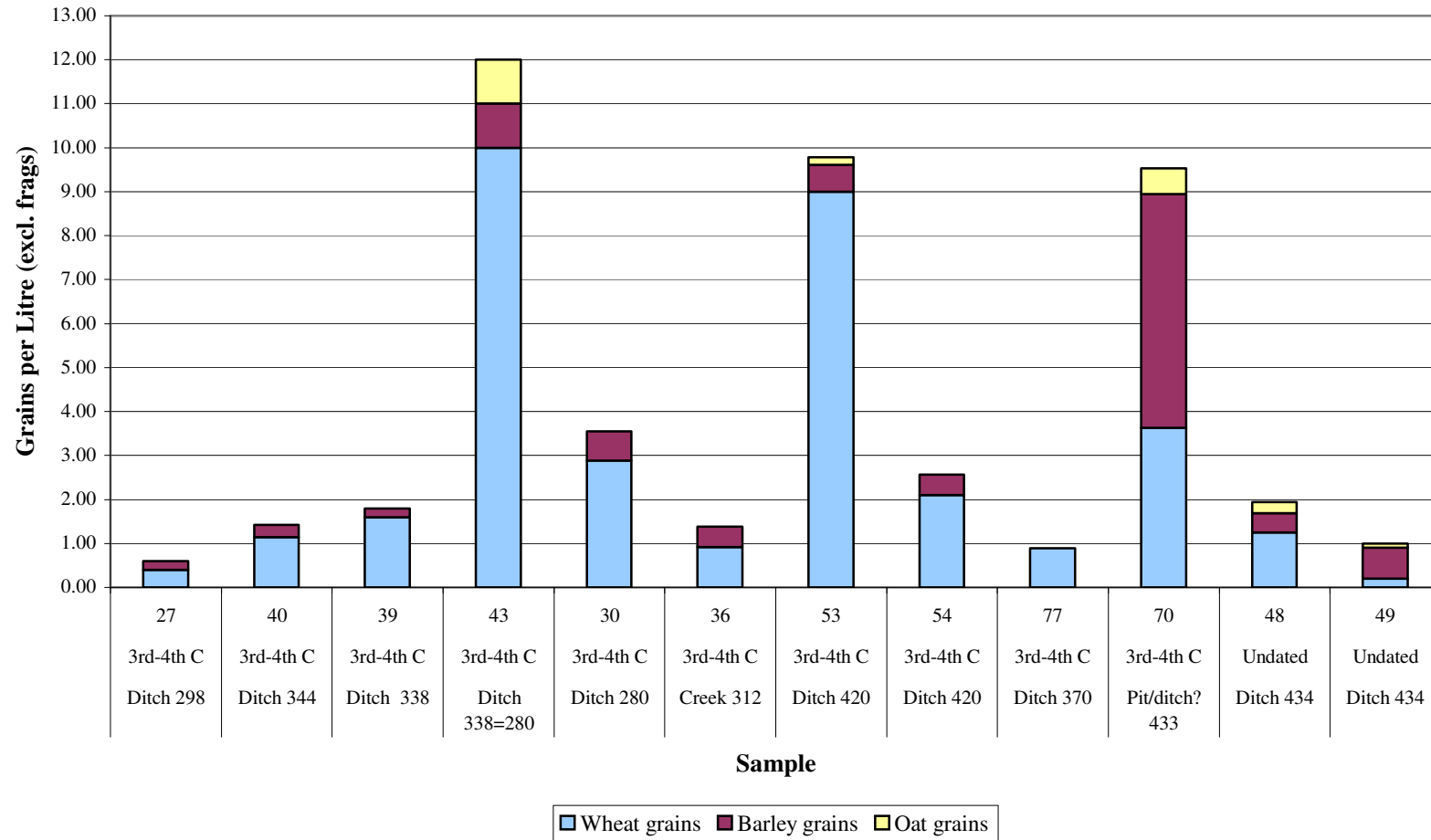


Figure 2. Proportion and densities of the specifically identified cereal genera in the samples

### Proportions of identified weed species from the twelve samples from Fields 15 & 16

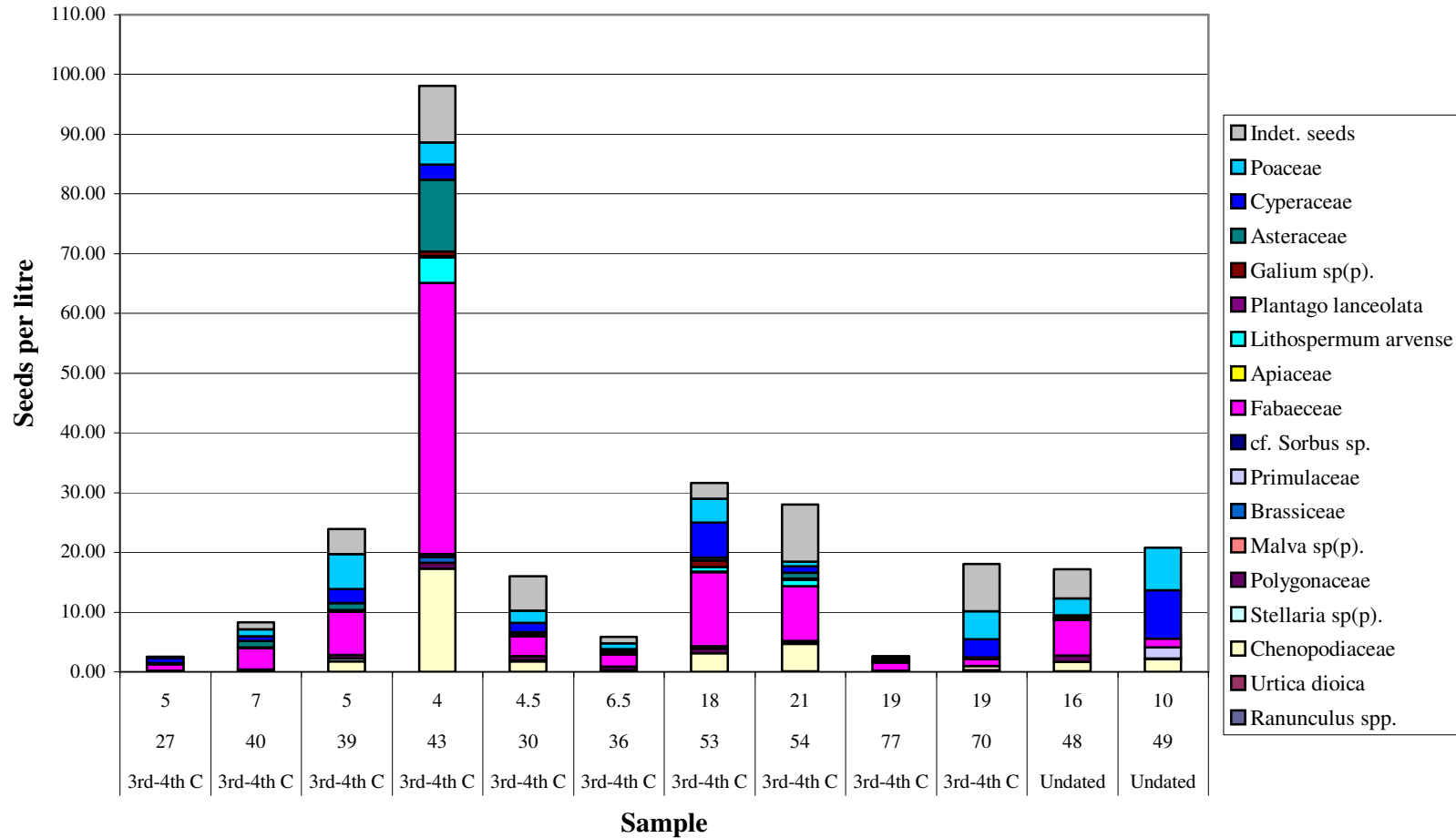


Figure 3. Proportions and densities of the different weed species categories in each sample

Small numbers of uncharred weed seeds including goosefoots/orches, nightshade family, birch and sedge are present in many of the flots along with small amounts of root material. These remains have been treated as intrusive.

#### *Field 15*

The two sampled ditches [433] and [434] within Field 15, are situated to the west of Field 16 and have been considered to be located away from the main focus for activity. The three samples (samples 70, 48 and 49) are the only samples from the sub-sample group to yield barley chaff and in addition, the greatest quantity of barley grain is associated with the fill of ditch [433] (sample 70). The densities of charred (and mineralised) botanical remains range between 23.75 and 44.21 items per litre.

The two undated fills 445 and 449 of ditch [434] contain similar densities of botanical remains (23.75 and 28.63 respectively) but the composition of the assemblages, particularly the weed assemblages, seems to be slightly different (Fig. 3). The small cereal assemblages from both of the fills include spelt type wheat, with single grain only positively identified as spelt, together with several bread type wheat grains and a small numbers of barley grains, several of which are hulled. Fill 449 contains a richer chaff assemblage than that of fill 445 (Fig. 1) and is dominated by glume wheat chaff, with small quantities of barley rachis most of which are rachis of six-rowed barley.

The ratios of the major crop constituents indicate crop-processing residues within fill 449, due to the greater ratio of weed seeds to cereal grains as well as glume bases to glume wheat grains. The ratio of weed seeds to cereal grains is also greater from fill 445 although the cereal and chaff assemblages from this fill are quite small (Fig. 1). The suites of weed species identified in both fills include species commonly associated with disturbed or cultivated ground such as goosefoots/orches and docks. Small leguminous seeds including clover-type species such as melilot/medick/trefoil and other small vetches/vetchlings are also frequent as well as grasses including small indeterminate grasses and possible oat and brome. These species are commonly associated with habitats such as grassy areas and also arable fields. Charred nutlets of sedges and other Cyperaceae which are more indicative of damp or wet areas, appear to be concentrated to fill 445 (38% of the weed seed assemblage - Fig. 3) and since the quantities of cereal residues are comparatively small compared to those of fill 449, these remains may be derived from domestic activities rather than crop-processing. Leguminous seeds including vetch/vetchling and melilot/medick/trifolium are also more frequent in the fill from 445 (36% of the weed assemblage) whilst grasses only form a relatively minor component (16%) of the weed assemblage from fill 449.

The single sample from pit/ditch feature [433] is rather richer than those from the ditch [434] and the composition of the botanical assemblage is also notably different. The cereal assemblage is dominated by barley including hulled six-rowed as demonstrated by the presence of lateral (or 'twisted') grains. Several of the barley rachis also appears to be a lax-eared variety of barley. The majority of the wheat grains could not be identified to species although a small number of spelt-type wheat and emmer/spelt grains have been recorded as well as the positive identification of spelt and emmer chaff. The remains of glume wheat bases greatly outnumber those of glume wheat grains (ratio of 23.69:1) but most of the wheat grains could not be identified to species which does skew the result of the ratio.

The weed assemblage includes a large number of weed seeds which unfortunately could not be identified even to genus and generally are small undiagnostic seeds. The identifiable seeds are primarily species of Poaceae and Cyperaceae with specific identifications including oat, possible brome and crested dog's-tail, club-rush and sedges.

#### *Field 16*

The nine archaeobotanically productive samples are all from ditches and a possible creek within Field 16. Three samples are from ditches [338] = [280] (samples 39, 43 and 30), two from ditch [420] (samples 53 and 54) and four from disparate ditches [298], [344] and [370] (samples 27, 40 and 70 respectively). The remaining sample 36 is from feature [312], which has been identified as a possible creek.

The densities of botanical remains are variable but the general composition of the assemblages are comparable and are characterised by small cereal assemblages that are dominated by wheat (Figs 1 and 2). The identifiable wheat are primarily glume wheat species with specific identifications including spelt and traces of emmer-type wheat in both the grain and chaff assemblages. Several grains sharing similar morphological characteristics to bread wheat have also been recorded but with no corresponding free-threshing wheat chaff to confirm these identifications. The state of preservation of the small numbers of barley grains prevented identification to



species or to confirm if the grains were of a hulled variety in most instances. In addition small quantities of oat or possible oat/grass are notably present in the fills of ditches [338]=[280] and [420].

The botanical assemblages are generally dominated by weed seeds, although samples from ditches [298] and [280], as well as creek [312] are dominated by chaff. The assemblages appear to consistently include crop-processing residues from processing glume wheats and the ratios of glume wheat chaff to grains indicates that the residues are from the later stages of crop processing.

In terms of the spatial distribution of these archaeobotanical remains, the greatest densities of remains are associated with the fills of ditches [338]=[280] and [420], which all contain at least forty charred/mineralised items per litre. The fills of the remaining ditches and creek feature studied in detail all contain less than twenty per litre (Fig. 1), although the other samples processed had very much lower densities of identifiable plant material.

The weed seed assemblages all yielded relatively high concentrations of Fabaceae, which principally consists of small leguminous seeds including clover-type species melilot/medick/trefoil, as well as small numbers of vetches/vetchlings. Species of Poaceae (mostly small indeterminate grasses) and Cyperaceae, notably nutlets of club-rush that are too abraded to identify to species confidently, also occur frequently in each of the samples. Field gromwell and stinking chamomile are particularly associated with ditches [338]=[280] and [420] and are commonly associated with arable land and several thorns identified as hawthorn/blackthorn are also present in ditch [420].

### ***Discussion***

The cereal assemblages from the features within Field 15 include the glume wheats spelt and emmer, hulled six-rowed barley and a trace of bread type wheat. These species are typical of the Roman period (Greig 1991) and we can assume that the unphased fills of ditch [434] are also Roman in date and are probably contemporary with the other dated feature fills in Fields 15 and 16. These samples from Field 15 are however notably different to those from Field 16 due to a greater frequency of barley and concentrations of large-seeded grass species and sedges as well as frequency of charred herbaceous root and stem material. This evidence may point to slightly different activities producing these assemblages which are taking place away from the main focus of the excavated features identified in Field 16.

Differential activities are further suggested within the fills of ditch [434] in Field 15 itself. The composition of the weed seed assemblage from fill 445 of ditch [434] differs from fill 449 in that 72% of the weed seed assemblage from the former fill consists of grasses and Cyperaceae (sedge family). This may indicate the exploitation of damp or rough grassland perhaps for tinder or for craft purposes such as basketry or other domestic uses such as bedding, rather than being directly associated with crop processing activities. Conversely the botanical assemblage from fill 449 from the same ditch appears to contain more cereal residues, and it is more likely that this assemblage is at least in part derived from crop processing activities, which principally appear to have involved processing glume wheats and possibly barley.

The atypical cereal assemblage from the fill of ditch [433] in Field 15, which contains predominantly barley with a corresponding concentration of barley chaff, points to crop residues from the later stages of processing barley. Although only small numbers of wheat grains are present, the presence of relatively large numbers of glume wheat bases suggests that wheat was being processed as well. In terms of the accompanying weed assemblage, large-seeded grasses and sedges are the most frequent with Fabaceae forming a relatively minor component of the assemblage compared to weed assemblages from the other samples. If the remains of sedges are directly associated with the crop it suggests that the land under cultivation was damp or wet, although the remains of sedges may have been associated with other unrelated activities which may have been domestic in nature.

The botanical assemblages from Field 16 point to the processing of spelt, and perhaps emmer, wheat in the vicinity of ditches [338]=[280] and [420], with the fine sieve residues and contaminants similar in size to the prime grain (for example field gromwell, dock and cleavers) being burnt and ultimately discarded into the ditches. The sample taken from fill 340 associated with a pottery vessel within ditch [338] yielded a small and very similar charred botanical assemblage to the other samples from the same feature. It is uncertain as to whether the assemblage is directly associated with the vessel or if it derived from the fill in which the vessel was interred. The remains of hawthorn/blackthorn identified in ditch [420] imply that these species may have been growing locally and were exploited by the inhabitants, perhaps forming the hedgerow along the banks of the ditch.

It is evident from the composition of the weed assemblages, particularly from ditches [338]=[280] and [420], that the assemblages are derived from multiple sources. The concentrations of Cyperaceae, most notably club-rush including possible sea-club-rush, particularly point to activities that are unrelated to crop-processing. Club-rushes are commonly associated with shallow water in lakes, ponds, slow rivers and dykes, with some species often associated with brackish habitats and suitable habitats by the sea (Stace 1997). Establishing the processes that led to the presence of club-rushes is difficult as they would have had many uses, such as for basketry or weaving, flooring, bedding and for thatching as they have been used in more recent times, although rushes used for weaving or plaiting are cut whilst still in flower before the stems become too woody (Mabey 1996).

The sites are situated on marine alluvium, with Risegate located on deep stoneless calcareous coarse silty soils, and around neighbouring Gosberton the soils are deep stoneless silty and fine sandy soils as well as deep stoneless fine and coarse silty and clayey soils (Soil Survey of England and Wales 1983). The species of weed identified includes field gromwell which is particularly associated with ditches [338]/[280] and [420] in Field 16, and which is commonly found on calcareous loams and calcareous clay loams and often in species rich communities (Wilson and King 2003). Conversely hairy buttercup, which is present in ditch [433] in Field 15, is often found on sandy clays which are seasonally wet (Wilson and King 2003).

This evidence permits some reconstruction of potential arable husbandry regimes. The presence of field gromwell and stinking chamomile suggests local cereal (wheat) production around Risegate on the coarse silty calcareous soils during the 3<sup>rd</sup> – 4<sup>th</sup> C AD. There is also very tenuous evidence for the local production of barley and wheat on the soils around Gosberton, probably at the same period.

Ascribing further interpretations regarding arable regimes such as harvesting and ploughing techniques and seasonality is problematic since it is apparent that the botanical assemblages are derived from a number of potentially disparate activities. As highlighted previously, field gromwell tends to occur in species rich communities and it may be that if this is applicable to the arable fields associated with the Romano-British settlement, then the fields were not systematically weeded. Extrapolating further interpretations is beyond the scope of the material and it should also be noted that these proposals regarding possible local cereal production and weeding regimes are based on the presence of one or two weed species only.

Small leguminous seeds are significant components of the weed assemblages from ditches [338]/[280] and [420] and include species such as melilot/medick/trefoil, and small-seeded grasses are also quite frequent. These species can be found in a range of habitats including cultivated ground, grassland, pasture and waysides. Since it seems that the crop residues are derived from the later stages of crop-processing it is unlikely that these leguminous seeds and grasses are directly associated with the crop due to the seeds being small and light. When considering these characteristics of the seeds, if they were associated with the cereals then it is likely that they would be removed during the earlier stages of processing such as in the course of winnowing, for which there is no tangible evidence. It is therefore more probable that these species are derived from grassland/pasture and have been collected for domestic purposes.

#### **Hand Excavated Animal Bone**

A small collection of animal bones was recovered from the excavations. These comprised 313 bone fragments derived from horse, cattle, sheep/goat, sheep, pig, dog and cat. The bulk of this assemblage was collected from Field 15 and 16 (Table 5). Most of the sample derives from contexts assigned to the 3<sup>rd</sup>-4<sup>th</sup> century AD, with a little bone from the 2-3<sup>rd</sup> century and several fragments from deposits assigned to the 4<sup>th</sup> century or later.

Cattle clearly predominate in the sample with sheep the next most frequent taxa. Only a few pig and horse bones were recovered and one dog bone and two cat bones. One or two fragments show erosion and poor preservation but in general the bones are in fairly good condition (see Archive catalogue).

**Table 5.** Hand collected animal bone from Field 5 (RWP99) and Fields 15 and 16 (RWP2 99)

	<b>Field 5</b>					<b>Fields 15/16</b>	
<i>No. contexts</i>	<i>1</i>	<i>1</i>	<i>11</i>	<i>5</i>		<i>1</i>	<i>56</i>
<i>Phase (C AD)</i>	<i>Nat</i>	<i>2-3</i>	<i>3-4</i>	<i>4+</i>		<i>2-3</i>	<i>3-4</i>
Horse			4				4
Cattle	1		13	6		1	72
Cattle size		2	22	17			87
Sheep/goat		1	3	2			30
Sheep			1				1
Sheep size				2			23
Pig			1	1			6
Dog							1
Cat							2
Unidentified				1			9
<b>Total</b>	<b>1</b>	<b>3</b>	<b>44</b>	<b>29</b>		<b>1</b>	<b>235</b>

This sample is too small to permit any detailed discussion of the assemblage but a few comments can be made. The fragmentation of the sample is fairly typical with a fragmentation index of 0.5 (total number of zones/total number of fragments), but there are variations between the species which suggest different taphonomic processes. Horse have the highest index at 1.6 zones per bone fragment, cattle have an index of 1.08, sheep/goat 0.9 and pig 0.33. These suggest different trajectories of butchery, food processing, discard and scavenging, and with horse showing the highest this may be a reflection that horse meat was not eaten and horse bones were therefore more likely to be deposited unprocessed or whole.

These different taphonomic trajectories can effect the survival of bone of different species and although there are 2.4 times as many cattle fragments as sheep/goat, and 2.9 times as many recorded zones, in this small group the maximum number of any different bone element of cattle (the humerus) or sheep/goat (the mandible) is four indicating that a minimum of four animals could account for both species assemblages. In the samples (Table 6) identifiable sheep bones and teeth occur with equal frequency to cattle. With such data it would be irresponsible to attach relative importance to the individual species although cattle would clearly supply the bulk of any meat eaten, and pig must have made the smallest contribution.

Limited information on the age at death of these animals has been recovered. The dental data for cattle show that a young calf (unworn deciduous premolars), an older calf, immature and adult beasts were slaughtered, and at least a third of the limb bone epiphyses are unfused indicating a significant slaughter of immature animals. If this sample is in any way representative then meat production, breeding, draught and possibly dairying may all have had a role in the cattle husbandry. The sheep sample is much smaller and although both recovered dentitions are from adults the post-cranial bones show that small juveniles are present in the sample, while only juveniles have been identified among the pig bones.

One cattle metacarpus had a swelling on the proximal medial shaft, the sort of condition that might arise from severe bruising. Two intact cattle metacarpi and a tibia indicate animals with a withers heights of 1.168, 1.156 and 1.045m (using factors from Von den Driesch and Boesneck 1974).

Unfortunately these assemblages do not allow us to comment reliably on the domestic animal husbandry at the site.

### **Conclusion**

The finds from Field 5 allow little interpretation other than to record some Roman settlement activity in the area in the 2-3rd and 3-4th century AD. None of the samples from this area were studied in detail and hence the interpretable data is limited.

The distribution and densities of material in the samples from Fields 15 and 16 indicates both crop processing activities, food processing and other domestic activities taking place in the 3rd and 4th centuries AD. The generally higher concentrations in the ditches in Field 15 suggests that these features may be located closer to the settlement focus than the features in Field 16, although ditches 420 and 388 do show appreciable quantities of archaeological debris. The botanical evidence from Field 15 suggests that waste from the later stages of processing wheat and barley and also domestic activities were discarded into the two ditches [433] and [434] from a nearby settlement.

Crop-processing residues consisting of fine sieve residues from processing glumes wheat (spelt and to a lesser extent emmer wheat) have been disposed of into the large ditches, [338]=[280] and [420], within Field 16. Crop processing activities and other unrelated possible domestic activities were taking place within the vicinity of these features. There is possible evidence for the local production of the cereals although this cannot be fully substantiated. Other plants that were exploited by the occupants include hawthorn/blackthorn as well as club-rush, the latter which is likely to have been a multifunctional resource, and which were both locally available. While the hawthorn/blackthorn might indicate that the ditch banks were hedged, the abundance of grasses and Cyperaceae, and possibly also the vetches/vetchlings, suggests that hay from rough coastal pastures may have been collected either for animal fodder or bedding or floor covering.

The frequency of small leguminous seeds, grasses and sedges in a number of the samples, may indicate the exploitation of locally available damp rough pasture for domestic purposes such as bedding, flooring or craft activities. Greig (1991, 313) has highlighted botanical evidence that indicates that grassland was an important aspect of the Roman landscape and its significance as a resource for the inhabitants of this site appears to be expressed in the botanical assemblages.

The finds from the samples of remains that were probably food items are summarised in Table 6, although the legumes may have been an animal fodder rather than human food. It may be that the small fish bones occur naturally in the sediments either from fishes living in the sampled creeks and ditches or bones contained within the marine sediments that formed the soils of the site. The larger fishes however are probably food remains. It is possible that some of the cockle shells also derive from natural deposition but the mussels and oysters are much more likely to be food debris. The small passerine sized birds have been excluded from this table since they could be natural deaths.

The dietary evidence is fairly diverse with fish and shellfish, and eggs contributing protein to the diet as well as the domestic animals. Wheat dominates the assemblages in the samples (see above) but interestingly barley occurs more frequently in the few earlier 2 and 3<sup>rd</sup> century samples perhaps reflecting the cultivation of barley on the newly exploited fens silts, spelt wheat becoming more important in the 3<sup>rd</sup>-4<sup>th</sup> century.

**Table 6.** Frequency of samples with each possible food taxa

<i>Date</i>	<i>Natural</i>	<i>2-3<sup>rd</sup> C AD</i>	<i>3<sup>rd</sup> C AD</i>	<i>3-4<sup>th</sup> C AD</i>	<i>Undated</i>	<i>Total</i>
<i>No. samples</i>	<b>2</b>	<b>3</b>	<b>5</b>	<b>40</b>	<b>6</b>	<b>56</b>
Cattle	1		1	10	1	13
Sheep/goat		1	2	7	3	13
Pig			2	2		4
Chicken				1		1
Chicken? eggshell			2	7		9
Goose? eggshell				2		2
Bird				4		4
Eel		1	1	3	1(sq)	6
Medium fish			1	5		6
Small fish	1	1		7	2	11
Cockle				5		5
Mussel			1	7		8
Oyster				14		14
Barley		2	4	15	4	25
Wheat		1	3	22	4	30
Oat				8	1	9
Pea/bean?			1			1
Vetch/pea?				7	1	8
Legumes			3	17	5	25

(sq - squashed fish vertebra – possibly indicating that it had passed through the gut)

Evidence for a post-occupation marine incursion was noted in the field in one of the Roman ditches, where the banks and old landsurface adjacent to the ditch had slipped and collapsed to the floor of the ditch. This was covered and buried within sediments attributed to a marine event, suggesting that either tidal or flood waters had undercut the ditch banks causing the collapse.

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THE ENVIRONMENTAL ARCHAEOLOGY CONSULTANCY

Key to codes used in the cataloguing of animal bones and marine shells

**SPECIES:**

SPECIES CODE			SPECIES CODE	
MAN	human		DOVE	Dove species
EQU	Horse		FER	Feral dove
EQSZ	Horse size		PART	Partridge
BOS	Cattle		SWAN?	Swan?
BOSL	Cattle-large		WOOD	Woodcock
CSZ	cattle size		CURL	Curlew
SUS	Pig		WADE	wader
OVCA	sheep or goat		CROK	Crow or rook
OVI	Sheep		CORV	Crow or rook
CRA	Goat		JACK	Jackdaw
SSZ	sheep size		OWL	Owl indet.
FEL	Cat		BUZZ	Buzzard
CAN	Dog		GULL	Gull sp.
AUR	Aurochs			
AUR?	Aurochs?		TURD	Turdidae
CER	red deer		BIRD	Identifiable but not id'd
DAM	Fallow deer		PASS	Passerine
CLS	roe deer		LBIRD	Large bird
LEP	Hare		UNIB	Bird indet
ORC	Rabbit			
LAG	Lagomorph		FROG	Frog
CARN	Carnivore		FRTO	Frog or toad
FOX	Fox			
POLE	Polecat/ferret			
WEA	weasel		GAD	Gadid, cod family
BADG	Badger		LING	Ling
SEAL	seal		HADD	Haddock
SQU?	Squirrel?		RAY	ray
BEAV	Beaver		FISH	Fish
ROD	Rodent		UNIF	Fish indet
RAT	Rat			
AGR	Field vole		OYS	oyster
ARV	Water vole		COK	Cockle
MUS	House mouse		MUSS	Common Mussel
SORA	Common shrew		WHELK	Common whelk
MOLE	Mole		HEL	Helix aspersa
SMA	Small mammal		HELIX	Helix sp.
UNI	Unknown		HELN	Helix nemoralis
			SNAIL	snail
CHIK	Chicken			
CHKZ	Chicken size		FOSS	Fossil bone
GOOS	Goose, dom			
GOOS?	Goose, dom.?			
GSSZ	Goose size			
GSSP	Goose species			
GOSZ	Goose, poss. Wild			
DUCK	Duck, domestic sp.			
DUCK?	Duck?			
DKSP	Duck species			
DSP	Duck species indet			
MALL	Duck, dom.			
TURK	Turkey			

**BONE ELEMENT:**

BONE CODE		BONE CODE	
SKEL	skeleton	SCP	scapula
SKL	skull	HUM	humerus
ANT	antler	RAD	radius
ANT?	antler?	ULN	ulna
ATT	antler tine	RUL	radius and ulna
HC	horn core	C/T	carpus/tarsus
TEMP	temporal	C23	carpus 2+3
FRNT	frontal	CAR	carpus
PET	petrous	CPA	accessory carpal
PAR	parietal	CPI	intermediate carpal
OCIP	occipital	CPR	radial carpal
ZYG	zygomatic	CPU	ulnal carpal
NAS	nasal	MTC	metacarpus
PMX	premaxilla	MC1-5	metacarpus 1-5
MAN	mandible	MTP	metapodial
MNT	mandibular tooth	MPL	lateral metapodial
DLI	deciduous lower incisor	INN	innominate
DLPM1-4	deciduous lower premolar 1-4	ILM	ilium
LI	lower incisor (and 1-3)	PUB	pubis
LC	lower canine	ISH	ischium
LPM1-LPM4	lower premolar 1-4	FEM	femur
LM1-LM3	lower molar 1 - molar 3	PAT	patella
MAX	maxilla	TIB	tibia
DUI	deciduous upper incisor	FIB	fibula
UI	upper incisor (1-3)	LML	lateral malleolus
UC	upper canine	AST	astragalus
DUPM	deciduous upper premolar	CAL	calcaneum
DUPM1-4	deciduous upper premolar 1-4	CQ	centroquartal
UPM1-UPM4	upper premolar 1-4	TAR3	tarsus 3
UM1-UM3	upper molar 1 - molar 3	T4	tarsus 4
MXT	maxillary tooth	TAR	tarsus
TTH	indeterminate tooth	MTT	metatarsus
INC	incisor	MT1-5	metatarsus 1-5
HYD	hyoid	MTL	lateral metatarsus
ATL	atlas	SES	sesamoid
AXI	axis	PH1	1st phalanx
CEV	cervical vertebra (and 3-7)	PH2	2nd phalanx
TRV	thoracic vertebra (and 1-13)	PH3	3rd phalanx
LMV	lumbar vertebra	PHL	lateral phalanx
SAC	sacrum	LBF	long bone
CDV	caudal vertebra	UNI	unidentified
VER	vertebra		
STN	sternum	CLV	clavicle
CC	costal cartilage	COR	coracoid
RIB1	first rib (2 etc)	CMP	carpo-metacarpus
RIB	rib	CMC	carpo-metacarpus
		WPH1-3	wing phalanges 1-3
URO	urostyle	WPH	wing phalanx
		LSA	lumbosacrale
DENT	dentary		
CLEI	cleithrum		
RAY	fin ray		
SHELL	shell		
UV	upper valve		
VAL	valve		

**NUMBER:** number of fragments in the entry

**SIDE:** W - whole L - left side R - right side F - fragment

**FUSION:** records the fused/unfused condition of the epiphyses  
P - proximal; D - distal; E - acetabulum; N - unfused; F - fused; C - cranial; A - posterior

**ZONES:** records the part of the bone present.  
The key to each zone on each bone is on page 4

**BUTCHERY:** records whether a bone has been chopped (CH), cut (KN), worked (W), burnt (C)

**GNAWING:** records if a bone has been gnawed by dogs (DG), cats (FEL) or rodents (RG)

**TOOTH WEAR** - Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites*, 91-108.

Teeth are labelled as follows in the tooth wear column:

Deciduous	Permanent
f ldp <sub>m</sub> 2/dup <sub>m</sub> 2	F lpm <sub>2</sub> /upm <sub>2</sub>
g ldp <sub>m</sub> 3/dup <sub>m</sub> 3	G lpm <sub>3</sub> /upm <sub>4</sub>
h ldp <sub>m</sub> 4/dup <sub>m</sub> 4	H lpm <sub>4</sub> /upm <sub>4</sub>
	I lm <sub>1</sub> /um <sub>1</sub>
	J lm <sub>2</sub> /um <sub>2</sub>
	K lm <sub>3</sub> /um <sub>3</sub>

**MEASUREMENTS** :Any measurements are those listed in A.Von den Driesch (1976) *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA

Some measurements have been taken on juveniles. Measurements marked L1 are the greatest length of long bones lacking one unfused epiphysis – the measurement being taken from the epiphyseal junction. Measurements marked L2 are the greatest length of the long bones between epiphyseal junctions when both epiphyses are unfused.

**PATHOLOGICAL:** A 'P' indicates that the bone fragment carries a pathology

**COMMENTS:** This may include a short description of the fragments, any pathologies, butchery or gnawing evidence

**PRESERVATION:** records the condition of the bone in the following manner

- 1- enamel only surviving
- 2- bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine
- 3- surface pitting and erosion of bone, some loss of cementum and dentine on teeth
- 4- surface of bone intact, loss of organic component, material chalky, calcined or burnt
- 5- bone in good condition, probably with some organic component



**ZONES** - codes used to define the zones on each bone

SKULL	1. paraoccipital process	METACARPUS	1. medial facet of proximal articulation, MC3
	2. occipal condyle		2. lateral facet of proximal articulation, MC4
	3. intercornual protuberance		3. medial distal condyle, MC3
	4. external acoustic meatus		4. lateral distal condyle, MC4
	5. frontal sinus		5. anterior distal groove and foramen
	6. ectorbitale		6. medial or lateral distal condyle
	7. entorbitale		
	8. temporal articular facet	FIRST PHALANX	1. proximal epiphysis
	9. facial tuber		2. distal articular facet
	0. infraorbital foramen		
		INNOMINATE	1. tuber coxae
MANDIBLE	1. Symphyseal surface		2. tuber sacrale + scar
	2. diastema		3. body of illium with dorso-medial foramen
	3. lateral diastemal foramen		4. iliopubic eminence
	4. coronoid process		5. acetabular fossa
	5. condylar process		6. symphyseal branch of pubis
	6. angle		7. body of ischium
	7. anterior dorsal ascending ramus posterior M3		8. ischial tuberosity
	8. mandibular foramen		9. depression for medial tendon of rectus femoris
VERTEBRA	1. spine	FEMUR	1. head
	2. anterior central epiphysis		2. trochanter major
	3. posterior central epiphysis		3. trochanter minor
	4. centrum		4. supracondyloid fossa
	5. neural arch		5. distal medial condyle
			6. lateral distal condyle
SCAPULA	1. supraglenoid tubercle		7. distal trochlea
	2. glenoid cavity		8. trochanter tertius
	3. origin of the distal spine		
	4. tuber of spine	TIBIA	1. proximal medial condyle
	5. posterior of neck with foramen		2. proximal lateral condyle
	6. cranial angle of blade		3. intercondylar eminence
	7. caudal angle of blade		4. proximal posterior nutrient foramen
			5. medial malleolus
HUMERUS	1. head		6. lateral aspect of distal articulation
	2. greater tubercle		7. distal pre-epiphyseal portion of the diaphysis
	3. lesser tubercle		
	4. intertuberal groove	CALCANEUM	1. calcaneal tuber
	5. deltoid tuberosity		2. sustentaculum tali
	6. dorsal angle of olecranon fossa		3. processus anterior
	7. capitulum		
	8. trochlea	METATARSUS	1. medial facet of proximal articulation, MT3.
	9. coronoid fossa		2. lateral facet of proximal articulation, MT4
	0. teres tubercle		3. medial distal condyle, MT3
RADIUS	1. medial half of proximal epiphysis		4. lateral distal condyle, MT4
	2. lateral half of proximal epiphysis		5. anterior distal groove and foramen
	3. posterior proximal ulna scar and foramen		6. medial or lateral distal condyle
	4. medial half of distal epiphysis		
	5. lateral half of distal epiphysis		
	6. distal shaft immediately above distal epiphysis		
ULNA	1. olecranon tuberosity		
	2. trochlear notch- semilunaris		
	3. lateral coronoid process		
	4. distal epiphysis		

## Archive Catalogue of Animal Bone from RWP99

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP99	011	CSZ	TRV	1	F								BASE SPINE	3
RWP99	011	CSZ	UNI	1	F								INDET	4
RWP99	011	OVCA	MAN	1	L		5						CONDYLE	4
RWP99	044	BOS	SKEL	1	P	CNAN							4 THORACIC AND 1 LUMBAR VERT + RIB- FRAGMENTED-EPIS UNFUSED- 23 PIECES	4
RWP99	045	BOS	MAN	1	L		7			J4K2			M2 AND 3 NOT YET UP	4
RWP99	045	BOS	MAN	1	F		6						FRAGMENT OF ANGLE	4
RWP99	045	BOS	MAN	1	R		112						SYMPHYSIS - 2 PIECES	4
RWP99	045	BOS	MTC	1	R	DF	12345				GL-290 Bp-57.6 Dp-34.3 SD-2 Bd-57.8 Dd-31.3		COMPLETE- 2 PIECES	4
RWP99	045	EQU	SAC	1	W	CFAN	1245						SOME DAMAGE	4
RWP199	106	BOS	INN	1	F								LATERAL FRAGMENT ILIUM AND ISCHIUM	4
RWP199	106	BOS	LI	1	R								MED WEAR- 2 PIECES	4
RWP199	106	BOS	TIB	1	L	PFDf	1234567				GL-303 Bp-81.1 SD-29.4 Bd-52.2 Dd-37.6		COMPLETE	4
RWP199	106	CSZ	CEV	1	F	CN							PART OF FRAGMENTED VERT- 7 PIECES	4
RWP199	106	CSZ	RIB	2	F								SHAFT FRAGMENT	4
RWP199	106	CSZ	UNI	1	F								INDET	3
RWP199	107	BOS	HUM	1	R	DF	679						PART DISTAL END- 2 PIECES	4
RWP199	113	BOS	AXI	1	F		2						PART OF ANT CENTRUM- 3 PIECES	4
RWP199	114	BOS	RIB	2	L								SHAFT- 5 PIECES	4
RWP199	114	CSZ	CC	2	F								3 PIECES	4
RWP199	114	OVCA	SKEL	1	P								BOTH INNOMINATES -SACRUM + 3 LUMBARS-13 PIECES-ADULT ALL EPIS FUSED	4
RWP199	117	SUS	MAN	1	F								ANT RAMUS-JUVENILE-VERY SMALL- 2 PIECES	3
RWP199	118	CSZ	RIB	1	F			CH					SHAFT FRAGMENT- ONE END CHOPPED	4
RWP199	118	OVCA	RAD	1	L		6						DISTAL SHAFT-PROBABLY EPI UNFUSED	3
RWP199	118	OVI	MTC	1	L		125						PROX END AND SHAFT-GRACILE	3
RWP199	124	BOS	MAN	1	R								VENTRAL PART DIASTEMAL REGION	3
RWP199	124	OVCA	FEM	1	R	PN	3						PROX HALF SHAFT-SMALL-JUVENILE- 4 PIECES	4
RWP199	135	BOS	HUM	1	L		69						DISTAL SHAFT-SMALL-JUVENILE	3
RWP199	135	BOS	INN	1	R	EF	579						ACETAB WITH PARTS ILIAL AND ISCHIAL SHAFT- 2 PIECES	4
RWP199	135	BOS	INN	1	F								POST ISCHIAL FRAGMENT- 3 PIECES-POSS PART OF ABOVE	4
RWP199	135	BOS	INN	1	F								FRAGMENT ANT ILIAL SHAFT-POSS PART OF ABOVE	4
RWP199	135	BOS	TRV	1	F	CN	45						CENTRUM AND ARCH- 3 PIECES	4
RWP199	135	CSZ	LBF	3	F								SHAFT FRAGMENT	4
RWP199	135	CSZ	RIB	1	F								SHAFT FRAGMENT	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP199	135	CSZ	UNI	11	F								INDET FRAGS	4
RWP199	135	OVCA	LI	1	R								SL WEAR	4
RWP199	135	OVCA	MTT	1	R							P	PROXIMAL MIDSHAFT-SWELLING ON MEDIAL ANT SURFACE OF SHAFT	4
RWP199	135	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP199	135	SSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP199	135	SUS	MAN	1	F					J8K6			FRAG HORI RAMUS WITH M2 AND 3- 3 PIECES	4
RWP199	136	UNI	UNI	1	F			C					INDET CALCINED FRAGMENT	4
RWP199	137	CSZ	LBF	1	F								SHAFT FRAGMENT- FEMUR?	3
RWP199	163	BOS	LM3	1	R					K12			2 PIECES	2
RWP199	163	CSZ	UNI	1	F								INDET-ERODED	2
RWP199	164	CSZ	UNI	13	F								INDET-FRAGS OF OTHER BONES IN CONTEXT	3
RWP199	164	CSZ	UNI	1	F								INDET	3
RWP199	164	EQU	FEM	1	F	PF	1						PART OF CAPUT AND FRAGMENTS OF SHAFT- 3 PIECES	3
RWP199	164	EQU	MTT	1	F								FRAGMENTED MIDSHAFT- 14 PIECES	2
RWP199	164	EQU	SCP	1	L								PARTS GLENOID, NECK AND BLADE- 6 PIECES	3
RWP199	175	SUS	LC	1	L								LARGE MALE CANINE	3
RWP299	188	BOS	SKEL	1	P								RIGHT HIND LIMB-TIB-AST-CAL-LML-TAR-MTT - TIB-PNDN MTT-DN CAL-PN - 11PIECES	4
RWP199	189	CSZ	UNI	1	F								INDET	3
RWP299	253	BOS	MTT	1	R	DN	125						PROX END AND SHAFT-POROUS-IMM-PROX END DAMAGED	4
RWP299	259	CSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	259	UNI	UNI	1	F								INDET	4
RWP299	260	BOS	RAD	1	L	PF	123	CH	DG				PROX THIRD-PROX END CHEWED AND CHOPPED	4
RWP299	260	CSZ	LBF	1	F								?PROX HUM EPI-FUSED	4
RWP299	260	CSZ	LBF	3	F								SHAFT FRAGMENT	4
RWP299	260	CSZ	RIB	2	F								MIDSHAFT FRAGMENT	4
RWP299	260	CSZ	TRV	1	F								SPINE FRAGMENT	4
RWP299	260	CSZ	UNI	1	F								INDET	4
RWP299	260	OVCA	MTC	1	F								ANT MIDSHAFT FRAGMENT	4
RWP299	260	OVCA	TIB	1	F								DISTAL SHAFT- 2 PIECES	4
RWP299	260	OVCA	TIB	1	R				DG				PROX SHAFT FRAGMENT-PROX END CHEWED	4
RWP299	266	CSZ	LBF	1	F								SHAFT FRAGMENT- 2 PIECES	4
RWP299	266	OVCA	TIB	1	L		4	C					BURNT PROX SHAFT FRAGMENT	4
RWP299	272	BOS	MAN	1	L					h11			RAMUS FRAGMENT WITH DPM4-JUST BETWEEN WEAR STAGE 11 AND 12- 4 PIECES	4
RWP299	272	CSZ	UNI	1	F								INDET	4
RWP299	272	SSZ	LBF	2	F								SHAFT FRAGMENT	4
RWP299	272	SSZ	RIB	1	F								SHAFT FRAGMENT	3
RWP299	273	BOS	LM	1	L					6			ANT CUSP-NO WEAR	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP299	273	OVCA	MAN	1	R		2			GH8I12J12			FRAGMENTED HORI RAMUS- 7 PIECES	4
RWP299	275	SSZ	LBF	1	F								SHAFT FRAGMENT	3
RWP299	276	BOS	TRV	1	F	CF	2						PART CENTRUM AND SPINE-FRAGMENTED- 6 PIECES	4
RWP299	276	BOS	UPM2	1	R					F11			COMPLETE	4
RWP299	276	CSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	277	BOS	ULN	1	R	PF	123	KN					SEMILUNARIS AND OLECRANON -OLECRANON CUT- 3 PIECES	4
RWP299	278	BOS	CAL	1	L		2		DG				PROX END CHEWED OFF-DISTAL BROKEN	4
RWP299	278	BOS	INN	1	L	EF	23457		DG				ACETAB WITH PARTS ILIUM ISCHIUM AND PUBIS- 4 PIECES-ANT CHEWED	4
RWP299	278	CSZ	UNI	1	F								INDET	4
RWP299	278	OVCA	FEM	1	R		4						DISTAL MIDSHAFT	4
RWP299	278	SUS	MAN	1	L		7			K3			POST PART HORI RAMUS- 6 PIECES	4
RWP299	279	BOS	FEM	1	F								MIDSHAFT-SMALL-IMM	4
RWP299	279	BOS	SKL	1	L					H12I17J16K15			MAX TEETH AND FRAG PREMAX- 7 PIECES-LAST COLUM LM3 PROB REDUCED-UNEVEN WEAR ON U	4
RWP299	279	CSZ	RIB	1	F								SHAFT FRAGMENT- 2 PIECES	4
RWP299	279	OVCA	MTT	1	F								ANT MIDSHAFT FRAGMENT	4
RWP299	287	BOS	TRV	2	F	CNAN	45						CENTRUM AND BASE SPINE- 11 PIECES	3
RWP299	287	CSZ	UNI	1	F								INDET	4
RWP299	287	OVCA	RAD	1	R				DG				DISTAL SHAFT FRAGMENT- TOOTH MARKS	4
RWP299	287	SSZ	FEM	1	F								MIDSHAFT FRAGMENT	4
RWP299	287	SSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	287	SSZ	RIB	1	R								PROX SHAFT FRAGMENT- 3 PIECES	4
RWP299	288	BOS	TTH	2	F								CUSP FRAGMENT	4
RWP299	288	CSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	288	CSZ	UNI	1	F								INDET	4
RWP299	288	OVCA	TIB	1	R	PNDN	1234567						SHAFT AND DETACHED EPIS- 5 PIECES	4
RWP299	288	SSZ	LBF	3	F								SHAFT FRAGMENT	4
RWP299	288	SSZ	SKL	1	F								INDET	4
RWP299	288	UNI	SKL	1	F								PARIETAL-INDET	4
RWP299	289	CSZ	RIB	1	F			CH					SHAFT FRAGMENT-CHOPPED	4
RWP299	300	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	301	BOS	MTC	1	F				DG				SPLIT MIDSHAFT FRAGMENT-DISTAL CHEWED-POROUS-SMALL-JUVENILE	4
RWP299	301	BOS	SKL	1	F								NASAL FRAGMENT	4
RWP299	301	CSZ	SKL	1	F								DORSAL CRANIAL FRAGMENT	4
RWP299	301	OVCA	MAN	1	R		23						ANT HALF HORI RAMUS WITH PM ALVEOLI- 4 PIECES	4
RWP299	301	UNI	ULN	1	F								PROX SHAFT FRAGMENT	4
RWP299	302	BOS	FEM	1	F	DF	6						DISTAL CONDYLE	3
RWP299	302	BOS	HUM	1	L		0		DG				MIDSHAFT-DISTAL CHEWED-SMALL-JUV/IMM- 2 PIECES	4
RWP299	302	BOS	MTC	1	R	DN	125						PROX END AND SHAFT	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP299	302	BOS	PH1	1	R	PN	2						PROX EPI LOST	4
RWP299	302	BOS	PH2	1	L	PF	12						COMPLETE	4
RWP299	302	BOS	ULN	1	R	PN	23						SEMILUNARIS AND PART SHAFT- 3 PIECES	4
RWP299	302	BOS	UM3	1	R					K11			SL DAMAGE	4
RWP299	302	CSZ	HUM	1	R								DISTAL POST SHAFT FRAGMENT	4
RWP299	302	CSZ	UNI	3	F								INDET	4
RWP299	302	EQU	MAN	1	L		45678			FGHIJK			MEDIUM WEAR- HORI AND ASC RAMUS- 6 PIECES	4
RWP299	302	OVCA	FEM	1	L	PN	3						PROX HALF SHAFT-EPI LOST	4
RWP299	302	OVCA	MAN	1	L		237			GH16I17J14K12			RAMUS FRAG WITH TOOTH ROW	4
RWP299	302	SSZ	LBF	1	F				DG				SHAFT FRAGMENT-CHEWED-OVCA MTT?	4
RWP299	303	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	303	UNI	UNI	1	F								INDET	3
RWP299	310	CSZ	TIB	1	F				DG				CHEWED SHAFT FRAGMENT	4
RWP299	310	OVCA	TIB	1	R		4						SHAFT- 3 PIECES	3
RWP299	311	BOS	RAD	1	R	DF	456				Bd-71.5		DISTAL THIRD	3
RWP299	321	BOS	SKL	1	R		09			h15 I10J5			FRAGMENTED MAXILLA- 13 PIECES	3
RWP299	321	BOS	TIB	1	F								DISTAL SHAFT FRAGMENT	4
RWP299	321	CSZ	LBF	3	F								SHAFT FRAGMENT	4
RWP299	321	OVCA	MAN	1	R		7						ANT FRAG ASC RAMUS	4
RWP299	321	OVCA	SKL	1	F								PARIETAL- 2 PIECES	4
RWP299	321	OVI	HC	1	L		1						FEMALE OR CASTRATE-PROB FEMALE	4
RWP299	324	BOS	HUM	1	F	DN	78						DISTAL EPIPHYSIS	3
RWP299	324	BOS	SKL	1	F								PETROUS	4
RWP299	324	EQU	PH2	1	W		12						COMPLETE	4
RWP299	324	EQU	RAD	1	F	DN	6						DISTAL SHAFT- 3 PIECES	4
RWP299	324	OVCA	RAD	1	L		3						PROX SHAFT FRAGMENT	4
RWP299	325	BOS	CPR	1	W		1						COMPLETE	4
RWP299	325	BOS	HUM	1	L	DF							FRAGMENT OF DISTAL END	4
RWP299	325	BOS	MAN	1	L		4						PART CORONOID	4
RWP299	327	BOS	MAN	1	L		123						SYMPHYSIS AND DIASTEMAL FRAGMENT- 2 PIECES- INCISOR ERUPTING	4
RWP299	329	CSZ	RIB	1	L								PROX SHAFT FRAGMENT	4
RWP299	329	CSZ	UNI	1	F								INDET	4
RWP299	330	BOS	LM1	1	L					I12			3 PIECES	4
RWP299	330	BOS	MTT	1	R				DG				SHAFT-BOTH ENDS CHEWED-SMALL-POROUS-JUV	4
RWP299	330	BOS	ULN	1	L		3	CH					DISTAL FRAGMENT OF PROX ARTIC	4
RWP299	330	CSZ	MAN	1	F			KN					VENTRAL FRAGMENT HORI RAMUS-WITH KNIFE CUT	4
RWP299	330	CSZ	SKL	1	F								FACIAL FRAGMENT - 4 PIECES	4
RWP299	333	BOS	FEM	1	F								MIDSHAFT FRAGMENT	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP299	333	BOS	INN	1	F	EN							PART ISCHIAL SHAFT WITH UNFUSED ACETAB	4
RWP299	333	BOS	RAD	1	L	PF							PART OF PROX END	4
RWP299	333	BOS	RAD	1	L		3						SPLIT PROX MIDSHAFT	4
RWP299	333	BOS	SCP	1	R	DN	2						GLENOID-2 PIECES-JUV	4
RWP299	333	BOS	TIB	1	R	DF	47		DG				SHAFT-PROX END CHEWED	4
RWP299	333	CSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	333	CSZ	UNI	1	F								INDET	4
RWP299	333	CSZ	UNI	2	F								INDET	4
RWP299	334	BOS	MAN	1	F								MEDIAL FRAGMENT HORI RAMUS	4
RWP299	334	CSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	334	OVCA	MTT	1	F			W?					SPLIT PROX HAFI SHAFT-WELL POLISHED AND POSSIBLE POINT	4
RWP299	334	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	335	BOS	HUM	1	R		560						SHAFT	4
RWP299	335	SUS	INN	1	R				DG				FRAGMENT OF ILIAL SHAFT-PART ZONE 9 -CHEWED	4
RWP299	336	BOS	HC	1	F								CORE AND PART FRONTAL-FRAGMENTED- 10 PIECES	4
RWP299	336	CSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	336	CSZ	TRV	1	F								FRAG ANT NEURAL ARCH	4
RWP299	336	CSZ	UNI	2	F								INDET	4
RWP299	336	SUS	LC	1	R								PART MALE CANINE-LARGE	4
RWP299	336	SUS	MAN	1	F								ANT FRAGMENT-SYMPHYSEAL WITH INCISOR ROOT- 2 PIECES	4
RWP299	336	UNI	LBF	1	F				DG				POROUS SHAFT FRAGMENT-CHEWED	4
RWP299	345	UNI	UNI	1	F								INDET	3
RWP299	348	BOS	HUM	1	L								DISTAL SHAFT FRAGMENT	4
RWP299	348	BOS	MAN	1	L					I17J16			PART HORI RAMUS WITH M1 AND 2	4
RWP299	348	BOS	UM	1	L					5			PAIR CUSPS-M1 OR 2-NO WEAR	4
RWP299	348	CSZ	RIB	1	F								SMALL SHAFT FRAGMENT	4
RWP299	348	CSZ	RIB	1	F								SHAFT FRAGMENT- 2 PIECES	4
RWP299	348	CSZ	RIB	1	F								SHAFT FRAGMENT- 13 PIECES	4
RWP299	348	CSZ	UNI	1	F								INDET	4
RWP299	348	OVCA	CAL	1	L		2		DG				PROX END CHEWED OFF	4
RWP299	348	SSZ	RIB	1	F								PROX SHAFT FRAGMENT	4
RWP299	348	SUS	INN	1	L		23						ILIAL SHAFT AND SCAR-PIGLET	4
RWP299	349	CSZ	LMV	1	F								ANT ZYGAPOPHYSIS	4
RWP299	349	EQU	UM	1	W								LARGE MOLAR-M2?-SLIGHT WEAR	4
RWP299	352	BOS	AST	1	L		1		DG		L1-66.1 L2-61.7 Bp-44.8		SLIGHTLY CHEWED	4
RWP299	352	BOS	HUM	1	L		9	CH					DISTAL SHAFT FRAGMENT-CHOPPED	4
RWP299	352	BOS	PAT	1	R		1						2 PIECES	4
RWP299	352	OVCA	INN	1	L		46	CH					ANT PUBIS-CHOPPED THU TUBEROSITY	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP299	352	OVCA	MAN	1	L		7						ANT FRAG ASC RAMUS-M3 POSS NOT UP	4
RWP299	352	OVCA	MTC	1	F				DG				SPLIT PROX SHAFT-PROX CHEWED	4
RWP299	352	OVCA	MTT	1	F								DISTAL MIDSHAFT-SMALL-POROUS-JUV	4
RWP299	352	UNI	UNI	1	F								INDET	4
RWP299	355	CSZ	RIB	1	F				DG				SHAFT FRAGMENT-TOOTH MARKS	4
RWP299	355	CSZ	TIB	1	L				DG				PROX ANT SHAFT FRAGMENT WITH TOOTH MARKS	4
RWP299	355	OVCA	MAN	1	R		4						CORONOID- 2 PIECES	4
RWP299	355	OVCA	RAD	1	L								PROX MEDIAL SHAFT FRAGMENT	4
RWP299	355	SSZ	RIB	1	L								PROX SHAFT FRAGMENT	4
RWP299	357	CSZ	UNI	1	F								INDET	3
RWP299	360	CSZ	RIB	1	F				DG				SHAFT FRAGMENT-CHEWED- 2 PIECES	4
RWP299	360	OVCA	MTT	1	R		12						PROX HALF	4
RWP299	360	OVCA	RAD	1	F								PROX MIDSHAFT FRAGMENT	3
RWP299	361	CSZ	LBF	1	F								PROX HUM? SHAFT FRAGMENT	4
RWP299	361	OVCA	MAN	1	F								VENTRAL FRAGMENT HORI RAMUS-SL POROUS	4
RWP299	363	CSZ	STN	1	F								POST STERNUM-SPLIT DOWN MIDDLE	4
RWP299	364	BOS	AXI	1	F			CH					ANT HALF-PEG CHOPPED OFF	4
RWP299	364	BOS	MAN	1	L		7						ANT FRAG ASC RAMUS- M3 NOT FULLY UP	4
RWP299	364	BOS	MTC	1	L	DF	12345		DG		GL-188 Bp-51.4 SD-29.7 Bd-52.3	P	COMPLETE-PROX CHEWED-SWELLING ON PROX MEDIAL SHAFT WITH POROUS BONE	4
RWP299	364	CAN	ULN	1	L	PF	123						PROX END AND SHAFT- 2 PIECES-SMALL DOG-FOX SIZED BUT MORE ROBUST	4
RWP299	364	CSZ	CEV	1	F	CJAN	4						SMALL-JUV- 2 PIECES	3
RWP299	364	CSZ	LBF	1	F								SHAFT FRAGMENT	3
RWP299	364	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	364	UNI	UNI	1	F								INDET	4
RWP299	367	OVCA	RAD	1	L				DG				SPLIT DISTAL SHAFT FRAGMENT-DISTAL END CHEWED	4
RWP299	373	BOS	HUM	1	L	DF	67890		DG				SHAFT AND DISTAL END-DISTAL CHEWED	4
RWP299	373	BOS	HUM	1	R	DF	8	CH					CHOPPED FRAGMENT OF DISTAL CONDYLE	4
RWP299	373	BOS	INN	1	L		2						FRAGMENT WITH SCAR-SMALL-POROUS-IMM	4
RWP299	373	BOS	LML	1	W		1						COMPLETE	4
RWP299	373	BOS	MAN	1	L			C					CALCINED FRAGMENT POST ASC RAMUS	4
RWP299	373	BOS	PAT	1	L		1						SL DAMAGE	4
RWP299	373	BOS	SKL	1	F								PETROUS	4
RWP299	373	BOS	TIB	1	F	DN	7						DISTAL SHAFT	4
RWP299	373	BOS	TRV	1	F		1						BASAL HALF SPINE	4
RWP299	373	BOS	UPM3	1	R					G12			COMPLETE	4
RWP299	373	SSZ	LBF	1	F				DG				SHAFT FRAGMENT WITH TOOTH MARKS	4
RWP299	373	SSZ	RIB	1	R								PROX SHAFT FRAGMENT	4

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measurement	path.	comment	preservation
RWP299	373	SUS	MAN	1	L				DG				POST VENTRAL HORI RAMUS WITH PART ZONE 8 AND TOOTH MARKS	4
RWP299	373	UNI	UNI	1	F								POSS PART PIG INN	4
RWP299	384	CSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	392	BOS	ULN	1	R								PROX MIDSHAFT FRAGMENT- SMALL-IMM	4
RWP299	392	CSZ	VER	1	F								PART NEURAL ARCH	3
RWP299	399	CSZ	LBF	2	F								SHAFT FRAGMENT	4
RWP299	403	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
RWP299	403	SSZ	UNI	1	F								INDET	3
RWP299	404	BOS	HUM	1	L		5						PROX SHAFT FRAGMENT	4
RWP299	404	OVCA	FEM	1	L		4						DISTAL MIDSHAFT FRAGMENT	4
RWP299	404	SSZ	LBF	1	F								SHAFT FRAGMENT	4
RWP299	405	FEL	SKL	1	F		1122						OCCIPITAL AND PARIETAL FRAGMENT	4
RWP299	406	CSZ	RIB	1	F			CH					SHAFT FRAGMENT-CHOPPED-2 PIECES	4
RWP299	406	CSZ	UNI	1	F								INDET	4
RWP299	406	FEL	SKL	1	R								FRONTAL AND PARIETAL- 2 PIECES	4
RWP299	409	SSZ	RIB	1	F			C					CALCINED SHAFT FRAGMENT	4
RWP299	410	BOS	SKL	1	L		9			fg4h5			FRAGMENTED MAXILLA WITH UNWORN D PREMOLARS- CALF- 15 PIECES	4
RWP299	410	CSZ	UNI	1	F								INDET	4
RWP299	415	CSZ	RIB	1	F								SHAFT FRAGMENT	4
RWP299	416	OVCA	RAD	1	L								DISTAL HALF SHAFT	4
RWP299	417	CSZ	UNI	1	F								INDET	4
RWP299	419	BOS	FEM	1	F	DF	6						DISTAL CONDYLE - 4 PIECES	4
RWP299	419	BOS	INN	1	R								FRAGMENT ISCHIAL SHAFT	4
RWP299	419	BOS	INN	1	L								FRAGMENT ISCHIAL SHAFT-SAME ANIMAL AS ABOVE?	4
RWP299	419	BOS	SKL	1	F								SUPRA-ORBITAL FRAGMENT- 9 PIECES	4
RWP299	419	CSZ	LBF	4	F								SHAFT FRAGMENT	4
RWP299	419	CSZ	LBF	2	F								INDET	4
RWP299	419	CSZ	TIB	1	F								SHAFT FRAGMENT	4
RWP299	419	CSZ	UNI	16	F								PROBABLY OFF OTHER BONES IN THIS CONTEXT	4
RWP299	427	CSZ	LBF	1	F				DG				SHAFT FRAGMENT-TOOTH MARKS	4#
RWP299	433	BOS	SKL	1	R								PREMAXILLA AND ANT PART MAXILLA	4



## Appendix 8

### GLOSSARY

<b>Alluvium</b>	A deposit (usually clay, silts or sands) laid down in water. Marine alluvium is deposited by the sea and freshwater alluvium by streams, rivers or within lakes.
<b>Briquetage</b>	A term given to fragments of ceramic equipment and hearth/oven remains from the processing of salt.
<b>Bronze Age</b>	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
<b>Context</b>	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretations of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, <i>e.g.</i> (004).
<b>Cropmark</b>	A mark that is produced by the effect of underlying archaeological features influencing the growth of a particular crop.
<b>Cut</b>	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, <i>etc.</i> Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
<b>Dumped deposits</b>	These are deposits, often laid down intentionally, that raise a land surface. They may be the result of casual waste disposal or may be deliberate attempts to raise the ground surface.
<b>Fill</b>	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) which become contained by the 'cut' are referred to as its fill(s).
<b>Geophysical Survey</b>	Essentially a non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry and resistivity survey.
<b>Grange</b>	A monastic farm complex at some distance from the abbey, generally supervised by a monk and staffed by lay brethren, created to cultivate one of the abbey's estates.
<b>Iron Age</b>	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
<b>Layer</b>	A layer is a term to describe an accumulation of soil or other material that is not contained within a cut.
<b>Medieval</b>	The Middle Ages, dating from approximately AD 1066-1500.
<b>Mesolithic</b>	The 'Middle Stone Age' period, part of the prehistoric era, dating from approximately 8200-4500 BC.
<b>Natural</b>	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity.

<b>Neolithic</b>	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4500-2250 BC.
<b>Post-medieval</b>	The period following the Middle Ages, dating from approximately AD 1500-1800.
<b>Prehistoric</b>	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1 <sup>st</sup> century AD.
<b>Romano-British</b>	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
<b>Saltern</b>	Salt producing site typified by ash, derived from fuel needed to evaporate sea water, and briquetage.
<b>Saxon</b>	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany.

## Appendix 9

### THE ARCHIVE

The archive consists of:

476	Context records
57	Sheets of scale drawings
10	Photographic record sheets
1	Stratigraphic matrix
12	Processed environmental samples
4	Boxes of finds

All primary records and finds are currently kept at:

Archaeological Project Services  
The Old School  
Cameron Street  
Heckington  
Sleaford  
Lincolnshire  
NG34 9RW

The ultimate destination of the project archive is:

The Collection  
Art and Archaeology in Lincolnshire  
Danes Terrace  
Lincoln  
LN2 1LP

The archive will be deposited in accordance with the document titled *Conditions for the Acceptance of Project Archives*, produced by the Lincolnshire City and County Museum.

<b>Archaeological Project Services Site Code:</b>	<b>Lincolnshire City and County Museum Accession Numbers:</b>
RWP 99	262.99
RWP 1 99	265.99
RWP 2 99	302.99

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

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